EFFICACY OF COMMUNICATION SKILLS TRAINING PROGRAM ON KNOWLEDGE, ATTITUDE AND EMPATHIC TENDENCY OF TECHNICAL INSTITUTE OF NURSING STUDENTS AT MENOUFIA UNIVERSITY

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Abstract:

Communication skills are the basis of interactive relationships among nurse, health team and their patient. That affords opportunities to establish trust, rapport, understand the client experience, formulate client intervention and optimize health care resources. **Aim of the study:** The present study aimed to evaluate the efficacy of communication skills training on knowledge, attitude and empathic tendency of nursing students. **Design**: A quasi-experimental pre-test, post and follow up test design were utilized to conduct this study. **Setting:** The study was conducted in the technical institute of nursing at Menoufia University. **Sample**: A purposive sample of 103 nursing students who fulfilled the study inclusion criteria. **Tools:** Three tools were used in the present study; the first tool was a structured interview questionnaire consisted of two parts, the second tool was the communication skills self- assessment exercise and the third tool was empathic tendency scale. The researcher designed the communication skills training program according to the student's needs, and implemented it in eight sessions. The study was carried out from September 2016 to March 2017. **Results:** The results of this study a positive statistical significant correlation of student's knowledge, attitude, and empathic tendency. Also, a highly statistical significant improvements in students' knowledge, attitude and empathic tendency post intervention. **Conclusion**: The training program led to statistically significant improvement in communication knowledge, attitude and empathic tendency of nursing students toward communication skills. **Recommendations:** Develop communication skills training program into a wider scale in the study setting and in similar settings to confirm its positive effect and to reach generalizable findings.

Key words: Communication skills, Knowledge, Attitude, Empathic tendency, Nursing students

Introduction:

The nursing profession has been influenced by a growing knowledge of science and advances in technology; however, the essence of the profession is still dependent on human relations. The interaction between nurses and patients is basically a helping relationship, and empathy is the main component in this process(***Norfolketal.2007).***

Communication is the transfer of information between or among people. It is not only based on an innate ability that varies from person to person, but also on the necessary training and experience that is acquired over the course of one's career ***(Cronk et al., 2012).***

Communication skills have two types of skills includes verbal skills and

non-verbal skills. Nonverbal includes awareness of body language to enable reading and interpretation of physical and emotional signs (*Pazar, 2017).*

Communication attitude plays an important role in guiding human behavior toward achieving goals. The most essential attitude is respect for the dignity of other people and oneself, awareness of its consequences and effective processing of complex information about living environment. Therefore, attitudes facilitate the adaption of an individual to an environment and drive behavior *(Cronenwett et al ., 2009)*.

Empathy can be described as the ability to be intuitively aware of what another person is feeling as well as thinking. But this is not easy to do, as emotions can be hidden in an internal world or displayed with behaviors that can contradict how a person actually feels. Such are the complexities of human beings (**Marcysiak et al., 2014).**

Empathy is a major component of the relationship between patient and nurse and is an observable and teachable skill that nurses are requested to possess. Empathy has been accepted as an ability or skilled behaviour that can be learned and developed through education and practice (**Ozcan** *et al.* **2010).**

The role of the Nurse is highly important for the implementation of effective nursing interventions and psychological support during their treatment. Psychosocial interventions would be better to begin at diagnosis, should be adapted to the progress of any disease and focus on physical, psychological and social functioning of people. An important competence of a nurse, from performing medical procedures, is taking care of patients by showing concern, supporting with a 'good word. The cooperation of nursing education institutions indifferent countries should consist at least in the exchange of information and experiences in order to bring in to line the standards of education and obtaining qualifications, also with respect to professional communication competences of nurses (**Aebersold et al., 2013)**.

Significance of the study:

Poor communication skills are a major public health problem, because of high morbidity and mortality as well as significant social and financial burden. Communication is the least investigated area in the field of nursing research. There are studies and articles presenting its importance but there is little work available in this area of its use as an intervention. Researchers in the field of law, nursing sciences and therapies can use these findings as baseline data to conduct further research in this area.

