



Sexual Dysfunction and Related Factors in Hospitals Emergency Male Nurses and Its Relationship with Their Spouse's Sexual Function

Abbasali Ebrahimian ^{1,2}, Seyed-Hossein Hashemi-Amre ³, Setareh Homami ⁴ and Ali Fakhr-Movahedi ^{2,*}

¹Faculty of Paramedical, Qom University of Medical Sciences, Qom, Iran

²Nursing Care Research Center, Semnan University of Medical Sciences, Semnan, Iran

³Student Research Committee, Nursing School, Semnan University of Medical Sciences, Semnan, Iran

⁴Nursing & Midwifery School, Semnan University of Medical Sciences, Semnan, Iran

*Corresponding author: Nursing Care Research Center, Semnan University of Medical Sciences, Semnan, Iran. Email: alimovi49@semums.ac.ir

Received 2022 July 11; Revised 2022 October 29; Accepted 2022 November 05.

Abstract

Background: Nurses' job stress can affect their physical and mental health. If sexual health is endangered, the sexual health of the sexual partner might be in trouble.

Objectives: This study aimed to investigate sexual dysfunction and related factors in hospital emergency male nurses and its relationship with their spouses' sexual function.

Methods: This study was a descriptive-analytic cross-sectional study. Data collection tools were the International Men's Erectile Performance Questionnaire and Women's Sexual Performance Index Questionnaire. Male nurses and their spouses completed the questionnaires separately and mailed them.

Results: One hundred and ten people participated in this study. The prevalence of sexual dysfunction in emergency male nurses and their spouses was 40% and 92.7%, respectively. There was no significant relationship between the sexual dysfunction of male nurses and the sexual dysfunction of their spouses ($P = 0.324$). There was a statistically significant relationship between the mean score of male nurses' sexual dysfunction and the number of children ($P = 0.002$) and between the spouses of emergency male nurses' mean scores of sexual dysfunction and their employment ($P = 0.032$).

Conclusions: Being a male emergency nurse could not play a role in developing sexual dysfunction in their spouses. The prevalence of sexual dysfunction in male nurses is almost equivalent in other men and their spouses higher than in other women in the community. While sexual dysfunction in the male emergency nurses was related to the number of children, their spouses' sexual dysfunction was related to their jobs.

Keywords: Sexual Dysfunction, Nurse, Emergency

1. Background

Sexual dysfunction refers to problems and difficulties during the people's sexual response cycle that barricades the individual from experiencing euphoria and satisfaction from sexual activity (1). Sexual dysfunction is a relatively common barrier to sexual health caused by factors other than the genital tract (2). Physical and mental illnesses can have significant adverse effects on sexual activity and sexual satisfaction, and satisfactory sexual activity can also positively affect the quality of life (3). The prevalence of sexual dysfunction varies at different ages and has been reported from 22 to 66% (4-6). Recent studies show that 33.4% of women and 45.7% of men have at least one type of sexual disorder (2). A study in Australia showed that the prevalence of sexual disorders

in women is 50.2% (7). A recent study in Iran demonstrated that men's prevalence of sexual disorders was 35.6% (8). However, previous studies have shown higher percentages of sexual disorders in the Iranian population (9, 10). In Shayan et al. (2015) study, 91.9% of Iranian women and in Akbar's study, 80.6% of the Iranian men and 93.1% of the Iranian women had sexual dysfunction (9, 10). The prevalence of sexual disorders among Iranian nurses, especially emergency nurses, has been less studied.

The hospital emergency department is one of the most challenging wards for nurses. In this ward, urgent services are provided to patients with unstable conditions (11). Hashemi et al., in the article quoted by Fiedler N and Stein LB, state, "Emergency department nurses are in a different situation than other hospital wards. They

are exposed to various physical, chemical, ergonomic, safety, and psychological hazards (12). They are exposed to physical and mental disorders due to stress, work pressure, and high workload, observing casualties from accidents and seeing tragic events and conflicts (13). Nurses also suffer from sexual disorders and depression due to night shifts (14). Kumar et al. showed that the prevalence of sexual dysfunction was significantly higher in male nurses who worked rotating shifts in the hospital during the outbreak of COVID-19 than in male nurses who did not work in hospitals receiving COVID-19 patients. The cause of sexual disorders in male nurses was stress, depression, and anxiety (15). Pastuszak et al. Also showed in 2017 that men with non-standard working hours, who do not get enough sleep and rest, have an increased risk of hypogonadal symptoms and sexual dysfunction (16). Güzel and Döndü also showed that increasing anxiety caused by nursing work and reducing the time spent with a spouse could cause sexual disorders in nurses (17). Therefore, emergency nursing can affect various aspects of nurses' individual and social life and their family members, including satisfaction with their marital life, and cause family conflicts caused by their work.

