Effect of Infertility Clinic Nurse Communication Skills Training on Women Satisfaction

Doaa Lotfi Afifi Alqersh

Lecturer of Maternal and Newborn Health Nursing Department , Faculty of Nursing , Menofia University, Egypt

Abstract

Background: Effective communications skills are necessary in each area of life, but of particular importance in the field of nursing. Communication is the process of transmitting thoughts, feelings, and facts. It is an essential element of the nurse-patient relationship. **Aim:** to evaluate the effect of infertility clinic nurse communication skills training on women satisfaction. **Methods: Research design**: Pre experimental design (pre and post test) was used to carry out the study. **Setting:** Private infertility center (Elbasma center). **Sample:** A purposive sample of 20 nurses working in the previously mentioned center evaluated by 200 women were recruited for the study. **Instruments:** Four instruments were used for data collection a) Two structured interviewing questionnaire schedules b) Communication skills assessment instrument c) Satisfaction assessment instrument. **Results:** This study revealed that there was a high significant difference in nurses' communication skills and women satisfaction scores pre and post the training. **Conclusion**: Communication skills training had high significant effect on improving total communication skills of nurses and accordingly women satisfaction scores. **Recommendations:** On-going education for infertility clinic nurses regarding communication skills and its positive effects on women satisfaction.

Key Words: Infertility nurse, Communication skills, Communication skills training, Women satisfaction.

Introduction

Infertility is often a silent struggle. Patients who are struggling to get pregnancy describe feeling depressed, anxious, lonely, and out of control. An estimated 48.5 million couples, or 15% of all couples worldwide, struggle with infertility **(Agarwal et al., 2015**). According to the WHO, 25% of couples in developing nations have experienced infertility at some point in their lives. **(WHO, 2017)**.

Patients who undergo assisted reproductive treatment (ART) are at high risk of developing psychiatric illnesses and it is critical to recognize, acknowledge, and support these patients as they cope with their infertility diagnosis and treatment through effective communication **(Kristin and Alice, 2018)**.

Communication skills are the skills used in the process by which a person transmits ideas, meanings or information in the form of written or verbal messages accompanied by facial expressions and body language to another person, who then responds to the message in accordance with his or her understanding. **(Arnold and Boggs, 2019)**.

Effective and meaningful communication is the most significant element to provide high quality of care to patient in health care sitting. It is crucial in nursing profession because it promotes high rates of recovery, a sense of safety and protection, higher levels of

patient satisfaction and greater adherence to recommended treatment **(Abdullah and Ibrahim, 2016);(Amoah et al, 2019**) as it ensures that patients are less worried, more engaged and psychologically stable **(Nikmanesh et al., 2018).**

Additionally, effective communication distinguishes between average and excellent nursing care. Effective verbal and nonverbal communication is the cornerstone of nurse-patient relationship **(Negi et al., 2017)**, allowing the patient to participate equally in reaching wellness **(Nantsupawt et al., 2020)** and making sure that patients feel appreciated and cared for **(Nikmanesh et al., 2018)**.

Communication skills can be summed up in the sensitivity to verbal and nonverbal messages, active listening and responding **(Nikmanesh et al., 2018)**. The focus of communication in nurse patient relationship is patient's needs. To address these needs, the nurse must take into account multiple factors, including the patients' physical state, emotional state, cultural preferences, and values. The timing of communication is very critical when working with patients **(Afriyie, 2020)**.

Communication mistakes are a major factor in hospital incidents and are the most common primary reason of complaints about the health care system **(The Joint Commission, 2016)**. All of the National Safety and Quality Health Service (NSQHS) Standards take into account the value of patient and healthcare provider communication **(Nordby, 2016)**.

Women satisfaction is the degree to which women are satisfied with their healthcare, both inside and outside of the health care provider's office. A measure of care quality, women satisfaction gives carers insights into various aspects of care,

including the efficiency and quality of care **(Goh et al., 2016)**.

Satisfaction is considered a critical concern for healthcare providers. It is a complex attitude since low patient satisfaction may lead to loss of trust and consequently changing the treating physician or the hospital or even discontinuing treatment **(Oetzel et al., 2015)**.

Effective communication is a vital component of nursing care, but nurses often lack the skills to communicate with patients and other medical professionals. Therefore, communication skills training programs should be utilized frequently to develop these skills. Good communication skills make nurses more capable of managing their patients **(Leal-Costa et al 2020)**.

Significance of the study

Although the expectation is that nursing students gain communication skills during nursing education programs, certain qualitative research have shown that inadequate training remains **(Jamshidi et al., 2016)**. Also **Grady et al (2020)** noted that it is challenging to equip nurses with the skills needed for effective communication with patients.

