

Effect of Self-Care Guidelines on the Quality Of life
Among Reproductive- Aged Infertile Women

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Abstract

Background: Female infertility and its related problems negatively affect the quality of life. Self-care is very important action in managing infertility and improving patient's quality of life. Aim of this study: To evaluate the effect of using self-care guidelines on the quality of life among infertile women. Subjects and Methods: **Quasi-experimental** design was conducted at Obstetrics Minia University Hospital (out patient's infertility clinic). A convenient sample of one hundred infertile women was included in this study. Data were collected through two types of tools (a structured interviewing questionnaire sheet and Fertility Quality of Life scale Questionnaire (FertiQoL). In addition to, supportive materials (self-care guidelines) were distributed to the studied group. Results: This study revealed that women had lower total mean score of quality of life 103.2 ± 20.7 in pre-intervention which increased to 121.7 ± 15.5 after the intervention with highly statistically significance in all subscales except relation domain ($p < 0.000$). Conclusion: Female infertility has a varied impact on multiple dimensions of health and QoL as evidenced by this study. Recommendations: Utilization of the developed self-care guidelines for infertile women at out and in patient infertility department. Educational programs should be carried out for nurses to provide them with essential information regarding coping strategies to the infertile women. Further researches needed to be carried out to investigate different factors and their association with prevalence of infertility.

Key words: Infertility, Self-care guideline, Quality of Life.

Introduction

Infertility is a frustrating experience for women. It defined clinically as the failure of a couple to conceive or achieve a pregnancy after one year of regular unprotected sexual intercourse (without any contraception) or demographically as the inability to achieve a live birth. Infertility challenges women's sense of identity, expectations of their life trajectory and their perceived value in society. This can lead to feelings of failure, guilt and shame.⁽¹⁾

According to the definition introduced by the (WHO), quality of life (QoL) is defined as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations standards and concerns". Infertility is a broad ranging concept affected in a complex way by the person's physical health, psychological statements, levels of independence, social constraints, personal beliefs and characteristics and also their relationship to salient features of their environment.⁽²⁾

Orem's self-care theory was first used in 1956 and was further developed in 1960. The concept of self-care is distinct from the other types of care, such as dependent-care and nursing-care, because people are the reason for their own well-being and actions. Other theories may promote dependent-care or nursing-care that does not encourage the patient to become involve in decision making and goal setting. Self-care is the process of an individual acting on behalf of one's self or the person taking ownership of the action.⁽³⁾

Orem's theory is one of the most notable nursing theories in the area of self-care, states that self-care is the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health and well-being and that self-care an adult's continues contribution to his or her continued existence, health and well-being.⁽⁴⁾

Self-care is the activities that individuals initiate and perform on their own behalf in maintaining life, health and well-being'. Alternatively, self-care has referred to

adult's personal continues contribution to own health and well-being. It's also refers to the process whereby patients deliberately act on their own behalf in health promotion, prevention of illness, and the detection and treatment of health deviations.⁽⁵⁾

Self-care includes practices specifically directed toward bringing a situation-specific action as a learned behavior. Self-care must be understood as a daily care function that is a result – seeking action creating positive change in the patient's environment. Orem states the process of self-care must meet a few actions. First, the patient must be able to formulate the need to make a change in daily care functions. Second, the patient must be able to make decisions about her (his) care. Finally the patient must be able to perform the actions necessary to engage in self-care with known validity to health and well-being.⁽⁶⁾

The role of the fertility nurse is to provide a holistic approach to fertility investigation, treatment, and where appropriate, early pregnancy through compassionate, informed and evidence based practice. Fertility nurses work as part of a multi-professional team, who combine to deliver a high standard of care. Four main areas of expertise: management / co-ordination, education, research and clinical practice. Management / Co-ordination include (i.e. referral review, financial management, quality management and data returns).⁽⁷⁾

Aim of the study

The aim of this study was to evaluate the effect of using self-care guidelines on the quality of life among infertile women.

Subjects and Methods

Research Design:

Quasi-experimental design (pre and post intervention) has been utilized in this study.

Setting:

This study was carried out at Obstetrics Minia University Hospital (out patient's infertility clinic). The Hospital serving not only Minia city but also the whole Minia centers (9 centers) and it's villages. The Hospital consists of 4 floors, the ground floor contains card and neonate registration offices, X-ray, MRI and free trading pharmacy, the 1st floor contains, pediatric clinic, antenatal care clinic, infertility clinic and private department. The 2nd floor contains gynecological department, intensive care unit and laboratory services, the 3rd floor contains antenatal, high risk pregnancy department, delivery and post partum rooms, and the 4th floor contains pediatric department and intensive care unit. The hospital works all of the day but the out patient's clinics works from 9 A.M to 1 P.M.

