

ORIGINAL PAPER

NURSING GUIDELINES TO IMPROVE SEXUAL FUNCTION AND QUALITY OF LIFE
AMONG WOMEN UNDERGOING HEMODIALYSISMervat Mostafa Abd El Monem, Hanan Morsy Salim^{id}*Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt*

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Abstract

Aim: The aim of the study was to evaluate the effect of nursing guidelines on improving sexual function and quality of life among women undergoing hemodialysis. **Design:** An intervention design was used. **Methods:** A purposive sample of 50 women (25 women from the dialysis unit at Elahrar hospital, and 25 women from the dialysis unit at Zagazig university hospitals). To collect data we used the structured interviewing questionnaire, the Index of Female Sexual Function (IFSFI), to assess sexual function, the 36-item Short Form Health Survey Questionnaire to measure the impact of hemodialysis on women's quality of life, and Arabic instructional guidelines on pelvic floor exercises to improve sexual relations and quality of life. **Results:** The mean score of the sexual function index was less than 25, indicating negative female sexual dysfunction among these patients. Moreover, the mean score of Quality of Life (QoL) was less than 50, indicating negative health effects related to quality of life. There were positive relationships between total FSFI score and total SF-36 score after implementation of the nursing guidelines. **Conclusion:** There was an improvement in sexual function and quality of life among women with hemodialysis.

Keywords: hemodialysis, nursing guideline, sexual function, women.**Introduction**

Advances in medical care have improved survival among patients on maintenance hemodialysis (HD). Although life-preserving, HD has a high symptom burden associated with impaired quality of life. Individuals on HD maintenance usually experience depression, pain, itching, poor sleep, and fatigue. Sexual dysfunction can also lead to Chronic Kidney Disease (CKD) symptoms burden (Teuwafeu et al., 2016). Hemodialysis has a significant physical and psychosocial impact on patients. It can be extremely difficult for some patients to participate in social activities, work life, maintain relationships within the family and with friends, and to adapt to a new way of life as a result of dialysis (Griva et al., 2010). According to the World Health Organization (WHO), sexuality is influenced by the interaction of physical, emotional, intellectual, and social factors which affect personality, communication, and love. It is a state of wellbeing which enables not only physical, but also emotional, intellectual, and social integrity, which in turn influence personality development, communication, and the sharing of love for a person

as a sexual being (WHO, 2010). Sexual dysfunction is a condition which includes the following symptoms: decreased sexual appetite, vaginismus, failure to orgasm, vaginal dryness, menstrual disturbances, infertility, and dyspareunia (Alsibiani, 2014). Sexual dysfunction negatively affects the quality of life of hemodialysed women (Peng et al., 2005; Soykan et al., 2005), affecting a high number of them (22–93%). There are other destructive problems associated with female sexual dysfunction such as low self-confidence, negative social relationships, and disturbed marital status (Oksuz & Malhan, 2006). Some of the negative effects of sexual dysfunction on quality of life include: anxiety, low self-esteem and self-confidence, depression, and social issues. Lack of awareness of sexual dysfunction among women with chronic renal failure, and feelings of shame they experience when talking about it are seen as important negative factors affecting quality of life (Holley & Schmidt, 2010). Patient sexual health and psychological wellbeing are important topics to address in nursing practice. Therefore, nurses should take into account patients' psychological problems and their relationships with partners, and consider these issues in a holistic way in the context of nursing practice. Nurses could then play an effective role in the intervention and treatment of psychological and

