Efficacy of Teaching Program about Efficient Patient Communication Using Role-play Strategy on Technical Nursing Students' Practice

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Abstract

Background: Technical nursing students' courses contents not give opportunity to apply nursing theory and skills of effective communication with patient in practice area lead to nursing students required improving their communication competencies through using role-play strategy. They need information for developing the idea by the sender, transmission of message and decoding, and providing feedback. Role play is a teaching method could be used for experiential learning and that provides an imaginary context in which issues and behaviors may be explored by students. **Objective:** Aim of the study was to determine efficacy of teaching program about efficient patient communication using role-play strategy on technical nursing student's practice. **Setting:** Study was conducted at Tanta Health Technical Institute General Nursing Division and students' training areas at El Minshawi Hospital affiliated to Ministry of Health at El-Gharbiya Governorate. **Subject:** The study subjects included all (n=65) second academic year technical nursing students at 2017-2018. **Tool:** Three tools was used, the effective patient communication and role-play teaching strategy knowledge test, technical nursing students' actual performance of patient communication process observational checklist, and technical nursing students' perception about role- play teaching strategy. **Result:** Pre-program 86.2% of technical nursing students were at poor level of total knowledge changed to be 1.5% post program. Pre-program 89.2% of them had unsatisfactory level of total performance changed to be 93.8% at good total performance level post program and the rest were at satisfactory level. Technical nursing students 93.8% showed high level of overall perception about role-play teaching strategy. Highly significant correlation detected between knowledge and practice of technical nursing students pre and post program. **Conclusion:** Absent of applying theoretical part of nursing administration course results in lacking of effective patient communication among technical nursing students. Proper implementation of teaching program about efficient patient communication using role-play strategy improved technical nursing student's communication knowledge and practical skills significantly than pre educational program. Technical nursing students' perception about using role-play teaching strategy patient communication program showed high level. **Recommendation:** Attention to educate course of effective patient communication at first and second year of technical nursing student's curriculum. Attention to supervise technical nursing students training on patient communication skill at clinical practice areas. Internship training programs should include active, practice-oriented strategies about patient communication for nursing interns.

Key words: Technical nursing students, efficient patient communication, role-play teaching strategy.

Introduction

Effective communication skills of health care providers are vital to effective health care provision, and can give them positive outcomes including decreased anxiety, guilt, pain, and disease symptoms[1,2]. Nursing students' development of effective communication in health care setting leads to satisfaction, good health, and improves nurse-patient relationship. It has profound effect on the patients' perceptions of health care high quality and treatment outcomes[3,4].Moreover, communicatin can increase acceptance, compliance, and cooperation with the medical team. As well as it improves physiological and functional status of the patient, and has great impact on training provided for patient[5].

Technical nursing students need to be proficient in communication skills at clinical settings. Communication in nursing is an important process in which the nurse consciously influences patients or helps them to better understanding through verbal or non-verbal communication including body language, facial expressions and active listening. Ideally the communication is a dynamic process and mean of passing information from one person to another, whether both sender and receiver are in close proximity or separated by distance[6,7].

Communication process involves an interrelated phases affected by interdependent of sender and receiver working together as a whole to achieve a desired outcome or goal. Many barriers can occur at any phase or at multiple points in communication process prevent it from being effective include physiological, psychological and other barriers. Then the message intended by the sender but not understood by the receiver in the same terms and sense leading to breakdown of communication process[8,9].

Nurses to have effective communication should consider several things including being prepared knowing what to say and having the right information to give, when patients ask questions. Beside paying attention to maintain eye contact and observe the patient's body language, listen properly and pick up the proper non-verbal signs. As well as use the principles of verbal communication and avoid the use of medical jargon[10].

Traditionally, classroom teaching of communication skills doesn't allow for practical application. Teaching communication skills need to permit for training on developing the idea by the

sender and how to make good transition of the message and for providing feedback[11]. These activities could be through the use of role-play, feedback, and debriefing. When nurse educators utilize role-play they must help students set realistic goals and know when and how to provide feedback in a way that allows for deepening of skills and a promotion of self-awareness. The challenge is to do this in a manner that does not cause too much anxiety for the student[12,13].

Theoretical aspects for renovation to develop communication abilities and dramatization help students to overcome fears and uncertainties caused by certain nursing situations[14].Classroom role-play actively involves students in the learning process by enabling them to act as stakeholders in an imagined or real scenario. Stages of role-play include constructing, implementation, debriefing and summarizing stages. Specially role play concluded with a debriefing or reflection stage to reinforce the introduced concept by the role-play[15].

Role play is experiential learning technique with learners acting out roles in case scenarios to provide targeted practice and feedback to train their skills. The role-playing helps students to be able to

critically think through the scenario and increase their awareness of the issues they are required to address[16,17]. The use of role-play in small group is an important method to help nursing students cultivate the skills required to engage in nuanced and often difficult conversations with ill patient. Assigning roles motivates students to participate in discussions and test their own problem solving capabilities[18,19].

Ideally communication with patients has high importance in all aspects of nursing care. Through communication, nurses become familiar with the needs of their patients. Nurses' understanding how to make the world more comprehensible to patient is very important need. Technical nursing students learning of methods of turning thoughts into successful communication, ensure that their message covers its intent, and timely communication was critical for patient communication and safety. Teaching nurse-patient communication require the use of active learning teaching strategy as role-play[11].

Teaching communication skills require the use of debriefing as well as the educators must help students to set realistic goals and know when and how to provide feedback to them in a way that allows a deepening of communication skills and promotion of

self-awareness. The challenge to do this is in the education manner that does not cause too much anxiety for the students, but smoothly the student will learn the various aspects and applications of communication in practical field of nursing. However lake of communication skills and training lead to negative beliefs about patient state and often hinder communication with patient[19,20].

Aim of the study

Determine efficacy of teaching program about efficient patient communication using role-play strategy on technical nursing student's practice.

Research hypothesis

1- Technical nursing students'practice about effective patient communication expected to be improved after the implementation of teaching program using role-play strategy.

2- Technical nursing students expected to be pleased and enjoyed by role-play strategy of teaching.

Subjects and method

Study design

Quasi experimental research design was used to achieve the aim of the present research. Such design fits the nature of the problem under investigation.

Setting

The present study was conducted in Tanta Health Technical Institute General Nursing Division and students' training areas at El Minshawi Hospital affiliated to Ministry of Health at El-Gharbiya Governorate. Tanta Health Technical Institute constructed at 1974. The Institute consisted of nine academic divisions, namely radiology, laboratory technician, medical registration and statistics, maintenance of medical equipment, health monitor, food division, health education, dental technician, and general nursing divisions.

Students in general nursing division study adult health, maternity and childhood nursing, basic nursing, administration, anatomy, physiology, infection control, nutrition, epidemiology, statistics, psychiatric nursing, geriatric, biochemistry, so they qualified to be technical nurses after graduation.

Subject

The study subjects consisted of all (n=65) second academic year technical nursing students at 2017-2018.

Tools: Three tools were used to achieve the aim of this study.

Tool (I): Effective Patient Communication and Role-play Teaching Strategy Knowledge Test

This tool developed by the researcher guided by Ibrahim (2011)[21] and Harder (2013)[22]and recent relevant literature[23] to determine technical nursing students' knowledge about effective patient communication and role-play teaching strategy. The tool consisted of three parts as follows:-

Part 1: Characteristic of subject such as age, gender, academic year, previous academic year grades.

Part 2: Questions about effective patient communication consisted of 54 questions, in the form of multiple choice (22 items), true &false (25 items), and complete (7 items). These questions were classified into six categories as follows;

- Communication concepts included 16 questions, (No, 1-4, 6,7,21,23 26,33,50,51,53,54)

- Phases and principles of communication included 25 questions, (No, 5,9,10-15,22, and 34-49)

- Barriers of communication included 3 questions, (No, 8, 16, 52)

Part 3: Questions about role-play teaching strategy divided as follows:-

- Role-play definition included 1 question, (No, 28)

- Role-play importance and scenario included 5 questions, (No, 17, 18, 29- 31)

- Stages of role-play included 4 questions, (No, 19, 20, 27, 32)

Scoring system

Technical nursing students' knowledge was measured (2-0) score, correct complete answer scored (2) incomplete answer scored (1) and incorrect answer scored (0).