Work-related family conflict is one of the factors affecting nurses' life satisfaction. Some studies have shown that work-related family conflict does not negatively and significantly affect life satisfaction. Even employment has a positive and significant impact on life satisfaction. However, in these studies, only the relationship between jobs and life satisfaction has been addressed, and other aspects of nurses' employment have not been considered (18). Another study has shown that being employed alone cannot determine marital satisfaction, but the type of job affects this issue (19). Hypothetically, nurses, especially emergency nurses, work in challenging conditions and may suffer from sexual dysfunction; this disorder affects their marital satisfaction and causes sexual dysfunction in their spouses.

2. Objectives

This study aimed to investigate sexual dysfunction in hospital emergency male nurses and its relationship with their spouses' sexual function.

3. Methods

This research was a descriptive-analytical cross-sectional study that lasted four months, from July to October 2017. The study participants were all male nurses working in the hospital's emergency departments

of Mazandaran province in Iran. The study sample was male nurses working in the emergency departments of hospitals affiliated with Mazandaran University of Medical Sciences. They and their spouses met the inclusion criteria and expressed their willingness to participate in the study by completing and signing the informed consent form to participate in the study. The sample size was calculated based on the Morgan table. At the sampling time, 75 married male nurses worked in the emergency departments of hospitals in Mazandaran province. According to Morgan's table, the sample size was estimated at 63 people.

3.1. Inclusion Criteria

Married men were included in the study. Male nurses and their spouses should be willing to participate in the research and complete an informed consent form. They had at least one year's experience working in the hospital's emergency department. They did not have any other pain or illness when completing the questionnaire. They were not drug addicts and had no history of physical (such as diabetes or hypertension) or sexual or mental illness.

3.2. Exclusion Criteria

Those who did not wish to continue participating in this study and did not complete the questionnaires on time were excluded.

3.3. Measures

The instruments used in this study were demographic questionnaires and the International Index of Erectile Function Questionnaire (IIEF), and the Female Sexual Function Index (FSFI) Questionnaire.

3.4. Demographic Questionnaire

A researcher-made questionnaire consisted of the following questions: age, height, weight, BMI, number of children, hospital emergency department work experience, number of shifts per month, number of night shifts per month, support of family members' status, and spouse's employment status.

3.4.1. The International Index of Erectile Function Questionnaire

This questionnaire is a 15-item questionnaire. Its questions on a five-point Likert scale measure the type and severity of a sexual problem in five contexts. Men's questionnaire subscales included; desire, erectile function, sexual satisfaction, orgasm, and general sexual satisfaction (20). The minimum score of this questionnaire was 5, interpreted as a lack of sexual quality functions, and the maximum score was 75, demonstrating the highest

amount of sexual quality functions (21). The erectile function was scored based on six questions, resulting in a maximum score of 30 points. Results below 25 points were considered abnormal. The orgasmic function was evaluated using two questions, yielding a maximum score of 10 points. Results below 9 points were considered abnormal. Sexual desire was also evaluated using two questions, yielding a maximum score of 10 points, and outcomes below 9 points were considered abnormal. Intercourse satisfaction was evaluated based on three questions, with a maximum score of 15 points and a threshold value of 13 points. Overall satisfaction from sexual activity was assessed using two questions, yielding a maximum score of 10 points, and results below 9 points were considered abnormal (Table 1) (22). Pakpour et al. (2014) showed that the Iranian version of the International Index of Erectile Function is a highly valid and reliable instrument for assessing erectile function in clinical and population samples (23). In the present study, a score of 53 was considered the cut-off point for total IIEF scores, which means that all values below are classed as indicating male sexual dysfunction (24). Various studies have used this questionnaire to assess sexual dysfunction, confirming its validity and reliability (20, 25).

3.4.2. The Female Sexual Function Index

A questionnaire is 19 questions. Its questions on a five-point Likert scale measure the type and severity of women's sexual problems in six independent contexts. Sub-scales of the women's questionnaire include; Desire, psychological stimulation, moisture, orgasm, satisfaction, and pain. The validity and reliability of this questionnaire in the Mohammadi et al. study for the Iranian female population have been confirmed. This instrument calculated Cronbach's alpha coefficient was 0.85, indicating excellent reliability. Based on sensitivity and specificity analyses, the optimal cut-off score was 28 for differentiating women with and without sexual dysfunction. All values below indicate Iranian female sexual dysfunction (Table 2) (26).

3.5. Procedures

Before sampling, the researchers showed the Research Ethics Committee's license and the Vice Chancellor's license for Research and Technology to the heads of the sampling hospitals. After coordination and permission, the researchers began sampling. Then, the researchers trained all-male emergency nurses and their spouses on performing the work, adequately completing the questionnaires, and obtaining their consent to participate in the study. If a nurse or their spouse were unwilling to cooperate, both would be excluded from the study.

