


# Role of Psychosocial Job Stressors on Sexual Function of Male Nurses: The Mediator Role of Work Ability

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## Abstract

There is limited information on the specific psychosocial risks at work that can impact sexual function. The general aim of this study was to investigate the effects of multiple dimensions of psychosocial work stressors on the male sexual function. This was a cross-sectional study conducted among 153 male nurses working in two hospitals in Iran. Sexual function and psychosocial job stressors were measured using the Persian version of the International Index of Erectile Function (P-IIIEF) and the Persian version of the Health and Safety Executive (P-HSE) Management Standards Indicator Tool. The Persian version of the Work Ability Index (P-WAI) was used to assess the mediating effect of work ability on the relationship between overall stress and subscales of sexual function. The data were analyzed using Pearson product-moment correlation, one-way analysis of variance (ANOVA), and multiple linear regressions. The subscales of psychosocial job stressors, especially the subscale of role, had a significant correlation with several domains of sexual function. The regression modeling indicated that the subscales of role and job demands were significant predictors of various domains of sexual function. The effect of overall stress on intercourse satisfaction was fully mediated by WAI. In the other indicators of sexual function, overall stress score had only a significant direct effect, not mediated by WAI. Intervention programs to improve sexual function should focus on increasing nurses' involvement in making decisions related to jobs and on using ergonomic principles related to balancing job demands and the level of nurses' capabilities.

## Keywords

psychosocial job stressors, sexual function, erectile function, work ability, male, nurses

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In recent years, due to changes in work processes and the nature of work, researchers have paid increasing attention to psychosocial job stressors (Gharibi et al., 2016; Jood et al., 2017; Mokarami, Choobineh, & Nazifi, 2017; Stansfeld & Candy, 2006). The psychological and physical strains they cause can exceed a person's tolerance level, determining several negative consequences among employees, such as reduced concentration, efficiency, and performance, sleep disturbances, increased risk of cardiovascular diseases, musculoskeletal and digestive problems, occupational errors and accidents, increased work absences and burnout, decreased job satisfaction, increased physical and mental fatigue, and increased turnover (Ganster & Rosen, 2013; Lang, Ochsmann, Kraus, & Lang, 2012; Steptoe & Kivimaki, 2012; Takase, 2010). Another reported adverse effect concerns sexual function, which could be considered

an important dimension of the quality of an individual's life (Bodenmann, Ledermann, Blattner, & Galluzzo, 2006).

Optimal and satisfactory sexual function is achieved through an interaction between physical, mental, social,

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and emotional factors; high-quality sexual functioning increases an individual's willingness to participate in the next sexual relationship (WHO, 2006). Rosen et al. (2000) analyzed the interaction and the relationship between quality of life and sexual function and reported that sexual function affects a person's sexual ability and increases sexual satisfaction; satisfaction with relationships results in increased general life satisfaction and thus promotes a better quality of life. Since this is a bidirectional association, satisfaction with relationships and overall life satisfaction will promote better sexual function.

Bodenmann et al. (2006) reported that everyday stress and critical life events may play an important role in affecting sexual problems. More recently, Štulhofer, Traeen, and Carvalheira (2013) focused on the individual's working life and studied the association between job-related strain and sexual function in 2,112 Portuguese, Croatian, and Norwegian men. Using an overall measure of adverse workplace situations (i.e., job-related strain), they reported that men with job-related concerns reported lower sexual satisfaction and the study confirmed clinical insights about the role of job-related stress in the etiology of male sexual difficulties. The study suggests that negative mood is the mechanism (i.e., mediator effect) behind the association between workplace strain and sexual difficulties. When anxiety and depression were introduced in the mediation model, the direct association between workplace concerns and sexual health disturbances ceased to be significant. The study is limited by the use of only a global measure of job-related concerns, limiting the understanding of the specific psychosocial risks (i.e., stressors) that can impact sexual function and, thus, limiting the possibility to intervene with preventive actions and effective stressors management.

The general aim of this study is therefore to better understand the relationship existing between multiple dimensions of psychosocial work stressors and male sexual function. It used the Management Standards approach of the U.K. Health and Safety Executive, which is one of the most advanced methods for the screening of work-related stress (Edwards, Webster, Van Laar, & Easton, 2008; Marcatto, Colautti, Larese Filon, Luis, & Ferrante, 2014). The approach assesses the following seven psychosocial risks, which have the potential to lead to stress-related negative outcomes: demands, control, supervisor and peer support, relationships, change, and role. The first aim is to study if psychosocial work factors are related to male sexual function and, in particular, which of them shows a significant role. This understanding can be used to design interventions aimed at the reduction of the risks of sexual dysfunction.

