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Review Article

Patient Education problems in Clinical and Educational Settings: A Review and Mixed methods Study

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Abstract

Introduction: To explore patient education problems in clinical and educational settings.

Methods: A review and an explanatory sequential mixed methods design were used. In the quantitative phase, an extensive review of the literature was performed for improving the validation of the questionnaire and after that, 2300 nursing students by convenience sampling were recruited. Data were collected by a self-report bridges and barriers of patient education questionnaire. In the qualitative phase, 25 nursing students were recruited using purposeful sampling. Data were gathered using semi-structured interviews and two focus groups.

Results: In the quantitative phase, two items were recognized as first priorities (Need assessment of each patient in each ward and protocol creation based on; and Good communication between the nurse and patient). In the qualitative phase, one-main-theme (Club of patient education problems) with two sub-themes (Educational and experimental problems; and communicational and managerial problems) emerged.

Conclusion: It is essential for the managers in all levels of nursing to try to equalize and integrate the educational and clinical opportunities in two more important and inseparable environments of college and hospital.

Practice Implications: It is possible that for the better education and implementation of the patient education courses for nursing students, particularly Iranian nursing students, the authorities of colleges and hospitals be able to use from the results of this research.

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Introduction

Patient education is widely identified as a significant component of nursing care that has mutual interaction effects for patients and nurses (1); because, education is seen as a way of encouraging people to take greater responsibility for their own health and potential ill-health, thereby alleviating the heavily strain on the nursing system. However, there is evidence to recommend that many patients want education and want to know about their illnesses but they are often displeased with both the amount and quality of what they experience in health care settings (2). Patient education needs to be effective both in the sense of its content and methods. However, nurses often lack formal training in patient education (1, 2).

Assessing individual learning needs, individualizing teaching content and evaluating patient understanding have been recognized as areas in which nurses would benefit from additional training (3). Generally, patients need information about their own illness and its care, side effects and complications (4), daily activities, participation in therapeutic decision-making process, reducing anxiety, self-efficacy, health-related problems (5), financial matters, and further care (6).However, it is still said that many nursing practices today are established on experience, traditional methods and untested theories. While, effective patient education means combining clinical expertise with the best up-to-date research knowledge and the patient's opinions.

Nurses in Iran, learn patient education skills within a two credits course at university entitled "Patient education". The aim of the course is to teach theories, procedures and types of learning methods and instrumental technology.

However, the course is usually held on inappropriate and no emphasize is done on patient education. We as instructors have been witnessed the numerous patient education procedures that have been partially implemented and the training provided was not consistent with the patient's and the family's educational level.

In congruent with this subject, patient education in the developing countries like Iran, faces formidable challenges because of the shortages of trained staff, lack of accessible facilities, overcrowding, the ambiguity of the students' duties in the hospital, lack of the awareness of society and patient about nursing profession, lack of resources and knowledge of how to implement patient education in nursing, lack of coordination between theoretical educations and clinical practices, lack of utilization and usage of nursing processes in clinical cares, and finally lack of welfare possibilities for nursing students (7, 8).

Furthermore, the authors, based on the recognition of context and cultural atmosphere of Iranian nurses, to overcome on these complex and multi-faceted problems, it is necessary that before the formal entrancing of nursing students to the clinical settings, we are well-documented the majority of patient education problems in our educational and clinical settings. For this reason, mixed methods studies can be highly fulfilled this purpose. The purpose of this study was to explore patient education problems in clinical and educational settings.

Methods

Study Design

An explanatory sequential mixed methods design was used (9). In conjunction with this approach, sequential data analysis was completed with the findings of both phases integrated in the discussion (9). In the first quantitative phase of the study, data was collected by a self-report 17-item questionnaire. In the qualitative phase, semi-structured interviews and two focus groups were conducted in order to enrich the findings arising from the questionnaire.

Quantitative phase

The patient education Questionnaire (PEQ) is a 17-item scale, developed according to the triangulation research with three-step-Delphi-method (10). Extensive review of the literature was done for improving the validation of the PEQ according to the latest correlated articles (11 - 22)The PEQ consists of 1 open-ended question for attaining other matters about the bridges and barriers of patient education and 16-question (1,3,4,5,7,9,11,12,13 and15 as bridges, and 2,6,8,10,14 and 16 as barriers questions) that are rated on a three-point Likert scale . Scoring for the bridges questions is as follows: yes, somewhat and no, 3, 2 and1 score, respectively. The scoring trend for barriers questions is reverse. The minimum and maximum score of the PEQ is 16 and 48, respectively. Although validity and reliability process of the PEQ has been tested in a number of studies (10, 23), in present research, this process demonstrated in Table 1.