Aim of the study:

The aim of the study was to: Evaluate the efficacy of communication skills training on knowledge, attitude and empathic tendency of nursing students**.**

Research hypotheses

Nursing students who participate in the communication skills training program will be improved in their knowledge, attitude and empathic tendency in post- test than pre-test.

Subjects and Methods:

Research design:

A quasi-experimental research design was used to conduct the study.

Study setting:

The study was carried out in the technical institute of nursing at Shebin El-Kom in Menoufia University which include six scientific departments they are : medical surgical nursing, gynecology &obstetric nursing, pediatric nursing, nursing administration, community health nursing and psychiatric health nursing . The total number of student was 350 students (230 girls and 120 boys) whose age ranged between 18 to 20 years old.

Study subjects:

A convenience sample composed of 103 technical nursing students. They were selected according to the following criteria:

Age ranged from 18-20 years, both sexes , had no psychological, physical or talking problems and willing to attend the training program.

Sample size

The sample size was estimated to detect the difference between the rate of high empathy tendency before (p1= 50%) and the expected rate after (p2= 70%) training according to **(winefiled & Chur-Hansen, 2000)**, with 95% level of confidence (α error= 5%), and a study power of 80% (βerror = 20%). Using the equation for the difference between two proportions (**Schlesselman, 1982).**

$$n = \frac{2pq \ (Z\alpha \ /2 + Z\beta \ ) \ 2}{(p1 - p2)2}$$

Accordingly, the estimated sample size was 103 subjects

Tools of data collection:

A self-administered questionnaire, communication skills self-assessment scale and empathic tendency scale. It includes the following three tools:

Tool I: Self – administration questionnaire. It composed of two parts:

Part I:

- Personal and family data

- *Part II: communication knowledge:* self- administered questionnaire to assess participant's knowledge regarding communication skills. It consists of a series of 9 questions in the form of multiple choices covering the following areas of knowledge: definition of communication, importance of communication, types of communication (verbal - non-verbal), components of communication process, factors affecting on communication,

barriers of communication and core of communication skills

Scoring:

Knowledge: For each item, a correct response was scored 1 and the incorrect zero. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score, which was converted into a percent score. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Tool II: Communication Skills self-assessment Scale.

This scale was originally constructed by **Mehrabian and ferries, (1967)** to obtain detailed information about the student's attitude toward communication skills. This scale composed of 3 subscales with a tool item of 23items in the form of multiple choices. It is used three times in pre- post and follow up. The communication skills self-assessment scale measures three aspects of student's attitude like auditory (8 items), visual (12 items) and language (3 items).

Scoring:

Attitude: The correct response from the three choices of each statement was score 1 and the incorrect zero. The scores of the items for each part and for the total scale were summed-up and the total divided by the number of the items, giving mean scores. These scores were converted into percent scores. The attitude was considered positive if the percent score was 60% or more and negative if less than 60%.

Tool III: *Empathic Tendency Scale*

This scale developed by **Mehrabian and Epstein, (1996**). The empathic tendency scale will be used in pre- post and follow up test. The scale is self- administered questionnaire. The scale consists of 30 statements on a 3-point Likert type scale "agree," "uncertain," and "disagree". It is consisted of the following six major sub scales:

suffering (11 items), positive sharing (5 statement), crying (3 items), emotional attention (4items), feeling for other (4 items) and emotional contagion (3 items).

Scoring:

Empathic tendency: The responses "agree", "uncertain", and "disagree" were respectively scored 3, 2, and 1. The scores of the items for each part and for the total scale were summed-up and the total divided by the number of the items, giving mean scores. These scores were converted into percent scores. The emotional empathy was considered high if the percent score was 60% or more and low if less than 60%.

Validity and reliability:

The validity was done by a panel of 3 experts from nursing and medical staff in Community Health Nursing and Public Health Medicine departments. They reviewed the tools for face and content validation through ascertaining clarity, relevance, comprehensiveness, and understandability. The tools were modified according to their comments and suggestions. Reliability of the proposed tools was done by Cronbach's Alpha test, 0.938for tool (II), and 0.914for tool (III)

Pilot study:

The pilot study was carried out on 11nursing students about 10% of the study sample. . The aim was to test clarity of instruction, the format of questionnaire, comprehension of the items, and to estimate the exact time required for filling questionnaire sheet. The necessary modifications were done based on the analysis of the pilot study to develop the final format and to be sure that all items are understood. Those students were excluded from the main study sample.