At the beginning of the sampling, the trained sampler showed the male and female sexual dysfunction questionnaires to the male emergency room nurses and asked them to show both questionnaires to their spouses. The informed consent form will be completed if the couple wishes to participate in the study. The researcher received the informed consent form of the couple and provided the samples with two stamped envelopes that also had the return address (but did not have the sender's address). Then asked the couple to place the questionnaires in the envelope and drop them off at the nearest post office box. The participants could complete the questionnaires and hand in/pass the filled ones to the researcher. No codes or symbols were used on the questionnaires to keep the participants anonymous. However, participants were asked to voluntarily write a unique code on both questionnaires to find the couple's questionnaires. If they did not want to, put both sets of questionnaires in one envelope and return them by mail. Participants who did not wish their spouses to be informed of their response were given a separate envelope to return the questionnaire. Only two couples sent the questionnaires separately, and the rest of the participants put both questionnaires in one envelope and sent them to us.

3.6. Statistical Analysis

The collected data were entered into SPSS software version 16 and analyzed at a significant level of 0.05. The Kolmogorov-Smirnov test showed that the data distribution was normal. The data were analyzed using descriptive statistics, including frequency, mean, and standard deviation. The Pearson correlation coefficient test demonstrated the relationship between the participant's age, BMI, number of children, Emergency department work experience, shifts per month, and night shifts per month with IIEF and FSFI scores.

The chi-square test demonstrated the relationship between the family support status and spouses' employment status with IIEF and FSFI scores. Also, the chi-square test demonstrated the relationship between the sexual dysfunctions in male nurses and their spouses. To investigate the relationship between sexual disorders in male nurses and their wives, first, based on the cut-f point of IIEF and FSFI tools, people with sexual disorders were identified in both groups. Then, the relationship between sexual disorders in male nurses and their spouses was measured using a chi-square test.

3.7. Ethical Consideration

This study is licensed by the Research Ethics Committee of Semnan University of Medical Sciences

Table 1. The International Index of Erectile Function Questionnaire Domain Scoring

Domain	Domain Scoring				Abnormal Results (Points)
	Items	Score Range	Minimum Score	Maximum Score	
Erectile function	1, 2, 3, 4, 5, 15	0 (or 1) - 5	1	30	< 25
Orgasm function	9, 10	0 - 5	0	10	< 9
Sexual desire	11, 12	1 - 5	2	10	< 9
Intercourse satisfaction	6, 7, 8	0 - 5	0	15	< 13
Overall satisfaction	13, 14	1 - 5	2	10	< 9

Table 2. The Female Sexual Function Index Domain Scoring

Domain	Domain Scoring				
	Questions	Score Range	Factor	Minimum Score	Maximum Score
Desire	1, 2	1 - 5	0 - 5	1.2	6
Arousal	3, 4, 5, 6	0 - 5	0 - 5	0	6
Lubrication	7, 8, 9, 10	0 - 5	1 - 5	0	6
Orgasm	11, 12, 13	0 - 5	0 - 5	0	6
Satisfaction	14, 15, 16	0 (or 1) - 5	1 - 5	0.8	6
Pain	17, 18, 19	0 - 5	0.4	0	6
Full-scale score range	2	36			

with code number [IR.SEMUMS.REC.1398.025](#). In this study, no intervention was performed on nurses and their spouses, and performing this study was not dangerous for them. Before sampling, all nurses and their spouses eligible for the study completed the informed consent.

4. Results

Sixty-three male nurses working in the emergency departments and their wives (126 people in total) were included in the study, excluding 8 (34.34%) couples for various reasons. Excluded five couples (62.50%) due to incomplete completion of questionnaires and three (37.50%) due to unwillingness to continue participating in the study have been excluded. Finally, data related to 55 couples (110 people) were analyzed.

There was no statistically significant relationship between the mean scores of sexual dysfunctions in emergency male nurses with age, BMI, work experience in the emergency department, number of shifts per month, number of night shifts per month, spouse employment, and support from family ($P > 0.05$). However, there was a statistically significant difference between the mean score of sexual dysfunctions and the number of children ($P = 0.002$) (Table 3).

Also, there was no statistically significant relationship between the mean scores of sexual dysfunction of the spouses of male nurses with age, BMI, the number of children, and support of family ($P > 0.05$). However, there was a statistically significant difference between the

spouses of emergency male nurses' mean scores of sexual dysfunction with the status of their employment ($P = 0.032$) (Table 4).

The prevalence of sexual dysfunction in emergency male nurses was 40%. This finding showed that male nurses had sexual dysfunction in at least one International Index of Erectile Function Questionnaire subscale. However, sexual dysfunction in more than 80% of male nurses who had the dysfunction was mild and mild to moderate, and none of them had severe sexual dysfunction (Table 5).

The prevalence of sexual dysfunction in the spouses of emergency male nurses was 92.7%. This finding showed that the wives of male nurses had problems in at least one of the Female Sexual Function Index questionnaire subscales (Table 6).

The mean scores of the International Index of Erectile Function Questionnaire were 54.44 ± 8.16 , and the mean scores of the Female Sexual Function Index were 22.02 ± 1.74 . In the group of male nurses, 51 (60%) and in the group of spouses of male nurses, 4 (7.3%) of the participants did not have sexual dysfunction, and the rest had sexual dysfunction. The chi-square test showed no significant relationship between the sexual dysfunction of male nurses and the sexual dysfunction of their wives ($P = 0.672$).