Regarding face (Difficulty, Relevancy, Ambiguity and Modifying or Deletion) and content (Grammar, Wording,

Table 1. Validity and Reliability of the Patient Education Questionnaire

Questionnaire Characteristics		Validity	Reliability
Face (Impact Score)		2.01- 4.32	---
Content (CVR)*		0.59	---
Content (CVI)**		0.86	---
Equivalency	Split-Half	---	0.95
	Odd-Even	---	0.91
	Bridge	---	0.958
Internal Consistency (Chronbach's alpha	Barrier	---	0.956
	Total	---	0.953
Test-Retest (ICC)*** (0.967)	Bridge	---	0.964
	Barrier	---	0.971 (0.965)
	Total	---	0.956 (0.947)

*Content Validity Ratio (number of panel expert was 20);
**Content Validity Index; ***Test-Retest with Intra-Class-Correlation data with 14-day period

Qualitative phase

Item allocation, Scaling and Modifying or Deletion of item) validities, qualitative methods in addiction to quantitative validity methods were conducted. Concerning construct validity, exploratory factor analysis (EFA) was conducted.

After the completion of quantitative phase with questionnaire, based on open-ended question, the richer subjects were selected for participating in qualitative phase. A qualitative design, established on the conventional content analysis approach, was utilized for data gathering and analysis of the patient education problems in clinical and educational settings in the second half of 2013 in five of the teaching hospitals of Tehran University of Medical Sciences, Tehran, Iran. This approach authorized the researcher to describe and explain the data and develop the dominant and major themes of the participants' experiences. The specific procedure of qualitative content analysis used in the present study was established on methods described by Graneheim and Lundman's steps were taken to analyse the data (24): Transcribing the interviews verbatim and reading through several times to obtain the sense of whole; Dividing the text into meaning units that are condensed;abstracting the condensed meaning units and labelling with codes;sorting codes into sub-themes based on comparisons regarding their similarities and differences; and finally formulating themes as the expression of the latent content of the text.

Ethical considerations

The ethical considerations were related to the participants' autonomy, confidentiality, and anonymity during the study period and study's publication. The participants were informed of the aim, the design of the study, and the voluntary nature of their participation. In addition, permission for tape recording of the interview was attained from each participant.

Sampling

Quantitative phase

The first author was distributed an invitation for all nursing students studying in 2 and 8 semesters in baccalaureate degree, and for all nursing students studying

in 1 and 4 semesters in master's degree in four of the teaching faculties of Tehran university of medical sciences for taking part in this survey. We used non-probability convenience sampling. From 2567 eligible students, 2300 students participated in our survey. The response rate was 87%. Researchers think the reason for this high response rate is related to the interesting topic and good communication with all students, regardless their agree to participate to study or not. Two inclusion criteria were stringently assessed: having student satisfaction for participating in the study and consistency of their educational semesters to our study.

Qualitative phase

The participants of this research were selected by purposeful sampling and included 17 nursing students in baccalaureate's degree and 8 students of nursing in master's degree (Totally 25-student). This selection was carried out established on the student's responses to the open-ended question. In other words, students with richer responses to the open-ended-question were selected to participate in qualitative phase.

Data collection

Quantitative phase

First author invited the accepted students to participate in an orientation session. All of matters about study including aim, generation process of questionnaire, expected procedure and even qualitative phase were clearly expressed for students and all of their questions were openly responded. Finally, after final acceptance of subject for participation, the Questionnaire was distributed. Completing the questionnaire took approximately 10 minutes.

Qualitative phase

The semi-structured interviews were conducted in a private room to gather in-depth data. Each interview continued between 45 and 60 min. According to the qualitative methodology, the interviews commenced with a general open ended question and then continued with complemental queries that further envisaged the participants, responses regarding to the patient education problems in clinical and educational settings. The nursing students were given the opportunity, and were motivated, to talk about occurrences or what was on their mind about the study-related issues. The data gathering and analysis carried on simultaneously in order to develop themes connected to the actuality of the topic. Once the themes were recognized and information saturation was obtained, the interviews were terminated. At the end of interview, two focused groups were conducted to improve the findings arising from the interviews. The richest students were invited to participate in focus group discussion.