Field work:

The field work was carried within the period of six months starting from the first of October 2016 to the end of March 2017. The study was executed through successive phases of assessment, planning, implementation and evaluation.

Assessment phase (pre intervention data collection)

After securing all official permission, the researcher first introduced herself and explained the aim of the study briefly to the students. The students were met and written consent for participation was obtained and assured. Then, the obtained information will be treated confidentially and used only for the purpose of the study. The researcher divided the participants into nine groups; each group includes (10-12) of students. After that the researcher read and explained the tool items to the students and then handed them the form to fill- in the answers. The time spent for answering the study scales ranged from 30-40 minutes. This phase lasted for 4 weeks (from first of October to first of November 2016).

Planning phase

Based on the results obtained from the data analysis of the assessment phase, and in review of the pertinent literature, the researcher designed the training program sessions content according to the student's knowledge and the study aim. Identified needs and requirements were translated into aim and objectives of the training program and set in the form of a booklet. The program content was as follows:

Session (1):

During this initial session the researcher explained the purpose of the program, determined the place of meeting, the schedule and explained the basic rules of the program.

Session (2):

The focus of this session was to provide an overview about communication which included definition of communication, components of communication process, Importance,

objectives of communication, and factors affecting communication process.

Session (3):

This session focused on knowledge related to types of communication, differences between verbal and nonverbal communication and barriers that block effective communication which consisted selective perception, language barrier, filtering information and emotional influence).

Session (4):

The contents of this session were to provide knowledge related to effective communication skills which aim to improve listening skills, sending skills, interpersonal skills, and empathy when communicating with patient.

Session (5):

The focus of this session was to provide training on communication skills regarding listening skills, sending skills and interpersonal skills.

Session (6):

This session aims to train students on skills regarding recognizing and understanding patient feelings, expression of feelings and thoughts, all of those were intended to improve positive communication attitude, and empathic skills.

Session (7):

The focus of this session was to train the students on communication skills through providing situations that require from the nursing students to behave correctly in a positive way on these situations in the form of role play.

Session (8):

This session was the termination of the training program and second evaluation. The researcher acknowledged the students role and wished all the best in their life.

Implementation phase

The program was implemented in the form of eight sessions for nine groups. This phase lasted for 16 weeks (from end of November 2016 to end of March 2017). The length of each session was varied according to the content of each session and student's responses. To ensure exposure of all students to the same training program, all students received the same content using the same teaching` methods, media, discussion and same activities.

The introductory session was used to present the aim and general objectives of the program, and set rules for leading the sessions. Then each session started by a summary about what is given through the previous session and the objectives of the new one, taking into account the use of simple language to suit the level of understanding of students. The sessions were aided by using pictures, role play and program booklet.

Teaching methods: the researcher utilized various approaches of learning in carrying out the program. These included interactive lectures with group discussion, brain storming, and role play to exchange ideas between the participants and researcher.

Teaching media: includes pictures, training program booklet, power point, and videos.

Evaluation phase

The evaluation of the effectiveness of the training program was done two times, immediately after its implementation by applying the same tools of the pre –test and three month later the second post-test was done to comparing the change in participant's knowledge, communication attitude and empathy .This phase lasted for 4 weeks.

Statistical analysis:

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Data were presented

using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of knowledge, attitude, and emotional empathy scores, multiple linear regression analysis was used and analysis of variance for the full regression models done. Statistical significance was considered at p-value <0.05.

Results:

The study sample involved 103 nursing students whose age ranged between 18 and 20 years, with median 19 years, with more females (74.8%) as shown in Table 1. The highest percentage had two sibling (86.4%), and about three-fifth (60.2%) of student's father had basic or intermediate education and 71.8% were employees., as for mothers 63.1% had basic or intermediate education and 72.8% of them were house wives **(Table 1)**.

Table (2): presents the student's knowledge of communication throughout study phases. It is evident that there was a statistically significant difference in all domains of knowledge of students through the study phases reached to (P< 0.001). It was noticed that 25.2% of students had satisfactory knowledge in pre- test compared to 84% in follow up.