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sexual problems that can affect patients in the early stages (Keskin et al., 2019). Kegel exercises are free, painless and without side effects as a method of treatment for pelvic muscle relaxation and, in turn, for increased sexual self-efficacy; moreover, they can be performed any time and place (Modarres et al., 2013). Current data forms suggest that more than 200 million people worldwide are not familiar with these exercises and are not aware of their impact, while about 50% of women do not perform these exercises properly (Riyazi et al., 2007). Modarres et al. (2013), reported that performing Kegel exercises would increase women's sexual satisfaction. The practice of physical exercises by patients with hemodialysis is considered healthy and feasible, and a non-pharmacological intervention to enhance their physical and psychological functioning (Chung et al., 2017; Ma et al., 2012). Physical exercise is a physical motion created by the contraction of skeletal muscles in the upper and lower extremities (Painter, 2005). It consists of walking exercises, resistance exercises, and aerobic exercises adjusted to the ability levels of patients (de Lima et al., 2013). Physical exercise substantially improves the mental component of quality of life scores (Salhab et al., 2019) and reduces depressive symptoms (Shimoda et al., 2017). While sexuality is one of the most significant stressors in life for chronic renal failure (CRF) patients, sexual dysfunction is rarely discussed in these patients. Despite these problems, very few patients speak to health workers about them. Many symptoms of CRF improve with dialysis treatment; however, sexual dysfunction problems persist throughout the treatment process (Navaneethan et al., 2010; Noohi et al., 2010). This study was, therefore, undertaken to evaluate the effect of nursing guidelines on improving sexual function and quality of life among women undergoing hemodialysis.

Aim

The aim of the present study was to evaluate the effect of nursing guidelines on improving sexual function and quality of life among women undergoing hemodialysis.

Methods

Design

A quasi-experimental design.

Sample

The study sample consisted of a purposive group of 50 women with End Stage Renal Disease (ESRD) undergoing hemodialysis who attended the hemodialysis unit at the Zagazig University Hospital

(25) and Elahrar hemodialysis unit (25), Sharkia Governorate, Egypt.

Sample size

Assumed; mean \pm SD of health-related quality of life in hemodialysis women at the pre-intervention phase was 31.12 (\pm 13.1) and 39.61 (\pm 16.8) at the post-intervention phase (pilot study). Level of confidence was 95% , with power of study at 80%. The sample size, calculated using Open Epi, was 50 women.

$$\% \text{ Difference} = \frac{|E_1 - E_2|}{\frac{1}{2}(E_1 + E_2)} \times 100$$

E1 is the first experimental measurement. E2 is the second experimental measurement.

Inclusion criteria

Women aged between 20 and 50, with HD maintained for at least three months.

Exclusion criteria

Women with active psychiatric diseases, infections, or uncontrolled congestive heart failure were excluded.

Data collection

To collect the data we used the structured interview questionnaire, the Index of Female Sexual Function (IFSFI), to assess sexual function (Rosen et al., 2000). The FSFI is a 19-item questionnaire that assesses six distinct domains of sexual function, including desire, arousal, lubrication, orgasm, satisfaction, and pain. Scores on the individual domains are computed by totaling responses on specific groups of questions and multiplying by a domain factor. The responses were graded on a scale of 1 (almost never or never) to 5 (almost always or always). The highest possible total score was 45 (range 5 to 45) and the lower scores represented lower sexual function. The FSFI's single domain scores and full scale (overall) ranking can be extracted from the statistical formula illustrated in the following table. The scores of the individual items that comprise the domain for individual domain scores are added together and sum is multiplied by the domain factor. Add The six domain scores are added together to arrive at the total score. It should be noted that a domain score of zero within the individual domains indicates that the subject registered no sexual activity in the previous month. Theme scores can be entered in the column on the right. A total score of more than 25 is considered "Normal Female Sexual Function", while a total score of less than 25 constitutes "Female Sexual Dysfunction".

In addition, the 36-item Short Form Health Survey Questionnaire (SF-36) was translated into an Arabic version (Al Abdulmohsin et al., 1997) to survey health-related quality of life. The validated Arabic version of the SF-36 is a common questionnaire including 36 questions that evaluate eight aspects of Quality of life: physical functioning (PF), role limitations as a result of physical problems (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations as a result of emotional problems (RE), mental health (MH), and, in addition, two summary scores relate to the physical component summary score (PCS), and the mental component summary score (MCS). Each of the eight domains is scored out of 100, with higher scores indicating better functioning. The MCS and PCS scores are standardized to a mean of 50, with scores above indicating positive health-related quality of life, and scores below 50 indicating negative health-related quality of life. Finally, Arabic instructional guidelines regarding techniques to improve sexual relations and quality of life, such as pelvic floor exercises, were provided.

