

PREVALENCE OF PSYCHOSEXUAL DYSFUNCTIONS AMONG HEMODIALYSIS MALE PATIENTS

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Abstract:

Background: Chronic kidney disease (CKD) is a worldwide public-health problem in which most of the physical functions of the body are affected including sexual function. Apart from physical impacts due to renal failure, there are a number of psychological impacts that may also contribute to changes in sexual functioning. Therefore, the aim of this study is to assess the prevalence of psychosexual dysfunctions experienced by hemodialysis male patients. **Methods:** A descriptive cross-sectional research design was conducted in the hemodialysis units at Mansoura Urology and Nephrology Center. The data were collected from 100 hemodialysis male patients who corresponded to the inclusion criteria. Arizona Sexual Experience Scale (ASEX) and Psychosexual Dysfunction Questionnaires were used to achieve the purpose of the study. **Results:** The results indicate that (94%) of the study sample complain of psychosexual dysfunctions. The most prevalent psychosexual dysfunctions are psychosexual discomfort, fatigue, low self-esteem during sex, difficulty in reaching orgasm, difficulty in maintenance erection and low sexual desire while suicidal ideation was the lowest prevalent psychosexual dysfunctions. **Conclusion:** The vast majority of the study sample has psychosexual dysfunctions. Application of psychiatric liaison nursing program in hemodialysis units is recommended.

Keywords:Chronic Kidney Disease; Hemodialysis; Psychosexual dysfunctions; Psychiatric liaison nursing.

Abbreviations: CKD (Chronic Kidney Disease); ED (Erectile Dysfunctions)

Introduction:

Chronic kidney disease (CKD) is a worldwide public-health problem. According to the World Health Organization, diseases of the kidney and urinary tract contribute to global burden with approximately 850,000 deaths every year and more than 115 million disability-adjusted life years^[1]. Currently in Egypt, hemodialysis represents the main mode of treatment of CKD patients^[2]. The prevalence of dialysis patients in Egypt has increased from 10 per million population (pmp) in 1974 to 225 pmp in 1996, and then from 403 pmp in 2003 to 483 in 2004^[1].

When patients develop kidney disease, every organ of the body is affected. One of the main dysfunctions is the sexual function. Sexual dysfunction is very common in patients with kidney disease^[3,4].

Prevalence estimates of sexual dysfunction range from 9% in pre-dialysis to 70% in dialysis patients of either sex^[5].

Notably, sexuality is a basic human right and a fundamental part of a full and healthy life^[6]. Accordingly, sexuality is defined as a phenomenon in which biological and psychological factors interact, so both a person's physical condition and his or her psychological

well-being represent interdependent cornerstones of sexual health^[7]. In other words, psychosexual dysfunction is a sexual dysfunction that is due to psychological causes rather than physical problems, medical illnesses, or the side effects of medication. Some of the psychological conditions include: depression, anxiety (feelings of nervousness, fear), traumatic sexual experience, guilty feelings of stress or anxiety, uncertainty about sexual orientation worry or fear about how you are able to perform sexually negative body image^[8].

Regarding the hemodialysis patients, researchers addressed the sexual dysfunctions namely alterations related to drive, subjective arousal, penile erection/vaginal lubrication, ability to reach orgasm and satisfaction with orgasm^[9]. In this respect, impotence or erectile dysfunction (ED) is reported to be the commonest sexual dysfunction complaint amongst men with renal failure^[10]. In Egypt 82.5% of hemodialysis patients have ED^[11]. Several studies addressed psychosocial causes that have been purported to contribute to sexual dysfunction in patients with CKD include depression, anxiety, poor self-esteem, social withdrawal, marital discord, body image issues, fear of disability and death, loss of employment, and financial difficulties^[12,13]. At times the discussion of causation falls into a chicken or egg debate as the dominance of physiological and psychological factors are discussed^[10].

Nurses can use nursing process in determining and addressing the psychosexual problems of individuals. Nursing process occurs from four stages should be applied on psychosexual dysfunctions. Each stage is different, but it also completes each other. These stages are assessment, planning, implementation and evaluation. In order to give effective and qualified psychosexual care of people,

nurses working in accordance with nursing process play a key role in achieving success^[14].