Sample

A convenient sample of 100 infertile women was utilized in this study.

Inclusion criteria

- Women who have different types of infertility with in reproductive age from 18 to 49 years old.
- Women who are undergoing to infertility treatment.
- Women who can read and write to be able to read the guidelines.

Tools of the study:

A structured interviewing questionnaire sheet was designed by the researcher that aims to evaluate the effect of self-care guidelines on quality of life among infertile women. The questionnaire was composed primarily of closed-ended questions with a set of defined answers, from which the interviewee was asked to choose one response in some questions and more answer in other questions.

The questionnaire included the following parts:

Part 1: Personal data:

This included women's age, occupation, residence, live with who, duration of marriage, BMI, income, etc

Part 2: Fertility quality Of Life Scale (FertiQoL):

FertiQoL is the first internationally validated self-report questionnaire that can be considered as a tool to assess the quality of life of an individual with infertility. it was produced in English and translated into 20 languages, including Arabic, the Arabic version of was used in this study and it takes approximately 10 to 15 minutes to be completed. The questionnaire consists of two parts: the Core and the Treatment parts. The Core-FertiQoL part contains 24 questions categorized into four subscales, including the Emotional, Mind/Body, Relational, and Social subscales. The Emotional subscale **showed** the impact negative emotions (e.g., jealousy & resentment, sadness, depression) have on quality of life. The Mind-Body subscale **showed** the impact infertility has had on physical health (e.g., fatigue, pain) cognition (e.g., concentration) and behavior (e.g., disrupted daily activities, delayed life plans). The Relational subscale **showed** the impact fertility problems have had on the components (e.g., sexuality, communication, commitment) of marital relationship. The Social subscale **showed** the extent to which social interactions have been affected by fertility problems (e.g., social inclusion, expectations, stigma, and support).

The Treatment-FertiQoL part contains 10 questions categorized into two subscales including the Treatment Environment and Treatment Tolerability subscales. The Treatment Environment subscale score shows the extent to which the accessibility and quality of the treatment has impacted the quality of life. The Treatment Tolerability subscale score shows the extent to which infertile woman have experienced mental and physical symptoms as a result of the fertility treatment and the impact this has had on daily life. Two additional items (marked A and B on the FertiQoL questionnaire) capture an overall evaluation of physical health and satisfaction with quality of life.

Scoring system:

FertiQoL consists of 36 items that yield six subscales and three total scores rated according to 5 types of response scales..

1. Very poor (0), poor (1), neither poor nor good (2), very good (4)
2. Very dissatisfied (0), dissatisfied (1), neither satisfied nor dissatisfied (2), satisfied (3), very satisfied (4)
3. Always (0), very often (1), quite often (2), seldom (3), never (4)
4. An extreme amount (0), very much (1), a moderate amount (2), a little (3), not at all (4)
5. Completely (0), a great deal (1), moderately (2), not much (3), not at all (4)

Items from these subscales presented in the questionnaire randomly and rated on a response scale of 0 to 4. The subscales and total FertiQoL scores are computed and transformed to achieve a range of 0 to 100, where higher scores indicate better quality of life.

Validity of tools

The questionnaire was reviewed and validated by the Jury committee that was composed of a panel of 5 experts of Obstetrics and Gynecological Nursing professors (Minia and Ain shams Universities) who reviewed the tool for clarity, relevance, comprehensiveness, understanding, applicability and considered the aim of this study. A pilot study was done on (10%) of the infertile women (10 women) from the sample to test the applicability and clarity of the questions in the tool and the necessary modification was done. According to the results of the pilot study, tools modifications were done and women tested in the pilot study were excluded from the main study sample. Finally the total sample was collected on the modified sheet.

Ethical consideration:

Before the conduction of the pilot study as well as the actual study, an official permission and consent was obtained from the dean of the Faculty of Nursing, as well as an approval from the head of department of Obstetrics Hospital Minia University to conduct this study after explaining the nature and purpose of the study. Study subject had the right to refuse to participate and or withdraw from the study without any rational at any time. Study subject privacy was considered during collection of data no health hazards were present. Participants were assured that all their data are highly confidential.

Procedure:

An official permission was obtained from the research ethical committee of faculty of Nursing, head of department of Obstetrics Hospital Minia University. Data was obtained and recorded by the researcher from the infertile women in out-patient infertility clinic. At the beginning of interview the researcher greeted each participant, explained the purpose and duration of this study and informed oral consent was taken. Based on baseline data obtained from assessment and relevant review of literature, the guidelines were developed by the researcher in a form of printed Arabic booklet and different illustrative pictures in order to facilitate understanding its contents.