Table 3. Demographic and Working Status of Emergency Male Nurses and the Relationship Between These Variables and Their Sexual Dysfunction

Variables	No. (%)	Mean \pm SD	Sexual Dysfunction Means Scores	P-Value
Age		35.84 \pm 7.08		0.145 ^a
18 - 35	28 (50.9)		56.33 \pm 6.82	
36 - 45	21 (32.8)		53.04 \pm 8.56	
46 - 65	6 (10.9)		50.83 \pm 11.33	
BMI		25.31 \pm 2.14		0.262 ^a
\leq 18.5	0 (0)		—	
18.6 - 25	33 (60)		53.87 \pm 7.30	
26 - 30	22 (40)		55.33 \pm 9.40	
\geq 31	0 (0)		—	
Number of children		1.27 \pm 0.80		0.002 ^a
0	9 (16.3)		57.66 \pm 7.77	
1 - 2	43 (78.2)		54.21 \pm 7.79	
3 - 4	3 (5.5)		48.00 \pm 13.00	
Emergency department work experience		7.63 \pm 5.54		0.459 ^a
1 - 5	21 (32.8)		53.47 \pm 8.30	
6 - 10	23 (41.8)		54.54 \pm 6.98	
11 - 15	5 (9.1)		58.20 \pm 7.66	
\geq 16	6 (10.9)		54.33 \pm 8.16	
Shifts per month		28.96 \pm 3.39		
15 - 20	2 (3.6)		62.20 \pm 2.12	0.522 ^a
21 - 25	4 (7.3)		58.50 \pm 11.78	
26 - 30	38 (69.1)		53.26 \pm 8.00	
\geq 31	11 (20)		56.36 \pm 7.29	
Night shifts per month		7.58 \pm 2.26		0.716 ^a
\leq 5	11 (20)		53.36 \pm 12.86	
6 - 10	41 (74.4)		54.80 \pm 6.50	
\geq 11	3 (5.6)		53.66 \pm 10.21	
Family support status		-		0.620 ^b
Very	30 (54.5)		56.26 \pm 6.13	
Medium	22 (40)		51.00 \pm 9.48	
Low	3 (5.5)		60.33 \pm 9.86	
Spouses' employment status		-		0.240 ^b
Employed	25 (45.5)		55.56 \pm 8.18	
Jobless	30 (54.5)		53.48 \pm 8.17	

^a Based on the results of the Pearson correlation coefficient test^b Based on the results of the Chi-square test

Table 4. Demographic and Working Status of Emergency Male Nurses' Spouses and the Relationship Between These Variables and Their Sexual Dysfunction

Variables	No. (%)	Mean \pm SD	Sexual dysfunction means scores	P-Value
Age		32.42 \pm 7.02		0.609 ^a
18 - 35	40 (72.7)		22.04 \pm 1.60	
36 - 45	11 (20)		21.58 \pm 2.93	
46 - 65	4 (7.3)		21.57 \pm 1.49	
BMI		25.16 \pm 2.06		0.958 ^a
\leq 18.5	0 (0)		0	
18.6 - 25	38 (69.1)		21.84 \pm 1.65	
26 - 30	16 (29.1)		22.15 \pm 2.46	
\geq 31	1 (1.8)		20.60 \pm 0.00	
Number of children		1.27 \pm 0.80		0.187 ^a
0	9 (16.4)		22.80 \pm 1.55	
1 - 2	43 (78.4)		21.75 \pm 1.98	
3 - 4	3 (5.5)		21.50 \pm 0.78	
Family support status		-		0.302 ^b
Very	31 (56.4)		22.01 \pm 2.21	
Medium	21 (38.2)		21.42 \pm 1.00	
Low	3 (5.4)		24.26 \pm 1.66	
Spouses' employment status		-		
Employed	25 (45.5)		22.17 \pm 2.23	0.032 ^b
Jobless	30 (54.5)		21.69 \pm 1.57	

^a Based on the results of the Pearson correlation coefficient test.

^b Based on the results of the chi-square test.

5. Discussion

The nursing profession is one of the occupations that disrupts the normal life cycle of people due to rotating and shifting work and may also cause harm to the sexual health of male nurses and their spouses. This study investigated the relationship between sexual dysfunction in hospital emergency male nurses and their spouses.

The prevalence of sexual dysfunction in emergency male nurses was 40%. Mohammadian and Dolatshahi, in their study, showed that the prevalence of erectile dysfunction in men is 40.4%, premature ejaculation is 32.5%, and sexual desire disorder is 10.6 (27). Quek et al. also showed that the prevalence of sexual dysfunction in men with a cut-off point of 21 for erectile dysfunction is 41.6% (28). This finding shows that the prevalence of sexual dysfunction in male nurses is almost equivalent to that in other men in the community. Also, this finding shows that the pattern of sexual activities in male nurses is almost the same as other men in Iranian society.

