

Reinforcing Factors Influencing Patient-physician Relationships: A Content Analysis Study

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Abstract

Background: Building an effective patient-physician relationship is a vital component of a successful health care. Therefore, educating and preparing students to communicate effectively with patients has always been critical. Such a criticism needs to evaluate the current situation and the socio-cultural context in which the communications are built. The aim of this study was to analyze the status of patient-physician relationship and explore factors influencing communication in Tabriz University of Medical Sciences (TUOMS) from the perspective of patients, students and faculty members.

Methods: In this content analysis study, data were gathered using focus groups, semi-structured interviews and observations in the field, based on purposive sampling until the data saturation was achieved.

Findings: Content analysis resulted in emerging five categories, affecting patient-physician relationship. They included factors related to: physician, patient, environment, socio-cultural context and health care system. Participants related their stratifying experiences of the PPR to 36 factors in five different categories.

Among them, the factors related to the physician played the most significant role. Most students stated that they did not receive any practical or theoretical training in a form of a predefined formal program to improve their communication skills.

Conclusion: The findings of this study indicated that the current situation of patient-physician relationship at TUOMS is not satisfying and serious and comprehensive interventions are needed to improve the PPR.

Introduction:

For many years, establishing an effective patient-physician relationship (EPPR) has been a vital component of successful health care[1] and EPPR has led to favorable health outcomes [2]; however, 70% of patients' complaints are still related to poor communication skills of physicians [3].

A physician and a patient, while having different behavioral and cultural characteristics, have to exchange information about an abnormal physical or mental problem through a complex communication process. Physicians should behave in a standardized identical manner while visiting patients in very different situations. They should respect patients' different ethnicities, religions and races. They should avoid stereotypical perceptions. Therefore, a physician should master proper communication skills and should have a high potential to provide a positive and supportive care environment for her/his patients; otherwise, maximum optimal therapeutic results and health outcomes will not be achieved. This is while training on how to establish such an effective interaction has been usually beyond the scope of the routine training in most Iranian medical schools in the recent decade [4].

The first attempts in communication skills training date back to the 1970s, when the physicians' desired competencies were categorized into technical medical knowledge acquisition, physical examination and problem-solving skills [5]. Although the introduction of physician-patient communication skills to the medical education curriculum was accompanied by resistance and even opposition, the physician-patient communication skills training has received a lot of attention in many medical education institutions in the last two decades. Today, it is accepted that communication is the cornerstone of clinical and medical education at all levels and areas of medical sciences [5].

Considering the need for being an excellent communicator in the community, medical students should receive continuous trans-disciplinary training to apply their learned skills in practice[6]. Teaching different methods of building effective relationships with patients could be of great help in this regard[7].

Despite the global emphasis on improving the clinical communication skills of physicians, communication skills training in many universities has not been integrated into medical curricula and has not achieved its true official position at most universities of medical sciences [8]. In some cases, efforts have failed to revise the curricula and to implement communication skills programs[9].

Concerns about effective patient-physician communication vary across societies depending on the educational context, norms, beliefs, cultures and governing social relations. Numerous worldwide studies are conducted in this regard; however, a small number of studies have studied the perceptions of faculty members, medical students and patients about EPPR by employment of a qualitative approach.

This qualitative exploratory study aimed at analyzing the status of patient-physician relationship and exploring factors influencing communication at Tabriz University of Medical Sciences from the viewpoint of faculty members, students (medical residents and interns), and patients. The results of the present study can be utilized in revising curricula, setting educational priorities, and planning for proper educational interventions.

Methods:

Study design & method

In this exploratory content analysis study, the meanings from qualitative data were uncovered and organized to deeply explore the patient-physician relationship status at Tabriz University of Medical Sciences-Iran. Data were gathered through face-to-face interviews, group discussions and field observations and conclusions were drawn through a manifest analysis[10].

Researchers' characteristics and roles

The interviewer researcher (MB), who was a medical doctor familiar with the study context, studying for a master degree of Medical Education, always tried to be an active listener. He adopted an open and emotionally neutral body language; looked interested; smiled; employed encouraging body languages whenever were necessary and avoided leading questions. He did not join and just moderated and

facilitated the focus group discussions (FGDs). Group dynamics in FGDs were observed by a second researcher (SGH) to enhance analysis of interactions whether verbally or non-verbally. At the beginning of the research, bracketing was performed and the researchers wrote down all their assumptions, perspectives and hypotheses about the subject and put them aside so that they would not influence data collection and interpretation. Reflexivity was fully handled throughout both data collection and data analysis. Reflexivity journals were prepared by MB and SGH and were checked by peers against their desires to share their own experiences and perspectives.