Table (3) demonstrates the nursing student's attitude. It points to statistically

significant differences were found in all domains of attitude, auditory, linguistic, and visual (P< 0.001). It was noticed that only 17.5% of students had positive attitude in pretest compared to hundred percent in follow up.

Table (4): Demonstrates statistically significant differences were found in some domains of empathic tendency, suffering, positive sharing, crying and emotional contagion (P< 0.001). Regarding to total empathic tendency it was found 34% of students had high empathic tendency in pretest compared to 94.2 % in follow up.

Table (5): Concerning the relation between nursing student's pre intervention attitude, empathic tendency and their knowledge. It demonstrates that there was a statistically significant relation between student's knowledge and their empathic tendency (P= 0.02). It was noticed that most of students (90%) had unsatisfactory knowledge characterized by high tendency of suffering and crying.

Table (6): Displays a statistically significant positive correlation of students' knowledge, attitude and empathic tendency. It points to statistically significant positive correlation was found between student's knowledge and attitude (r = 0.621), knowledge and empathic tendency (r = 0. 500). Additionally, there was statistically significant positive correlation between empathic tendency and attitude of students (r = 0.687).

Table 7 reveals that there was a statistically significant negative correlation among student's father and mother education and their empathic tendency (r = - 0.149 and r = -0.165) respectively.

Discussion:

Effective communication skills are fundamental to success in many aspects of life. Many jobs require strong communication skills and people with good communication skills usually enjoy

better interpersonal relationships with friends and family. Effective communication is a key interpersonal skill and learning **(Berrin, 2017).** Communication between nurse and patient is seen as vital to achieving patient satisfaction, inclusive decision making in caregiving and an efficient health service **(Nosek et al., 2014).**

Therefore, the current study aimed to evaluate the efficacy of communication skills training program on knowledge, attitude and empathic tendency of technical institute of nursing students at Menoufia University.

The current study results revealed improvement of students communication knowledge from one quarter had satisfactory level of knowledge before training program to most of them got satisfactory level of knowledge.

This result was in agreement with study conducted in **Australia** by **Quail et al. (2016)** reported that the nursing students had significantly higher communication knowledge in post-test than pre- test.

In the same line study conducted in **Egypt** by **Younis et al. (2015)** showed that, there was a highly statistically significant difference among studied sample regarding total scores of knowledge at pre & post- test.

The finding of present study revealed that there was statistically significant relation between student gender and their knowledge. Where the majority of the studied sample had unsatisfactory knowledge were females. This might be due to most of females living in rural areas which characterized by low social interaction and a lot of shyness.

On the contrary, study conducted in **California** by **Merchant (2012**) found that females had satisfactory communication knowledge than males. This might be due to different culture and setting living.

The current study results revealed improvement of student's attitude toward communication skills from one fifth in pre-test to one hundred percent in post-test. This might be due to students before the training was not exposed to clinical experience and didn't have any experience in dealing with patient and did not know the value of nurse patient interaction.

This result was in agreement with study conducted in **Oromia, Western Ethiopia by Thanasekaran et al. (2016)** explained that there was the majority of study participants have positive attitude toward communication skills in post- test compared to pre -test. Similarly, study conducted in Slovenia by Trifkovič et al. (2017) found 74% of nursing students had positive attitude toward learning communication skills in post - test.

On the contrary, study conducted in **Lublin** by **Włoszczak-Szubzda & Jarosz (2013)** showed that moderate effect of communication skills training on nursing student's communication attitude.

In the same line, study conducted in **Taif** by **Al-bizrah et al. (2016)** found that the average scores of positive attitudes for communication skills in post -test decreased when compared with scores of pre -test.

The current study results revealed that improvement of student's empathic tendency from three fifths in pre-test to almost students got higher level of empathic tendency. In spite of empathy is a skill that may not be easily taught by exposing students to program sessions, the experiences acquired from the training program lead to improving student's feelings.