Second, it was aimed to verify if a mediation model can be used to understand the effect of psychosocial work

stressors on sexual dysfunction, as proposed by Štulhofer et al. (2013). In particular, previous studies reported that psychosocial factors can negatively affect work ability (Gharibi et al., 2016) and it can be proposed that, in turn, work ability can diminish sexual function, mediating the effect of psychosocial work stressors.

## Materials and Methods

### Procedure and Participants

This study was a cross-sectional study conducted in Iran in two teaching hospitals affiliated with Sabzevar University of Medical Sciences and Birjand University of Medical Sciences. After study approval by the scientific and medical ethics committee of the two hospitals, the participants were selected using a convenience sampling method. First, the authors explained the research objectives to all the male nursing staff. After developing trust and obtaining written informed consent from the eligible people, the participants who agreed to take part in the study completed the questionnaires in a private location. Participation in the study was completely voluntary and an anonymous questionnaire was used.

The inclusion criteria were the following: a history of at least 1 year of work in the hospital, being married, and being sexually active. The exclusion criteria were the following: being affected by reproductive diseases, undergoing genital surgical processes that affect sexual desire, taking libido-lowering drugs, diabetes, arthrosclerosis, heart failure, high blood pressure, chronic kidney disease, and using condoms for the prevention of pregnancy. The data were collected through interviews and ineligible persons were excluded before data collection.

A total of 212 and 91 male nurses were working in Sabzevar and Birjand hospitals, respectively. Of these, 153 eligible nurses of Sabzevar hospital and 51 eligible employees of Birjand hospital consented to participate and complete the questionnaire. A total of 165 questionnaires were returned to the researchers and after reviewing the questionnaires and removing those with more than 20% of missing data, the responses obtained from 153 participants were used in the analyses.

### Measures

Four questionnaires were used to collect the required data. The first was an author-designed measurement instrument based on a literature review. The questions covered two domains including demographic data (age, education level, age of spouse, duration of marriage, and body mass index [BMI]) and work-related factors (job tenure and work schedule). The second questionnaire was the IIEF, which covers five domains: erectile function, orgasmic function, sexual desire, intercourse satisfaction,

and overall satisfaction with sexual function. This is a 15-item index and was developed by Rosen et al. Using the cutoff points, scores were grouped into five categories: severe, moderate, mild to moderate, mild dysfunction, and no dysfunction (healthy) (Rosen et al., 1997). The intercultural validation and generalizability of the Persian version of the IIEF were reported by Pakpour, Zeidi, Yekaninejad, and Burri (2014). The third questionnaire was the HSE Management Standards Indicator Tool used to assess psychosocial job stressors. This tool was developed by the U.K. HSE, as a part of the management standards approach. It measures seven psychosocial job stressors using 35 items: demands (issues like workload, work patterns, and work environment), control, managerial support provided by managers/supervisors (support and resources provided by organization and line managers), peer support (support and resources provided by partners), relationships (effective measures adopted for the prevention of conflict and dealing with inappropriate behavior), role (staff's clear understanding of roles in the organization), and changes (how changes in the organization are managed and communicated to employees; Edwards et al., 2008). The reliability and validity of the Persian version of the questionnaire was confirmed in previous studies (Gharibi et al., 2016). According to Edwards et al. (2008), the seven psychosocial factors can also be aggregated in an overall work-related stress score. This global score was computed in this study and used for the evaluation of the mediation model. The fourth questionnaire was the WAI, which assesses workers' physical and psychological capacity and their overall health condition. Gharibi et al. (2016) reported sound psychometric properties for the Persian version.

### Statistical Analysis

The collected data were analyzed using SPSS Statistics 21 (USA, SPSS Inc.). Pearson product-moment correlation and ANOVA were conducted in order to describe the sample, the variables, and their relationships.

The effects of psychosocial job stressors on sexual function were assessed through multiple linear regressions, controlling results for sociodemographic variables (age, educational level, age of the spouse, duration of the marriage, BMI, work schedule, and job tenure). These were entered as the first step.

To test the mediation effect of WAI on the relationship between overall stress and sexual function, the procedure suggested by Baron and Kenny (1986) was used and the following three steps were run: (a) The mediator (WAI) was regressed on the independent variable (overall stress); (b) the dependent variable (subscales of sexual function) was regressed on the independent variables; and (c) the dependent variable was regressed

simultaneously on the independent and mediator variables. According to Baron and Kenny (1986), mediation is present if all these conditions are met: (a) The independent variable affects the mediator; (b) the independent variable affects the dependent variable; and (c) the mediator affects the dependent variable, also reducing the effect of the independent variable on the dependent variable.