The present study also showed that there was no statistically significant relationship between sexual

dysfunction in male nurses with demographic variables and variables related to occupational conditions such as; age, BMI, work experience in the emergency department, number of shifts per month, number of night shifts per month, employment of spouse and support from family. However, in many studies, demographic and occupational variables have effectively affected sexual health (29, 30). Bonde showed in his study that occupational hazards could affect men's sexual activity and fertility (31). Yafi et al. showed in a study that occupation can affect men's sexual dysfunction (32). However, Omar et al. showed that a study employed did not affect sexual dysfunction in men with diabetes (33). The result of the study by Omar and his colleagues confirmed the result of the present study and showed that in some men, work might not affect sexual disorders, mainly if men are influenced by other factors such as; have diabetes. In the current study, the participants were not affected by diabetes, but the essential factor that affected them was working in the hospital's emergency department. It seems that the difficulty and stress of working in the hospital emergency departments, working in rotating shifts, disrupting sleep

Table 5. The Severity of Sexual Dysfunction Based on Subcategories of the International Index of Erectile Function Questionnaire in Emergency Male Nurses

IIEF Subscales Scores and Groups	With Sexual Dysfunction	
	No. (%)	Mean \pm SD
Erectile function		19.29 \pm 3.20
Normal function	2 (3.6)	
Decreased function	53 (96.4)	
Orgasmic function		8.27 \pm 1.39
Normal function	22 (40)	
Decreased function	33 (60)	
Sexual desire		6.83 \pm 1.52
Normal function	5 (9.1)	
Decreased function	50 (90.9)	
Intercourse satisfaction		9.65 \pm 1.75
Normal function	2 (3.6)	
Decreased function	53 (96.4)	
Overall satisfaction		7.41 \pm 1.33
Normal function	6 (10.9)	
Decreased function	49 (89.1)	
Total IIEF scores		54.44 \pm 8.16
Normal function	33 (60)	
Decreased function	22 (40)	

Abbreviation: IIEF: International Index of Erectile Function

Table 6. The Severity of Sexual Dysfunction Based on Subcategories of the Female Sexual Function Index in Emergency Male Nurses' Spouses

Dysfunction Type and Dysfunction Severity	No. (%)	Mean \pm SD
Sexual Desire		
Exist	9 (16.4)	
Does not exist	46 (83.6)	
Arousal		
Exist	12 (21.6)	
Does not exist	43 (78.2)	
Lubrication		
Exist	23 (41.8)	
Does not exist	32 (58.2)	
Orgasm		22.10 \pm 02.74
Exist	17 (30.9)	
Does not exist	38 (69.1)	
Satisfaction		
Exist	32 (58.2)	
Does not exist	23 (41.8)	
Pain		
Exist	42 (76.4)	
Does not exist	13 (23.6)	
Existence of sexual dysfunction		
Has a dysfunction	51 (92.7)	
Normal function	4 (7.3)	

and rest programs, observing patients 'suffering and death, seeing stress in patients' families, and crowds in the emergency department can cause the physiological and mental disorders in emergency nurses, and has increased the prevalence of sexual dysfunction in them.

In the present study, the prevalence of sexual dysfunction in the wives of emergency male nurses was 92.7%. Gabr et al. showed that the prevalence of sexual disorders in women is 30% (30). In Khaleghinezhad et al.'s study, the prevalence of sexual dysfunction in women was 83.5%, and these women in the subscale of sexual desire at 35.8%, arousal at 42%, vaginal moisture (lubrication) at 14.3%, orgasm 30.1% reported sexual satisfaction 29.6% and pain subscale 22.5% (34). In Raisi et al.'s study, 80.6% of women had sexual dysfunction, and 19.4% had no dysfunction. The subscales showed 50% of women in sexual desire, 58.3% in arousal, 36.1% in moisture, 44.4% in orgasm, 41.7% in satisfaction, and 52.8% in pain subscale reported dysfunction (35). According to the study by Tang et al., the prevalence of sexual dysfunction in Chinese women regarding the cut-off point of 26.5 in the infertile group was 58.6%, and in control (fertile) group was 50.3%. The mean of total FSFI scores for infertile women was 25.63 ± 5.73 (36). In Afshary et al.'s study, considering the cut-off point of 26 out of a total score of 36 in the FSFI questionnaire, the prevalence of sexual dysfunction in women was reported to be 56.8%, which increases with increasing age of sexual dysfunction (37). In Safaei and Rajabzadeh's study, the mean and standard deviation of the overall score of sexual function in women participating in the study was 27.4 ± 7.3 . Disorders in sexual function subscales were reported at 35%, sexual desire at 91.5%, lubrication at 93%, arousal at 90%, and satisfaction at 72.5% (38).