Validity

Face and content validity were determined by a panel of five experts in obstetric and gynecological nursing, revising the tools for clarity, relevance, applicability, comprehensiveness, comprehensibility, and ease of implementation, and adding minor modifications if they deemed it necessary.

Reliability

Cronbach's Alpha for health-related quality of life SF-36 was 0.846, and for the sexual function questionnaire, 0.913.

Field of the work

After obtaining permission, data were collected at the renal dialysis unit at Zagazig university Hospital and Elahrar renal dialysis unit at Elahrar hospital. The researchers visited the research settings three days per week from 9.00 am to 1 pm. In order to achieve the research aim, the following steps were taken: interviewing, preparation, implementation, and assessment. These phases, covering four months, were carried out from the beginning of September 2019 until the end of January 2020.

I – Interview phase

The researcher interviewed women who were eligible for the study and met the requirements for inclusion. At the beginning of the interview, the researchers welcomed each woman, explained the study's purpose, length, and what it involved, and obtained their informed spoken consent. Three tools were used

by the researchers to collect data: the first of which was used to collect personal data, such as age, education, residence, and occupation, and also information regarding the health status of the female patients, such as the duration of hemodialysis, and the presence or absence of other medical conditions. The second tool was the Female Sexual Dysfunction Index (FSDI), which explored the prevalence of Female Sexual Dysfunction (FSD) among the female patients. Finally, the SF-36 Questionnaire informed the researchers of any health-related quality of life problems among these patients. The researchers spent 30 minutes with each patient (during dialysis sessions) and allowed them to express all their feelings about their condition. Some patients were interviewed during morning dialysis sessions and others in afternoon sessions, according to the renal dialysis schedule of the patients.

II – Planning phase

Following the interview phase, the researchers prepared a description of the contents and methods in simple Arabic language to match the educational level of the women based on the objectives and guidelines, which was then checked by experts in the same field.

III – Implementation phase

The researcher taught the women various exercises to strengthen their pelvic muscles to help alleviate pelvic pain, e.g., Kegel exercises, which help women to relax their pelvic floor muscles, thus improving sexual function.

Techniques of pelvic floor muscle exercises: Kegel exercise, type A: the pelvic floor muscles are contracted and held as tightly as possible for a count of five, and are then relaxed for a count of five. The exercise is repeated 30 times a day (three sets of ten or two sets of 15). As the strength of the pelvic floor improves, the muscles are contracted for a count of ten and then relaxed for a count of ten; however, too many exercises too fast can cause tiredness in the muscles so that they function less effectively. Kegel exercise, type B: the pelvic floor muscles are contracted and held as tightly as possible and then relaxed in quick succession. This is repeated 20–50 times a day (two to five sets of ten). Other techniques enhancing quality of life include walking exercises. Physical exercises in patients with ESRD should be started slowly and the speed, number of repetitions, and length of exercise should be increased gradually according to the ability levels of the patients.

Teaching Materials: PowerPoint presentations using a laptop computer, images and videos. At the end of the sessions the participants received a copy

of educational guidelines. Women were encouraged to phone if they had any problems to discuss.

IV – Evaluation Phase

The researchers followed up the women by telephone every two weeks for the length of the study in order to determine whether they were regularly performing the exercises or had any problems. Four weeks after the women started performing the exercises, the researcher evaluated the pelvic floor muscles and sexual self-efficacy of all participants using a questionnaire.