Study context

This study was conducted in 2018 at Tabriz University of Medical Sciences (TUoMS). TUoMS, is located in the northwest of Iran and its affiliated hospitals, as referral hospitals, provide diagnostic and treatment services to patients from all cities and villages in the region. At the time of the present study, there was no formal communication skills' training for medical interns and residents at TUoMS. Most of the communication skills training at TUoMS were limited to vicarious learning (observing the communication behavior of faculty members in the wards and clinics). Residents also had an opportunity to attend a one-day educational workshop, which was held at the beginning of their first year of study too.

Participants & sampling strategy

Participants in this study were patients, faculty members, medical interns and residents, who were selected based on their interest and willingness to express their experiences in EPPR, as key informants. Criteria for participation in the study were: inclination to participate and lack of any clinical condition or illness that disrupts the interview process between the researcher and the participant. Vulnerable groups such as patients with impaired consciousness, the elderly, pregnant women and children were excluded from participating.

Potential participants were randomly selected from the sampling frameworks, which were provided by medical school and in-patient or out-patient settings. Participants' experiences in patient-physician relationships were queried via a written open-ended question. Later, purposive sampling [11] and maximum variation sampling [12], in terms of participants' gender or their working setting at the time of the study, were used to warrant a broad range of participants' perceptions and experiences. Negative case sampling was considered to account for contradicting explanations and unanticipated answers in the data analysis process [10].

Data collection

Data collection methods included in-depth open face-to- face (F2F) individual narrative semi-structured interviews, focus group discussions, and field observations. By doing so, method triangulation [13] was employed to ensure credibility in data collection.

The interview guideline was piloted on three participants to ensure clarity of questions and it was developed further, throughout the interview process.

A total of 31 participants were interviewed and each interview lasted 40-60 minutes. When possible, the interviews were conducted at participants' preferred time and place, after prior coordination. F2F individual interviews were started with an open-ended question as "Can you tell me your story about patient-physician relationships you have experienced?" After that, probing and progression upon the participants' initial response were done. The flexibility of semi-structured interviews made it possible for the interviewer researcher to discover or elaborate the important information to participants. During the interview, participants were encouraged to express their experiences easily, freely and in full detail. Based on the participants' permission, the content of the interviews was recorded and transcribed.

To make a rich understanding of participants' collective views and to obtain common contextual information about EPPR, five 90-120 minute FGDs were held with 8-12 participants in each group. Group discussions were stimulated by some clarification and non-leading questions. Immediately, after each FGD, debriefing of the content was done.

In order to have a deeper understanding of the influencing conditions and also to confirm the obtained data about EPPR, participants' actions and contextual realities were observed by MB in inpatient wards during twenty one sessions too. The duration of the sessions varied between 15 and 90 minutes depending on the patient or ward conditions. Field notes were fully transcribed and they were checked with the previously transcribed data.

Data collection was continued until data and thematic saturation. Saturation was recognized when researchers were confident that no redundant information or themes emerged from the data and the emergent themes matched all the data.

Data analysis

Data analysis was started immediately after they were collected. In other words, the analysis was performed concurrently with the transcription of the data from each interview, FGD or field observation, before conducting the next one. To do so, the content of the interview were transcribed verbatim and transcriptions were reviewed many times until complete understanding was achieved. Memos were used to track changes in the coding and recoding processes. MB and SGH read the first transcript and examined the data and made codes many times until an acceptable level of intra-rater agreement was achieved. Then, they discussed emerging codes. They read two more transcripts and discussed emerging themes and resolved disagreements until an optimal level of inter-rater agreement was realized. Analyzing transcripts were done through a manifest content analysis. By so doing, meaning units were extracted and classified as condensed units. Various codes were compared based on similarities and differences. They were arranged into subcategories and categories were delineated into 5 categories.

A copy of the primary analysis was sent to participants to validate the emergent codes and categories, to achieve their agreement on the correctness of interpretations and to ask for their comments (member checks).