Levels of technical nursing students' knowledge scored as follows:-

- Good knowledge level $\geq 75\%$
=Score ≥ 82

- Fair knowledge level 60 - 75%

- =Score 65- 81

- Poor knowledge level < 60%

- =Score <65

Tool (II): Technical Nursing Students' Actual Performance of Patient Communication Process Observational Checklist

This tool was developed by the researcher guided by Casey (2011)[24], Sharma (2013)[25] and recent relevant literature[26] to assess technical nursing students'actual performance of patient communication process, included three subscales as follows:-

1-Developing the idea by the sender subscale includes questions about:-

- Using courtesy principles (9 items). (No, 1-9)

- Responding to emotional concerns (3 items). (No, 10-12)

- Encoding the message (20 items). (No, 13-32)

- Selecting the medium (11 items). (No, 33-43)

2- Transmission of message and decoding subscale include questions about:-

- Use two-way communication (11 items), (No, 44-54)

- Avoid the use of blocks in communication by(4 items) (No, 55-58)

- Communicate assertively (5 items) (No, 59-63)

- Keep channel open (4 items) (No, 64-67)

- Receiving the message (Decoding) (2 items) (No, 68-69)

3- Providing feedback subscale includes questions (19 items) (No, 70-88)

Scoring system

Technical nursing students' practice was measured on a three-points Likert scale, accurately and complete done (2), done and not complete (1), and not done (0).

Levels of technical nursing students' patient communication measured as follow:-

- Good practice level $\geq 75\%$

- = Score ≥ 133

- Satisfactory practice level 60 - 75%= Score106-132

- Unsatisfactory practice level $< 60\%$

- = Score <106

Tool (III): Technical Nursing Students' Perception about Role-play Teaching Strategy Questionnaire

This tool was developed by the researcher guided by Harder (2013)[22] , Lavanya et al.,(2016)[27] and recent relevant literature[28] to collect data from technical nursing students to measure their perception about role-play as a teaching strategy. It was divided into three subscales as follows:

1- **Facing reality subscale included** 6 questions, (No, 1-6)

2- **Perception of effects in the learning process subscale included** 26 questions, (No, 7-32)

3- **Emotional consequences subscale included** 7 questions, (No, 33-39)

Scoring system

Technical nursing students' responses measured on five-points Likert Scale

ranging from strongly agree (5), agree (4), neutral (3), disagree (2), to strongly disagree (1).

Levels of technical nursing students' perception measured as follows:-

- High perception level > 75% = Score > 146

- Moderate perception level 60 - 75% = Score 117-145

- Low perception level < 60% = Score <117

Method

1. Official permission was obtained from responsible authorities at Tanta Health Technical Institute and El Minshawi Hospital affiliated to Ministry of Health at El-Gharbiya Governorate to conduct the study.

2. Ethical consideration: Technical nursing students' consent for participation in the study was obtained after explanation of the nature and the purpose of the study, confidentiality of the information obtained from them and the right to withdrawal was assured.

3. After reviewing of the related literature and different studies in this field, the study tools were developed by the researcher.

4. The tools were presented to a jury of seven experts in the nursing education

and administration areas of specialty to check content and face validity.The seven experts were two assistant professor and one lecturer from nursing services administration department, two assistant professor in community and psychiatric department from Faculty of Nursing, Tanta University. One assistant professor in nursing services administration and one lecturer in psychiatric department from Faculty of Nursing, El Menofia University.

The experts responses were represented in four points rating score ranging from (4-1); 4 =strongly relevant, 3 = relevant, 2= little relevant, and 1= not relevant. Necessary modifications were done including clarification, omission of certain questions and adding others and simplifying work related words. The content validity for effective patient communication and role-play teaching strategy knowledge test was 93%; actual performance of patient communication process was 92.9%; and for perception about role-play teaching strategy was 95%.

5. A pilot study was conducted on 10% (n=6) of technical nursing students randomly selected to test the tools for

clarity and applicability, they excluded from study subjects. It was conducted two times to the same technical nursing students two weeks later Cronbach's Alpha test to assess reliability of tools. The first time was implemented after the development of the tools and the second time was implemented before starting the actual data collection to test the clarity, applicability, and relevance of the questions. Reliability of tools was tested Cronbach's Alpha coefficient test. Its value was 0.858 for tool I; 0.890 for tool II; and 0.870 for tool III.

6. The estimated time needed to fulfill knowledge and perception tool III was approximately one hour and for tool II take range (15–20) minutes to complete observational checklist by researcher.

7. The data collection lasted 5 months started from September 2017 to January 2018.

Data collection phases

Phase I: Assessment

Pre-program, the researcher assessed technical nursing students' effective patient communication and role-play teaching strategy knowledge using tool I and observed their actual performance of patient communication process using observational checklist tool II. As well as post program, the researcher assessed technical nursing students'perception about role-play teaching strategy using tool III.

Phase II: Planning

Technical nursing students'effective patient communication and role-play teaching strategy program was designed and implemented by the researcher based on their need assessment and literature review.

Construction of educational program

The first step in the construction of this program was the statement of instructional objectives.

Objective of the program

The main objective of the program was to determine efficacy of teaching program about efficient patient communication using role-play strategy on technical nursing student's practice.

Specific objectives

1- At the end of the program technical nursing students should be knowledgeable about patient communication and role-play strategy and could

- Define communication with patient, importance and types.

- List principles of patients' communication and phases of

communication process, and barriers of communication.

- Define role-play, and identify importance, scenario and stages of role-play.

2- At the end of the program technical nursing students should do practical application of patient communication process using role-play and could

- Practice developing the idea by the sender

- Practice transmission of message and decoding

- Practice providing feedback.

Contents

Program content was designed to provide knowledge related to effective patient communication and role-play teaching strategy.

The program contents included six sessions:-

Three sessions for teaching the knowledge about patient communication and role-play strategy.

- Definition of communication with patient, importance and types.

- Principles of patients' communication and phases of communication process, and barriers of communication.

- Role-play definition, importance, scenario and stages.

Three sessions for patient communication process practical application using role-play.

- Practice on developing the idea by the sender

- Practice on transmission of message and decoding

- Practice on providing feedback.

Selection of teaching method

Selection of teaching method was governed by studying the subject themselves and content of clinical teaching competence program. The methods used were lecture, group discussion, example from life. And work situations.

Learning strategies

Selection of teaching method was governed by studying the subject themselves and content of clinical teaching competence program. The methods used were lecture, group discussion, and role-play.

Teaching aids

The teaching aids used for attainment of program objectives were data show, handouts, flow sheet, pen, and paper.

Phase III: Implementation of the program

- The study was carried on all (65) technical nursing students divided into 5 groups each group contain 13 students.

The program time was twelve hours duration for each group divided into six sessions, each session two hours. The program was conducted for technical nursing students in their Health Technical Institute class. They preferred to start session at 12pm-2pm as it was the most suitable time for them after finishing necessary work. Technical nursing students were informed about objectives of program. The researcher built good relationship and motivated them to participate in program activities.

Phase IV: Evaluation of the program

- The pre and the immediate post program comparison was done on technical nursing students using tool (I) knowledge about effective patient communication and role-play strategy and using the actual practice of patient communication process (tool II).

- Post program technical nursing students' perceptions about role-play teaching strategy was assessed using (tool III) to evaluate the program outcome.

Statistical analysis of the data

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean, and standard deviation. Significance of the obtained results was judged at the 5% level[29].