### Results

The mean (*SD*) age, job tenure, and duration of marriage of the participants were 35.1 (6.9), 10.7 (6.0), and 9.4 (6.2) years, respectively. Around 60% had a BMI greater than 25; the mean BMI was 26.1 (4.7) kg/m<sup>2</sup>. Table 1 presents the demographic and work-related factors and associations with the domains of IIEF. The results of the univariate statistical tests indicated a statistically significant relationship between mean scores of intercourse satisfaction and work schedule ( $p = .04$ ). However, other demographic variables and work-related factors investigated in this study had no statistically significant relationship with the five domains of IIEF. Nevertheless, it observed an almost significant relationship between work schedule and erectile function ( $p = .06$ ), between spouse's age and intercourse function ( $p = .06$ ), and between work schedule and sexual desire ( $p = .07$ ).

The mean (*SD*) scores obtained by the participants for psychosocial job stressors including job demands, control, relationships, managerial support, peer support, role, and organization changes were 3.1 (.71), 2.7 (.71), 3.7 (.80), 3.0 (.90), 3.5 (.86), 4.1 (.80), and 3.0 (1.0), respectively. In addition, the mean (*SD*) scores obtained for different domains of IIEF including erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction with sexual function were 22.0 (5.4), 7.3 (2.4), 5.4 (1.6), 10.4 (2.9), and 6.4 (1.7), respectively. After the classification of the scores obtained for each domain, 1.3% of the subjects had severe erectile dysfunction, 5.2% had severe problems in sexual desire and orgasmic function, 2.5% and 2% had severe problems with intercourse satisfaction and overall satisfaction with sexual function, respectively. Table 2 presents the distribution of the different domains of IIEF.

The results of the Pearson product-moment correlation indicated a statistically significant relationship between the subscale of role and five domains of IIEF. The subscale of peer support had a statistically significant relationship with the domains of erectile function, sexual desire, intercourse satisfaction, and overall satisfaction with sexual function. The subscales of control, managerial support, and organization change had a statistically significant relationship with sexual desire, intercourse satisfaction, and overall satisfaction with sexual function.

**Table 1.** Relationship Between Demographic and Work-Related Factors and Different Domains of Sexual Function in the Studied Population ( $n = 153$ ).