Effective and professional communication is crucial for nurses in order to deliver the best care possible and improve patient outcomes **(Hussain et al., 2019)**. Additionally, it is well known that ineffective communication can impact patient satisfaction, which is a performance indicator that is becoming more and more crucial **(Abdullah and Ibrahim, 2016)**.

Furthermore, infertility clinic nurses have difficult responsibilities including dealing with weary patients and

their relatives. Infertile couples experience issues that affect their marital life. In addition, the treatment is expensive, time consuming and occasionally impossible **(Zarinara et al., 2016)**. So that, this study is very important to highlight the effect of infertility clinic nurse communication skills training on women satisfaction.

Aim of the Study:

The aim of this study was to evaluate the effect of infertility clinic nurse communication skills training on women satisfaction.

Study Hypotheses:

1-Nurses who receive communication skills training exhibit a significant improvement in communication skills scores than before training.

2-Women who evaluate nurses subjected to communication skills training have higher satisfaction scores than women who evaluate nurses aren't subjected to the communication skills training.

Subjects and Methods:

Study Design: Pre-experimental (pre and post test).

Study Setting: The study was conducted at Elbasma infertility center, Elbasma hospital, Menofia governorate, Egypt. The center was purposively selected because it is one of the most famous centers which provide infertility treatment in the governorate. The center was part of Elbasma hospital, in the third floor, and is composed of 4 parts; the first part for registration and history taking, the second part for diagnosis and examination, the third part for preoperative and post operative care, and the fourth part for treatment options.

Sampling

Sample type: (purposive) sample.

Sample size: 20 nurses working in Elbasma center evaluated by 200 infertile women (100 women who were undergoing treatment before training of nurses and another100 women who were undergoing treatment after training of nurses).

Calculation of Sample Size: Based on analysis of prior publications **García et al., 2013.** Empathic training decreased the likelihood of getting a low score for all items, with odds ratios (95% confidence interval) of 0.64 (0.44-0.91) for information, 0.8 (0.55-1.17) for dynamic, 0.76 (0.56–1.02) for time, 0.79 (0.60–1.05) for interaction, and 0.62 (0.4–0.96) for professionalism. Based on these findings sample size was estimated at power 80%, margin of error 5% and confidence interval 95%.

Inclusion Criteria:

-Nurses working in the center who agreed to participate in the study

-Infertile women who came to the center for infertility treatment by In Vitro Fertilization (IVF) and Intracytoplasmic Sperm Injection (ICSI).

-Women with primary or secondary infertility.

Exclusion criteria:

-Nurses or woman who refused to participate in the study

- Women who didn't reach the phase of egg retrieval.

Instruments of data collection:

Four instruments were used for data collection which were: Structured interviewing questionnaire, Communication skills assessment instrument, Structured interviewing questionnaire schedule, and Patient satisfaction assessment instrument.

I: Two Structured interviewing questionnaire schedules: were designed by the researcher after reviewing the literature on the topic. **The first**; was used to evaluate socio-demographic data of nurses: age, level of education, specialty, post-graduation years, residence, and previous experience with communication training program. **The second**; was used to evaluate socio-demographic data of infertile women: age, duration of infertility, personal situation (with or without partner), and occupation.

II: Communication skills assessment instrument: Adapted from **Symons et al. (2009)** and was used to assess communication skills of nurses before and after training by infertile women. It consists of eleven items about different aspects of communication skills. Modifications were done on this instrument to include only 10 items which cover all the aspects of communication skills in order to be relevant to be used by women. Total scoring system of communication skills assessment instrument was depending on the woman's response to the 10 items on a 3point Likert scale. The total score of communication skills assessment instrument was 10- 30. The score was classified as the following: excellent communication skills: ≥75 %, which equals 22 - 30 from the total score, good communication skills: 50 % -74 %, which equals 15- 21 from the total score, poor communication skills: less than 50% which equal 14 or less from the total score.

III: Patient satisfaction assessment instrument: Adapted from **García et al., 2013** and was used to assess women satisfaction before and after intervention (training of nurses). It consisted of 5 items: Information, Dynamic, Time and rhythm, Interaction, and Professionalism. Each item could be rated from 0 to 5 in a 5point Likert scale (1-strongly disagree, 2-moderately disagree, 3-Neither Agree or disagree, 4 -moderately agree, 5-strogly agree). The total score of women satisfaction assessment instrument was 5-25. The score was classified as the following: satisfied (15- 25) (≥60%), and not satisfied (less than 15) (less than 60%).

Validity of the instruments

The validity of the instruments was ascertained by a group of experts in the subject area, medical and nursing staff who reviewed the instruments for content validity. They were also asked to judge the items for completeness and clarity. Suggestions have been integrated into the instruments.