Results

Table (1) shows technical nursing students' characteristics. The age, gender, academic year, previous academic year grade, attend any lecture about communication, attend any lecture about role-play, and previously used role-play in teaching. The age of technical nursing students ranged from 19-20 years with mean 19.25 ± 0.43. Majority (96.9%) of technical nursing students was female and the rest (3.1%) were male. All of students were in second academic year. Technical nursing students 69.2% have previous academic year grade excellent, 29.2% their grades were very good and only 1.5% their grades were good. All of them attend lecture about communication, 50.8% attend lecture about role-play, and no one previously used role-play in teaching.

Table (2) technical nursing students' level of knowledge items pre and post program. The table shows statistical significant improvement of technical nursing students' total levels and all items of knowledge at p<0.001.

Pre-program technical nursing students (81.5%, 69.2%, and 98.6%) showed poor knowledge changed post program to be 96.9%, 93.8%, and 92.3% at good level for items of communication concepts, phases &principles, and barriers respectively. Also, pre-program technical nursing students 78.5%, 83.1%, and 83.1% were at poor level knowledge about role-play teaching strategy changed post program to be 100%, 92.3%, and 100% for items of concepts, importance, and stages respectively at good level knowledge.

Table (3) represents correct complete answers of technical nursing students about effective patient communication concepts items pre and post program. Statistical significant improvement found between correct complete answer of technical nursing students about all items of communication concepts post than pre-program at (P<0.001). The table reveals that technical nursing students 35.4% showed correct complete answer about total effective communication concept pre-program changed post program to be 92.3%. Pre-program technical nursing students 40.0% give correct complete answer for definition of communication compared to 95.4% post program.

Pre-program 36.9%-40% of technical nursing students had correct complete answer about all items of importance of communication compared to 93.8%-96.9% post program. Also, low percent (15.4%, 13.8%) of technical nursing students had correct complete answer about the item of nonverbal communication used by the patient not use face to face or eye contact, and verbal techniques nurse could use to encourage patient verbalize his concerns are using open ended questions, restating what the patient has said, using verification, and general leads pre-program respectively compared to 81.5%, 76.9% post program. While low percent (20%) of technical nursing students had correct complete answer about the item of nonverbal techniques used to encourage verbalize patient concerns are using face to face, eye contact, touch, and active listening pre-program compared to 86.2% post program.

Figure (1) represents technical nursing students' level of knowledge about total role-play teaching strategy pre and post program. Pre-program most of technical nursing students had poor level of knowledge about role-play teaching strategy compared to post program, none

of students were at poor level.

Table (4) represents correct complete answers of technical nursing students about role-play teaching strategy items pre and post program. The table reveals that total correct complete answer pre-program was 21.5%, changed to 96.9% post program with statistical significant improvement for all items of role-play post than pre-program at (p<0.001). Pre-program technical nursing students 21.5% compared to all of them post program had correct complete answer for concept item. Pre-program 24.6%, 4.6% of technical nursing students give correct complete answer about scenarios tends to increase student motivation and interest, and role-play allows students to make mistakes in non-threatening environment items respectively compared to above 93% post program. Technical nursing students range (13.8%-24.6%) give correct complete answer about items of advantages of role-play compared to range (92.3%-98.5%) post program.

Equal low percent (27.7%) of technical nursing students give correct complete answer about item of during planning phase of role-play, group leader must select problem and suggest it to the group, and item of steps of role-play are planning, implementing, and debriefing

phase compared to 100%, 95.4% post program. Range (24.6%-21.5%) of technical nursing students had correct complete answer about the item of debriefing is most important part of the role-play, and leader sums up to group chief points which have out in role playing and comments of observers during summarize phase pre-program compared to all of them had correct complete answer post program.

Table (5) accurate complete done for technical nursing students' performance of items of developing idea by the sender pre and post program. The table shows statistical significance difference of accurate complete done for technical nursing students performance for developing idea by the sender between pre and post program at (p<0.001). The table reveals that technical nursing students 23.1% showed accurate complete done for total performance pre-program changed to 87.7% post program.

Pre-program, 12.3%,16.9%,20%, and 15.4 of technical nursing students showed accurate complete done for items of introduce her/his self to patient, look directly to patient with appropriate smile, respect patient feelings, and thank generously for a favor, changed to range (83.1%- 100 %) at post program. Pre-

program none of technical nursing students gave accurate complete focus massage on the patient, changed to 83.1% post program. Also, technical nursing students7.7%, and 10.8% showed accurate complete acceptance of patients' emotions, and appear calm toward anxious or angry patient respectively, pre-program increased to 83.1%, and 87.7% post program.

Table (6) accurate complete done of technical nursing students' performance of selecting the medium pre and post program. The table shows statistical significance difference of accurate complete done of technical nursing students' performance of selecting the medium between pre and post program at (p<0.001). Technical nursing students 18.5% showed total accurate complete performance pre-program, changed to 86.2% post program.

None of technical nursing students gave accurate complete performance of select a suitable medium for purpose converted to 100% post program. Technical nursing students range (4.6%-16.9%) showed accurate complete done performance of select a suitable medium relative to age, sex, cultural and language and for transmitting message to the patient as speaking, use tactile channel as

therapeutic touch, use visual channel: body language, pictures and written words, use writing, signaling or gesturing, use printed media, and use power of humor increased to 83.1%-89.2% post program.

Equal percent 36.9% of technical nursing students showed accurate complete done performance of use non-verbal cues in sending idea, and use auditory channel: spoken words and sounds increased to 83.1% and100% respectively, post program. Technical nursing students 35.4% gave accurate complete done for item of use seeing, hearing in sending idea changed to 83.1% post program.

Figure (2) shows technical nursing students' level of total performance of providing feedback pre and post program. Pre-program few of technical nursing students showed good level of total actual performance of providing feedback, changed to most of them post program. Also, pre-program high percent of technical nursing students showed unsatisfactory level of performance changed to low percent post program.

Figure (3) technical nursing students' levels of overall perception about role-play teaching strategy post program. Majority of technical nursing students had high level of overall perception about

role-play teaching strategy, and minority was had moderate or low level of perception.

Table (7) shows perception of technical nursing students about role-play facing reality items. The table reveals that high percent (73.6%) of technical nursing students showed strongly agree perception, while no one shows strongly disagree. High percent (89.2%, 78.5%, and 75.4%) of technical nursing students showed strongly agree that role-play helps student understand how to act in a real situation, live near the live experience, and makes student visualize and face different situations that he/she will probably experience respectively. While none or few showed strongly disagree, disagree or neutral perception with items.

Table (8) shows perception of technical nursing students about role-play emotional consequences items. The table reveals that technical nursing students (64.6%) and (20.2%) showed total strongly agree and agree perception respectively, while 11.0% strongly disagree. High percent (76.9%) of technical nursing students were strongly disagree about makes student fear of participating in role-play while none of them were strongly agree. Technical nursing students (78.5%, 75.4%, and78.5%) were strongly agree

about role-play helps student to learn easily and less stressful, helps student overcome stage of fright, and role-playing projects are enjoying respectively. **Figure (4)** shows correlation between technical nursing students' levels of total knowledge and practice about effective patient communication and role-play teaching strategy pre and post program. .There is highly significant correlation detected between technical nursing students' knowledge and practice about effective patient communication and role-play teaching strategy pre and post program.