Data analysis

All data were collected, tabulated and statistically analyzed using SPSS 20.0 for windows (SPSS Inc., Chicago, IL, USA 2011). Quantitative data were expressed as mean \pm SD and (range), and qualitative data were expressed as absolute frequencies (number) and relative frequencies (percentage). A paired t-test was used to differentiate between two dependent variables normally distributed. Percentage of categorical variables were compared using the Chi-square test or Fisher's exact test, when appropriate. The MC Nemar test was used to compare two dependent categorical variables. Spearman rank correlation coefficient was calculated to assess the relationship between various study variables, the + sign indicated a direct correlation, whereas the – sign indicated an inverse correlation. Values close to 1 indicated a strong correlation, whereas values close to 0 indicated a weak correlation. All tests were two sided; p-value < 0.05 was considered statistically significant (S), and p-value \geq 0.05 was considered statistically insignificant (NS).

Reliability: Cronbach's Alpha for health-related quality of life SF-36 was 0.846 and for sexual function questionnaire, 0.913.

Results

Socio-demographic characteristics of studied women

Table 1 indicates that the mean age of the studied women was 34.3 (\pm 5.9) years, with a range between 28–45 years. Most of them lived in rural areas (84.0%). More than half (52.0%) had undergone hemodialysis from 1 < 5 years. Respondents had chronic diseases such as hypertension, diabetes, hepatitis, and anemia (74.0%, 30.0%, 20.0%, and 78.0% respectively). Regarding menstrual status, the majority of the women (84.0%) had menstrual cycles which were irregular in 54.0% of them.

Sexual Function domain, and health-related quality of life

Table 2 indicates that the mean pre-intervention total score was 13.12 (\pm 0.96) which improved to 15.44 (\pm 3.9) after implementation of the nursing guidelines, and the mean pre-intervention total QoL score was 28.33 (\pm 3.7), which improved to 36.73 (\pm 13.3) after implementation of the nursing guidelines. There were statistically significant differences ($p < 0.0001$).

Table 1 Distribution of studied women with hemodialysis according to their socio-demographic characteristics, medical history and menstrual pattern (n = 50)

Variables	n (50)	%
Age		
mean \pm SD	34.3 (\pm 5.9)	
range	28–45	
Residence		
housewife	8	16.0
working	42	84.0
Duration of hemodialysis		
less than 1 year	8	16.0
1 year – less than 5 years	26	52.0
5 years and more	16	32.0
Hypertension		
yes	37	74.0
no	13	26.0
Diabetes		
yes	15	30.0
no	35	70.0
Anemia		
yes	39	78.0
no	11	22.0
Menstrual status		
postmenopausal	8	16.0
with menstrual cycle	42	84.0
Irregular menses		
yes	27	54.0
no	15	30.0

Table 3 reveals the correlation between sexual function domain and health-related QoL domain among the women with hemodialysis in the post-intervention phase. There was a positive relationship between total FSFI score and total SF-36 score after implementation of the nursing guidelines.

Figure 1 illustrates that the majority of women had negative health problems and sexual dysfunction pre-intervention (94.0% and 96.0%, respectively) which improved to positive health and normal sexual function (18.0% and 12.0%, respectively) after implementation of the program.

Regarding sexual life outcome

Table 4 indicates that more than half of the sample of women with hemodialysis reported improved relationship with husband and reduced discomfort during sexual intercourse after practicing pelvic floor muscle exercises (54.0% and 58.0%, respectively).

Additionally, the women's perceptions of the ways in which the program may have helped them are classified in the sex domains: Perception of health, Knowledge, Self-awareness, and Motivated to change behaviors, such as performance of PF or physical exercises, and to change micturition habits.

Table 2 Percentage of improvement in the post-intervention program for the sexual function domain, and health-related quality of life (n = 50)