Standards for methodological rigor

Standards of rigor were enhanced through different strategies. The credibility of the data was enhanced by data triangulation, methods triangulation; member checks verbatim or direct quotations and negative case sampling. Data trustworthiness was improved by inter-rater and intra-rater agreements. Transferability was enhanced by rich and thick description of the participants' perceptions and experiences, describing limitations and detailed description of methods.

All methods were performed in accordance with the relevant guidelines, regulations and ethical standards of the responsible committee approving the research at Tabriz University of Medical Sciences and with the Declaration of Helsinki, as revised in 2000.

Results

In the present study, data saturation was achieved after 31 F2F interviews, three FGDs and 21 sessions of field observation. Participants consisted of 13 patients, 32 faculty members, 27 medical interns and 21 residents, as key informants. Participants' baseline characteristics are revealed in **Table 1**.

Data analysis resulted in the emergence of five categories. Factors related to 1- physician, 2- patient, 3- environment, 4- socio-cultural context, and 5- health system were the important factors influencing the physician-patient relationship. Each category was described in two sub-categories of challenging or reinforcing factors. The reinforcing factors are presented in this paper. The emergent categories and supporting reinforcing factors from the interviews with participants are summarized in **Table 2**. Factors in each group are listed according to the frequency of repetition by participants. The most frequently cited factors by the participants are listed upper in the list.

Physician-related factors

Participants stated that spending enough time on the consultation process by physicians had been the main reinforcer of the EPPR. According to participants, a hasty examination of patients not only could induce stress but also might lead to a feeling of not understanding in patients. Indeed, feeling to have enough time, patients did trust their physicians enough and disclose their history of disease completely. According to the participating faculty members and residents, other factors such as physicians' rational working hours and the not being fatigued; not being forced to visit a high number of patients in each working shift; and not using medical terms unknown for patients, could significantly affect the physician-patient relationship.

Communicating effectively with other team members in care provision, i.e. optimal physician-physician, physician-nurse, and physician- medical staff communications was described as another important factor affecting the EPPR. The optimal physician-physician communications were mentioned to be influencing particularly when paraclinical diagnostic tests or consultation with other specialists were requested. The majority of participating physicians in this study believed that requests for only necessary

consultations and paraclinical tests, not only could cease any delay in fulfilling the diagnostic processes but also could prohibit wasting energy and decrease the workload of the consulting physicians, which ultimately could result in patient satisfaction and affect the EPPR.

Coordination between a physician and a nurse could decrease delays or errors in the execution of physician orders. In one case, failure to inject the prescribed anticoagulant to the patient prior to his surgery had resulted in deep vein thrombosis, and the ward physician had declared that the head nurse had been present when ordering the injection of the anticoagulant.

According to participants, pre-coordinated and supervised collaboration of the medical team has been crucial for engaging patients in an interactive relationship. The positive outcome of such proper coordination could be realized when patients were needed to be physically examined by medical students, interns, residents, and faculty members at different stages. When this intended coordination was performed, it could decrease fatigue and dissatisfaction among patients. From the participating patients' and faculty members' viewpoints, hierarchical supervision of residents', interns' and medical students' performance could inhibit repetitive physical examinations and consequently could increase patients' satisfaction and cooperation.

Patients believed that feeling a mutual respect and being in an environment supportive for constructive criticism made them satisfied and ultimately increased their trust to physicians. The punctuality of physicians was stated as one of the main factors that could cause a sense of respect. Paying attention to patients' requests and their feelings and concerns while they had been able to protest could have been easily overshadowed by the EPPR. According to participants, as the emotional understanding was another reinforcer of making an EPPR, physicians should be trained about empathy and should apply it in their daily visits. In addition, physicians' confidence and charisma could easily affect the EPPR. According to the participating patients, doubts and hesitations of physicians could be reflected in their tone of voice and even in their gazes. Patients often could understand such hints and were very sensitive to even a minor reaction which may not be taken seriously by physicians.

Patients stated that they had increasingly wanted physicians to consider their role in making treatment decisions, while to show authority. When physicians had not prevented them from being involved in decision making ;and had respected patients' rights in this regard ;and had not considered patients' involvement as interference with their scientific position and capability to treat, they had enjoyed their relationship and were open to provide any details about their history of disease. Another reinforcing factor of the EPPR, emphasized by most faculty members, were training medical students to be capable in initiating communication; in interviewing with patients; and in breaking bad news while being supervised. In this regard, most interns and residents believed that communication skills of faculty members should be sharpened too.