Data analysis

Quantitative phase

Data was analyzed using the SPSS version11. The data were presented by percentage, mean and standard deviation (X±SD) for nominal and quantitative variables, respectively. Based on, the priorities of bridges and barriers were determined. 16-questionnaire-item were included in EFA (with Principal Component) analysis extraction method (with varimax rotation) to sort load items into sub-scales. Factor loading scores ≥0.5 were used to sort items into factors and eigenvalues>1 were used as cut-offs for factors to be retained. The criteria used to indicate the appropriate of factor analysis were a significant Bartlett's test of sphericity and a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy ≥ 0.7.

Qualitative phase

Each interview was recorded and transcribed verbatim and then analyzed by using the conventional content analysis method (24). The researchers independently analyzed the data by recognizing and classifying codes for the subjects, responses to each question. Then, the three authors, codes and their lasted analysis continued as themes were compared. In areas where the three did not agree, definitions were explained and discussions lasted until consensus was achieved. Concerning trustworthiness, credibility was founded through member checking and prolonged engagement. Member checking was done by asking the respondents to ascertain the preliminary findings from the earlier interviews. The rigor of the study was improved by asking five participants to compare the results of the study with their own experiences. Four expert supervisors and three other doctoral students of nursing conducted the peer checking. Prolonged engagement with the participants within the research field helped the first author to gain the participants, trust and a better understanding of the research fields. The analyses of focus group session's findings were independently by all authors. Although these findings didn't add new findings to our theme, subcategories were interestingly reconfirmed from different views. Qualitative analysis process is shown in Table2

Results

Quantitative

Of the total study participants (2300 persons), 85.6% were female, 85% have baccalaureate degree and 83.1% were married. The X±SD of participant's age was 23.5±2.17. Priorities of items are completely presented in Table 3.

According to the Pearson and Spearman correlation coefficients, between total score of PEQ and age, sex and university degree, there was not significant relationship. The Kaiser–Meyer–Olkin (KMO) measure was 0.716, which is greater than the standard of 0.5 for sampling adequacy. Sufficientvariability in the data was confirmed by Bartlett's Test of Sphericity ($p < 0.001$). These tests confirmed the validity of our data set for EFA. Using EFA, two factors with eigenvalues ≥1.0 were extracted. These two factors, on which all 15 items loaded significantly, explained 88.105% of the total variations. Based on the results of EFA, question 12 was excluded. The structure with the factor loadings of rotated varimax solution is shown in Table4.

Qualitative

During the data analysis, one main theme (Club of patient education problems) with two sub-themes (Educational and experimental problems; and communicational and managerial problems) emerged (Table2). The following narratives describe condensed meaning units of each sub-theme.

Table 2. Example of quotation, meaning units, condensed meaning units, sub-themes and themes.