Characteristics	N (%)	Erection function		Orgasmic function		Sexual desire		Intercourse satisfaction		Overall satisfaction	
		Mean (SD)	<i>p</i> value	Mean (SD)	<i>p</i> value	Mean (SD)	<i>p</i> value	Mean (SD)	<i>p</i> value	Mean (SD)	<i>p</i> value
<b>Age (years)</b>											
≤29	26 (17)	21.7 (6.0)	.53 <sup>a</sup>	7.6 (2.5)	.87 <sup>a</sup>	5.2 (1.7)	.89 <sup>a</sup>	10.5 (2.8)	.96 <sup>a</sup>	6.7 (1.8)	.50 <sup>a</sup>
30–39	87 (56.9)	22.4 (5.6)		7.3 (2.4)		5.3 (1.5)		10.5 (2.9)		6.4 (1.7)	
40–49	31 (20.3)	21.6 (4.6)		7.1 (2.5)		5.5 (1.7)		10.2 (3.1)		6.2 (1.6)	
≥50	9 (5.9)	19.9 (4.4)		7.2 (1.6)		5.6 (1.8)		10.2 (2.7)		5.9 (2.0)	
<b>Educational level</b>											
High school	14 (9.2)	21.6 (5.0)	.80 <sup>a</sup>	7.2 (2.2)	.64 <sup>a</sup>	5.7 (1.7)	.22 <sup>a</sup>	10.6 (2.1)	.83 <sup>a</sup>	5.6 (1.7)	.23 <sup>a</sup>
Diploma	76 (49.7)	21.7 (5.3)		7.0 (2.6)		5.1 (1.6)		10.2 (2.8)		6.3 (1.7)	
Bachelor's degree	22 (14.4)	22.4 (6.1)		7.4 (2.8)		5.5 (1.6)		10.4 (3.7)		6.3 (1.8)	
Master's and above	37 (24.2)	22.6 (5.1)		7.6 (2.2)		5.7 (1.6)		10.8 (3.0)		6.7 (1.7)	
<b>Age of spouse (years)</b>											
≤29	72 (47.1)	22.5(5.8)	.10 <sup>a</sup>	7.4 (2.6)	.66 <sup>a</sup>	5.3 (1.6)	.94 <sup>a</sup>	10.5 (3.0)	.06 <sup>a</sup>	6.5 (1.6)	.20 <sup>a</sup>
30–39	63 (41.2)	22.1(4.2)		7.3 (1.9)		5.4 (1.6)		10.7 (2.5)		6.3 (1.7)	
≥40	18 (11.8)	19.4(7.0)		6.8 (2.9)		5.3 (1.7)		8.9 (3.7)		5.7 (1.8)	
<b>Length of marriage (years)</b>											
≤5	41 (26.8)	22.4 (7.2)	.92 <sup>a</sup>	7.2 (3.0)	.70 <sup>a</sup>	5.4 (1.7)	.72 <sup>a</sup>	10.4 (3.4)	.99 <sup>a</sup>	6.6 (1.6)	.83 <sup>a</sup>
6–10	57 (37.3)	22.1 (4.7)		7.4 (2.2)		5.2 (1.5)		10.5 (2.6)		6.3 (1.8)	
11–15	30 (19.6)	21.6 (4.9)		6.9 (2.1)		5.6 (1.8)		10.4 (3.3)		6.3 (1.8)	
≥16	25 (16.3)	21.6 (4.3)		7.6 (1.8)		5.4 (1.6)		10.2 (2.4)		6.2 (1.6)	
<b>BMI (kg/m<sup>2</sup>)</b>											
<25	63 (41.2)	20.9 (6.2)	.09 <sup>a</sup>	7.0 (2.5)	.44 <sup>a</sup>	5.1 (1.7)	.16 <sup>a</sup>	10.0 (3.2)	.15 <sup>a</sup>	6.3 (1.7)	.54 <sup>a</sup>
25–29.9	71 (46.4)	23.0 (4.5)		7.5 (2.2)		5.6 (1.4)		10.9 (2.7)		6.5 (1.7)	
≥30	19 (12.4)	21.7 (5.6)		7.4 (2.4)		5.2 (1.9)		9.8 (2.8)		6.1 (1.5)	
<b>Job tenure (years)</b>											
≤5	21 (13.7)	22.7 (5.0)	.80 <sup>a</sup>	7.3 (2.6)	.10 <sup>a</sup>	5.34 (1.7)	.72 <sup>a</sup>	10.6 (2.5)	.58 <sup>a</sup>	6.7 (1.6)	.21 <sup>a</sup>
5–9	47 (30.7)	22.0 (5.4)		7.2 (2.1)		5.2 (1.3)		10.6 (3.0)		6.5 (1.7)	
10–14	54 (35.3)	21.7 (6.0)		7.3 (2.5)		5.4 (1.54)		9.9 (2.9)		6.0 (1.7)	
≥15	31 (20.3)	21.3 (5.2)		7.4 (2.4)		5.7 (2.1)		10.7 (3.4)		6.2 (1.8)	
<b>Work schedule</b>											
Day work	87 (56.9)	21.2 (6.0)	.06 <sup>a</sup>	7.14 (2.3)	.2 <sup>a</sup>	5.2 (1.7)	.07 <sup>a</sup>	10.0 (3.3)	.04 <sup>a</sup>	6.2 (1.8)	.40 <sup>a</sup>
Two shifts	13 (8.5)	24.7 (3.4)		8.4 (2.0)		6.2 (1.7)		12.0 (2.0)		6.8 (1.7)	
Three shifts	53 (34.6)	22.6 (4.5)		7.3 (2.5)		5.5 (1.3)		10.7 (2.2)		6.5 (1.5)	

Note. <sup>a</sup>One-way analysis of variance; SD = standard deviation.

**Table 2.** Frequency Distribution of the Status of Different Domains of Sexual Function in the Studied Population ( $n = 153$ ).