Table (1): Technical nursing student's characteristics (n=65)

Variables	No.	%
Age		
19 year	49	75.4
≥ 20 years	16	24.6
Range	19.0 – 20.0	
Mean ± SD.	19.25 ± 0.43	
Gender		
Male	2	3.1
Female	63	96.9
Academic year		
Second year	65	100.0
Previous academic year grades		
Excellent	45	69.2
Very good	19	29.2
Good	1	1.5
Attend any lecture about communication		
Attend	65	100.0
Not attend	0	0.0
Attend any lecture about role-play		
Attend	33	50.8
Not attend	32	49.2
Previously used role-play in teaching		
Used	0	0.0
Not used	65	100.0

Table (2): Technical nursing students' level of knowledge items pre and post program (n=65)

Levels / Items	Pre Good No.	%	Fair No.	%	Poor No.	%	Post Good No.	%	Fair No.	%	Poor No.	%	P
Communication													
-Concepts	4	6.2	8	12.3	53	81.5	63	96.9	1	1.5	1	1.5	MHp<0.001*
-Phases &principles	5	7.7	15	23.1	45	69.2	61	93.8	3	4.6	1	1.5	MHp<0.001*
-Barriers	1	1.5	0	0.0	64	98.5	60	92.3	4	6.2	1	1.5	MHp<0.001*
Total	**1**	**1.5**	**14**	**21.5**	**50**	**76.9**	**61**	**93.8**	**3**	**4.6**	**1**	**1.5**	MHp<0.001*
Role-play													
-Concepts	14	21.5	0	0.0	51	78.5	65	100.0	0	0.0/	0	0.0/	McNp<0.001*
-Importance	6	9.2	5	7.7	54	83.1	60	92.3	5	7.7	0	0.0	MHp<0.001*
-Stages	11	16.9	0	0.0	54	83.1	65	100.0	0	0.0/	0	0.0/	McNp<0.001*
Total	**6**	**9.2**	**4**	**6.2**	**55**	**84.6**	**64**	**98.5**	**1**	**1.5**	**0**	**0.0**	MHp<0.001*

McN: McNemar test MH: Marginal Homogeneity Test
p: p value for comparing between pre and post *: Statistically significant at p ≤ 0.05

Table (3): Correct complete answers of technical nursing students about effective patient communication concepts pre and post program (n=65)

Items	Correct complete				P
	Pre		Post		
	No.	%	No.	%	
Definition					
-Communication is process of transmission of information by nurse to encode message to help patient to decode it.	26	40.0	62	95.4	McNp<0.001*
Importance of communication					
-Communication is essential for high quality of care.	25	38.5	61	93.8	MHp<0.001*
-Communication is basic tool for motivation, which can improve morale of patients.	24	36.9	62	95.4	MHp<0.001*
-Nurse use of good communication interaction to allow client trust.	26	40.0	63	96.9	MHp<0.001*
Types of communication					
- Verbal communication is use of words to deliver intended message.	27	41.5	64	98.5	MHp<0.001*
-Clothing, touch, and body movement is a form of nonverbal communication.	27	41.5	62	95.4	MHp<0.001*
-Verbal and nonverbal are types of communication	27	41.5	60	92.3	MHp<0.001*
-Written and oral communication are forms of verbal communication.	24	36.9	63	96.9	MHp<0.001*
-Nonverbal communication is sending and receiving wordless communication.	27	41.5	62	95.4	McNp<0.001*
-Voice tone conveys meaning, even when language is not clear.	26	40.0	57	87.7	McNp<0.001*
- Nonverbal communication used by the nurse is face to face, eye contact, and uses monotone voice.	27	41.5	63	96.9	MHp<0.001*
- Nonverbal communication used by the patient not use face to face or eye contact.	10	15.4	53	81.5	MHp<0.001*
-Verbal techniques nurse could use to encourage patient verbalize his concerns are using open ended questions, restating what the patient has said, using verification, and general leads..	9	13.8	50	76.9	MHp<0.001*
Elements of nonverbal communication					
- Nurse asks patient to sit down to discuss something to listen to patient attentively.	24	36.9	64	98.5	McNp<0.001*
-Nonverbal communication with patient occurs not with spoken words	23	35.4	59	90.8	McNp<0.001*
-Nonverbal techniques used to encourage verbalize patient concerns are using face to face, eye contact, touch, and active listening.	13	20.0	56	86.2	MHp<0.001*
Total	**23**	**35.4**	**60**	**92.3**	**MHp<0.001***

MH: Marginal Homogeneity Test   McN: McNemar test
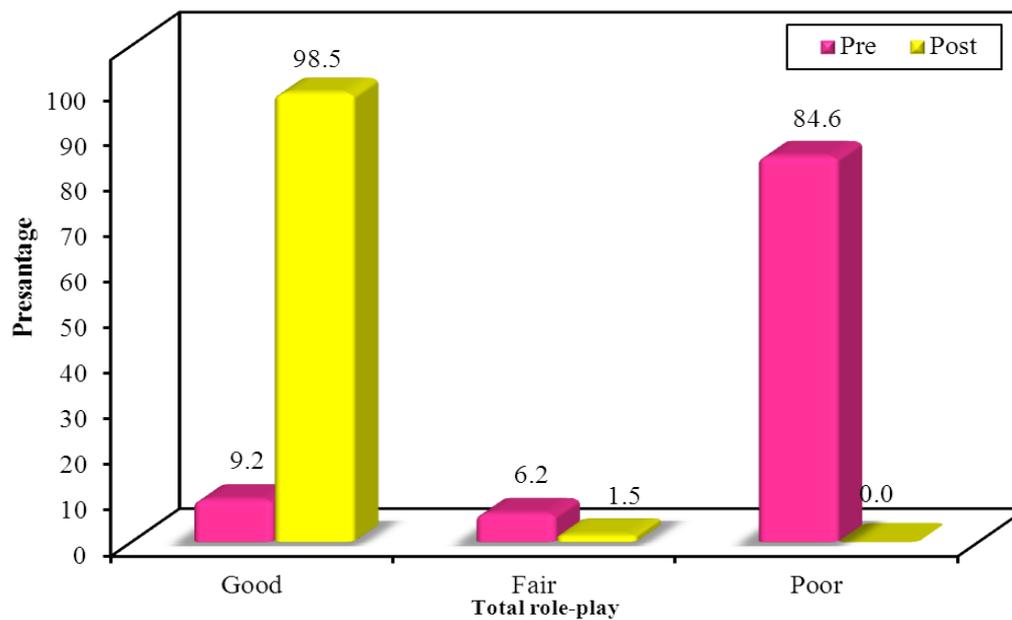*: Statistically significant at p ≤ 0.05

Figure (1): Technical nursing students' level of knowledge about total role-play teaching strategy pre and post program (n=65)

Table (4): Correct complete answers of technical nursing students' about role-play teaching strategy items pre and post program (n=65)

Items	Correct complete				P
	Pre		Post		
	No.	%	No.	%	
Concepts					
-Role-play is new teaching method where students able to act out spontaneously or relate human relations.	14	21.5	65	100.0	^{Z}p<0.001*
Importance &Scenario					
-Scenarios tend to increase student motivation and interest.	16	24.6	64	98.5	^{MH}p <0.001*
-Role-play allows students to make mistakes in nonthreatening environment.	3	4.6	61	93.8	^{MH}p <0.001*
Advantage of role-play					
-Role-play develops ability to observe and analyze situations.	12	18.5	61	93.8	^{MH}p <0.001*
- Important issues derived from role-play situation is understanding, self-disclosure, trust, truth telling and honesty	9	13.8	60	92.3	^{McN}p<0.001*
- Advantages of role-play are promoting active learning, develop communication skills, and sensitivity to another's feelings.	16	24.6	64	98.5	^{MH}p <0.001*
Stages					
-During planning phase of role-play, group leader must select problem and suggest it to the group.	18	27.7	65	100.0	^{McN}p <0.001*
- Debriefing is most important part of role-play.	16	24.6	65	100.0	^{McN}p <0.001*
- Steps of role-play are planning, implementing, and debriefing phase.	18	27.7	62	95.4	^{McN}p <0.001*
- Leader sums up to group chief points which have out in role playing and comments of observers during summarize phase.	14	21.5	65	100.0	^{McN}p <0.001*
Total	**14**	**21.5**	**63**	**96.9**	^{McN}**p <0.001***

Z: Wilcoxon signed ranks test   McN: McNemar test
MH: Marginal Homogeneity Test   *: Statistically significant at p ≤ 0.05

Table (5): Accurate complete done for technical nursing students' performance of items of developing idea by the sender pre and post program (n=65)