Main Theme	Sub-themes	Condensed units	Meaning units	Quotation
	Educational and experimental problems	Unsuitable syllabus of the lesson for patient education	Ignoring the students' scientific level and the insufficiency of taking it into consideration to include it in course syllabus, inadequacy of the requirement measuring in designing the syllabus, defect in inserting the new requirements in the syllabuses, lacks of the yearly sessions to update the syllabuses, ignorance of the patient education subject as one of the indices for evaluation of the students and trainers and its insertion in the syllabuses, being the syllabuses out of date, ignorance of the complete implementation of on the bed education to the patient in course syllabuses ...	*"While a student doesn't have anything to say, and isn't acquainted with the method of relating with the patients, cannot educate patients. Of course this matter have not to be concealed that in colleges the subjects are taught about the education to the patients theories to the nursing students, but these subjects are shallow, short-time, and without continuation. On the other side, the main points are not emphasized in these theoretical courses".* (Master Stu No1, 27-year-old, Female)
		Shortage of trainer's experience and information	Being conventional not official trainer, providing insufficient clinical and theoretical education by conventional trainer, emphasis on the objectives other than curriculum objectives, like medical dimensions of the work, insufficient acquaintance with the techniques that should be taught to the students, fear of working with the patients in bad- condition, fear of speaking in front of the ward personnel, shortage of the trainer's acquaintance about the ward patients and the procedures implemented in the ward, defect in the compatibility of the trainer's major of education with the delivered course, insufficient experience in planning for providing theoretical and clinical courses, insufficient experience about the critical and grave situations of ward and patients, delivering several trainings simultaneously, utilizing one trainer as the inspector in several special wards, delivering the responsibilities and special techniques to a trainer without education, insufficient utilization of the time, shortage of the time required to study the educational objectives, and …	"*I disagree with the several viewpoints that just are points of views, and not anything else. In fact, there is no relationship between the trainer's age and his/her successfulness whether he/she is young or old is not so important. I have worked by a nurse that was recently educated and conventional trainer; but he was like a screw spanner in the ward; he was working modestly and had always motivation enough to work, so that all the persons were consent of his/her work".* (Master Stu No2, 23-year-old, Male) *"One should be chosen as a trainer that, at least knew the works, our trainer could not insert a NGT after 4 time of trying, he tried two to three times to capture".* (Baccalaureate Stu No13, 25-year-old, Female) "Our *trainer often kept us away from the bad-situation patients, because he was feared if we ask questions that he doesn't know".* (Baccalaureate Stu No12, 20-year-old, Female)
		The weakness of the student's scientific and clinical bases	Insufficiency in realizing the students' abilities and its correct and proper utilization, defect in utilizing the modern theoretical subjects on the clinical situations and practicing them in theoretical classes, insufficiency in exploiting the results of accomplished researches in clinical situations, the shortness of the teaching period and also the time of clinical practices, utilizing other courses' teachers for teaching our lessons that they teach us cursory and …	*"It is really very bad that, we expend so much money on researches, but they are conveyed to the corners of libraries and put there away".* (Master Stu No3, 24-year-old, Male) *"This problem is pertaining to our first semesters. In the first semesters, we don't learn some of the techniques completely, and then in the last semesters we are ashamed of asking the trainers to teach us some of the primary techniques".* (Baccalaureate Stu No3, 23-year-old, Female)

Club of Patient education problems	mmunicational and managerial problems	lack of mutual confidence	Inapplicability of nurses' speeches, working routinely and like robots without considering patients' situations, incorrect responses of nursing personnel to the patients' questions, self-treating by the patients without paying attention to the nurses' educations, considering nurses as the persons separate from health care system, induction of inadequate trust from nursing system side, superficiality of nursing education to the patients, lack of imminent to the whole dimensions of the illnesses and patients' situations, the inclination of the patients to ask their questions of the physicians than the nurses, lack of acquaintance of some nurses with education, lack of readiness of some nurses to accept the patient education responsibility and …	*"Most of the patients like to ask their questions of physicians than nurses because patients accept their replies without any doubt, even if they are incorrect. It is demonstrated to me that, even when physician aren't accessible, patients don't like to accept nurses' educations, and practice on the base of their own believes, especially patients that have chronic illnesses".* (Master Stu No4, 26-year-old, Female) "*Most of the patients do not consider nurses as the members of the health care system, to regard their talks. They only consider nurses as persons that should implement physicians' orders".* (Baccalaureate Stu No6, 20-year-old, Male)
		Inadequacy of educational, clinical and managerial systems	Different behaviors of the trainers on traineeship, the defective implementation of delivered duties from college or hospital system, insufficiency in implementation of the evaluation of traineeship by educational and administrative assistants, the wondering of implemented educational objectives in the ward, defect in pursuing the students' incorrect practices and correcting them, defect in providing the written and coordinated with trainer and student schedules, shortage of two-way evaluation system and its incorrectness, lack of coordination between educational supervisor with trainer and even college and …	"The *problem is that, the persons are determining the objectives and coordinating the works that, it is not their work, and they have not brought the students of 'patient education course' to the hospital, to be acquainted with the problems".* (Master Stu No8, 27-year-old, Female) *"All the trainers have said that, we would go to the hospital for the clinical exercising of 'patient education' course near the final exam, and it is not needed to go to the hospital immediately after its theoretical sessions".* (Master Stu No3, 24-year-old, Male)
		The weak relationship between college and hospital	Defect in the appliance of a codified collegial and hospital protocol to implement the theoretical objectives on the bed by the help of educational supervisor, disorganization and interference of the traineeships with other groups, insufficiency of the hospital support of the students while happening a problem in the ward, disorder in on time donation of clothes commode to the students, unsuitable inspection of college on the procedure of the implementation of the students' practices in the hospital, insufficient information conveying of the hospital managers about the changes and developments happening in the traineeship procedure and …	*"In this hospital that is accounted as the fourth hospital of the country, we don't have any committee to supervise the clinical traineeships. This is the most important relationship weakness for the college-hospital system".* (Master Stu No4, 26-year-old, Female *"They program and determine the shifts themselves. When term begins we are released in the hospitals, in fact they don't coordinate the program with the clinical supervisors. Well, it is not expected of them".* (Baccalaureate Stu No14, 26-year-old, Female)