Items	Time		Paired t	p	Improvement	
	pre	post			mean	% of
	intervention	intervention			difference	improvement
	Mean ± SD	Mean ± SD				
Desire score (6) *	2.8 ± 0.44	2.98 ± 0.69	2.5	0.012	0.18	6.21
Arousal score (6)*	1.29 ± 0.22	1.932 ± 0.96	4.5	< 0.0001	0.64	39.41
Lubricant score (6)*	2.29 ± 0.44	2.65 ± 0.76	3.1	0.003	0.36	14.71
Orgasm score (6)*	1.73 ± 0.29	1.99 ± 0.64	3.2	0.002	0.27	14.39
Satisfaction score (6)*	2.13 ± .29	2.61 ± 0.87	3.8	< 0.0001	0.48	20.42
Pain score (6)*	2.86 ± 0.15	3.26 ± 0.93	2.9	0.005	0.40	12.93
Sexual score (36)*	13.12 ± 0.96	15.44 ± 3.9	4.03	< 0.0001	2.33	16.30
General health (100)*	39.2 ± 1.85	41.8 ± 4.5	4.5	< 0.0001	2.60	6.42
Physical function (100)*	44.2 ± 1.85	46.6 ± 4.2	4.6	< 0.0001	2.40	5.29
Physical health problem (100)*	0.0000	18 ± 38.8	3.2	0.002	18	200.0
Emotional health problem (100)*	0.0000	14 ± 35.05	2.8	0.007	14	200.0
Social function (100)*	42.25 ± 9.4	50.25 ± 13.24	5.4	< 0.0001	8	17.30
Pain dimension qol (100)*	36.8 ± 7.4	41.8 ± 11.55	4.2	< 0.0001	5	12.72
Vitality (100)*	32.12 ± 4.2	41.37 ± 8.46	7.9	< 0.0001	9.25	25.17
Mental (100)*	32.1 ± 10.05	40 ± 10.97	7.2	< 0.0001	7.9	21.91
Physical components summary score (100)*	30.05 ± 2.8	37.05 ± 13.8	3.8	< 0.0001	7	20.86
Mental component summary score (100)*	26.62 ± 4.67	36.4 ± 13.6	5.9	< 0.0001	9.79	31.06
QOL score (100) *	28.33(± 3.7)	36.73(± 13.3)	4.9	< 0.0001	8.39	25.80

(100)* – maximum score; $p < 0.05$; QOL – Quality of Life; SD – standard deviation

Table 3 Correlation matrix between sexual function health, physical component summary score, mental component summary score, and QOL score among hemodialysis women in the post-intervention phase (n = 50)

Domains	Sexual score		Physical component summary score		Mental component summary score	
	(r)	p	(r)	p	(r)	p
Physical components summary score	0.31	0.028				
Mental component summary score	0.27	0.06	0.83	0.0001		
QOL score	0.308	0.03	0.89	0.0001	0.98	0.0001