Domains of sexual function	Severe dysfunction		Moderate dysfunction		Mild-to-moderate dysfunction		Mild dysfunction		Healthy (no dysfunction)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Erection function	2	1.3	7	4.6	27	17.6	62	40.5	55	35.9
Orgasmic function	8	5.2	9	5.9	32	20.9	51	33.3	53	34.6
Sexual desire	8	5.2	38	24.8	74	48.4	32	20.9	1	.7
Intercourse satisfaction	3	2.0	10	6.5	36	23.5	66	43.1	38	24.8
Overall satisfaction	4	2.6	21	13.7	55	35.9	72	47.1	1	.7

**Table 3.** Correlation Coefficients Between Subscales of Psychosocial Job Stressors and Different Domains of Sexual Function in the Studied Population ( $n = 153$ )

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Erectile function	22.0	5.4	1											
2. Orgasmic function	7.3	2.4	.63***	1										
3. Sexual desire	5.4	1.6	.55***	.42***	1									
4. Intercourse satisfaction	10.4	2.9	.76***	.60***	.59***	1								
5. Overall satisfaction	6.4	1.7	.47***	.42***	.50***	.56***	1							
6. Demand	3.1	.71	-.09	-.07	-.18*	-.16	-.12	1						
7. Control	2.7	.71	.03	.08	.17*	.17*	.18*	-.13	1					
8. Relationship	3.7	.80	.02	.05	.06	.11	.13	-.45***	-.20*	1				
9. Managerial support	3.0	.90	.11	.15	.20*	.19*	.19*	-.22**	.48***	.44***	1			
10. Peer support	3.5	.86	.16*	.11	.21*	.18*	.29***	-.03	.36***	.35***	.58***	1		
11. Role	4.1	.80	.28***	.23**	.19*	.26**	.27**	.09	.36***	.11	.35***	.49***	1	
12. Change	3.0	1.0	.12	.07	.30***	.20*	.26**	-.18*	.47***	.39***	.70***	.62***	.36***	1

Note. *SD* = standard deviation.  
 \*\*\* $p < .001$ . \*\* $p < .01$ . \* $p < .05$ .

**Table 4.** Multiple Regression Analyses Predicting Sexual Function in the Studied Population ( $n = 153$ )<sup>a</sup>

Predictors	Erectile function	Orgasmic function	Sexual desire	Intercourse satisfaction	Overall satisfaction
Demands	-.21*	-.12	-.25**	-.21*	-.15
Control	-.14	-.09	-.03	-.01	.00
Managers' support	.02	.17	-.01	.07	-.06
Peer support	.00	.02	.09	-.02	.17
Relationship	-.10	-.02	-.19	-.05	.02
Role	.32**	.28*	.15	.27**	.20*
Change	.11	-.09	.25	.09	.15
$R^2$ change	.13*	.08	.16**	.14**	.16**
Overall $R^2$	.15*	.09	.18**	.16*	.20**

Note. <sup>a</sup>Entries are standardized beta weights from full models. Only results of Step 2 (psychosocial factors) are reported.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

The results of the analysis identified that the highest level of correlation was observed between the domains of change and sexual desire ( $p < .001$ ,  $r = .30$ ), followed by peer support and overall satisfaction with sexual function ( $p < .001$ ,  $r = .29$ ; Table 3).

Multiple linear regression modeling, controlling for personal variables, was used to evaluate the predictors of sexual function. The results are reported in Table 4. The dimension of erectile function was significantly predicted by psychosocial factors, which together were able to explain a change of 13% in the explained variance. In particular, demands ( $\beta = -.21$ ;  $p = .35$ ) and role ( $\beta = .32$ ;  $p = .002$ ) were the two significant predictors, both indicating a better erectile function when demands and role are better. Orgasmic function was not significantly predicted by psychosocial factors, even if role indicated a significant index ( $\beta = .28$ ;  $p = .008$ ). Sexual desire was significantly predicted by psychosocial factors, which together were able to explain a

change of 16% in the explained variance. In particular, demands ( $\beta = -.25$ ;  $p = .009$ ) was the only significant predictor, indicating a better sexual desire when demands are lower. Intercourse satisfaction was significantly predicted by psychosocial factors, which together were able to explain a change of 14% in the explained variance. In particular, demands ( $\beta = -.21$ ;  $p = .33$ ) and role ( $\beta = .27$ ;  $p = .009$ ) were the two significant predictors, both indicating a better intercourse satisfaction when demands and role are better. Overall satisfaction was significantly predicted by psychosocial factors, which together were able to explain a change of 16% in the explained variance. In particular, role ( $\beta = .27$ ;  $p = .009$ ) was the only significant predictor, indicating a higher overall satisfaction when the understanding of the work role is better. In sum, the results indicated support to the predicting role of psychosocial stressors on sexual function, and demands and role were the most important predictors.