Reliability of the instruments

Test-retest reliability was applied by the researcher to test the internal consistency of the instruments. It is the administration of the same instruments to the same participants under similar conditions on two or more occasions. Results were compared from repeated tests. Cronbach's Alpha coefficient test for reliability was also conducted, and the results showed that each of the tools used had very homogeneous items in each of its components. The Cronbach's alpha level was 0.75 and 0.72 for tool I, 0.86 for tool II, and 0.739 for Tool (III).

Pilot study

Pilot study was conducted on 10% of the sample (2 nurses and 20 women) to test

the applicability of the instruments, the feasibility of the study, and the time needed for data collection. A few questions were rephrased by the researcher in light of the findings of the pilot study. The study sample did not include the infertile women who were selected for the pilot trial.

Ethical Considerations

Official steps were taken to obtain a permission to conduct the study. The aim of the study was explained to nurses and women to obtain verbal informed consent to participate in the study. They were assured that their information were confidential and only used for study process. A brief summary of the intervention was explained to each nurse and woman before volunteering to participate in the study and they were informed that they can withdraw from the study at any time. The protocol of this study was approved by the director of the center.

Maneuver of Intervention

The current study was conducted in five phases: preparation, assessment and interviewing, planning, implementation, and evaluation. The fieldwork was done during a six-month period, from the beginning of November 2019 to the end of April 2020.

Preparatory Phase:

-An extensive reviewing of electronic data related to communication, communication skills, patient satisfaction was done to collect relevant knowledge pertinent to study and develop data collection instruments.

- The instruments were tested for validity and reliability and a pilot study was done in this phase

-The instruments were translated into Arabic to facilitate data collection.

Interviewing and Assessment phase:

This phase included interviewing women and nurses to collect basic data. At the beginning of the interview, the researcher greeted each woman or nurse, introduce herself, and explained the aim of the study, the scheduled times, and the frequency of the training sessions for all selected nurses in order to ensure that all of the nurses would attend the training sessions. Following verbal consent, a face-to-face interviewing technique was used to separately question each woman and nurse. which made it easier to fill out structured interview questionnaires. All nurses were interviewed in the first week of data collection period. The number of women interviewed per week was 15-20 women.

A pretest was conducted for nurses by the infertile women (100 women) after egg retrieval using communication skills assessment instrument and satisfaction assessment instrument. The average time needed for women to conduct the pretest was approximately 20-30 minutes.

Planning phase:

-Based on the pre-test assessment, a training program has been created.

-The communication skills training program was created using the following steps:

1. Preparing the 1st draft of the training program.

2. Validation of the content of the training program.

3. Preparing the final draft of the training program.

Preparing the 1st draft of the training program.

The first training draft was developed taking into account the same purpose, criteria, literature review, expert opinions, level of nurses' understanding, and relevant audio-visual aids.

Validation of the content of the training program.

The initial drafts of the training program were delivered to four experts consisting of two professors in maternal and newborn health nursing department, two professors in obstetrics and gynecology department. In addition to a criteria checklist that was 100% agreement to meet the content standards. The recommendations were taken into consideration and the training program' clarity and validity were confirmed.

Preparing the final draft of the training program

Experts' suggestions were taken into account and modifications were made to the training program. After that, the training program' final version was created.

Description of the training program:

The training program's title was "communication skills and women satisfaction". It consisted of the following contents:

- Definition of communication
- Communication skills
- Verbal, nonverbal, and written communication
- Active listening, feedback
- Barriers to effective communication
- Patient satisfaction

Implementation phase

The researcher conducted training program for all nurses in the center in January 2020 (16 hours training divided on 8 days in January, 2 hours each day, 1-3 pm, 2 days per week). During training program, nurses are divided into 4 groups. Each group take 2 sessions in one week.

The first session, for theoretical education about communication (verbal, nonverbal, and written), communication skills, active listening, feedback, barriers to effective communication, and patient satisfaction.

The second session, for practical training about active communication, feedback, and listening on a cognitive behavioral basis using role play, and case scenarios.

After the two sessions had been ended, each nurse received an arabic booklet comprising summaries of the main topics that had been covered during the sessions.

The intended learning outcomes of the training program were:

Knowledge

1. Enumerate types of communication
2. Recall steps of communication
3. Summarize modes of nonverbal communication
4. Identify barriers to effective communication

Skills

1. Demonstrate communication skills by nurses

Competence

1. Value the importance of good communication skills on women satisfaction
2. Communicate effectively with infertile women.

Teaching materials: Booklet.

Training aids: Role play, case scenarios.