In other words, liaison nurse can apply psycho-education, to convey to the patient the relevance of psychological factors; problem-solving and other supportive strategies such as motivational interviewing; specialist psychological therapies such as cognitive behavior therapy or interpersonal therapy; consideration of social, family and practical problems; and the possible use of medication^[15,16]. Additionally, training of hospital staff by liaison psychiatric nurses can improve the ability of hospital staff to identify mental health conditions and the quality of care provided by acute hospital staff^[16].

Significance of the study:

In Egypt, the estimated total prevalence of patients on dialysis is 264 per million^[17]. In 2011, the number of cases of both sex on hemodialysis in Mansoura Urology and Nephrology Center was 590 cases. Because of this high prevalence, it is important to assess the prevalence of psychosexual dysfunctions as a major stressor in hemodialysis patient's life.

Aim of the study:

The study was conducted to assess the prevalence of psychosexual dysfunctions experienced by hemodialysis male patients.

Materials and Method

Materials

Design:

The study was carried out using a descriptive cross-sectional research design.

Setting:

The study was conducted at the hemodialysis units of Urology and Nephrology Center at Mansoura University.

Sample:

A convenient accidental sample of 100 hemodialysis male patients who

corresponded the following **inclusion criteria:**

1. Male patients on hemodialysis wasn't the first session for the patient.
2. Both acute and chronic kidney disease.
3. Married before starting hemodialysis and still married after dialysis.
4. Aged 20-60 years.
5. Pre-morbid sexually active adult males.
6. Willingly to voluntarily participate in the study.
7. Under treatment at the time of data collection.

Tools for data collection:

In order to collect the necessary data for this study, three tools have been used:

1. Socio-demographic and Clinical Data Structured Interview Schedule: is designed by the researcher to assess all related demographic and clinical data of the sample including: age, residence, duration of marriage, level of education, duration of hemodialysis treatment and medical history.

2. Arizona Sexual Experience Scale (ASEX): this is a 4-point self rating scale developed to assess the pre-morbid healthy sexual functioning with regard to the following 5 domains: Sexual Drive, Arousal, Penile Erection, Reaching Orgasm, and Satisfaction with Orgasm^[18]. A total score > 12 is indicative of clinically significant sexual dysfunction. This tool was used in this study to assess the sexual functions of the studied patients before starting hemodialysis. Any patient has significant sexual dysfunction, has been excluded from the study.

3. Psychosexual Dysfunction Questionnaire (Male-Version): this questionnaire was originally developed under the name of the Sexual Dysfunction Questionnaire (SDQ)^[19]. In the current study, this questionnaire was modified by the researcher to assess the psychosexual functioning of the male patients after starting

hemodialysis under a new name is a Psychosexual Dysfunction Questionnaire (Male-Version). The questionnaire consists of 19 questions. Eight questions (number; 3,4,5,6,7,13,14, and 15) concerning with physical symptoms of psychosexual dysfunctions such as fatigue, low sexual desire, difficulty in reaching orgasm, difficulty in beginning erection, and difficulty in keeping erection. On the other hand eleven questions (number; 1, 2, 8, 9, 10, 11, 12, 16, 17, 18, and 19) concerning with the psychological symptoms of psychosexual dysfunctions such as sexual dissatisfaction, low self-esteem during sex, loss of hope, anxiety, and fear of sex, depressed mood, and suicidal ideation. Men with score ≥ 45 (the optimal cut-off score) have the risk to have psychosexual dysfunctions than those with scores ≤ 44 . Reliability of the tool was held on 10 hemodialysis male patients. Test-retest-reliability coefficient was held on the same patients by the same investigator within 14 days interval in the same setting. Its value for 19 items was (0.77).