Patient-related factors

Patients' levels of education and health literacy were stated to be important factors in reinforcing patient-physician relationship from the viewpoint of many physicians and some patients. Patients' readiness to establish participatory communication was dependent on their levels of education and health literacy for the most part.

Patients stated that when they had been visited by the physicians with the same gender and age group, they had shared more information with their physician. This was true to the situations in which the treating physicians with the same gender had communicated with patients' own language and had paid attention to the patients' culture.

Gender difference was stated as an important factor influencing the physician-patient relationship. This factor was stated to be even more prominent in Iranian society. Gender- appropriateness was even more important in the case of female patients during urology and gynecology appointments.

In the setting of this study, a range of physicians and patients from Fars, Turkish, and Kurdish ethnicities had to communicate with each other. The familiarity of a physician with patient's language was more important when patients were not able to communicate with the national spoken language in the country.

The age difference between the physician and patients could affect their relationship. Elderly patients, in particular, found it easier to communicate with physicians in the same age group.

In addition to gender and age appropriateness and taking into account patients' culture and language, acceptable status of the patients' health and not having stress induced by the presence in a medical environment could affect the EPPR too. This outcome could be obvious in critically ill patients and traumatic cases that were in stressful situations. In such circumstances, the ability to manage such challenging conditions and paying attention to the reactions of patients and companions to even minor issues had resulted in an EPPR.

Moreover, according to participants, putting aside previous unpleasant experiences by the patients and not involving them in accepting the diagnosis and treatment of the treating physicians could significantly decrease the denial of diagnoses and refusal of medical treatments by patients.

Environment-related factors

Participants highlighted the role of allocating sufficient time to consult with each patient in the success of a communication. According to them, not being forced to perform time-consuming administrative bureaucracies, which could be easily completed by other members of the team, could be of great help in this regard.

Most physicians stated that communicating with patients in an environment away from the hustle and bustle, where patients' companions and other patients were absent during the visit helped patients communicate more openly and with more trust . Most of the participants believed that respecting patients' privacy, while they were consulted in a convenient and supportive environment, had increased patients' motivation to provide a more complete history to physicians.

According to the participants, if the process of stress management in urgent decision making conditions were defined and educated, working in stressful environments such as an emergency department would not induce stress and the PPR would not be easily impaired. In this regard, participants stated that physicians visiting in the emergency department should have been aware of the specific needs of the patients who were directly discharged from the emergency department and not hospitalized later, because experiencing good communication and the needs being addressed would reinforce patients' later PPRs. In all, faculty members mentioned that they have had more effective relationships with patients in inpatient wards, compared to the patients in emergency or outpatient wards.

Another environment-related reinforcing factor raised in the present study was analyzing the previously defined working processes or hidden patterns and bureaucracies in the working context; finding problems around; and planning solutions to them. Indeed, planning for resolving the problems such as delayed admission; poor medical filings; errors in submitting documents for health insurance coverage, etc would decrease waste of patients' time and energy, their exhaustion and dissatisfaction, which would consequently affect their future relationships with physicians.

Socio-cultural-related factors

In this study, working or living in a context with appropriate social propaganda and favorable beliefs about physicians in which there are no provocations against the health system was stated as one of the most important socio-cultural factors influencing the PPR. Paying attention to specific religious do's and don'ts about illness and health in society was introduced as another reinforcing factor of the PPR.

Participants declared that reputation of a medical center of being a good caring center, not as a slaughterhouse, could significantly affect patients' and their companions' trust in the physicians' capability in improving their health status; otherwise, social misbeliefs would gradually grow and breaking them would be more difficult and their pertinent unpredictable consequences would be experienced.

The health-system-related factors

Participants noted that not forcing physicians to visit a large number of patients per shift was a key to their EPPR. Interns and residents emphasized the need to change the regulations regarding the visit of the high number of patients per shift.

Many students believed that if they had been supervised by well-trained supportive mentors and had received constructive feedback on their communication content and process, they would have been made more effective relationships with patients. In this regard, the role of supportiveness and flexibility of the working context against physicians' risk-takings was highlighted.