Items	Accurate complete done				P-value
	Pre		Post		
	No.	%	No.	%	
Using courtesy principles					
-Greet patient before engaging questioning.	22	33.8	57	87.7	MHp<0.001*
-Introduce her/his self to patient.	8	12.3	65	100.0	MHp<0.001*
-Address patient as Mr./ Mrs.	25	38.5	55	84.6	MHp<0.001*
-Look directly to patient with appropriate smile.	11	16.9	54	83.1	MHp<0.001*
-Use a courteous tone.	19	29.2	54	83.1	MHp<0.001*
-Respect patient feelings.	13	20.0	65	100.0	MHp<0.001*
-Use positive massage as reassurance to patient.	26	40.0	54	83.1	MHp<0.001*
-Focus massage on patient.	0	0.0	54	83.1	MHp<0.001*
-Thank generously for a favor.	10	15.4	54	83.1	MHp<0.001*
Responding to emotional concerns					
- Encourage patient to express strange or negative emotion.	26	40.0	54	83.1	MHp<0.001*
-Accept patients' emotions.	5	7.7	54	83.1	MHp<0.001*
-Appear calm toward anxious or angry patient.	7	10.8	57	87.7	MHp<0.001*
Total	**15**	**23.1**	**57**	**87.7**	MHp<0.001*

McN: McNemar test   MH: Marginal Homogeneity Test
*: Statistically significant at p ≤ 0.05

Table (6): Accurate complete done of technical nursing students' performance of items for selecting the medium pre and post program (n=65)

Items	Accurate complete done				P-value
	Pre		Post		
	No.	%	No.	%	
-Select a suitable medium for transmitting message to the patient as speaking.	3	4.6	54	83.1	MHp<0.001*
-Select a suitable medium relative to age, sex, cultural and language.	10	15.4	54	83.1	MHp<0.001*
-Select a suitable medium for purpose.	0	0.0	65	100.0	Zp<0.001*
-Use seeing, hearing in sending idea.	23	35.4	54	83.1	MHp<0.001*
-Use non-verbal cues in sending idea.	24	36.9	54	83.1	MHp<0.001*
-Use writing, signaling or gesturing.	10	15.4	54	83.1	MHp<0.001*
-Use visual channel: body language, pictures and written words.	9	13.8	54	83.1	MHp<0.001*
-Use auditory channel: spoken words and sounds.	24	36.9	65	100.0	McNp<0.001*
-Use tactile channel as therapeutic touch.	6	9.2	54	83.1	MHp<0.001*
-Use printed media.	10	15.4	54	83.1	MHp<0.001*
-Use power of humor.	11	16.9	58	89.2	MHp<0.001*
Total	**12**	**18.5**	**56**	**86.2**	**MHp<0.001***

MH: Marginal Homogeneity Test   *: Statistically significant at p ≤ 0.05
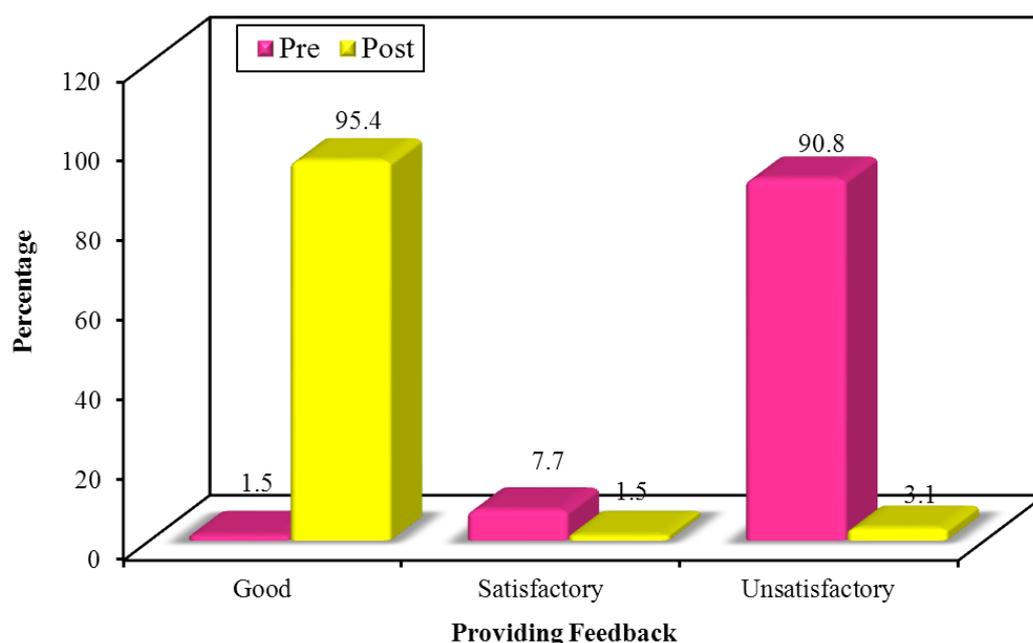Z: Wilcoxon signed ranks test   McN: McNemar test

Figure (2): Technical nursing students' level of total performance of providing feedback pre and post program (n=65)
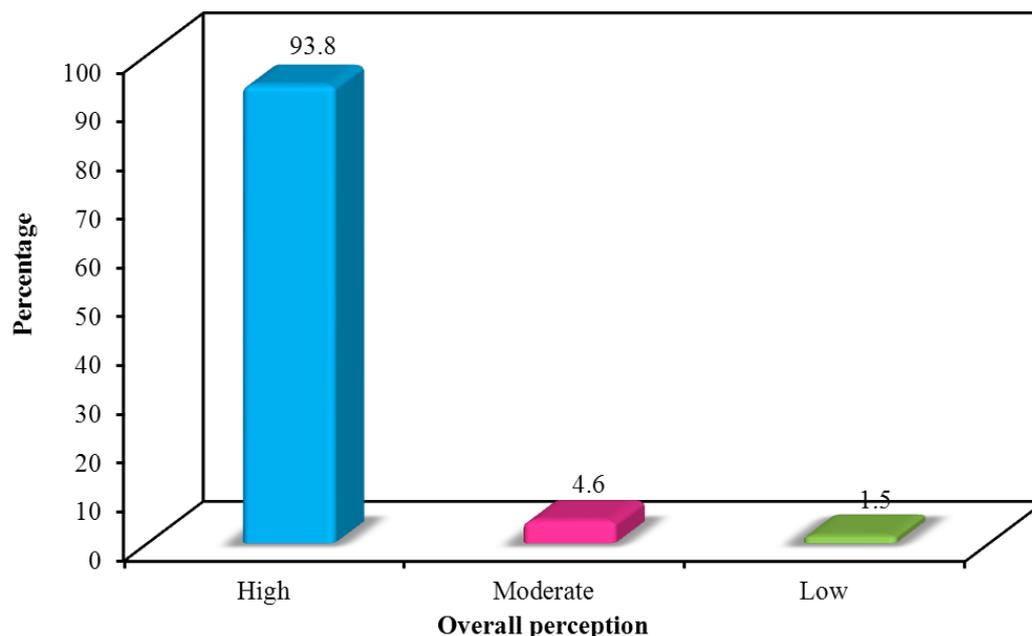
Figure (3): Technical nursing students' levels of overall perception about role-play teaching strategy post program (n=65)

Table (7): Perception of technical nursing students about role-play facing reality items (n=65)

Items	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%	No.	%
-Helps student understand how to act in a real situation.	58	89.2	7	10.8	0	0.0	0	0.0	0	0.0
-Puts student in near real situation.	46	70.8	19	29.2	0	0.0	0	0.0	0	0.0
-Facilitates working with real patient.	43	66.2	22	33.8	0	0.0	0	0.0	0	0.0
-Live near live experience.	51	78.5	11	16.9	2	3.1	1	1.5	0	0.0
-Makes student visualize and face different situations.	49	75.4	15	23.1	1	1.5	0	0.0	0	0.0
-Helps student to deal with a situation similar reality.	40	61.5	25	38.5	0	0.0	0	0.0	0	0.0
Total	**73.6%**		**25.4%**		**0.8%**		**0.3%**		**0.0%**	