Method:

Item	Number	%
Age in years		
20 – (< 30)	5	5
30 – (< 40)	30	30
40 – (< 50)	37	37
50-60	28	28
Residence		
Rural	55	55
Urban	45	45
Marriage Duration in years		
< 5 years	14	14
5 – (< 15)	40	40
15-25	29	29
> 25	17	17

Official permission was obtained from the head of the hemodialysis department and from the head nurse at the three study settings to conduct the study. Verbal and informed consent obtained from the respondents before their inclusion in the study. Nature and aim of the study were explained to each member of the participants. Each patient was individually interviewed to collect the necessary data in privacy. Ethical consideration was obtained from the Research Ethics Committee of the Faculty of Nursing – Mansoura University.

Statistical analysis:

Data were analyzed with SPSS version 16. The normality of data was first tested with one-sample Kolmogorov-Smirnov test. Qualitative data were described using numbers and percent. Continuous variables were presented as mean ± SD (standard deviation) for parametric data and Median for non-parametric data.

Results:

In relation to the socio-demographic data of the study sample, results demonstrate that more than two thirds of the study sample (67%) age 30 to 49 years old, As regard the residence, more than half of the study sample (55%) are living in rural areas while (45%) are living in urban. In relation to the marriage duration, two fifth of the study sample (40%) are married for 5 to 15 years. Concerning the educational level, more than half of the study sample (59%) are middle educated. (Table, 1).

Table (1):

Socio-demographic characteristics of the studied sample (n=100):

Table (1) (Cont'd): Socio- demographic characteristics of the studied sample (n=100):

Item	Number	%
Educational Level		
Illiterate	9	9
Non-educated (Read and write)	12	12
Middle education	59	59
High education	20	20

Regarding the clinical data, more than half of the study sample (62%) undergo hemodialysis for more than 3 years. As regard the hemodialysis co-morbidity, more than half of the study sample (58%) suffer from medical disease while (42%) are medically free (Table, 2).

Table (2): Clinical data of the studied sample (n=100):

Item	Number	%
Hemodialysis duration in years		
< Year	16	16
1 – (< 3) years	22	22
3-6 years	33	33
> 6 years	29	29
Hemodialysis Co-morbidity		
Free	42	42
Endocrinal diseases	15	15
Circulatory (Hypertension and cardiac diseases)	12	12
Hepatitis (B or C)	25	25
Others (Osteoporosis, rheumatoid arthritis)	6	6

Concerning the psychosexual dysfunction score, the findings reveal that the vast majority of the study sample

(94%) complains of psychosexual dysfunctions while only 6% expressed good psychosexual functions (Table, 3).

Table (3) : Frequency and percentage distribution of the studied sample with regard to Psychosexual Dysfunctions (n=100):

Psychosexual Dysfunctions		Good Psychosexual Functioning	
Number	%	Number	%
94	94	6	6

On the part of physical symptoms, fatigue, difficulty in reaching orgasm, difficulty in keeping erection, low sexual desire, impaired sexual arousal and difficulty in beginning erection are the most common physical symptoms expressed by the studied sample with mean of (3.76), (3.34), (3.32), (3.31), (3.29) and (3.14) out of a possible score of (4) respectively (Table, 4).

Table(4):Physical symptoms of Psychosexual Dysfunctions of the studied sample (n=100):

Symptoms of Psychosexual Dysfunctions (Physical symptoms)	Mean ± SD	Median	Range
1. Fatigue	3.76±0.49	4	1- 4
2. Doesn't like talking about sex before intercourse	3.35±0.74	3	1- 4
3. Difficulty in reaching orgasm	3.34±0.69	3	1- 4
4. Difficulty in keeping erection	3.32±0.78	3	1- 4
5. Low sexual desire	3.31±0.72	3	1- 4
6. Impaired sexual arousal	3.29±0.75	3	1- 4
7. Inhibition toward sex	3.28±0.76	3	1- 4
8. Difficulty in beginning erection	3.14±0.66	3	1- 4

On the part of psychological symptoms, low self esteem during sexual intercourse, sexual dissatisfaction and

feeling inhibited towards sex are the most common psychological symptoms expressed by the studied sample with mean of (3.45), (3.3) and (3.28) out of a possible score of (4) respectively while symptoms; loss of hope, anxiety and fear of sex, blaming self for sexual failure and depressed mood are moderately expressed by the studied sample with mean of (2.93), (2.84), (2.74) and (2.66) respectively. Suicidal ideation was the lowest prevalent psychological symptom with mean of (1.1) (Table, 5).