Evaluation phase

Effectiveness of the training was assessed after it has been ended using a communication skills assessment instrument and satisfaction assessment instrument by another 100 infertile women after egg retrieval.

Statistical Data Analysis:

Collected data were organized, coded, tabulated, and analyzed using IBM statistical package for social science version 22.0 (SPSS, Chicago, IL). Where the following statistics were applied: Descriptive statistics: where qualitative data were presented in the form of numbers and percentages. Analytical statistics: used to find out the possible association between the studied factors. The tests used included: X^2 for assessing the significance of the difference between two correlated proportions, **Student t test** for the comparison of two groups of normally distributed variables, and **r** for detecting the association between variables. The p-value < 0.05 was considered significant, and less than 0.001 as highly significant.

Results

Table (1) illustrates socio-demographic data of studied nurses. Most nurses had age range 20-30 years, had bachelor degree with general specialty, they all

were females; most of them had graduated since 3 years in non surgical unit. All of them had no previous experience with communication training program.

Table (2) shows socio-demographic data of studied women in the two groups (pre and post intervention). Most women in the two groups had age range 20-30 years, were infertile for 3-5 years, came to the center with partner, and were housewives. There was no statistically significant difference between the studied women in the two groups regarding socio-demographic data (P>0.05).

Table (3) reveals communication skills of nurses as evaluated by women pre and post intervention. There was a high statistically significant difference between the ten items of communication skills of nurses as evaluated by women pre and post intervention.

Table (4) shows total communication skills of nurses as evaluated by women pre and post intervention. There was high significant difference between pre intervention and post intervention total communication skills of nurses. For example, 2% of nurses were excellent in total communication skills before intervention, while 35% of nurses were excellent in total communication skills after intervention.

Figure (1) represents total communication skills of nurses as evaluated by women pre and post intervention. There was high significant difference between pre intervention and post intervention total communication skills of nurses. For example, 2% of nurses were excellent in total communication skills before intervention, while 35% of nurses were excellent in total communication skills after intervention.

Table (5) clarifies women satisfaction domains pre and post intervention. There was highly significant difference between women satisfaction domains in pre and post intervention with shift toward high score of all domains of satisfaction after intervention.

Figure (2) illustrates women satisfaction pre and post intervention. There was highly significant difference between women satisfaction pre and post intervention. Before intervention, 2% of women were satisfied while, 73% of women were satisfied after intervention.

Table (6) clarifies correlation between nurses' communication skills and women satisfaction post intervention. There was a high significant positive correlation between women satisfaction and nurses' communication skills after intervention. The high nurses' communication skills, the high women satisfaction.

Table (7) shows Relation between satisfaction and socio-demographic data of women post intervention. There was a high significant relation between women satisfaction and personal situation. In addition There was a significant relation between women satisfaction and age and duration of infertility

Table (1): Socio-demographic data of studied nurses (N=20):

Studied variables	Studied nurses	
	No.	%
Age / years		
<20 years	3	15.0
20 – 30 years	12	60.0
31 – 35 years	3	15.0
> 35 years	2	10.0
Gender		
Male	0	0.00
Female	20	100
Educational level		
Diploma	5	25.0
Bachelor	13	65.0
Master	2	10.0
Specialty		
General	18	90.0
Maternity	2	10.0
Post graduation		
1 year	2	10.0
2 year	4	20.0
3 year	9	45.0
4 year	3	15.0
More than 4 years	2	10.0
Residence		
Surgical	6	30.0
Sub surgical	6	30.0
Non surgical	8	40.0
Previous experience with communication training program		
Yes	0	0.00
No	20	100

Table (2): Socio-demographic data of studied women pre and post intervention (N=200).

Studied variables	Studied women Pre intervention (N=100)		Studied women Post intervention (N=100)		X^2	P value
	No.	%	No.	%		
Age / years						
<20 years	5	5.00	5	5.00		
20 – 30 years	66	66.0	70	70.0		
31 – 35 years	21	21.0	15	15.0	1.34	0.719
> 35 years	8	8.00	10	10.0		
Duration of infertility						
<3 years	19	19.0	15	15.0		
3 – 5 years	41	41.0	45	45.0	0.73	0.867
6 – 10 years	31	31.0	30	30.0		
>10 years	9	9.00	10	10.0		
Personal situation						
With partner	73	73.0	72	72.0	0.03	0.874
Without partner	27	27.0	28	28.0		
Occupation						
Employee	35	35.0	33	33.0		
Housewife	55	55.0	59	59.0	3.55	0.169
Student	10	10.0	8	8.00		

Table (3): Communication skills of nurses as evaluated by women pre and post intervention (N=200):