Participants believed that paying special attention to the quality communications of health care providers and encouraging high quality communications could motivate all members of a treatment team to

establish more interactive relationships with patients. In this regard, priorities should be given to building effective relationships, not earning just more money, by authorities in medical centers.

Defining criteria for effective communication with patients in physicians' work evaluation checklists in order to distinguish between quality and non-quality communications of physicians in annual evaluations should be considered as a very important reinforcing factor of the PRR.

Discussion

It was explored by the results of the present content-analysis study that the PPR could be reinforced by the factors relating to physicians, patients, environment, socio-cultural context, and the health system.

Participants related their stratifying experiences of the PPR to 36 factors in five different categories. Among them, the factors related to physicians were more frequently mentioned by the participants as reinforcing factors of the PPR. Fifteen of the 36 mentioned factors were related to physicians. This finding is important considering the findings of a review, in which “the main conclusions from recent reviews and research” are summarized. Reinforcers of the quality of PPR are discussed in this review and it is declared that physician factors, except for the physicians' empathic abilities, have been studied very little. Among those studies which have taken physician-related factors into account, most studies have focused on just verbal communication behavior of physicians. Non-verbal dimension of communication has been “less prioritized” and has been less analyzed. The difficulties in analysis have been attributed to “the society and technological changes” in this review [14].

The importance and the necessity of analysis of physicians' non-verbal communication has been well illustrated and published following a presentation at the American College of Surgeons

102nd Annual Clinical Congress in 2016. In this publication, reliance on the physicians' character and professional competencies; their strengths and truth has been mentioned as the keystone of the PPR. In other words, integrity and stability of physicians' relationships with patients, team members and themselves have been stated to be dependent on trust as the so-called keystone. Non-verbal communication has been declared as the most preferred relationship which could efficiently and effectively engender trust [15].

The two most frequently cited reinforcing factors of the PPR, from the viewpoints of participating physicians, students and patients in this study, were not forcing physicians to visit a large number of patients per shift and spending enough time for visiting each patient.

These findings are in line with those in the study by Rees and colleagues in which participating students stated that clinical mentors had not allowed them to build effective communication due to the created time constraints [16]. The findings of the study by Mora Claramita et al. (2011) are also consistent with ours. In their study, the high number of the patients had significantly delayed effective communication with physicians [17].

The results of the present study showed that paying attention to the patient's feelings and concerns and involving patients in decision making could have a considerable role in reinforcing the PPR. This finding is similar to the findings of a study conducted in Turkey in 2020 in which the effect of the PPR on obedience of 399 adult patients to diagnosis and treatment plans and the mediating role of the shared decision making in that effect have been reported [18].

Our participants declared that patients with acceptable health literacy become more involved in building and maintaining participatory communication. Indeed, patients with higher levels of education and health literacy communicate more effectively with their physicians.

In a study by Mora Claramita et al. (2011), patient unpreparedness for participatory communication was introduced as one of the three main barriers to physician-patient communication. They noted that patients with higher education are more prepared to maintain a participatory communication [17].

According to the findings of a "survey of adults in the rural U.S. Southeast", more than half of 3176 rural patients had seen the same physician for more than five years. Those patients' satisfaction and their confidence in their physicians were higher compared to the satisfaction and confidence of the patients who had shorter continuity of care. Non-white and less educated patients with no health insurance and those with income lesser than \$25,000 had seen the same physicians for less than five years. These findings confirm that trust and confidence in physicians and consequently the effectiveness of the PPRs, in addition to some physician-related factors, depends on various patient-related factors too. That is why in order to enhance the outcomes of patients' satisfaction with care, trying to establish long-term PPRs is recommended [19].

Over the past decade, patients are more informed by social media and the internet and they are less reliant on physicians to acquire health-related information and necessary medical resources. This worldwide change has significantly influenced the PPR in a way that medical paternalism has been rejected in favor of admiration of patients' autonomy [20]. This means that in line with the findings of our study, the PPR has been affected by patients' health literacy. As if, in "the new age of patient autonomy", rethinking of physicians' role in the PPR is highly needed and physicians are still required to exercise their professional agency to provide counseling, procedural expertise and access to limited health services for patients [20].