Table (5): Psychological symptoms of Psychosexual Dysfunctions of the studied sample (n=100):

Symptoms of Psychosexual Dysfunctions (Physical symptoms)	Mean ± SD	Median	Range
1. Psychosexual discomfort	3.81±4.12	4	1- 4
2. Low self-esteem during sex	3.45±0.74	4	1- 4
3. Sexual dissatisfaction	3.3±0.93	4	1- 4
4. Decrease sexual Fantasies	3.29±0.72	3	1- 4
5. Doesn't express feeling with wife	2.99±0.92	3	1- 4
6. Loss of hope	2.93±0.90	3	1- 4
7. Anxiety, and fear of sex	2.84±0.92	3	1- 4
8. Blaming self for sexual failure	2.74±1.08	3	1- 4
9. Depressed Mood	2.66±0.97	3	1- 4
10. Losing interest	2.11±0.87	2	1- 4
11. Suicidal ideation	1.1±0.33	1	1- 3

Discussion:

Several definitions have been proposed for sexual dysfunction according to its different causes (endocrinological, urological, psychological and neurological). Psychosexual dysfunctions are "all disturbances of one or more stages of the sexual response caused by psychological factors rather than physical factors that results in a disturbance of the patient's sexual and psychological life"^[8]. The prevalence of sexual dysfunction among patients with CKD was first studied in 1973 when Levy conducted the first

epidemiological survey of sexuality in patients with CKD as cited in Al Khallaf^[20].

The current study documents that the vast majority of the study sample (94%) complain of psychosexual dysfunctions while only 6% expressed good psychosexual functions (Table, 3). These findings are attributed to the high prevalence of psychosexual dysfunctions among hemodialysis male patients. Reasons given for this high prevalence of psychosexual dysfunctions were claimed to be due to increased stress, depression and anxiety, drugs, diet, anemia, insomnia, insufficient hemodialysis, uremia, and hormonal changes^[24]. Successful dialysis improves most symptoms of CKD, yet many patients continue to experience many forms of sexual dysfunction during dialysis treatment.

This finding is closer to a study^[21] conducted in Morocco which reported that 81% of hemodialysis patients suffered from a decrease in sexual activity after the onset of hemodialysis treatment. Additionally, Doss & Polaschek^[22] found that 78% of patient in New Zealand reported some degree of sexual dysfunctions, despite being medically stable, and adequately dialyzed, having no significant anemia, and only mild inflammation. In other words, the incidence rate of sexual dysfunction reported to be 9% before the initiation of hemodialysis and increases to 60%-70% during hemodialysis treatment^[9,23].

The prevalence of psychosexual dysfunction of the current study result (94%) is higher than the other studies because the current study doesn't focus on the physical functions solely, but evaluate both physical and psychological functions together in one questionnaire. In addition, most of studies that conducted on male hemodialysis patients focus on ED not on sexual dysfunction as a general.

On the part of physical functions, the current study shows that fatigue, difficulty in reaching orgasm, difficulty in keeping erection, low sexual desire, impaired sexual arousal and difficulty in beginning erection are the most common symptoms expressed by the studied sample (Table, 4).

These physical symptoms may be due to organic causes affected CKD patients such as decreased arterial blood flow, venous leakage due to shunts, altered penile smooth muscle function, hormonal disturbances, side effect of medications, and neurogenic dysfunction, or may be due to psychological factors such as depression, and anxiety^[24]. These sexual dysfunctions can erode one's sense of self-esteem, and lead to emotional, and marital tension, so it has great impact on the psychological state of the patients who become more stressed and more anxious.