Communications skills	Pre intervention (N=100)		Post intervention (N=100)		X^2	P value
	No.	%	No.	%		
Greeting you warmly						
Poor	15	15.0	0	0.00		
Good	80	80.0	51	51.0	57.2	<0.001**
Excellent	5	5.00	49	49.0		
Treating you like they are on the same level						
Poor	10	10.0	0	0.00	56.0	<0.001**
Good	90	90.0	60	60.0		
Excellent	0	0.00	40	40.0		
Showing interest in you as a person						
Poor	15	15.0	5	5.00	48.4	<0.001**
Good	75	75.0	39	39.0		
Excellent	10	10.0	56	56.0		
Telling you everything (being truthful)						
Poor	40	40.0	10	10.0		
Good	60	60.0	65	65.0	43.2	<0.001**
Excellent	0	0.00	25	25.0		
Listening carefully						
Poor	60	60.0	20	20.0		
Good	30	30.0	46	46.0	36.4	<0.001**
Excellent	10	10.0	34	34.0		
Use understandable words when explaining your problem and treatment						
Poor	65	65.0	19	19.0	48.4	<0.001**
Good	30	30.0	51	51.0		
Excellent	5	5.00	30	30.0		

	No.	%	No.	%	X2	P value
Explaining what you need about your problem	71	71.0	41	41.0		
Poor	20	20.0	34	34.0	19.1	**<0.001****
Good	9	9.00	25	25.0		
Excellent						
Discussing options with you and asking about your opinion	90	90.0	50	50.0		
Poor	10	10.0	36	35.0	64.8	**<0.001****
Good	0	0.00	41	41.0		
Excellent						
Warning you during the physical exam about what you are going to do and why						
Poor	75	75.0	34	34.0	33.9	**<0.001****
Good	10	10.0	25	25.0		
Excellent	15	15.0	41	41.0		
Encouraging you to ask questions and answer them clearly	95	95.0	39	39.0		
Poor	5	5.00	29	29.0	72.3	**<0.001****
Good	0	0.00	32	32.0		
Excellent						
Total communication skills						
Poor	38	38.0	10	10.0		
Good	60	60.0	55	55.0	45.9	**<0.001****
Excellent	2	2.00	35	35.0		

Table (4): Total communication skills of nurses as evaluated by women pre and post intervention (N=200):

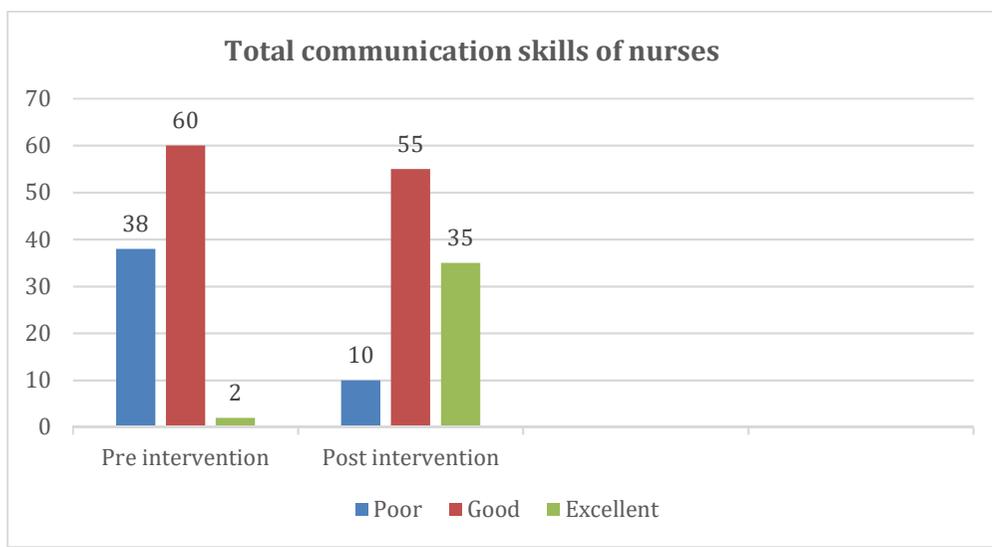| Total communication skills	Pre intervention (N=100)		Post intervention (N=100)		X2	P value
	No.	%	No.	%		
Poor	38	38.0	10	10.0	35.9	**0.001****
Good	60	60.0	55	55.0		
Excellent	2	2.00	35	35.0		

Figure (1): Total communication skills of nurses as evaluated by women pre and post intervention (N=200).