$p < 0.05$; QOL – Quality of Life; (r) – correlation coefficient

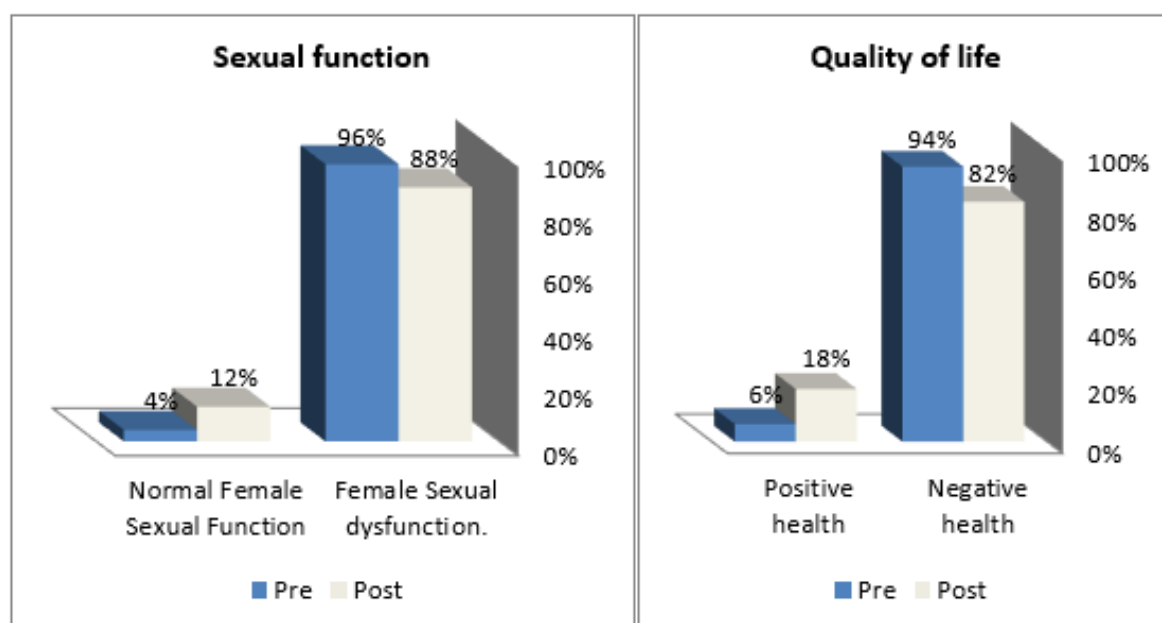


Figure 1 Pre- and post-intervention comparison level of health-related quality of life and sexual function among sample of women with hemodialysis (n = 50)

Table 4 Sexual life outcomes and health perceptions of women with hemodialysis concerning changes that occurred after performing pelvic floor relaxation techniques (n = 50)

	Yes	%	No	%
Sexual life Outcomes				
improved relationship with husband	27	54	23	46
helped to reduce discomfort during sexual intercourse	29	58	21	42
improved sexual problems	24	48	26	52
Perception of health				
changes were perceived	29	58	21	42
Knowledge				
increased knowledge	26	52	24	48
learned that the exercises are useful to prevent dysfunction and not only for sexual performance	32	64	18	36
Self-awareness				
able to perceive changes in self: before pregnancy the pf musculature was better	23	46	27	54
began to pay more attention to her body	30	60	20	40
Performance of PF exercises:				
increased self-confidence in relationship with husband and felt more confident doing the pf exercises	31	62	19	38
reduced urinary leakages	36	72	14	28
Motivated to perform physical exercise				
	27	54	23	46
Motivated to change micturition habits				
	33	66	17	34

Discussion

Sexual problems in women with hemodialysis negatively affect quality of life (Peng et al., 2005). Lack of awareness of sexual dysfunction among women with chronic renal failure, and the shame they experience when talking about sexual dysfunction are seen as important negative factors affecting quality of life (Holley & Schmidt, 2010). The mean age of

the studied women was 34.3 (\pm 5.9) years with a range of 28–45 years. This differed from a study by Abozead et al., (2018): Sexual Dysfunction and Health Related Quality of Life among Female Patients Undergoing Hemodialysis in Egypt, in which the mean age of women was 41.5 (\pm 9.2) years. Another study in Turkey by Soykan et al. (2005)

reported a mean age of 38 (\pm 10.8) years in women undergoing hemodialysis. The results of the current study demonstrated that more than half of the women had undergone hemodialysis from one to less than five years and suffered from chronic diseases such as hypertension, diabetes and anemia, which accords with the study by Abozead et al., (2018), which also found that more than half of women underwent hemodialysis from one to less than five years, and that the majority were still menstruating. These results were, in turn, consistent with the study by Soykan et al. (2005), who found that more than one third of women undergoing hemodialysis had associated medical diseases, and that the duration of hemodialysis was around three years. In addition, a study by Basok et al. (2009) documented that more than half of women with hemodialysis also had another chronic disease. According to the present study findings, for the majority of women in the sample, more than half of their menstrual cycles were irregular, a finding supported by the study of Abozead et al. (2018), which reported that the majority of female patients with hemodialysis were still menstruating. With respect to this, the study by Teuwafeu et al. (2016) on Sexual function and correlates in women undergoing maintenance hemodialysis in Cameroon showed that women of child-bearing age reported menstrual disorders such as irregular menses, amenorrhea, oligomenorrhea, poly-menorrhea, metrorrhagia, and menorrhagia. Conversely, Basok et al. (2009) found that more than half of women with hemodialysis had gone through menopause. According to the present study findings, women undergoing hemodialysis had negative female sexual dysfunction and negative health effects relating to quality of life. This is supported by the Soykan et al. study (2005), which reported that sexual dysfunction was present in more than half of female patients during hemodialysis. In addition, Guvel and Zumurtdal's (2014) study about sexual dysfunction among women with chronic renal failure found sexual dysfunction in nearly one third. Similar results were presented by Aribi et al. (2015) in a study about sexual disorder in hemodialysis patients in Tunisia, in which more than half of women reported reduced sexual activity. Most of them had sexual dysfunction. These disorders were positively correlated with personal medical histories, including data about nephropathy, duration of hemodialysis greater than or equal to one year, depression, anxiety, and effects on quality of life. This is supported by a study by Teuwafeu et al. (2016), who reported that all women with maintenance hemodialysis have at least one sexual function abnormality, including sexual dysfunction