The results showed no significant relationship between the sexual dysfunction of male nurses and the sexual dysfunction of their spouses. This finding is thought-provoking because it confirms that the factors that cause sexual dysfunction in male nurses affect their spouses with the same intensity. Gabr et al. also showed in a study that the severity of sexual dysfunction in spouses is equal, and if one spouse has sexual dysfunction, it affects the other (30). Tang et al. also found that the number of sexual intercourses of women with sexual dysfunction was lower than that of women without sexual dysfunction. They attributed this to erectile dysfunction in men (36). The findings of these two studies confirmed the results of the present study. It appears that the nature of the nursing profession, such as rotating shifts, much stress, irregular sleeping and waking schedules, irregular sexual activities of nurses, fatigue, insufficient care for the spouse, and possibly sexual activities outside the family

framework, play a role in the occurrence of severe sexual dysfunction in the spouses of male emergency nurses. It is suggested that nursing management officials and policymakers reduce workload and work-related stress in hospital emergency settings and plan training courses to control sexual dysfunction in male hospital emergency nurses and their spouses. Studies on sexual disorders in men and women have traditionally focused only on one of the couples. However, the present study investigates the impact of male nurses' sexual dysfunction on their spouses. Therefore, this study is innovative in this sense.

5.1. Limitation

The questionnaires of this study are self-report questionnaires, and male nurses and their spouses have completed these questionnaires themselves. All participants in the study were instructed to complete the questionnaires in a quiet environment without any mental worries and with the help of their spouses. However, some nurses may not have enough attention to this advice when completing the questionnaires. Therefore, this study is limited in this regard.

5.2. Conclusions

Being a male emergency nurse could not play a role in developing sexual dysfunction in their spouses. The prevalence of sexual dysfunction in male nurses is nearly the same as in other men but in their spouses is higher than other women in the community. While sexual dysfunction in the male emergency nurses was related to the number of children, their spouses' sexual dysfunction was related to their jobs. This study is one of the first to investigate the relationship between sexual dysfunction in male nurses and their spouses. Therefore, it was recommended that similar studies be performed in other hospital emergencies to investigate this issue's dimensions further. At the same time, the findings of this study indicate the need for the intervention of nursing managers to reduce such dysfunction.

Footnotes

Authors' Contribution: AE, SH, and AF conceived and designed the study. AE devised and developed the project and wrote the first draft of the manuscript. SH developed the data collection. AF and AE were involved in data management and analysis and edited the manuscript. SH supervised the conduct of the study and data collection. AE, AF, and SH contributed to the review and revision of the manuscript, and all take responsibility for the final version. All authors read and approved the manuscript.

Conflict of Interests: We declared that three of our authors [Abbasali Ebrahimiyan, Setareh Homami, and Ali Fakhr-Movahedi] are the reviewers in the journal. The journal confirmed that the authors with CoI were excluded from all review processes.

Ethical Approval: This study is licensed by the Research Ethics Committee of Semnan University of Medical Sciences with code number IR.SEMUMS.REC.1398.025.

Funding/Support: This study was supported financially by Semnan University of Medical Sciences (grant No.: 1349).

Informed Consent: The researcher received the informed consent form.