It consisted of two parts; the first one concerned with providing the patient with the essential information about anatomy of female reproductive organs, process of conception, infertility definition, types, causes and treatment methods. While second part concerned with information about fertility education and rehabilitation, (recommendations for dietary modification and prescription

of regular moderate exercise within the context for her life & responsibilities, medications, work, activities, care before & after laparoscopy and social life) and proper self-care measures that could be applied to overcome physical or psychological problem. After three months of implementation of the guidelines, the follow up test for women were done by the same format of the questionnaire to evaluate the effect of the implemented guidelines.

Statistical analysis

The collected data was tabulated, computerized, analyzed and summarized by using descriptive statistical tests to test research questions by using SPSS version (20). The percentage, mean and standard deviation were used to summarize data. The comparison between mean scores was performed using t-test, fisher exact and ANOVA test. Statistical significance difference was considered when P - value ≤ 0.05, and high significance when P - value ≤ 0.001 and no statistical significance difference was considered when P - value > 0.05.

Result

Table (1): Distribution of infertile women according to Socio- demographic data:

Socio- demographic data	No.	%
Age /years		
18 – less than 28	47	47.0
28 – less than 38	34	34.0
38 – 48	19	19.0
Mean ± SD	29.4 ± 7.5 years	
Occupation		
Work	54	54.0
Not work	46	46.0
Residence		
Urban	52	52.0
Rural	48	48.0
Marital duration/ years		
1 – less than 6	59	59.0
6- less than 11	25	25.0
11- less than 16	10	10.0
16- less than 21	5	5.0
21- 25	1	1.0
Mean ± SD	2.8 ± 1.3 years	
Income / LE		
< 500	17	17.0
500- less than 1000	45	45.0
1000- 1500	17	17.0
More than 1500	21	21.0
Mean ± SD	1112.3 ± 629.5 LE	

Table (1): This table revealed that, women age ranged from 18 > 48 years old with mean 29.4 ± 7.5 years. Regarding occupation, 54% of studied group was a working women. Concerning to residence, 52% of them were living in urban areas., Concerning to marital duration, 59% was one-five years. Also the income of them ranged from 500 >1500 LE with mean 1112.3 ± 629.5 LE.

Table (2): Mean and standard deviation of total scores of FertiQoL subscales with pre and post implementation of program (n= 100).

Item	Pretest	Posttest	t	P-value
Emotion	15.9 ± 4.3	20.9 ± 3.3	9.219	0.000**
Mind	17.4 ± 5.4	22.2 ± 4.3	6.996	0.000**
Relation	17.9 ± 1.3	18.2 ± 1.6	1.306	0.193 ns

History of infertility	Total quality of life	
	Pre	Post
	Mean ± SD	Mean ± SD
16- less than 21	74.8± 20.3	101.8± 8.3
21- 25	119.0± 0	123.0± 0
F (P - value)	8.032 (.000)	4.282 (.003*)
	Causes of infertility	
Man	144.0± 19.9	147.0± 0
Women	102.9± 21.6	122.1± 15.4
Both together	102.6±21.9	120.1±15.4
F (P - value)	2.007 (.140)	1.550 (.217)

F (P): ANOVA- test & P for ANOVA test *: Significant at P ≤0.05

Table (4): found that total mean scores of FertiQoL and subscales was higher in women who (had one or more pregnancy (secondary infertility) and infertility duration 1-5 years) with highly statistically significance differences which P – value ≤ .05. Regarding causes of infertility total mean scores of FertiQoL subscales was higher in male factor infertility.

Discussion

Infertility is often experienced as a lonely road for the women. Infertility status and its related factors affect the quality of life through creating psychosocial stress, reduction of life satisfaction, increase of marital conflicts, and decrease of sexual and marital satisfaction. Infertility is considered a crisis with various biological, psychological, economic, ethical, and cultural consequences. As infertility is an unplanned and unexpected stressor, women typically lack the knowledge and skill set to adequately manage infertility stress. (8) The present study aimed to evaluate the effect of using self-care guidelines on the quality of life among infertile women through pre and post intervention.

The present study showed that the mean age of the studied group was 29.4 ± 7.5 and this supported by Ismail & Moussa, 2017 (19) found that the mean age of (200) women aging from 18 to 48 years old the mean age for them was 28.96 ± 6.85. Concerning occupation, it was noticed that more than one half of the studied group were a working women and this disagreed with Aoun & Moawed, 2012 (10) found in relation to wives occupation, most of them were house wives (80.3%).