and sexual inactivity. Sexual dysfunction included: decreased sexual desire, decreased sexual arousal, decreased vaginal lubrication, and failure to achieve orgasm. Sexual dissatisfaction and dyspareunia, and poor quality of life were negatively associated with sexual dysfunction. Sexual inactivity was equally associated with poor quality of life. In this respect, a study by Santos et al. (2012) about quality of life among women with sexual dysfunction undergoing hemodialysis found that more than three-quarters of the women had sexual dysfunction and low quality of life. This can be attributed to the vulnerable health conditions of people with chronic kidney disease, and hormonal disruptions that contribute to both biological and psychological factors that can affect women's level of sexual interest. Additionally, Song et al. (2008) demonstrated that women suffering from hemodialysis had a high prevalence of sexual dysfunction and impaired quality of life. Similar results were reported by Yazici et al. (2009) in a study about Female Sexual Dysfunction in Peritoneal Dialysis and Hemodialysis Patients. In the current study, there was a positive correlation between total FSFI score and total SF-36 score after implementation of nursing guidelines. This is supported by Abozead et al. (2018), who showed that there was a positive relationship between FSFI and SF-36 Scales. Similarly, Santos et al. (2012) reported a positive correlation between the items of SF-36 and FSFI scales. In addition, Asadifard et al. (2013) documented the same results. The present study showed that more than half of the sample of women with hemodialysis reported improved relationship with their husband and reduced discomfort during sexual intercourse after practicing pelvic exercise relaxation techniques and health perceptions were increased. This accords with a study by Sangi-Haphpeykar et al. (2008) about Stress urinary incontinence and counseling and practice of pelvic floor exercises in Spain, which indicated that the majority of women obtained some benefit, whether it was greater knowledge of how to prevent such dysfunction, a better understanding of their own body, an improvement in their relationship with a partner, an improved sex life, the initiation of physical exercise or pelvic floor exercises, or a reduction in symptoms of urine leakage.

Conclusion

The results of this study indicated that there was an improvement in sexual function and health-related quality of life after the implementation of the nursing guidelines. Additional results revealed that there was a positive relationship between total FSFI score and total SF-36 score after the implementation of the

nursing guidelines. In addition, the study also found that more than half of the women with hemodialysis in the sample reported improved relationship with their husband and reduced discomfort during sexual intercourse after practicing pelvic floor muscle exercises. There was also an improvement in health perception concerning changes that occurred after practicing pelvic exercise relaxation techniques.

Recommendations

There is a need for a multidisciplinary approach to sexual care, with clear guidelines throughout all nephrology departments, awareness among renal care providers, facilitation of opportune moments to discuss sexual diseases, adequate systems for referring patients to physicians specializing in sexual diseases, and group psychotherapy to teach patients undergoing hemodialysis how to cope with their condition. Finally, it is essential that health professionals plan interventions to determine patients' health perceptions and change them for the better.

Ethical aspects and conflict of interest

The study respected ethical guidelines. The questionnaires were completed anonymously, and participation in the study was voluntary for women undergoing hemodialysis. The authors declare that they have no conflict of interests.

Author contributions

The authors contributed to the conception of the research, the development of tools, data collection, statistical analysis, and commentary on the tables. In addition, they wrote the discussion and references, prepared the patient guide, provided instructions to participants, and completed the article.

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