References

- Chen CH, Lin YC, Chiu LH, Chu YH, Ruan FF, Liu WM, et al. Female sexual dysfunction: definition, classification, and debates. *Taiwan J Obstet Gynecol*. 2013;**52**(1):3-7. [PubMed ID: 23548211]. <https://doi.org/10.1016/j.tjog.2013.01.002>.
- Briken P, Matthiesen S, Pietras L, Wiessner C, Klein V, Reed GM, et al. Estimating the Prevalence of Sexual Dysfunction Using the New ICD-II Guidelines. *Dtsch Arztebl Int*. 2020;**117**(39):653-8. [PubMed ID: 33357346]. [PubMed Central ID: PMC7829447]. <https://doi.org/10.3238/arztebl.2020.0653>.
- Kliesch S. The Connection Between General and Sexual Health. *Dtsch Arztebl Int*. 2020;**117**(39):643-4. [PubMed ID: 33357343]. [PubMed Central ID: PMC7829453]. <https://doi.org/10.3238/arztebl.2020.0643>.
- Castelo-Branco C, Blumel JE, Araya H, Riquelme R, Castro G, Haya J, et al. Prevalence of sexual dysfunction in a cohort of middle-aged women: influences of menopause and hormone replacement therapy. *J Obstet Gynaecol*. 2003;**23**(4):426-30. [PubMed ID: 12881088]. <https://doi.org/10.1080/0144361031000120978>.
- Cayan S, Akbay E, Bozlu M, Canpolat B, Acar D, Ulusoy E. The prevalence of female sexual dysfunction and potential risk factors that may impair sexual function in Turkish women. *Urol Int*. 2004;**72**(1):52-7. [PubMed ID: 14730166]. <https://doi.org/10.1159/000075273>.
- Kadri N, McHichi Alami KH, McHakra Tahiri S. Sexual dysfunction in women: population based epidemiological study. *Arch Womens Ment Health*. 2002;**5**(2):59-63. [PubMed ID: 12510200]. <https://doi.org/10.1007/s00737-002-0141-7>.
- Zheng J, Skiba MA, Bell RJ, Islam RM, Davis SR. The prevalence of sexual dysfunctions and sexually related distress in young women: a cross-sectional survey. *Fertil Steril*. 2020;**113**(2):426-34. [PubMed ID: 32106994]. <https://doi.org/10.1016/j.fertnstert.2019.09.027>.
- Nabavi SM, Dastoorpoor M, Majdinasab N, Khodadadi N, Khanjani N, Sekhavatpour Z, et al. Prevalence of Sexual Dysfunction and Related Risk Factors in Men with Multiple Sclerosis in Iran: A Multicenter Study. *Neurol Ther*. 2021;**10**(2):711-26. [PubMed ID: 34008168]. [PubMed Central ID: PMC8571441]. <https://doi.org/10.1007/s40120-021-00257-0>.
- Shayan A, Kaviani M, Haghpanah S, Gholamzadeh S, Zarenezhad M, Masoumi SZ. [Evaluation of sexual dysfunctions and its related factors in women experiencing domestic violence had been referred to forensic medicine center of Shiraz]. *Avicenna Journal of Nursing and Midwifery Care*. 2015;**23**(2):32-41. Persian.
- Yekeh Fallah L, Goodarzi M. [Prevalence of sexual dysfunction and related factors among married couples in Qazvin]. *J Inflamm Dis*. 2009;**13**(1):49-55. Persian.
- Jabbari A, Jafarian M, Khorasani E, Ghaffari M, Majlesi M. [Emergency department waiting time at Alzahra Hospital]. *Health Inf Manag*. 2011;**8**(4). Persian.
- Hashemi SH, Ghazanfari F, Karami K, Farzinara F, Ebrahimzadeh F. The effect of environmental index on mental health in nurses working in emergency and non emergency wards in Khorramabad hospitals. *J Clin Nurs Midwifery*. 2015;**4**(3):57-66.
- Palmer KT, Cox RA, Brown I. *Fitness for work: the medical aspects*. Oxford, UK: Oxford University Press; 2007.
- Bilge C, Mecdi Kaydirak M, Gür Avci D, Hotun Sahin N. Effect of Shift Working on Depression Prevalence and Sexual Life of Female Nurses: A Correlational Study in Turkey. *Int J Sex Health*. 2020;**32**(4):357-64. <https://doi.org/10.1080/19317611.2020.1819502>.
- Kumar M, Mohindra R, Sharma K, Soni RK, Rana K, Singh SM. The impact of working in a COVID hospital on sexual functioning in male nurses: A study from North India. *Ind Psychiatry J*. 2021;**30**(1):187-90. [PubMed ID: 34483547]. [PubMed Central ID: PMC8395557]. https://doi.org/10.4103/ijp.ijp_55_21.
- Pastuszak AW, Moon YM, Scovell J, Badal J, Lamb DJ, Link RE, et al. Poor Sleep Quality Predicts Hypogonadal Symptoms and Sexual Dysfunction in Male Nonstandard Shift Workers. *Urology*. 2017;**102**:121-5. [PubMed ID: 27988267]. [PubMed Central ID: PMC5710003]. <https://doi.org/10.1016/j.urology.2016.11.033>.
- Güzel A, Döndü A. Changes in sexual functions and habits of healthcare workers during the ongoing COVID-19 outbreak: a cross-sectional survey study. *Ir J Med Sci*. 2022;**191**(3):1013-21. [PubMed ID: 34195918]. [PubMed Central ID: PMC8244671]. <https://doi.org/10.1007/s11845-021-02691-3>.
- Palupiningdyah P, Ria Y. A Life Satisfaction of A Dual Role Woman. *Manag Anal J*. 2020;**9**(3):318-26. <https://doi.org/10.15294/maj.v9i3.37232>.
- Ko K, Baek J. Regression models for marriage satisfaction by age according to employment patterns of couples : Focused on the women's family panel survey. *Journal of the Korean Data And Information Science Society*. 2021;**32**(1):97-122. <https://doi.org/10.7465/jkdi.2021.32.1.97>.
- Johnson SL, Jacob T. Marital interactions of depressed men and women. *J Consult Clin Psychol*. 1997;**65**(1):15-23. [PubMed ID: 9103730]. <https://doi.org/10.1037//0022-0066.65.1.15>.
- Rosen RC, Riley A, Wagner G, Osterloh IH, Kirkpatrick J, Mishra A. The international index of erectile function (IIEF): a multidimensional scale for assessment of erectile dysfunction. *Urology*. 1997;**49**(6):822-30. [PubMed ID: 9187685]. [https://doi.org/10.1016/s0090-4295\(97\)00238-0](https://doi.org/10.1016/s0090-4295(97)00238-0).
- Puchalski B, Szymański FM, Kowalik R, Filipiak KJ, Opolski G. The prevalence of sexual dysfunction before myocardial infarction in population of Polish men: a retrospective pilot study. *Kardiol Pol*. 2013;**71**(11):1168-73. [PubMed ID: 24297714]. <https://doi.org/10.5603/kp.2013.0297>.
- Pakpour AH, Zeidi IM, Yekaninejad MS, Burri A. Validation of a translated and culturally adapted Iranian version of the International Index of Erectile Function. *J Sex Marital Ther*. 2014;**40**(6):541-51. [PubMed ID: 24308814]. <https://doi.org/10.1080/0092623x.2013.788110>.
- Wiltink J, Hauck EW, Phädayanon M, Weidner W, Beutel ME. Validation of the German version of the International Index of Erectile Function (IIEF) in patients with erectile dysfunction, Peyronie's disease and controls. *Int J Impot Res*. 2003;**15**(3):192-7. [PubMed ID: 12904805]. <https://doi.org/10.1038/sj.ijir.3900997>.
- Corona G, Jannini EA, Maggi M. Inventories for male and female sexual dysfunctions. *Int J Impot Res*. 2006;**18**(3):236-50. [PubMed ID: 16267565]. <https://doi.org/10.1038/sj.ijir.3901410>.
- Mohammadi K, Heydari M, Faghihzadeh S. [The female sexual function index (FSFI): validation of the Iranian version]. *Payesh*. 2008;**7**(3):269-78. Persian.
- Mohammadian S, Dolatshahi B. Sexual problems in Tehran: Prevalence and associated factors. *J Educ Health Promot*. 2019;**8**:217. [PubMed ID: 31867381]. [PubMed Central ID: PMC6905287]. https://doi.org/10.4103/jehp.jehp_231_19.