Table (8): Perception of technical nursing students about role-play emotional consequences items (n=65)

| Items	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%	No.	%
-Helps student to learn easily and less stressful.	51	78.5	14	21.5	0	0.0	0	0.0	0	0.0
-Helps student overcome stage of fright.	49	75.4	16	24.6	0	0.0	0	0.0	0	0.0
-Encourages student positive self-image.	48	73.8	16	24.6	1	1.5	0	0.0	0	0.0
-Enables student to cope with anxiety before facing future real-life care situation.	47	72.3	16	24.6	1	1.5	1	1.5	0	0.0
-Makes student not feel afraid during interaction with patient.	48	73.8	17	26.2	0	0.0	0	0.0	0	0.0
-Role-playing projects are enjoying.	51	78.5	12	18.5	2	3.1	0	0.0	0	0.0
-Makes student fear of participating in role-play.	0	0.0	1	1.5	0	0.0	14	21.5	50	76.9
Total	**64.6%**		**20.2%**		**0.9%**		**3.3%**		**11.0%**	
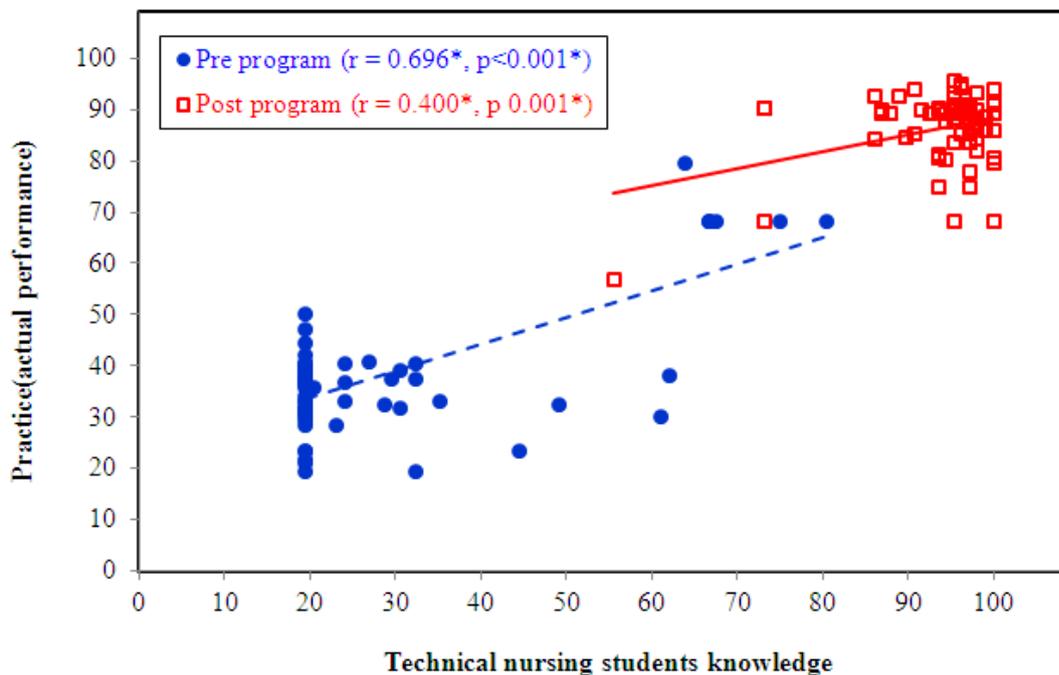
Figure (4): Correlation between technical nursing students' level of total knowledge and practice about effective patient communication and role-play teaching strategy pre and post program (n=65)

Discussion

Assessment of technical nursing student's knowledge about effective patient communication and role-play teaching strategy pre-program revealed that the majority were at poor level of total knowledge, although they previously attend lecture about communication, and more than half of them attend lecture about role-play. The potential cause of their insufficient knowledge is their limited formal theoretical preparation about communication and role-play. Most probably they are in need for modern theoretical content and teaching strategies to facilitate their acquisition of communication knowledge.

Actually, those technical nursing students pre-program showed poor level of knowledge about concepts, phases and principles as well as barriers of communication with patient. But post program majority of those students specifically showed good level of knowledge in communication concepts including definition, importance, types and elements of communication. They start to appreciate that communications with patients consider a key to patient treatment, because through communication, nurses became familiar with patient's needs and can promote patient and family teaching about medication and follow up, as well as it leads to patient satisfaction and health.

Adib-Hajbaghery & Shahsavarloo (2015)[30] study about nursing students' knowledge and performance in communicating with patients with hearing impairment, supported the study result and showed that nursing students are lacking in knowledge and skills required for effective communication with patients. As pre sessions none of the students had a very good level of knowledge in communicating with a patient and post session majority of nursing students had very good level of knowledge.

Steckler (2012)[31] study about improving communication skills among nursing students, supported the study result and indicated that the students' knowledge communication skills test before the training module was inadequate and score was very low but post-test indicated that most of students had high score and their communication knowledge was adequate after completing the communication module.

Wang et al (2015)[32] study about improving Chinese nursing students' communication skills by utilizing video-stimulated recall and role-play case scenarios, supported the study result and found that nursing students have poor level

of knowledge before participating in the communication program but after participating in the program their total knowledge score about communication were significantly improved.

Present study revealed that pre-program below half of technical nursing students give correct complete answer for definition of communication. Apparently those technical nursing students need to understand that their greatest challenge and perhaps most vital task is patients' communication to improve their patient care from admission to discharge. Therefore correct knowledge about communication definition is very important for successful transmission of information by encode the message to help patient to decode it. Because patient communication is the exchange of information, thoughts, and feelings between nurse and patient using speech or other means. As well as understanding words and voice tone convey meaning and help in interpreting information and obtain trust between nurse and her patient.

Heidari & Hamooleh (2015)[33] study about improving communication skills in clinical education of nursing students, supported the study result and reported that only 36.3% of the nursing students had good knowledge about communication

definition, but during four one-hour sessions, the topics of communication, definition , methods of communication were taught to the students using lecture, question and-answer, and group discussion methods so their knowledge improved to be 87.5% had good knowledge.

Sheldon & Hilaire (2015)[34] study about development of communication skills in healthcare: Perspectives of new graduates of undergraduate nursing education, showed that before program implementation nearly half (49%) of the respondents of nursing students lacked meaning of communication. While, post program a majority of them had improved their knowledge about meaning of communication. Also emphasized that nurses had a positive attitude towards nurse-patient communication and believed that communication was an important part of the nursing role.

Shafakhah et al (2015)[35] evaluation of nursing students' communication abilities in clinical courses in hospitals, supported the study result and indicated that about one third of nursing students resulting in lower score in defining the concept of communication. Otherwise after participating in theoretical and clinical courses more than (91%) of the nursing students had higher score in defining the

concept of communication and reported feeling satisfied with their relationships and communication ability in hospitals.

Pre-program results showed that most of technical nursing students had poor level of knowledge about role-play teaching strategy compared to none of them post program. Apparently those technical nursing students were in need for theoretical basis about role-play before engagement in practical aspect of the program. They were lacking knowledge about definition, importance, advantages and phases of role-playing. Such role-playing knowledge is important for motivating and raise interest and to develop their ability to observe and analyze situation. As well as allows them to make mistakes and correct it in nonthreatening environment and to have fun while learning. Beside they will be acknowledging about role of every party during stages of role-playing acting for communication process.

Vizeshfar et al (2016)[36] study about effects of applying role playing approach on nursing students' education, supported the study result and indicated that the scores of written exam about role playing knowledge for undergraduate nursing periods were very low pre courses and improved post attendance the course. Also

found that learning program has been used for teaching theoretical and clinical aspects of role playing as a method of education of nursing students was helpful for students' knowledge and skills.