This result was supported by study conducted in **Turkey** by **Harlak et al. (2008**) demonstrated that empathic tendency level of students became higher as a result of communication skills training program**.** In the same way, study conducted in **Turkey** by **Ozcan et**

al. (2012) reported that the effectiveness of the educational programs facilitates and improves the empathic tendency of medical and nursing students.

Similarly, study conducted in **Italy** by **Cunico et al. (2012)** indicated that there was increase in empathic tendency levels in nursing students who participated in a specific empathy training course

On the contrary, study conducted in **Ankara** by **Pazar et al. (2017**) revealed that the mean communication attitude score increased but the empathic tendency levels did not increase within nursing students.

The present study revealed that post training program there was a statistically significant positive correlations among knowledge, empathic tendency and attitude. This might be due to obtained information, exposure to real situations and role play about communication skills lead to enhancing feelings, emotions consequently which reflected on communication behavior among students.

In agreement with a study conducted in **Iran** by **Parvizi et al. (2012)** revealed that there was a statistically significant positive and meaningful correlation among knowledge, attitude and performance of health care providers post communication skills training.

On the contrary, study conducted in **Iran** by **Vakili et *al.* (2011)** when assessing communication skills and attitude of nurses, found that there was no significant correlations between communication skills and attitude regarding patients care.

In this context, a study done in **Texas** by **McMillan et al. (2007)** found that training on communication skills proved to statistically significant correlation between nursing students attitudes and empathic tendencies.

Regarding the correlation between parent's education and student's empathic tendency, the present study results revealed that there was statistically significant negative correlation between parent's education and student's empathic tendency. The explanation of this phenomenon might reflect definite factors which include disciplinary strategies, family cohesiveness, rearing and socio-economic status.

On the same way, study conducted in **Shiraz** by **Shafakhah et al. (2015**) found that nursing students with highly educated mothers had a moderate ability in communication skills. This study suggested that the students who received communication skills should communicate better with patients, their family members, and other personnel.

On the contrary, study conducted in **India** by *Haveri et al. (2017)* found that higher mother's education were associated with more positive attitude scores of their children.

The multivariate analysis results of the present study identified intervention was statistically significant positive predictor of nursing students knowledge, attitude and empathic scores, i.e. female after intervention had sufficient communication knowledge, positive attitude and high empathic tendency. This might be due to females are emotionally active and highly sensitive to any situation. In the same way study conducted in **Iran by Fazel (2011)** revealed that female students had more positive attitude and high empathy toward communication skills training than male students. From the previous author's point of view, this might be due to females are more perceptive to emotions and males take a more rational rather than emotive approach with other.

Conclusion

In the light of the study findings, it can be The age In the light of results of the current study, it can be concluded that the study training program led to

statistically significant improvement in communication knowledge, attitude and empathic tendency of nursing students toward communication skills. There was a statistically significant positive correlation among 'knowledge, attitude and empathic tendency of students.

Recommendations:

Based on the findings of this study the following recommendations are suggested:

- Developing a communication skills training program that equip with effective knowledge and skills for nursing students that could enhance improvement of student's attitude and empathic tendency.

- The communication skills course should be incorporated into nursing curriculum of technical institute of nursing.

- Further research should continue to study the factors affecting communication knowledge, attitude and empathic tendency of nurses.

Future researches concerning the implementation of the developed communication skills training program into a wider scale in the study setting and in similar settings to confirm its positive effect and to reach generalizable findings**.**

Table 1: Socio-demographic characteristics of students in the study sample (N=103)

Socio-demographic characteristics	Frequency	Percent
Age:		
<20	71	68.9
20+	32	31.1
Range	18.0- 21.0	
Mean±SD	19.3±0.5	
Median	19.00	
Gender:		
Male	26	25.2
Female	77	74.8
father Education:		
Illiterate	9	7.7
Intermediate	62	60.2
High	32	31.1
Father Job :		
Worker	9	8.7
Employee	74	71.8
Business	20	19.4
Mother education:		
Illiterate	14	13.6
Intermediate	65	63.1
High	24	23.3
Mother Job :		
House wife	75	72.8
Working	28	27.2
No. of sibling:		
1	14	13.6
2+	89	86.4
Range	1.0 – 4.0	
Mean±SD	2.7±1.03	
Median	3	
Residence:		
Rural	89	86.4
Urban	14	13.6