Appropriateness of the patients' age and gender and fitness of their language and culture with those of their treating physicians were mentioned as the most important patient-related factors influencing the PPR in this study. In a study at Johns Hopkins Bloomberg School of Public Health, physicians' self-reported cultural competence was reported to be highly associated with the quality of the PPR and patients' participation in care. In that study, physicians with "more "culturally competent attitudes and a greater frequency of self-reported culturally competent behaviors" had more reflected cultural competence in their clinical behaviors. They had developed more participative and higher quality relationships with their patients in "low-income to middle-class communities". Their patients had been

more satisfied, had perceived their physicians had been more facilitative, and had searched for and shared more information with their physicians [21].

As mentioned in previous studies, the gender difference between a patient and a physician could truly affect the quality of their relationship. Previous studies show that gender match between a patient and a physician could lead to a more successful relationship, especially when they both are females. In a study in China, some patients, who were referred to a male urologist, were asked to describe their experience in this regard. Most of them reported their experience unpleasant because of a feeling of a deep gap in their relationship induced by just gender difference. In that study, patients related their other unpleasant experiences to their induced stress, lack of physician seriousness in treatment, not respecting their autonomy, and the lack of their physicians' empathy skills [22]. The gender difference was even more noteworthy from the viewpoints of the participants of the present study, considering the Iranian socio-cultural context.

In our study, paying attention to specific religious do's and don'ts about illness and health in society was stated as one of the most important socio-cultural factors influencing the PPR. This finding is in line with those of a study in Japan, in which communication styles were declared to be different in western countries and Japan. In that study, Japanese patients preferred the model of mutual participation as the ideal model of the PPR and four cultural characteristics, including "collectivism, high context, masculinity and Confucianism" were strongly related to the characteristics of the PPR in Japan. It was contended that in order to achieve fruitful relationships, "the mutual participation model of PPR should be pursued within Japanese social and cultural context" and patient autonomy should be advocated and appreciated. For these reasons, the researchers concluded that socially culturally tailored communication models, not exactly the same western models, are needed in contemporary Japan [23].

As reported by previous studies, today's socio-cultural expectations require physicians to understand patients' feelings and show empathy [24]. This issue would be a challenge for physicians believing that they should maintain a professional distance with their patients in terms of emotions [25].

Most participating medical students and residents in this study stated that if they had received any practical or theoretical training in a form of a predefined formal program, they would have made better relationships with patients and other members of the treatment team. In all, according to the participants of this study, the current situation of the PPR at TUoMS was not satisfying. Taking into account all reinforcing factors identified in this research could help designing comprehensive educational interventions in this regard.

Limitations

As with other qualitative studies, it was not possible to investigate any causal relationship between the PPR and the reinforcing factors explored in this study; however, as the bits and parts of factors reinforcing the PPR have been explored in this study, researchers can use the factors explored in this study to their future experimental studies.

In our study, about half of the reinforcing factors of the PPR (15 out of 36 factors) were related to physicians. As previously mentioned, according to the results of a review study, physician-related factors have been less studied before. Therefore, we had limitations in comparing the results of this study on some physician-related factors with the results of other studies. Therefore, it is recommended that similar studies be conducted in other countries in the future, especially in countries with different contextual and socio-cultural factors, in order to be able to compare and synthesize the findings of qualitative studies.

Patients admitted to the wards and students participating in the study were repeatedly reassured that the content of their interviews would not be made available to the faculty members in any way; however, considering some of their nonverbal behaviors, such as pausing or changing the course of their speech as for the existing weaknesses, it could be speculated that they may have been concerned about the possible reaction of faculty members to some of their statements. Of course, it is more likely that such conservative consideration had not existed about pointing out the existing positive points and reinforcers of communication. Of course, this does not mean that we should not mention that the possibility of bias in the answers in this qualitative study, like other qualitative studies, was present, albeit to a small extent.

Conclusion

According to the findings of this study, the patient-physician relationship is reinforced by the factors relating to physicians, patients, environment, socio-cultural context, and the health system. Most of the factors to which participants attributed the success of the PPR are manageable through educational interventions in medical schools. For this reason, it is recommended educational programs focusing on the reinforcing factors of the PPR be considered as the basis for improving patient-physician relationships.