28. Quek KF, Sallam AA, Ng CH, Chua CB. Prevalence of sexual problems and its association with social, psychological and physical factors among men in a Malaysian population: a cross-sectional study. *J Sex Med.* 2008;**5**(1):70–6. [PubMed ID: [17362280](#)]. <https://doi.org/10.1111/j.1743-6109.2006.00423.x>.
29. Mollaioli D, Ciocca G, Limoncin E, Di Sante S, Gravina GL, Carosa E, et al. Lifestyles and sexuality in men and women: the gender perspective in sexual medicine. *Reprod Biol Endocrinol.* 2020;**18**(1):10. [PubMed ID: [32066450](#)]. [PubMed Central ID: [PMC7025405](#)]. <https://doi.org/10.1186/s12958-019-0557-9>.
30. Gabr AA, Omran EF, Abdallah AA, Kotb MM, Farid EZ, Dieb AS, et al. Prevalence of sexual dysfunction in infertile versus fertile couples. *Eur J Obstet Gynecol Reprod Biol.* 2017;**217**:38–43. [PubMed ID: [28843867](#)]. <https://doi.org/10.1016/j.ejogrb.2017.08.025>.
31. Bonde JP. Male reproductive organs are at risk from environmental hazards. *Asian J Androl.* 2010;**12**(2):152–6. [PubMed ID: [19966832](#)]. [PubMed Central ID: [PMC3739096](#)]. <https://doi.org/10.1038/aja.2009.83>.
32. Yafi FA, Jenkins L, Albersen M, Corona G, Isidori AM, Goldfarb S, et al. Erectile dysfunction. *Nat Rev Dis Primers.* 2016;**2**:16003. [PubMed ID: [27188339](#)]. [PubMed Central ID: [PMC5027992](#)]. <https://doi.org/10.1038/nrdp.2016.3>.
33. Omar SM, Musa IR, Idrees MB, Abdelbagi O, Adam I. Prevalence and associated factors of erectile dysfunction in men with type 2 diabetes mellitus in eastern Sudan. *BMC Endocr Disord.* 2022;**22**(1):141. [PubMed ID: [35643513](#)]. [PubMed Central ID: [PMC9148516](#)]. <https://doi.org/10.1186/s12902-022-01060-0>.
34. Khaleghinezhad K, Kariman N, Nahidi F, Ebadi A, Nasiri M. [Prevalence of sexual dysfunction and some related factors among Iranian rural women]. *Koomesh.* 2018;**20**(2). Persian.
35. Raisi F, Ghassemzadeh H, Meysami A, Firoozikhojastefar R, Karamghadiri N, Sorayani M, et al. [Sexual dysfunction in Obsessive-Compulsive disorder]. *Tehran Univ Med J.* 2015;**73**(2). Persian.
36. Tang D, Wang Q, Jin Z, Xu C, Geng H, Zhang X, et al. The Influence of Male Erectile Function on Female Sexual Function: A Cross-Sectional Study in Chinese Infertile Couples. *ResearchSquare.* 2020;**Preprint**.
37. Afshary P, Nik Bina M, Najjar S. Determination of Factors Related to Sexual Function in Women; A Case Study. *J Health Res.* 2018;**3**(4):197–203. <https://doi.org/10.29252/hrjbaq.3.4.197>.
38. Safaei M, Rajabzadeh S. [A review of sexual functioning disorders amongst postmenopausal women referring to health centers of Torbat Heydariyeh in 2016]. *Journal of Torbat Heydariyeh University of Medical Sciences.* 2017;**3**(3):23–8. Persian.