Table 2: Nurse Students' knowledge of communication throughout study phases

Correct Knowledge of Communication	Time						X^2 test (p-value) Pre-post	X^2 test (p-value) Pre-FU
	Pre (n=103)		Post (n=103)		FU (n=103)			
	No.	%	No.	%	No.	%		
Definition	69	67.0	103	100.0	103	100.0	40.72 (<0.001*)	40.72 (<0.001*)
Importance	0	0.0	16	15.5	27	26.2	17.35 (<0.001*)	31.07 (<0.001*)
Types	50	48.5	103	100.0	103	100.0	71.36 (<0.001*)	71.36 (<0.001*)
Elements	45	43.7	102	99.0	68	66.0	77.17 (<0.001*)	10.37 (0.001*)
Influencing factors	40	38.8	102	99.0	103	100.0	87.13 (<0.001*)	90.76 (<0.001*)
Barriers	1	1.0	91	88.3	81	78.6	Fisher (1.00)	8.85 (0.003*)
Total: Satisfactory	26	25.2	101	98.1	77	84.8	115.49 <0.001*)	50.50
Unsatisfactory	77	74.8	2	1.9	26	25.2		(<0.001*)

(*) Statistically significant at p<0.05

Table 3: Nurse Students' attitude throughout study phases

	Time						X^2 test (p-value) Pre-post	X^2 test (p-value) Pre-FU
	Pre (n=103)		Post (n=103)		FU (n=103)			
	No.	%	No.	%	No.	%		
Attitude (positive: 60%+): Auditory	49	47.6	103	100.0	102	99.0	73.18 <0.001*	69.68 <0.001*
Linguistic	20	19.4	103	100.0	103	100.0	73.18 <0.001*	139.01 <0.001*
Visual	18	17.5	102	99.0	103	100.0	140.85 <0.001*	144.71 <0.001*
Total attitude: Positive (60%+)	18	17.5	103	100.0	103	100.0	144.71	144.71
Negative (<60%)	85	82.5	0	0.0	0	0.0	(<0.001*)	(<0.001*)

(*) Statistically significant at p<0.05

Table 4: Nurse students' empathic tendency throughout study phases

	Time						X² test (p-value) Pre-post	X² test (p-value) Pre-FU
	Pre (n=103)		Post (n=103)		FU (n=103)			
	No.	%	No.	%	No.	%		
Emotional empathy: Suffering	30	29.1	102	99.0	97	94.2	109.33 (<0.001*)	92.17 (<0.001*)
Positive sharing	39	37.9	98	95.1	96	93.2	75.86 (<0.001*)	69.83 (<0.001*)
Crying	30	29.1	80	77.7	64	62.1	48.77 (<0.001*)	22.62 (<0.001*)
Emotional attention	75	72.8	87	84.5	81	78.6	4.16 (0.04*)	0.95 (0.33)
Feel for others	77	74.8	91	88.3	87	84.5	6.32 (0.01*)	2.99 (0.08)
Emotional contagion	50	48.5	98	95.1	95	92.2	55.29 (<0.001*)	47.16 (<0.001*)
Total emotional empathy: High (60%+)	35	34.0	101	98.1	97	94.2	94.26 (<0.001*)	81.07 (<0.001*)
Low (<60%)	68	66.0	2	1.9	6	5.8		

(*) Statistically significant at p<0.05

Table 5: Relations between nurse students' pre-intervention attitude and empathic tendency and their knowledge

	Knowledge				X² test	p-value
	Satisfactory		Unsatisfactory			
	No.	%	No.	%		
Attitude: Positive	4	22.2	14	77.8		
Negative	22	25.9	63	74.1	Fisher	1.00
Emotional empathy: Suffering: High	3	10.0	27	90.0		
Low	23	31.5	50	68.5	5.21	0.02*
Positive sharing: High	10	25.6	29	74.4		
Low	16	25.0	48	75.0	0.01	0.94
Crying: High	3	10.0	27	90.0		
Low	23	31.5	50	68.5	5.21	0.02*
Emotional attention: High	18	24.0	57	76.0		
Low	8	28.6	20	71.4	0.23	0.63
Feel for others: High	19	24.7	58	75.3		
Low	7	26.9	19	73.1	0.05	0.82
Emotional contagion: High	14	28.0	36	72.0		
Low	12	22.6	41	77.4	0.39	0.53
Total emotional empathy: High	7	20.0	28	80.0		
Low	19	27.9	49	72.1	0.77	0.38