Abbreviations

EPPR: Effective Patient-Physician Relationship

FGDs: Focus Group Discussions

TUoMS: Tabriz University of Medical Sciences

F2F: Face to Face

Declarations

Ethics approval and consent to participate

The ethical committee board at Tabriz University of Medical Sciences approved conducting this study (The approval code number: IR.TBZMED.REC.1395.1129). All methods were performed in accordance

with the relevant guidelines, regulations and ethical standards of the responsible committee approving the research at Tabriz University of Medical Sciences and with the Declaration of Helsinki, as revised in 2000. Permission to attend in and out-patient settings was given by heads of departments. All participants provided written informed consent to participate. The aim and learning objectives of the study were clearly shared with participants. A unique code was assigned to each participant. The participants were told that all the research data would be saved confidential. They were granted the right to withdraw from the study whenever they wanted.

Consent for publication

Not applicable.

Availability of data and materials

All the data generated and analyzed in this study, will be available from the corresponding author upon any reasonable request.

Competing interests

The authors declare that they have no competing interests, except for the point that the corresponding author, SGH, is an editorial board member of BMC Medical Education.

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Authors' contributions

SGH and MHS conceived the study. MB collected the data. All authors analyzed data and interpreted the findings. MB wrote the first draft of the manuscript. All authors read and critically revised the first draft and confirmed the final version of the manuscript.

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Tables

Table 1: Baseline characteristics of participants in a study to analyze the status of effective patient-physician relationship at TUoMS* in 2018

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Table 2: The emergent categories and supporting reinforcing factors[£] from the interviews with participants* in the study to analyze the status of patient-physician relationship at TUoMS[∞] in 2018

Type of participant	Number (Male/Female)	Age (range)	Working or hospitalization characteristics	Working or hospitalization setting at the time of this study	
				Outpatient setting or Emergency ward	Inpatient ward
Faculty members	32 (11/21)	31 – 57	Working experience: 21 months – 17 years	7	25
Residents	21 (7/14)	27 - 37	Year of residency (number of residents) PGY1(9) PGY2(4) PGY3(5) PGY4(3)	13	8
Interns	27 (10/17)	24 - 27	The month of internship: 3 – 18	16	11
Patients	13 (6/7)	18 - 63	Duration of hospitalization : 2 days – 1 week	8	5

Category	Factors
Physician-related factors	Spending enough time for visiting patients
	Paying attention to the patient's feelings and concerns
	Involving patients in decision making when necessary
	Not colluding with colleagues in laboratories and other offices to perform unnecessary tests and visits
	Empathizing with the patient
	Reputation for being a good person and having great professional experience
	Using simple and understandable phrases in communication with patients
	Having a calm and confident appearance
	Wearing appropriate and clean clothes at work
	Adopting gestures and postures indicating care and compassion
	Communicating effectively with other team members in care provision
	Paying attention to the role of body language in effective communication with patients
	Examining patient's understanding of his/her responsibilities
Having ability to establish a systematic and interactive relationship with patients	
Respecting professional values and adherence to them	
Patient-related factors	Appropriateness of the patient's age and gender with the treating physician
	Fitness of the patient's language and culture with the treating physician
	Having acceptable health literacy
	Trusting in the treatment team and not having stress due to being in the hospital
	Putting aside previous unpleasant experiences and not involving them in accepting the diagnosis and treatment of the treating physicians
	Establishing long-term PPR and seeing the same physicians for a long time
Context-related factors	Providing the opportunity to communicate with patients in an environment away from the hustle and bustle
	Absence of companions and other patients during the visit
	Building a supportive environment for constructive criticism
	Performing time-consuming and tedious administrative bureaucracies by non-physicians
	Being defined the process of stress management in urgent decision making

	conditions
Socio-cultural factors	Working or living in a context with appropriate social propaganda and beliefs about physicians
	Paying attention to specific religious do's and don'ts about illness and health in society
	The reputation of the medical center as a good caring center, not as a slaughterhouse
Health system factors	Not forcing physicians to visit a large number of patients per shift
	Institutionalization the ability to provide and receive constructive feedback on communication skills in the system
	Being supportive and flexible against physicians' risk-takings
	Paying special attention to the quality communications of physicians and encouraging the high quality communications
	Not giving the priorities to earning more money in medical centers by the authorities
	Distinguishing between quality communications by physicians and the efforts solely based on the quantity of work in annual evaluations
	Defining criteria for effective communication with patients in physicians' work evaluation checklists

£ Factors in each group are listed according to the frequency of repetition by participants. The most frequently cited factors by the participants are listed upper in the list.

*13 patients, 32 faculty members, 27medical interns and 21 residents

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