Table (5): Comparison between pre and post intervention women satisfaction domains (N=200):

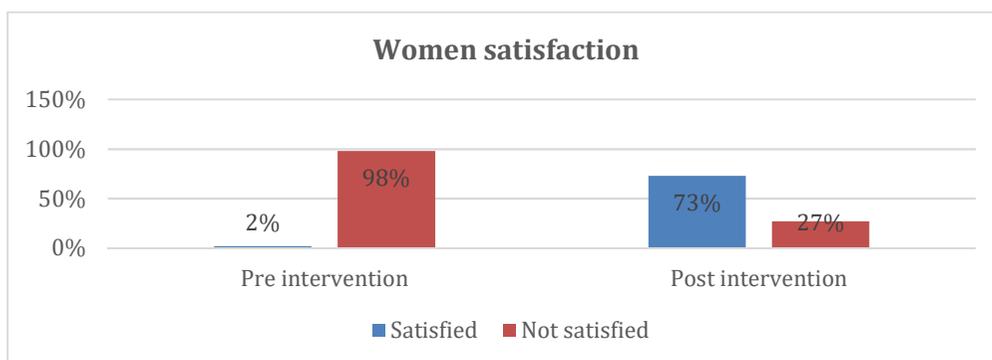| Satisfaction domains	Pre intervention (N=100) Mean ±SD	Post intervention (N=100) Mean ±SD	t-test	P value
Information	2.25±1.15	3.38±1.26	5.90	**0.001****
Dynamic	2.46±1.41	3.66±1.15	4.42	**0.001****
Time and rhythm	2.85±1.29	4.03±0.89	4.99	**0.001****
Interaction	2.18±1.10	3.49±1.18	6.80	**0.001****
Professionalism	2.23±1.22	3.66±1.13	4.92	**0.001****
Total satisfaction	11.9±2.76	19.3±2.70	11.7	**0.001****

Figure (2): Women satisfactions pre and post intervention (N=200).

Table (6): Correlation between nurses' communication skills and women satisfaction post intervention (N=100):

Studied variable	Nurses' Communication skills	
	R	P value
Women satisfaction	0.317	0.001**

Table (7): Relation between satisfaction and socio-demographic data of women post intervention (N=100):

Studied variables	Patients satisfaction				X2	P value
	Satisfied		Not satisfied			
	No.	%	No.	%		
Age / years						
<20 years	1	1.40	4	14.8	8.65	
20 – 30 years	52	71.2	18	66.7		
31 – 35 years	13	17.8	2	7.40		0.034*
> 35 years	7	9.60	3	11.1		
Duration of infertility						
<3 years	11	15.1	4	14.8	9.13	
3 – 5 years	38	52.1	7	26.0		
6 – 10 years	20	27.4	10	37.0		0.027*
>10 years	4	5.40	6	22.2		
Personal situation						
With partner	60	82.2	12	44.4	13.9	0.001**
Without partner	13	17.8	15	55.6		
Occupation						
Employee	24	32.9	9	33.3	0.523	0.770
Housewife	44	60.3	15	55.6		
Student	5	6.80	3	11.1		

*significant **High significant*

Discussion

The results of the current study showed that most nurses had age range 20-30 years, had bachelor degree with general specialty, and had graduated since 3 years in non surgical unit. All of them had no previous experience with communication training program. Most of nurses were at the beginning of their professional life, so they were in need to improve their qualifications in the field of work especially they work in an infertility center in which women had special needs.

The researcher's point of view is supported by **Boivin et al. (2017)** who studied " Perceived challenges of working in a fertility clinic: a qualitative analysis of work stressors and difficulties working with patients " and noted that infertile patients, particularly women, may be seen as difficult due to their significant negative feelings of anxiety, pessimism, and frustration, making communication with these patients particularly difficult for specialists.

The results of the current study revealed that nearly half of nurses had poor communication skills before training. In this respect, a study among nurses in Brazil By **Montezeli et al. (2019)** about " Improving social skills in care management provided by nurses" indicated their need for additional training and knowledge. In contrast with this a study in Indonesia by **Rivia et al. (2020)** about "Overview of interpersonal communication between nurses and patients in inpatient installation at RSUD HA Sulthan Daeng Radja" reported that most of the nurses in the setting were communicating well.

The results of the current study revealed that communication skills of nurses had improved after training. This may be because the training was effective and all of them had no previous experience with communication training. This finding lead to acceptance of the 1st research hypothesis. This is supported by a cross-sectional study about "Effect of communication skills training on the burnout of nurses" by **Darban et al. (2016)** who concluded that communication skills training is an efficient and affordable method for lowering nursing burnout. They continued, "It is advised that managers take this strategy into consideration in order to lessen nurse burnout and enhance the quality of healthcare services delivered by them".