(*) Statistically significant at p<0.05

Table `6: Correlation matrix of knowledge, attitude, and empathic tendency scores

	Spearman's rank correlation coefficient		
	Knowledge	**Attitude**	**Emotional empathy**
Knowledge			
Attitude	.621**		
Emotional empathy	.500**	.687**	

(**) Statistically significant at p<0.01

Table7: Correlation between nurse students' knowledge, attitude, and empathic tendency scores and their socio-demographic characteristics

	Spearman's rank correlation coefficient		
	Knowledge	**Attitude**	**Emotional empathy**
Age	.048	-.016	.021
Crowding index	-.015	-.003	.098
No. of siblings	-.001	.035	.058
Birth order	-.090	.034	.045
Income	.030	.005	-.107
Father education	.016	.023	-.149**
Mother education	.014	.014	-.165**

(**) Statistically significant at p<0.01

References

1. **Al-Bizrah ,N,A., Tarique, N,M., Arain, F,R.,(2016).** Student attitude *towards communication skills training among female medical students in Taif University. Sky Journal of Medicine and Medical Sciences. 2016;4(2):14–19.*

2. **Berrin, P., Meral, D., & İmren, E. ,(2017)** The communication skills and the empathic tendency levels of nursing students: a cross-sectional study, Vol. 53 , Iss. 3, P 368-377

3. *Centers for Disease Control and Prevention (CDC) Clear Communication Index.* Hamilton, ON: McMaster University. (Updated 18 September, 2017) Retrieved from http://www.nccmt.ca/knowledge-repositories/search/247.

4. **Cronenwett L L., Sherwood, G., Pohl, J, Barnsteiner,J, Moore S., Sullivan D,T., (2009).** Quality and safety education for advanced nursing practice. Nurs Outlook. 2009;57:338–48).

5. **Cunico, L., Sartori ,R., Marognolli , O, Meneghini A., (2012).** Developing empathy in nursing students: A cohort longitudinal study. J Clin Nurs. July 2012; 21(13/14): 2016-2025. PMid:22672461 http://dx.doi.org/10.1111/j.1365-2702.2012.04105.x

6. **Faze I., (2011**). Attitudes toward learning communication skills among medical students of a university in Iran. Acta Medica Iranica.;49(9):625-9.

7. **Haveri, S. P., Sebastian, N. M., & Nath, A. S. (2017).** Attitude of medical students towards learning communication skills. International Journal Of Community Medicine And Public Health, 3(1), 157-160.

doi.org/10.18203/2394-6040.ijcmph20151542

8. **Mehrabian, A., & Epstein, N., (1996).** A measure of emotional empathy. Journal of Personality, 40(4), 525-543.DOI: 10.1111/j.1467-6494.1972.tb00078.x

9. **Mehrabian, A., & Ferries, P. ,(1967).).** The development of a scale to measure medical students' attitudes towards communication skils learning: The communication skills attitude scale (CSAS). Medical Education, 36, 141-147.

10. **Merchant, K., (2012)**"How Men And Women Differ: Gender Differences in Communication Styles, Influence Tactics, and Leadership Styles" . *CMC Senior Theses.* Paper 513.http://scholarship.claremont.edu/cmc_theses/513.

11. **McMillan, LR., (2007).** Empathy and empathic communication: Nursing students perception of the program effectiveness, academi experience and competence. ProQuest Information and Learning Company. UMI Number: 3265506.

12. **Marcysiak, M., Dąbrowska, O., Marcysiak M,B.,(2014).** Understanding the concept of empathy in relation to nursing. Prog Health Sci 2014, Vol 4, No2 Understanding concept empathy relation nursing pp 75-81.