GuHe et al (2011)[37] study about the use of video role play for teaching therapeutic communication skills, found that only one-third of the students had good knowledge about role-play teaching strategy and their knowledge improved to be majority of them post program. **Reyhani et al (2015)**[38] study about the effect of training on communication skills of child's nurse through role-playing, revealed that assisting nurses show low level of knowledge about role-playing before intervention so they needed to improve their knowledge.

Finding of present study revealed that pre-program majority of technical nursing students showed poor level of knowledge improved post program. Really it is very important for those nursing students to identify the importance of using role play situation between a student and a patient that can contribute to the implementation of the expected therapeutic outcomes. Those nursing students need before engaging in practical sessions to identify knowledge about the most important issues

derived from the analysis of a role-play situation.

Actually post program those nursing students became aware that role-play can help them in critical thinking. Also they can transcend and think beyond the confines of the classroom setting. Beside they can help to handle difficult situations and understand different perspectives of practical aspect. As well as the students insured that they can communicate freely and confidently in front of the class and reduce boredom in learning communication with patient by using role-play strategy.

Nair (2019)[39] study about role play-An effective tool to teach communication skills in pediatrics to medical undergraduates, found that low percent of students have good knowledge about significance of role-play as tool for communication, but most of them had good knowledge post role-play teaching with theoretical knowledge. Also added that role-play allows a wider range of functions, skills and language varieties to occur than would normally occur within a classroom. Also it allows to students critical thinking, exploration of cultural issues, in particular, and what appropriate ways to behave in certain situations with patient.

Babatsikou & Gerogianni (2012)[40] study about the importance of role-play in nursing practice, supported the result of the study and emphasized that before engaging in small groups scenarios of role-play practice nursing students need to be provided with knowledge and qualities about role-play importance. As well as it helps students to face situations where human relationships are highly significant. Role- play as a teaching strategy is highlights the social nature of learning. Finding of present study revealed that pre-program technical nursing student showed unsatisfactory performance for patient communication. This may be explained by their inadequacies in preparation. So they were neglecting the patients'feeling. and not understand how to using courtesy principles. Beside they engaged in conversation with patient directly without greeting them to feel respect. As well as, they were not appreciate the angry or anxious patients and may be left them because they were only busy with collection of data from patient to fill required daily nursing clinical data and record. The fact is that post program those technical nursing students became using courtesy principles effectively. Courteous message implies taking into consideration both viewpoints as well as feelings of the

patient who receives the message and showing respect for him. As well as letting the patients know that their feelings have been recognized accurately. They start to introduce themselves, make eye contact and smile etc. They accept patients' emotions and appear calm toward anxious or angry patient. As well as they helped patients to show their expressions, respect their feelings and take care to say hello, goodbye, and knock on doors. Also, there are no hidden insults or passive aggressive tones. They practiced professional communication principles to build good therapeutic relationship and be alert to saying something to show their appreciation to patient. Also post role-play sessions, they developed their communication and language skills and became able to speak out and break down "cliques" and "isolates". Also during the interaction stage of role-play, those students showed ability to act in their roles, networking, and lobbying with other students to achieve their agendas. The main point is those students became able to formulate relationships within the provided guidelines. Also they consider how this interaction will take place. All of this improved their communication skills after training program sessions. **Sorce & Chamberlain (2018)**[41] study about

evaluation of an education session using standardized patients and role play during perinatal bereavement, found that before education sessions low percent of nurses were used appropriate communication techniques. While observations during the standardized patient scenarios demonstrated that the majority of nurses used appropriate communication skills with the bereaved mother that was reviewed throughout the education sessions. **Wang et al (2015)**[32] indicated that low percent of students appreciate patient feeling. While, after they use role-play to learn communication skills majority of them observed were asking patient about their feelings, recognizing and responding to emotions, feelings and concerns.

Pre-program data showed that none of technical nursing students select a suitable medium for transmitting message to the patient among speaking, use visual channel, body language, pictures and written words, use tactile channel as therapeutic touch, but only they were use verbal channel. This might be due to their unawareness that incorrect medium may affect patient perception or destruct the message while common meaning may convey by non-verbal behaviors as facial expression, pauses, silence and tone of

voice. Also they not recognized that each medium has potential to be interpreted by patient regardless of intention of nursing student.

While post program all of them successfully select a suitable medium for purpose. Actually, once those technical nursing students encoded the message, they select and use a suitable medium for transmitting it to the patient. As well as they were sending nonverbal messages throughout facial expressions to convey main emotions as happiness, interest, surprise, fear, sadness, anger, and disgust. They were alert to use verbal message through spoken or written words, and conveyed their expressed emotion during their communication with patient.

Nair (2019)[39] found that pre-program low percent of students use verbal and non-verbal medium but post role-play teaching with practical session majority of them observed use both verbal and non-verbal communication depending on physical status of the patient. Also added that communication medium is about much more than the words the nurses say. As well as the tone of voice when they speak, the attention of nurses give to the patient, the messages they give out by the way they move or write are important elements of successful communication.

Arnold & Boggs (2011)[43] reported that communication is a reciprocal process of sending and receiving message using a mixture suitable medium of verbal and nonverbal communication skills. Beside **Eaves & Leathers (2018)**[44] explored that over half of the message that nurses are sending to patient is non-verbal. Also perceptions of patient toward the nurse are affected by medium used as the way she moves, her posture, bearing, stance, and subtle movement.

The present study findings represented that pre-program low percent of technical nursing students showed total accurate complete done performance for providing feedback, changed to majority of them post program. Apparently, pre-program those technical nursing students not know that improper feedback cause a breakdown in communication process and may cause inability to achieve high quality outcomes that may become the root causes of medical errors, hospital acquired infections and patient complications. Therefore, they didn't use it as often as they should, they may have had bad tailing experiences for providing feedback.

Actually, post program those technical nursing students appreciate importance of providing proper feedback to achieve successful communication process.

Actually they became able to practice feedback as the essence of two-way communication to deal with patient maintaining the flow of conversation and assessing the patient's response. So they paid attention to the patient's words and body language for additional cues about how they're feeling. They were facing patient using eye contact, and nonverbal head nodding, and keeping their attention focused on the patient. They try hardly to get the patient understood the intent of their message and have the suitable feedback. As well as they ensured that there are no limits to the final phase of communication process to be more efficient.

Johnsson (2018)[11] study about communication exchanges between nurses, patients and relatives in a department of medicine for older people, supported the present study results and found that pre-program majority of nurses were engaged in communication with older patient without concerning to outcome or feedback from patient. While, after program all of them practiced feedback successfully and none of them neglected performing feedback from patient. Also assured that, the focus of every communication exchange is to create meaning through feedback.

Parmer& Baur (2015)[45] study about how centers for disease control and prevention is promoting a clear communication culture, supported the present study results and found that before program very low percent of nurses observed taking steps to promote feedback to make health information understandable by different patients. But after participants attended the program most of them practice verbal and non-verbal feedback. Also, added that among healthcare workers feedback is a valuable tool to maintain great safe patient care, improve quality of care, and useful for decreasing errors.

The present study findings showed that post program majority of technical nursing students had high level of perception about overall role-play teaching strategy including facing reality, effect on the learning process and emotional consequences. Actually, technical nursing students strongly agree that role-play makes them understand how to act in real situation, and being familiar with patient communication as in a typical real situation. Most of them were enjoyed with role-play session and strongly agree that it was useful for their learning communication skills principles. They agree that participating in role-play practice sessions make them fully utilize

the four senses to communicate effectively with patient, makes the class more dynamic through various verbal and non-verbal acts of students. As well as they feel it helped them to learn needed critical thinking, and communication skills to accommodate with their future career.

Dawood (2013)[46] study about nursing students' perspective about role-play as a teaching strategy in psychiatric nursing, asserted that 69.1% of students reported role-play as favorable method of teaching and students go through an important experience dramatization that helpful to face real practice. Also, found that 76.3% of students reported that role-plays helped in improving communication skills.