Finally, we evaluated whether the WAI mediates the effect between overall work-related stress and sexual function. First, the WAI index was regressed on the overall stress score, providing a significant result ( $\beta = .53$ ;  $p < .001$ ). Second, each of the five dimensions of sexual function was regressed on the overall stress score and the results were all significant with the following values: erectile function ( $\beta = .21$ ;  $p = .015$ ), orgasmic function ( $\beta = .17$ ;  $p < .045$ ), sexual desire ( $\beta = .31$ ;  $p < .001$ ), intercourse satisfaction ( $\beta = .32$ ;  $p < .001$ ), and overall satisfaction ( $\beta = .37$ ;  $p < .001$ ). In the final step (mediator and independent variable introduced simultaneously), we evaluated the predicting role of the WAI index on the five indicators of sexual function, but this was significant only for intercourse satisfaction ( $\beta = .25$ ;  $p = .008$ ). In this case, the effect of the overall stress score decreased from the previous .32 (see preceding text) to .19 and it was slightly not significant ( $p = .051$ ). This result indicates that the effect of overall stress on intercourse satisfaction is fully mediated by WAI. In the other cases (i.e., indicators of sexual function), the overall stress score had only a significant direct effect, not mediated by WAI.

## Discussion

This study investigated for the first time the effect of multiple dimensions of psychosocial job stressors on the sexual function of male nurses. Most of the nurses had mild-to-severe disorders in all domains of sexual function, especially in the domains of sexual desire and overall satisfaction with sexual function. The results suggested a significant relationship between work schedule and sexual function. In addition, among the different subscales of psychosocial job stressors investigated in this study, role and job demands had the highest impact on several domains of the IIEF. These problems may affect employees' family relationships and marital satisfaction, consequently affecting their activities at the workplace, with a negative impact on their performance and efficiency.

The results of this study reported that the scores of psychosocial job stressors, particularly the subscale of role, were generally high among the surveyed nurses. In line with this finding, the results of previous studies conducted on Iranian employees reported that the prevalence of psychosocial job stressors is high in most workplaces (Gharibi et al., 2016; Mokarami, Mortazavi, Asgari, Choobineh, & Stallones, 2017; Mokarami, Stallones, Nazifi, & Taghavi, 2016). Moreover, due to the economic problems in Iran that have emerged in recent years, most employees are faced with the risk of job insecurity and unemployment, which can impose considerable stress. Job stressors have been associated with lower marital satisfaction (Mauno & Kinnunen, 1999). Roberts and

Levenson (2001) identified that job stressors had an impact on partners' relationships at the end of a working day; moreover, high levels of job stress and subsequent negative emotions lead to conflict, tension, and confusion in marital relationships and increase the risk of future divorce and separation. Job stressors may, on the one hand, cause negative reactions and fault-seeking behaviors toward others in daily interactions and in the workplace; on the other hand, in the case of continuation of this situation and the persistence of negative feelings, such emotions may also affect family life and an individual's relations with spouse and children. Consequently, they can result in various problems such as marital discord and conflict, maladaptive parent-child interactions, and an increase in domestic violence (Story & Repetti, 2006). Generally, work and family are very closely inter-related; thus, problems and conflicts in one of the these two domains may be transferred to the other; in fact, the presence of stress and problems in one may hinder a person in fully performing the duties and roles in the other and consequently lead to discomfort and dissatisfaction among couples. After a highly challenging and stressful work day, an employee may transfer the negative emotions to the home environment and consequently have maladaptive interactions with his/her spouse. On the other hand, conflicts in marital life and negative conditions at home can exacerbate discomfort and unpleasant emotions in a stressful work environment or even create problems at the workplace.

The results of regression modeling indicated that the subscale of role and demands were the most important predictors of different domains of sexual function. In particular, compared with other subscales of job stressors, role had a higher mean score, which indicated the employees' distorted perception of their role in the organization, making their job seem worthless in their view. Gharibi et al. (2016) conducted a study among Iranian employees in different occupations and their results indicated that role was one of the major predictors of employees' work ability. The results of other studies suggest that problems with role also affect productivity and job satisfaction (Hoboubi et al., 2017), depression (Wu, Ge, Sun, Wang, & Wang, 2011), absenteeism, and turnover (Gormley & Kennerly, 2011). Based on Hackman and Oldham's job characteristics model, in order to make a job motivating for employees and prevent related stress, it is necessary to consider two key features of "task identity and task significance" in job design (Hackman & Oldham, 1975). Furthermore, based on the principles of macroergonomics, in order to increase employees' satisfaction with their work and organization, they must be involved in making decisions about their job and be aware of their role in the organization (Hendrick & Kleiner, 2002).