Table 3. Items priority of patient education questionnaire

Question Number	Item Priority
1. Need assessment of each patient in each ward and protocol creation based on.	First
2. Good communication between the nurse and patient.	First
3. Supervision and feedback system.	Second
4. Have a circulatory specially trained patient education nurse.	Third
5. Lack of nurse's knowledge and information.	Fourth
6. Shortage of nursing staff.	Fifth
7. Busy working nurse.	Sixth
8. Holding educational classes as a part of working hours.	Seventh
9. Determine and explore the importance of education and patient education.	Eighth
10. Teaching of Different patient education methods.	Ninth
11. Considering of culture and psychosocial status of patient, family and caregiver.	Tenth
12. Development of reward and punishment systems for educational working of nurses.	Eleventh
13. Increased equipment and facilities in order to reduce wasting time of nurses.	Twelfth
14. Educational hospital and imposing additional work by inexperienced physicians.	Thirteenth
15. Additional processes such as formality and bureaucratic hierarchy.	Fourteenth
16. Inappropriate conditions and not possible being patient education.	Fifteenth

Table 4. Factor loadings of patient education questionnaire items determined by exploratory factor analysis.

Items	**Factor loading score [a]**	
	Factor 1	Factor2
Q1. Need assessment of each patient in each ward and protocol creation based on.	.975	
Q2. Lack of nurse's knowledge and information.		0.983
Q3. Supervision and feedback system.	0.957	
Q4. Good communication between the nurse and patient.	0.862	
Q5. Holding educational classes as a part of working hours.	0.957	
Q6. Busy working nurse.	0.604	0.639
Q7. Have a circulatory specially trained patient education nurse.	0.957	
Q8. Educational hospital and imposing additional work by inexperienced physicians.		0.987
Q9. Development of reward and punishment systems for educational working of nurses.	0.957	
Q10. Shortage of nursing staff.		0.979
Q11. Determine and explore the importance of education and patient education.	0.958	
Q12. Teaching of Different patient education methods.	----------	
Q13. Considering of culture and psychosocial status of patient, family and caregiver.	0.954	
Q14. Additional processes such as formality and bureaucratic hierarchy.	0.616	0.649
Q15. Increased equipment and facilities in order to reduce wasting time of nurses.	0.952	
Q16. Inappropriate conditions and not possible being patient education.		0.987
Eigenvalue [b]	10.746	3.330
% Variance	55.638	32.467

Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy = 0.716; Bartlett's Test of Sphericity ($p < 0.001$).
a Factor loading scores ≥0.5 were used to sort items into factors.
b Eigenvalue ≥ 1 was used as a the cut-off to determine the number of factors.

Unsuitable syllabus of the lesson for patient education

The findings of the research indicated that most of the participant had pointed to the importance and the influence of the content of learning process and the principles of patient education.

Lack of mutual confidence

In this case, culture and the point of view of the society about nursing personnel should be taken into consideration, because in our society, the physicians have an especial scientific and skill positions, and their provided recommendations have special importance and position for the patients and their families. On the other side, in our society, the nurses and their roles aren't completely known and most of the persons of the society, even educated persons, aren't aware of the nurses' scientific and clinical competence. Also, some of the people even don't know nurses have collegial educations.

Inadequacy of educational, clinical and managerial systems

In this matter, most of the participants expressed that at the beginning of each semester, a lesson plan is sent to the hospital managers, ward managers and the trainers by college, but no one of the student had experienced that. In other words, anyone else was not asked students act according to the sent syllabus. In this context, some of the students expressed that either this lesson plan is merely sent to implement the official protocols and official hierarchies, or there is a disorder in the college- hospital, or hospital college evaluation system.