13. **Michelle A.,; Tschannen,D., Sculli, G.,(2013),** Improving Nursing Students' Communication Skills Using Crew Resource Management Strategies,Journal of Nursing Education, Volume 52 · Issue 3: 125-130. DOI: 10.3928/01484834-20130205-0.

14. **Nosek ,M., Gifford,E., Kober,B., (2014).** Nonviolent Communication

(NVC) training increases empathy in baccalaureate nursing students: A mixed method study. School of Nursing & Health Professions, University of San Francisco, San Francisco, USA.Journal of Nursing Education and Practice, Vol. 4, No. 10.

15. **Norfolk, T., Birdi, K. & Walsh, D., (2007).** The role of empathy in establish-ing rapport in the consultation: a new model. Medical Education,41,690–697.

16. **Ozcan C.T., Oflaz, F. & Sutcu-Cicek, H., (2010).** Empathy: the effects of undergraduate nursing education in rkey. International Nursing Review,57 (4), p. 493.

17. **Parvizi, Z., Jalili, Z, Masoudi, G, Zareban, I, Shahrakipour M., (2012)**Study the *Knowledge*, Attitude and Performance of the Health and Cure Centers Staff Regarding Using Communication Skills in Interacting With Clients in Zahedan City, 2012, Health Scope. 2013 ;1(4):189-193. doi: 10.17795/jhealthscope-7784.

18. **Pazar, B., Demiralp , M, Erer, İ., (2017).** The communication skills and the empathic tendency levels of nursing students: a cross-sectional study. vol;53(3):368-377. doi: 10.1080/10376178.2017.1359101.

19. **Quail, M., Brundage, S,B., Spitalnick ,J, Allen ,P,J., Beilby, J..(2016)** Student self-reported communication skills, knowledge and confidence across standardised patient, virtual and traditional clinical learning environments. Australia, BMC Med Educ. 2016 Feb 27;16:73. doi: 10.1186/s12909-016-0577-5.

20. **Shafakhah,,M., Zarshenas, L., Fakhondeh Sharif, F.,and**

Sarvestani, R.,(2015). Evaluation of Nursing Students' Communication Abilities in Clinical Courses in Hospitals. 7(4): 323–328. Published online 2015 Jan 25. doi: 10.5539/gjhs.v7n4p323

21. **Trifkovič, K., Lorber, M., Denny, M., Suzanne Denieffe. S. , and önc.V.,(2017).** Attitudes of Nursing Students Towards Learning Communication Skills**.** DOI: 10.5772/67622, 2017 under CC BY 3.0 license.

22. **Thanasekaran P., Birhanu Yadecha, Shivaleela P. Upashe, Dereje Chala.(2016).** Knowledge, Attitude and Practice Regarding Therapeutic Communication among Nurses in Selected Government Hospitals in Oromia, Western Ethiopia, American Journal of Nursing Science. Vol. 6, No. 3, 2017, pp. 159-164. doi: 10.11648/j.ajns.20170603.13

23. **Younis ,*J,R*., Mabrouk, S, M., Kamal, F., (2015).** Effect of the planned therapeutic communication program on therapeutic communication skills of pediatric nurses. Faculty of nursing, Menoufiya University, Menoufiya, Egypt.

Published by Sciedu Press . Journal of Nursing Education and Practice 2015, Vol. 5, No. 8. **DOI:** 10.5430/jnep.v5n8p109.

24. **Vakili, M,M., Hidarnia, A, Niknami, S,H.,(2011)** [Effect of Communication Skills Training on Health Belief Model Constructs about AIDS in Zanjan Health Volunteers]. *Zanjan uni med sci pub*; **19**(77): 78-93.

25. **Włoszczak-Szubzda ,A,,& Jarosz ,M, J., (2013).** Professional communication competences of nurses – a review of current practice and educational problems. Ann Agric Environ Med. 2013; 20(1): 183-188.

Ali,A,A., Sorour,A,S., Elsafi,H,I., (2017) Efficacy of Communication Skills Training program on Knowledge, Attitude and Empathic tendency of technical Institute of nursing students at Menoufia University. Faculty of nursing, , Zagazig University, Egypt. *Published by* Mansoura Nursing Journal (NJ M)2018,Vol. 4,No.2.ISSN:18235- 2017**.**