Job demands (workload, work patterns, and the work environment) was one of the other job stressors that affected the sexual function of participants in this study. When employees are faced with a combination of physical stress, such as high workload and being forced to do tasks in a short period regardless of their capabilities, and psychosocial stress, such as conflicts and ambiguity in their job duties, their health could be jeopardized. In line with the results of this study, the findings of previous studies suggest that the combination of physical and psychological stress caused by high job demands could have an impact on the prevalence of musculoskeletal problems and decrease work ability and quality of life (Gharibi et al., 2016; Mokarami et al., 2016, 2017; Widanarko, Legg, Devereux, & Stevenson, 2014).

Finally, following Štulhofer et al. 2013, this study evaluated whether some personal characteristics could mediate the effect of psychosocial work environment on sexual function. Focusing on the WAI, the results indicated that it fully mediates the relationship between overall stress and intercourse satisfaction, but not the other indicators of sexual function. This result implies that the reduction of work ability due to work-related stress exerts a direct impact on employees' sexual performance through affecting intercourse quality. This may happen due to a reduction of psychological and physical ability and its influence on intercourse potential. In line with these findings, the results revealed that among the dimensions of sexual function, a significant relationship exists only between intercourse satisfaction and work schedule, as a stressful factor. To the best of our knowledge, no research has yet been carried out on the relationship between WAI and sexual dysfunction. However, previous research has implied a significant relationship between WAI and quality of life (Milosevic et al., 2011). Furthermore, Maasoumi et al. (2017) suggested that there is a significant relationship between the WAI and the sexual quality of life in men. A reason behind this may be the two-way relationship existing between the WAI and the quality of life and sexual quality of life. On one hand, the improvement of work ability can lead to the improvement of employees' quality of life or sexual quality of life through inculcating an overall feeling of satisfaction; on the other hand, employees with a high quality of life usually have a strong work ability as well. In general, given that here the WAI was a mediator for only one dimension of sexual function, it would be worthwhile to investigate the role of other mediating individual factors.

### Limitation

This study had some limitations: It used a self-report tool for data collection; it conducted the research in just one

work environment; and it used a cross-sectional design. In addition, it did not evaluate the sexual function of the nurses by job title and working unit; this limitation was due to the instructions given by the scientific and medical ethics committee of the studied hospitals and also the employees' unwillingness to report their job title and working unit. Hence, further studies are recommended to avoid these limitations and increase the generalizability of the results.

### Conclusion

The prevalence of sexual dysfunction among the studied nurses was relatively high and lack of clear job roles and high job demands could affect the sexual function of male nurses. Intervention programs aiming to increase employee involvement in making decisions related to jobs and on using ergonomic principles related to balancing job demands and the level of employees' capabilities might improve work-related quality of life of male nurses, which might translate into improvements in sexual function.

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### Authors' Contribution

HM: design, planning and conduct of study, data analysis, and manuscript writing; ST: data analysis and manuscript editing; TRP: data analysis and manuscript writing; and ET: design, planning and conduct of study, and manuscript writing.

### Declaration of Conflicting Interests

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### References

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.
- Bodenmann, G., Ledermann, T., Blattner, D., & Galluzzo, C. (2006). Associations among everyday stress, critical life