Shortage of trainer's experience and information

The path of this condensed unit is seen in each research related to patient education. Here, the only point that is not remained away from the minds in most cases, is subject – centering and objective- centering; because in most cases a trainer in each term, had traineeship in four-five various wards, and with the same various groups in different levels. In this situation, this subject was applicable for the most experienced trainers. This matter is expressed repeatedly that in this situation several prevalent familiar

medical techniques in the special ward were replaced by medical skills.

The weak relationship between college and hospital

It should be mentioned that the most of the research participants believed there is a great distance between the college system and hospital, and no one had any inclination or even ability to close these two systems. Hospitals speak about their great numbers of the personnel and the problem of organizing them, and the college talks about the great numbers of educational and research sessions.

The weakness of the student's scientific and clinical bases

In this regard, we should pay attention to the teachers are one of the most significant, or according to one of the participant's point of view, the most important scientific and clinical bases of the knowledge. Though, managers should select the teachers that are creative, so that, if there is an unsuitability or insufficiency in providing some materials, by utilizing their innovative and creative power, prevent the incidence of the educational and clinical defects. Also, some of the students expressed that it is important in selecting the teachers; we know the teacher's ability in providing various subjects and their suitable utilization in educational process.

Discussion and conclusion

Discussion

The purpose of this research was to explore patient education problems in clinical and educational settings. The results of both quantitative and qualitative phases confirmed each other. In other words, main theme with two categories was consistent by two items with first priorities, and all of them declare same concept from different dimensions.

One of the items with first priority, need assessment of each patient in each ward and protocol creation based on, is congruent with the sub-theme of educational and experimental problems. This problem directly relates to the different education groups of the colleges and exactly to their curriculums; because colleges play the unique and the first role in patient education and also by designing applicable and effective plans, can decrease the gap between theory and practice in clinical settings, and cause to implement these theories in clinical settings. It is stated that education and development of the nurses' clinical skills in college is one of the most important methods to decrease the gap between theory and practice, and in this regard, the managers of the colleges play the most important role (17-19, 25). Furthermore, the main problem of lack of implementation of patient education in clinical settings firstly returns to the colleges. Nursing student will have this problem until they are being trained in such a manner. One of the main problems in this matter is different instructors that teach the theoretical and clinical of patient education courses and for this reason, there is a gap between declared syllabuses among different instructors.

On the other hands, it should be proposed that for making the college theoretical program compatible with the hospital clinical program, the main problem is derived from hospital and not college. Because, hospital is main working place of the majority of new graduated nurses, and for optimizing the utilization of new graduated nurses, this powerful source, must have been a well-documented and applied plan. In this regards, it is preferable to utilize the clinical nurses, clinical head nurses and even educational and clinical supervisors as clinical trainers in teaching patient education courses (14, 15, 26, 27). The authors strongly make a believed that this manner, has more advantageous than traditional methods that college trainers will conduct patient education courses in hospitals. Nursing staff of hospitals can be as purposeful and professional intermediary's bridges hospital and college. The goal of these clinical nurse trainers is the facilitation of professional development of practicing nurse's students and their responsibilities comprise promoting best practice by mentoring others, acting as an information source, and assisting in the development of policies and procedures established on the best available research evidence (16, 28). As a result of their interesting to teaching besides of their clinical working, their often will evolve into their roles largely due to their clinical expertise and a desire to teach. Finally, as trusted and credible members of the nursing practice community, clinical nurse trainers are ideally positioned to facilitate the theoretical educations of patient education courses utilization in clinical settings (13,16, 28).

Another item with first priority, good communication between the nurse and patient, is commensurate with other sub-theme (communicational and managerial problems). It is recommended that patient education to be accomplished according to the patients' needs, not according to what nurses think are important for them. In most of the subjects, lack of mutual confidence is because of this matter that the patients' requirements are not fulfilled. Moreover, the patients do not have any inclinations to participate in the processes that are not able to fulfill their needs (13,17,29). Furthermore, it must be taken into the consideration the fulfillment of these objectives is possible through the effective communication. Patients think through effective communication that is formed with the health care team, it will be possible for him/her to express his/her needs and inclinations. So, this is the best situation provided for him/her to listen to the health care providers' lectures and learn the educated subjects (13, 25). Having good communication skills and the sensitivity of the health care providers to the patients' needs are the prerequisites of the coverage of these concepts (7, 11, 23).