Radden (2015)[47] study about the effectiveness of combining simulation and role playing in nursing education, revealed that majority of students strongly agree that during interaction stage of role-play, a series of face-to-face interactions in the classroom occur to reflect how the situation developed in reality. Also stated that changes in type of patients are students caring for need for active learning method, so traditional classroom-based learning may not always create deep impressions in students because of its didactic and passive nature.

Ashok (2015)[48] study about effectiveness of role play in enhancing communication skills of English language learners, indicated that 91% of students reported that when engaged in role-play sessions they understand a situation from a different perspective than they normally would. Also, found that role-play takes students out of their chairs and helps them "learn by doing" as a physical involvement on the part of students. It helps students develop their skills and knowledge that they did not have prior to the experience.

Xu (2016)[49] study about tool box of teaching strategies in nurse education, revealed that majority of nursing students agree that debriefing is imperative for the nurse educators and students to discuss the situation and various perspectives of the individual characters. Also emphasizes that debriefing allows time to provide feedback to students to give the students home task on role play exercises. Beside **Jackson & Back (2015)**[50] study about teaching communication skills using role-play: an experience-based guide for educators, supported present study and revealed that most of participants reported that through debriefing session nurse educators who are utilizing role-play help us set realistic goals and know when and how to provide

feedback in a way that allows a deepening anxiety.

Present study results revealed that high percent of technical nursing students were strongly agree that role-play helps them to learn easily and less stressful, overcome stage of fright, and that role-playing program are enjoying. Apparently their participation in role-playing scenarios added interest to their activities and covers a wide range of possibilities. Even, role-play helped many shy students by providing a mask; most students agree that their enjoyment leads to better learning.

Also they feel that it develops their awareness of themselves and others and promotes interactions with their peers. As well as role-play helped those nursing students to attain a greater involvement in their learning process and better integration of theory and practice.

Ideally, if role-play is accomplished in a safe environment such as a respectful classroom, this teaching/learning strategy can be a flexible and effective tool. Role playing is a particularly useful strategy for practicing clinical communication skills and dealing with conflict. It allows students to become emotionally involved in cross-cultural learning and reflects upon cultural differences. In order to make the role-play interesting it is good to let the

students choose the situation among them to make good performance as face to face interactions and small-group discussions[51].

Also for nurse educator; role-play is a valuable teaching and training tool where nurse educators help students to take on different role assuming a profile of a character and participate in diverse and complex learning settings. Actually if the role-play are appropriately structured and formulated on the basis of meeting the course objectives, it will achieve good performance. As well as it enables the educators to understand the various capabilities of students at the same time educators can also encourage them to develop it[52].

Dawood (2013)[46] indicated that majority of nursing students agree upon that they enjoyed role-play projects and most of them agree that role-plays enabled them to cope with anxiety and fear before facing future real-life care situations. Also high percent agree that role-play helped them to remember information more than traditional teaching methods. Also students added if given a choice, they would prefer to do projects that include a role-playing activity. Furthermore, students were asked to describe their experience with role-play in nursing course in their own words and

they said "it was interesting experience which helped us learn easily and in less stressful way." and "role playing is an excellent idea to deliver knowledge to students who are studying the subject for the first time.

Wang et al (2015)[32] found that all participants strongly agreed that role-play is an interesting mode of learning and information transfer and helped them to provide better care after training without fair and anxiety. Moreover, the training increased the participants' overall level of skill. Also, recommended the use of role-plays as an essential component to be integrated in the nursing curriculum education.

Present study revealed that there is highly significant correlation detected between technical nursing students' knowledge and practice about effective patient communication and role-play teaching strategy pre and post program. This could direct the attention that implementation of program about efficient patient communication using role-play strategy was succeeded as a mean for improving present study subject technical nursing students' knowledge, skills, and attitude.

Really, the present study efficient patient communication using role-play strategy program maximized the technical nursing

students' knowledge about most aspects of communication with patient because the program was planned and implemented according to their pre assessed needs. Furthermore, the simplification of educational matter of efficient patient communication using role-play strategy program and well-presented information by suitable educational aids increased their knowledge and practice. Also it enables them to form good relationship with their patients.

Delnavaz (2018)[52] study about comparison of scenario based triage education by lecture and role playing on knowledge and practice of nursing students, supported the study results and revealed that the mean knowledge and practice scores in both groups improved significantly. Also, found that the post-test score showed a significant difference between the two groups, and the mean score was higher in the role-playing group compared with that of the lecture group. Also, the results showed the effectiveness of both educational methods on students' learning, while the role-playing method was more effective than the lecture method and is recommended.

Adib-Hajbaghery & Shahsavarloo (2015)[30] found that a directly significant correlation was observed between the mean

scores of knowledge and performance of the students in communicating with patients with hearing impairment. Moreover, directly significant correlations were observed between mean scores of knowledge and the students' performance at the start and during communication.

Hanya et al (2015)[53] study about development of reflective thinking in pharmacy students to improve their communication with patients through a process of role-playing, found significant correlation detected between participants knowledge and skills. Also concluded that post program participation in role-playing made the students more self-reflective about their communication skills and facilitates the acquisition of both verbal and non-verbal communication skills. Therefore, this method is considered to be useful for communication skills training.

Also, **Bosse (2012)**[54] study about the effect of using standardized patients or peer role play on ratings of undergraduate communication training: A randomized controlled trial, found that the training program led to an increase in communication skills ratings in the post-intervention. This benefit was higher after using role-play due to significantly higher performance. Also, showed role-play is valuable tools for training specific communication skills. Role-play holds specific benefits for communication training. Peer-role-play seems to foster a more empathic approach towards patients' concerns justifying its prominent role in the curriculum.

Communication is the essence of nursing care. So technical nursing students to be successful in their work they have to study communication and interpersonal relations in their education. In this context the emphases became placed on training programs that helped them to interact and communicate professionally and effectively with patient and to guide their actions. Moreover, those technical nursing students insured that they can't do their activities successfully without communication.

Effective communication simply achieved by attaining training. They recognize the importance of using role-play learning strategy which aims to ensure that technical nursing students are equipped with the right skills, knowledge and attitudes to deliver high quality communication expected, to be fit for purpose and continue to develop competency.

Thus after using role-play strategy technical nursing students recognized that communication between nurses and patient is a process that begins with the first contact of the two and lasts as long as the

therapeutic relationship. As well as they enjoyed with role-play sessions and became able to apply of words for developing the idea, transmitting, and interpreting messages. Therefore, they were sending the right message that is also being correctly received and understood by the patient through providing feedback. Actually the program assisted them to maintain and enhance effective patient communication skills and knowledge in practice.

Conclusion

Absent of applying theoretical part in practice results in lacking of effective patient communication among technical nursing students. Proper implementation of teaching program about efficient patient communication using role-play strategy improved technical nursing student's communication knowledge and practical skills significantly than pre educational program. As well as improved their knowledge and perception about role-play teaching strategy. Their improvement in practice effective patient communication and role-play teaching strategy correlated significantly with their improved knowledge and perception about communication using role-play teaching strategy post program.

Recommendations

Based on findings of the present study, the following recommendations are proposed:

1. Undergraduate technical nursing programs should incorporate more didactic communication skills training using role-play teaching strategy.
2. Attention to educate course of effective patient communication at first and second year of technical nursing student's curriculum.
3. Attention to supervise technical nursing students training on patient communication skill at clinical practice areas.
4. Internship training programs should include active, practice-oriented strategies about patient communication for nursing interns.
5. Introduce summer training programs for first and second year on effective patient communication in clinical areas.
6. Conduct periodical workshops for clinical education about modern teaching strategies.
7. Nurse educators should encourage technical nursing students for effective patient communication.

8. Conduct orientation program for novice instructors on importance of effective patient communication for technical nursing students.

9. Conduct periodical meetings to discuss with students their problems and barriers for patient communication.

Recommended research:

1. Study technical nursing student's communication competencies.

2. Study technical nursing interns difficulties with patient communication.

3. Further research on the use of individual role-playing projects in nursing education courses.

4. Study effect of using interactive role-playing exercises on technical nursing interns.

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