- events, and sexual problems. *The Journal of Nervous and Mental Disease*, 194(7), 494–501.
- Edwards, J. A., Webster, S., Van Laar, D., & Easton, S. (2008). Psychometric analysis of the UK health and safety executive's management standards work-related stress indicator tool. *Work & Stress*, 22(2), 96–107.
- Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health a multidisciplinary review. *Journal of Management*, 39(5), 1085–1122.
- Gharibi, V., Mokarami, H., Taban, A., Yazdani Aval, M., Samimi, K., & Salesi, M. (2016). Effects of work-related stress on work ability index among Iranian workers. *Safety and Health at Work*, 7(1), 43–48.
- Gormley, D. K., & Kennerly, S. (2011). Predictors of turnover intention in nurse faculty. *Journal of Nursing Education*, 50(4), 190–196.
- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 60(2), 159–170.
- Hendrick, H. W., & Kleiner, B. (2002). *Macroergonomics: Theory, methods, and applications*. Boca Raton, FL: CRC Press.
- Hoboubi, N., Choobineh, A., Kamari Ghanavati, F., Keshavarzi, S., & Akbar Hosseini, A. (2017). The impact of job stress and job satisfaction on workforce productivity in an Iranian petrochemical industry. *Safety and Health at Work*, 8(1), 67–71.
- Jood, K., Karlsson, N., Medin, J., Pessah-Rasmussen, H., Wester, P., & Ekberg, K. (2017). The psychosocial work environment is associated with risk of stroke at working age. *Scandinavian Journal of Work, Environment & Health*, 43(4), 367–374.
- Lang, J., Ochsmann, E., Kraus, T., & Lang, J. W. (2012). Psychosocial work stressors as antecedents of musculoskeletal problems: A systematic review and meta-analysis of stability-adjusted longitudinal studies. *Social Science & Medicine*, 75(7), 1163–1174.
- Maasoumi, R., Mokarami, H., Nazifi, M., Stallones, L., Taban, A., Yazdani Aval, M., & Samimi, K. (2017). Psychometric properties of the Persian translation of the sexual quality of life-male questionnaire. *American Journal of Men's Health*, 11(3), 564–572.
- Marcatto, F., Colautti, L., Larese Filon, F., Luis, O., & Ferrante, D. (2014). The HSE management standards indicator tool: Concurrent and construct validity. *Occupational Medicine*, 64(5), 365–371.
- Mauno, S., & Kinnunen, U. (1999). The effects of job stressors on marital satisfaction in Finnish dual-earner couples. *Journal of Organizational Behavior*, 20(6), 879–895.
- Milosevic, M., Golubic, R., Knezevic, B., Golubic, K., Bubas, M., & Mustajbegovic, J. (2011). Work ability as a major determinant of clinical nurses' quality of life. *Journal of Clinical Nursing*, 20(19–20), 2931–2938.
- Mokarami, H., Choobineh, A., & Nazifi, M. (2017). A systematic review on the available questionnaires for the assessment of work-related stressors. *Iran Occupational Health*, 14(5), 74–65.
- Mokarami, H., Mortazavi, S. B., Asgari, A., Choobineh, A., & Stallones, L. (2017). Multiple dimensions of work-related risk factors and their relationship to work ability among industrial workers in Iran. *International Journal of Occupational Safety and Ergonomics*, 23(3), 374–379.
- Mokarami, H., Stallones, L., Nazifi, M., & Taghavi, S. M. (2016). The role of psychosocial and physical work-related factors on the health-related quality of life of Iranian industrial workers. *Work*, 55(2), 441–452.
- Pakpour, A. H., Zeidi, I. M., Yekaninejad, M. S., & Burri, A. (2014). Validation of a translated and culturally adapted Iranian version of the international index of erectile function. *Journal of Sex & Marital Therapy*, 40(6), 541–551.
- Roberts, N. A., & Levenson, R. W. (2001). The remains of the workday: Impact of job stress and exhaustion on marital interaction in police couples. *Journal of Marriage and Family*, 63(4), 1052–1067.
- Rosen, R., Brown, C., Heiman, J., Leiblum, S., Meston, C., Shabsigh, R., ... D'Agostino, R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy*, 26(2), 191–208.
- Rosen, R. C., Riley, A., Wagner, G., Osterloh, I. H., Kirkpatrick, J., & Mishra, A. (1997). The International Index of Erectile Function (IIEF): A multidimensional scale for assessment of erectile dysfunction. *Urology*, 49(6), 822–830.
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health—a meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32(6), 443–462.
- Stephoe, A., & Kivimaki, M. (2012). Stress and cardiovascular disease. *Nature Reviews Cardiology*, 9(6), 360–370.
- Story, L. B., & Repetti, R. (2006). Daily occupational stressors and marital behavior. *Journal of Family Psychology*, 20(4), 690–700.
- Štulhofer, A., Traeen, B., & Carvalheira, A. (2013). Job-related strain and sexual health difficulties among heterosexual men from three European countries: The role of culture and emotional support. *The Journal of Sexual Medicine*, 10(3), 747–756.
- Takase, M. (2010). A concept analysis of turnover intention: Implications for nursing management. *Collegian*, 17(1), 3–12.
- Widanarko, B., Legg, S., Devereux, J., & Stevenson, M. (2014). The combined effect of physical, psychosocial/organisational and/or environmental risk factors on the presence of work-related musculoskeletal symptoms and its consequences. *Applied Ergonomics*, 45(6), 1610–1621.
- World Health Organization. (2006). *Defining sexual health: Report of a technical consultation on sexual health, 28–31 January 2002, Geneva*. Geneva: World Health Organization.
- Wu, H., Ge, C. X., Sun, W., Wang, J. N., & Wang, L. (2011). Depressive symptoms and occupational stress among Chinese female nurses: The mediating effects of social support and rational coping. *Research in Nursing & Health*, 34(5), 401–407. doi:10.1002/nur.20449