This result is consistent with a recent study^[25] in Jamaica which reported that ED, desire disorder and orgasmic disorder were found respectively in 91.4%, 88.3%, and 81.6% of male subjects indicating that the majority of male patients were dissatisfied with their performance at intercourse after progressing to CKD. In addition, several studies focused on the prevalence of ED among hemodialysis patients. In Egypt the prevalence of ED in hemodialysis patients is (86%)^[11]. The similar prevalence of ED was observed internationally in Iran^[26] (87.5%), in Turkey^[27] (82.9%), in Serbia^[28] (83%), in Pakistan^[29] (86%), and in Brazil^[30] (86.4%).

On the part of psychological symptoms expressed by the studies sample, the current study shows that there are many psychological symptoms expressed by the studies sample. Most of them expressed low self esteem during sexual intercourse, not satisfying with their sexual functions and feeling inhibited towards sex while symptoms; loss of hope,

anxiety and fear of sex, blaming self for sexual failure and depressed mood are moderately expressed by the studied sample. Suicidal ideation was the lowest prevalent psychological symptom (Table,5).

Most probably, these psychological symptoms are more specific due to sexual dysfunctions not to other stressors of hemodialysis. Nonetheless, it is also noted that hemodialysis patients expressed psychological symptoms related to other stressors and complications of hemodialysis such as sleep abnormalities, fluid loss, job loss, the cost of treatment, lifestyle change, time wasted, symptom-related suffering, and marital and family role disruption^[31]. The presence of anxiety and depression could be explained by the fact that these patients tend to distort their appraisal of sexual problems due to negative expectations and feelings of hopelessness, helplessness, and low self esteem. Suicidal ideation was the lowest prevalent psychological symptom because Egyptian people have strong religious beliefs. Religious beliefs are protective factors of suicide risk among hemodialysis patients^[32]. All such of these psychological symptoms produce difficulties in maintaining adequate sexual relationships. Social withdrawal further impairs the ability to form, and maintain intimate relationships.

These results are consistent with Charnow^[33] who stated that the strongest predictor of sexual dysfunctions were depressive symptoms. Sexual dysfunctions were 2.4 times more likely to occur in hemodialysis male patients with depressive symptoms than in those without these symptoms. Moreover, the rates of depression are 26% in sexual dysfunctional hemodialysis patients^[34]. The rate of anxiety disorders (27%) was somewhat higher than the expected rate (18%) on the basis of the "The Structured Clinical Interview for DSM-IV"^[35]. These

rates indicate that sexual dysfunctions are strongly associated with psychological state of hemodialysis patients.

In other words, Čengić & Resić^[36] in Bosnia and Herzegovina reported that the most psychological symptoms emphasized were: anhedonia (84.5%), pessimism (74.5%), low self-esteem (64%), anxiety (63.5%), indecisiveness (51.5%), irritability (43%), depressive mood (41.5%), feeling unsuccessful (35.5%), reduced concentration (35%), self-criticism (22%), feeling of punishment (19.5%), feelings of guilt (18%), and suicidal ideation (11%).

Regarding suicidal ideation, the risk of death rate from suicide was 0.24% per 1000 dialysis patients/years, and patients with CKD significantly have higher rates of suicide compared with the general population in the United States^[37]. Another study reported that among 200 hemodialysis patients, 21.5% had suicidal ideation; 3.5% had planned a suicide attempt in prior months; and 3.5% had attempted suicide during their lifetime^[38].

Conclusion:

Psychosexual dysfunctions are sexual dysfunctions that caused by psychological factors rather than physical factors and lead to serious psychological problems. Psychosexual dysfunctions are very common among hemodialysis male patients and characterized by both physical symptoms such as fatigue, difficulty in keeping erection, and low sexual desire and psychological symptoms as low self esteem during sexual intercourse, sexual dissatisfaction, and anxiety, and fear of sex.

Recommendation:

The study recommends that, assessment of sexual dysfunctions and psychological state hemodialysis patients should be conducted by all health care providers. The psychiatric liaison nurse should be available on hemodialysis units. Psychiatric liaison nursing programs

should be planned in hemodialysis units to educate nursing staff about how to manage psychosexual dysfunctions.

Limitations:

Some patients refused to participate in the study. They avoid talking about their psychosexual dysfunctions because of feelings of shame or because of their several failed tries to manage it.

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