Regarding the average monthly household income women with an income between 500-1000 LE constitute the near to half of the studied group which it's the highest percent and this in accordance with Charandabi, et al., 2012 (11) reported (41%) highest percent. In the same line Ferreira, et al., 2015 (12) reported that women income between 500-1000 LE constitute the majority of the sample (29.7%).

The present study results revealed that the infertility reduces quality of life where the infertile women had lower total mean score of quality of life 1023.2±20.7 in pre-intervention which increased 121.7 ± 15.5 in post test after the intervention with highly statistically significance in FertiQoL in all subscales except relation domain, with higher mind subscale and lowest tolerability subscales in post test. This result agreed with the results of more than one study: First, Parnian et al, 2017 (13) found that the infertile women had better quality of life, with total mean score 88.22±13.75.

Second, Amiri et al, 2017 (14) found that infertile women quality of life score was barrels to the total score of fertile women after the applications of their program with significantly different. Third, Onat & Beji, 2014 (15) reported that total quality of life of the infertile women was higher with statistically significant difference. The difference

between the quality of life of women in this study with other studies may be due to cultural, social, and economic differences in other societies, which can affect quality of life of people. And this study disagreed with the researchers, Hassanin et al, 2017 (16) studied "Primary infertility and health-related quality of life in Upper Egypt", Hsu et al, 2013 (17) and Valsanghar et al, 2012 (18) found that their studied groups had low total score quality of life, with no significant difference.

The present study revealed that the younger infertile women aged 18-28 years had higher mean score of total quality of life than the older one. This was expected since younger infertile women had lesser life experience of failed infertility treatment and better chances to get pregnancy compared to older one. This result is un similar to the results of Rashidi et al, 2012(19) reported that younger age was a significant poorer health-related quality of life. On the contrary, the study of Aduloju et al, 2015 (20) revealed that the younger age group obtained the lowest scores in all four domains of quality of life. Also, the study of Karabulut et al, 2013 (21) revealed that the younger women feel the effect of infertility in their relationship more intensely (relational domain), a younger age did not create any difference in overall quality of life.

The present study results revealed that the women with secondary infertility had significantly higher mean of total score of quality of life than those with primary infertility. This is expected since being a mother or even being pregnant increases the social respectability of the woman. Therefore, already having a baby probably decreases infertility related problems and leads to an increase in total quality of life score. On the other hand, childless brings about social isolation and decreased tolerability to treatment in women with primary infertility. This result is in agreement with Aduloju et al, 2015(20) and Karabulut et al, 2013 (21) reported that the women with primary infertility had lower total score of quality of life.

Also present results revealed that there is statistically significant difference between the duration of infertility and the total score of quality of life and the significance is for 1-5 years. This finding is in accordance with Rashidi et al, 2012 (19) found that the duration of infertility was significant predictors of poorer health-related quality of life. This is supported by Aduloju et al, 2015 (20) and Karabulut et al, 2013(21) found that total quality of life was shown to be lower with prolonged duration of

infertility. Also Dillu et al, 2013⁽²²⁾ suggested that the level of quality of life of female partners is dependent upon the duration of infertility.

The present study revealed that the women with female cause of infertility had significantly lower total score of quality of life than those with other infertility causes. This may be due to the fact that the women with female infertility causes are blamed (or sometimes they take all the blame) such blaming (regardless of the diagnosis) causes more distress and deteriorations in quality of life in infertile women. This is supported by Parnian et al, 2017⁽¹³⁾ reported that there was a negative and significant correlation between quality of life and the female cause of infertility.

In my result total mean scores of FertiQoL and subscales was 102.9 ± 21.6 female factor infertility which increased to 122.1 ± 15.4 after the intervention. This may be attributed to that the self care guidelines had been found to be an important factor closely associated with quality of life. Effective guidelines play an essential role in maintaining one's physical and psychological wellbeing by preserving a healthy body weight, keeping out exercises programme and dealing with infertility stressors wisely. It also helps to lessen stress, resolve uncomfortable feelings, preserve ability to effectively function in work, activities of daily life (ADL), relationships and maintain a positive self-concept that promotes good quality of life.

Conclusion

Female infertility has a varied impact on multiple dimensions of health and QoL as evidenced by this study.

Recommendations

1. Applying the developed self-care guidelines in all out-patient's clinics of infertility units and in-patients unit too.
2. Nurses should provide health education to women about anatomy of female reproductive organs, menstrual cycle, process of conception, cause of infertility, its types and management through workshops, brochures and posters.
3. Educational programs should be carried out for nurses to provide them with essential information regarding infertility coping strategies to the infertile women.
4. Further researches needed to be carried out to investigate different factors and their association with prevalence of infertility.

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