In the same line, A systematic review carried out by **Kerr et al. (2020)** in Japan about "The effectiveness of training interventions on nurses' communication skills" and concluded that educational interventions to improve nurses' ability to communicate with patients had promise.

The results of the current study revealed that satisfaction of infertile women had increased after nurses' training

than before, this may be because the training was effective and resulted in increase in nurses' communication skills. The finding lead to acceptance of the 2nd research hypothesis.

In the same line findings of a study by **Burgener et al (2020)** about " Enhancing communication to improve patient safety and to increase patient satisfaction" showed that appropriate and effective educational and training programs enable more effective communication in health care organizations, which improves patient safety and raises patient satisfaction.

The results of the current study showed that there was a high significant correlation between nurses' communication skills and women satisfaction. This could be because when the nurse has high communication skills she deals with patients by professionalism, save their time, interact well with them, maintains proper dynamic and gives useful information about the condition. This result is supported by a study by **Nikmanesh et al (2018)** about "Nurses communication skills training and its effect on patients' satisfaction" in Shiraz, Iran. The study findings found a significant correlation between nursing patient communication score and patient satisfaction score. Additionally, they mentioned that patients treated by trained nurses were more satisfied with their nursing care than those treated by untrained nurses.

In the same line a study by **Lotfi et al. (2019)** about "Assessment of nurse patient communication and patient satisfaction from nursing care" showed a correlation between nurse-patient communication and patient satisfaction with nursing care. They added that hospital management' top goal should be raising patient satisfaction levels. Therefore, by training the staff especially the nurses and recognizing both

the aspects that inspire motivation and those that cause dissatisfaction.

In addition, a quality improvement project conducted by **Kusiak (2016)** about "Improvement of patient satisfaction through enhancement of registered nurse communication skills" in Island concluded that post intervention results demonstrate a significant rise in satisfaction levels when compared to the six months prior to the introduction of the intervention.

Conclusion

The current study revealed that communication training was effective in raising total communication skills of nurses and women satisfaction scores were high after nurses have received the communication training. This supports the research hypotheses. No. (1), which was: Nurses who receive communication skills training exhibit a significant improvement in communication skills scores than before training. No. (2), which was: Women who evaluate nurses subjected to communication skills training have higher satisfaction scores than women who evaluate nurses aren't subjected to the communication skills training.

Recommendations

1-On-going education for infertility clinic nurses about good communication skills and its effect on women satisfaction.

2-Checklists and protocols should be available to ensure good communication between infertility clinic nurse and women.

3-Therapeutic communication skills have to be significantly confirmed in the core nursing curriculum.

4- Orientation and preparatory programs for newly appointed nurses should be organized.

5-Conducting further studies to examine women satisfaction and its association with women socio-demographic variables.

References

Abdullah, D., & Ibrahim, R. (2016): Assessment of Cancer Patient's Satisfaction Regarding Nurses Communication Skills in Azadi Teaching Hospital/ Oncology unit, Mosul Journal of Nursing, 2(2).

Afriyie, D. (2020): Effective communication between nurses and patients: an evolutionary concept analysis. British Journal of Community Nursing, 25(9), 438-445.

Agarwal, A., Mulgund, A., Hamada, A., & Chyatte, M. R. (2015): A unique view on male infertility around the globe. Reproductive biology and endocrinology, 13(1), 1-9.

Amoah, V., Anokye, R., Boakye, D., Acheampong, E., Budu-Ainooson, A., Okyere, E., & Afriyie, J. (2019): A qualitative assessment of perceived barriers to effective therapeutic communication among nurses and patients. BMC Nursing, 18(1), 4.

Arnold, E. C., & Boggs, K. U. (2019): Interpersonal Relationships E-Book: Professional Communication Skills for Nurses. Elsevier Health Sciences.

Boivin, J., Bunting, L., Koert, E., Ieng U., C., and Verhaak, C. (2017). Perceived challenges of working in a fertility clinic: a qualitative analysis of work stressors and difficulties working with patients. Hum. Reprod. 32, 403–408.

Bramhall, E. (2014): Effective communication skills in nursing practice. Nursing Standard (2014+), 29(14), 53.

Burgener, Audrey M. BS, MBA. (2020). Enhancing Communication to Improve Patient Safety and to Increase Patient Satisfaction. The Health Care Manager 39(3):p 128-132.

Darban, F., Balouchi, A., Narouipour, A., Safarzaei, E., & Shahdadi, H. (2016). Effect of communication skills training on the burnout of nurses: a cross-sectional study. Journal of clinical and diagnostic research: JCDR, 10(4), IC01.

García, D., Bautista, O., Venereo, L., Coll, O., Vassena, R., &Vernaeve, V. (2013): Training in empathic skills improves the patient-physician relationship during the first consultation in a fertility clinic. Fertility and sterility, 99(5), 1413-1418.