The other points that must be mentioned here are the shortage and lack of self- confidence and in most cases lack of participation of nurses in the educational processes about patient education. This matter is mentioned in most of researches (14, 16, 17, 29). It must be noted that communicational and managerial problems, is a coin with two faces. A side of the coin is, nurse-patient stories and the other side is, college and hospital managers relationships with themselves and with under nursing system. The authors, think about manager's relationships is so important than nurse-patient stories. Because, if college and hospital manager's relationships to be excellent,

relationships and communications in under nursing system will favorably and autonomously improved. This claim is confirmed by the majority of our research body both qualitative and quantitative phase.

One of the very significant hinges of present results is culture and issues related to culture. It is notable that the majority of our patient education bridges and barriers are derived from our culture and topics related to culture. One of these topics is communication and related materials. From one side, communication is the most important element for the culture of teamwork, and other side, this component added as sixth-step in nursing process that emphasizes communication skills are widely identified as key to safe and effective nursing practice (13, 18, 30). It can be mentioned that the majority concept of quantitative and qualitative findings are within this the cultural challenge of weaknesses in teamwork and commuted this challenge to two sides of a coin. From one side poor communication don't determine the real needs of the patient to educate him/her (first sub-theme and one the items with first priority) and other side through poor communication cannot educational and clinical challenges and problems between the authorities of college and hospital be coordinated and orchestrated (Second sub-theme and other the item with first priority).

Ultimately, another so consequential hinge of our results in both phases is the conflict of talking and practicing, theoretical and clinical learning, theoretical and clinical emphases, and theoretical and clinical values. This conflict has two aspects. The first aspect is "the minimal competence in basic skills in clinical settings of nursing students". This refers to the fact that the clinical nursing skills to patient education can be readily obtained when needed, and are not the "be-all and end-all" of nursing (10, 13, 19, 31). One of the disadvantageous of teaching all of all nursing clinical skills to patient education is, disagreement of student and this fact can often be cause feelings including a loss without a set of basic clinical skills at their finger tips, incompetency in clinical skills, lack of confidence and expertise in implementing patient education procedures. As informal interviews throughout the teaching of patient education courses, by the authors repeatedly asked from nursing students why they worked as nursing student (student working) in their leisure time and holidays. While the apparent reason (to make extra money) was proposed, the most persuading reason was the students' opinion that they needed to obtain the clinical nursing experience to patient education that existing courses could not propose them. The second aspect is "forgotten primary care". Nurses because of have too busy to meet patients' needs within the health service, often make over basic patient education care to unqualified and sometimes unsupervised staff. This issue isn't devoted to Iranian communities and we can find these behaviors in other countries (10, 14, 19, 31).

Conclusion

According to the findings of this research, it is essential for the managers in all levels of nursing to try to equalize and integrate the educational and clinical opportunities in two more important and inseparable environments of college and hospital that both have undeniable roles in integrate comprehensive education of the nursing students especially in patient education courses. Furthermore, it is essential that every so often accomplish mixed methods studies to enhance the positive characteristics and reduce the negative characteristics of patient education courses.

Practice Implications

It is possible that for the better education and implementation of the patient education courses for nursing students, particularly Iranian nursing students, the authorities of colleges and hospitals be able to use from the results of this research. Because we pointed out one of the biggest cultural and contextual problems, poor teamwork, in Iranian educational and clinical settings. Through attention to this problem, colleges and hospitals staffs in all levels can collaborate with each other easily in different matters with less bureaucratic processes such as experts panel formation from both college and hospital senior authorities for designing educational and clinical syllabuses of patient educations courses in college and hospital settings, defining criteria for selection clinical trainers from both college and hospital, problem solving evaluation committee formation from both college and hospital staffs for solving and handling of the broad continuum of nursing students problems regarding patient education courses and other potential solving matters that originally comes from Iranian cultural and contextual settings.

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Conflict of interest

No conflict of interest has been declared by the authors.

Author contributions

HRJ, AVA, MBK, AA and SMRH were responsible for the study conception and design. HRJ, AVA, MBK, AA and SMRH performed the data collection and analysis. HRJ, AVA, MBK, AA and SMRH were responsible for the drafting of the manuscript. HRJ, AVA, MBK, AA and SMRH was responsible for the data analysis and made critical revisions to the paper for important intellectual content. MAJ performed the data analysis in quantitative phase and made critical revisions to the statistical analysis and results sections of paper for important intellectual content.

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