Goh, M., Ang, E., Chan,Y., He, H., & VehvilainenJulkunen, K. (2016): A descriptive quantitative study on multi-ethnic patient satisfaction with nursing care measured by the revised humane caring scale. Applied Nursing Researc, 31, 126– 131

Grady M., Peacock-Johnson A., and Welle M.K. (2020): The TIS Methodology: An Approach for Purposeful, Relational Communication. Creat Nurs.;26(3):175-181

HUSSAIN, M., AFZAL, m., GILANI, s. (2019): Quality of Nurse Patient Therapeutic Communication and Overall Patient Satisfaction during their Hospitalization Stay. European Academic Research, 7 (3).

Jamshidi, N., Molazem, Z., Sharif, F., Torabizadeh, C., & Najafi Kalyani, M. (2016): The challenges of nursing students in the clinical learning environment: A qualitative study. The Scientific World Journal, 2016.

Kerr, D., Ostaszkiewicz, J., Dunning, T., & Martin, P. (2020). The effectiveness of training interventions on nurses' communication skills: a systematic review. Nurse education today, 89, 104405.

Kristin, L., & Alice, D. (2018): The relationship between infertility and stress.Dialogues Clin Neurosci, 20(1), 41–47.

Kusiak, P.A. (2016): "Improvement of patient satisfaction through enhancement of RN communication skills: A quality improvement project". Master's Theses, Dissertations, Graduate Research and Major Papers Overview. 158. Available at:https://digitalcommons.ric.edu/etd/158.

Leal-Costa C., Tirado González S., RamosMorcillo A.J., Ruzafa-Martínez M., Díaz Agea J.L., and van-der Hofstadt Román C.J. (2020): Communication Skills and Professional Practice: Does It Increase SelfEfficacy in Nurses? Front Psychol.;11:1169.

Lotfi, M., Zamanzadeh, V., Valizadeh, L., & Khajehgoodari, M. (2019). Assessment of nurse–patient communication and patient satisfaction from nursing care. Nursing open, 6(3), 1189-1196.

Montezeli, J. H., Haddad, M. D. C. F. L., Garanhani, M. L., & Peres, A. M. (2019). Improving social skills in care management provided by nurses:

intervention research. Revista Brasileira de Enfermagem, 72, 49-57

Nantsupawat A., Wichaikhum O.A., Abhicharttibutra K., Kunaviktikul W., Nurumal M.S.B., and Poghosyan L. (2020): Nurses' knowledge of health literacy, communication techniques, and barriers to the implementation of health literacy programs: A cross-sectional study. Nurs Health Sci.;22(3):577-585.

Negi, S., Kaur, H., Singh, G., &Pugazhendi, S. (2017): Quality of nurse patient therapeutic communication and overall patient satisfaction during their hospitalization stay. International Journal of Medical Science and Public Health, 6(4), 675-680

Nikmanesh, P., Mohammadzadeh, B., Nobakht, S., Yusefi, A. (2018): Nurses communication skills training and its effect on patients' satisfaction in teaching hospitalsof shiraz university of medical sciences. Iran J Health Sci, 6 (4), 22-29.

Nordby, H. (2016). Communication and the Interpretive Principle of Charity in Nurse–Patient Interaction. Research and Theory for Nursing Practice, 30(2), 176-192.

Oetzel, J., Wilcox, B., Avila, M., Hill, R., Archiopoli, A., &Ginossar, T. (2015): Patient–provider interaction, patient satisfaction, and health outcomes: testing explanatory models for people living with HIV/AIDS. AIDS care, 27(8), 972-978.

Rivai, F., Rezeki, S. F., Pasinringi, S. A., & Mangilep, A. U. (2020): Overview of interpersonal communication between nurses and patients in inpatient installation at RSUD HA Sulthan Daeng Radja. Enfermería Clínica, 30, 134-137.

Symons, A. B., Swanson, A., McGuigan, D., Orrange, S., &Akl, E. A. (2009): A tool for self-assessment of communication skills and professionalism in residents. BMC medical education, 9(1), 1-7.

The Joint Commission (2016): Office of Quality and Patient Safety. Sentinel Event Data - Root Causes by Event Type 2004-2015. USA.

World Health Organization (2017): Sexual and reproductive health. 2017.Available from: www.who.int/reproductivehealth/topics/infertility/burden/en/.

Zarinara, A. , Zeraati, H., Kamali, K. ,Mohammad, K., (2016): Models Predicting Success of Infertility Treatment: A Systematic Review, J ReprodInfertil, 17(2), 68–81.