CORRELATION OF FEMALE SEXUAL DYSFUNCTION WITH OCCUPATIONAL BURNOUT IN MARRIED NURSE

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ABSTRACT

Objective: *This study aims to see the correlation between occupational burnout and sexual dysfunction in Indonesian female nurses.* ***Material &Methods:*** *A cross sectional study was conducted in Kardinah General Hospital, Tegal, Central Java, Indonesia between January 2022, and March 2022. An anonymous, self-administered online questionnaire was used. Our study subjects are female nurses from outpatient clinics, inpatient wards, high/intensive care unit, emergency unit, and operating theater. We distributed online questionnaires to female nurses who matched our inclusion and exclusion criteria. Occupational burnouts among nurses were assessed using Copenhagen Burnout Inventory (CBI), while Female sexual dysfunction (FSD) was assessed using Female Sexual Function Index (FSFI). Statistical analysis was conducted using IBM SPSS software ver 25.0.* ***Results:*** *A total of 285 nurses participated as samples of this study, 164 nurses (57.54%) were in the low workload group and 121 nurses (42.46%) in the high workload group. The prevalence of sexual dysfunction in female nurses in this study was as high as 87.7% While occupational burnout in high and low workload nurses in our study was 42.2% and 19.5%, respectively. The analysis shows a significant negative correlation between CBI score, sub scores, and burnout status to FSFI score ($p < 0.05$) although these correlations were weak. Our data proved that there were no independent variables that can become a predictor variable.* ***Conclusion:*** *Married female nurseshave a relatively high occupational burnout and are prone to sexual dysfunction. This study showed statistically significant but weak correlation between occupational burnout with sexual dysfunction in married female nurses from the CBI total score, subscores and burnout status with FSFI total score and subscores in terms of lubrication, orgasm, satisfaction, and pain.*

Keyword: *Female sexual dysfunction, occupational burnout, married, nurse, CBI, FSFI.*

ABSTRAK

Tujuan: *Penelitian ini bertujuan untuk melihat korelasi antara kelelahan kerja dan disfungsi seksual pada perawat wanita di Indonesia.* ***Bahan &Cara:*** *Penelitian potong lintang dilakukan di Rumah Sakit Umum Kardinah, Tegal, Jawa Tengah, Indonesia antara Januari 2022 dan Maret 2022. Kuesioner anonim online yang diisi diri sendiri. Subjek penelitian kami adalah perawat wanita dari klinik rawat jalan, bangsal rawat inap, unit perawatan tinggi/intensif, unit gawat darurat, dan ruang operasi. Kami mendistribusikan kuesioner daring kepada perawat wanita yang sesuai dengan kriteria inklusi dan eksklusi kami. Kelelahan kerja di antara perawat dinilai menggunakan Copenhagen Burnout Inventory (CBI), sementara disfungsi seksual wanita (FSD) dinilai menggunakan Female Sexual Function Index (FSFI). Analisis statistik dilakukan dengan menggunakan perangkat lunak IBM SPSS ver 25.0.* ***Hasil:*** *Sebanyak 285 perawat berpartisipasi sebagai sampel penelitian ini, 164 perawat (57.54%) berada dalam kelompok beban kerja rendah dan 121 perawat (42.46%) dalam kelompok beban kerja tinggi. Prevalensi disfungsi seksual pada perawat wanita dalam penelitian ini setinggi 87.7%. Sementara kelelahan kerja pada perawat beban kerja tinggi dan rendah dalam penelitian kami masing-masing adalah 42.2% dan 19.5%. Analisis menunjukkan korelasi negatif yang signifikan antara skor CBI, sub skor, dan status kelelahan kerja terhadap skor FSFI ($p < 0.05$) meskipun korelasi ini lemah. Data kami membuktikan bahwa tidak ada variabel independen yang dapat menjadi variabel prediktor.* ***Simpulan:*** *Perawat wanita yang sudah menikah memiliki kelelahan kerja yang relatif tinggi dan rentan terhadap disfungsi seksual. Studi ini menunjukkan korelasi yang signifikan secara statistik namun lemah antara kelelahan kerja dengan disfungsi seksual pada perawat wanita yang sudah menikah berdasarkan skor total, subskor, dan status kelelahan kerja CBI dengan skor total dan subskor FSFI dalam hal lubrikasi, orgasme, kepuasan, dan nyeri.*

Kata kunci: *Disfungsi seksual wanita, kelelahan kerja, menikah, perawat, CBI, FSFI.*

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INTRODUCTION

Sexual dysfunction is defined as a clinically significant disturbance in a person's ability to respond sexually or to experience sexual pleasure.[1-2] Female sexual dysfunction (FSD) is classified into four disorders; sexual interest arousal disorder, orgasmic disorder, genito-pelvic pain/penetration disorder, substance/medication-inducedsexual dysfunction.[1,3] Epidemiological data showed the prevalence of FSD was varied between studies and countries. A meta-analysis of 135 studies showed the prevalence of FSD in premenopausal women was 40.9%.[4] In contrary, previous study in Indonesia showed that the prevalence of FSD was 9.2%[5], while another recent unpublished study reported 34.5%[6], which are lower than other country prevalences. Despite the high prevalence of FSD, sexual problems are rarely a focus of clinical consultation due to their intimate and private nature. In a conservative country like Indonesia, it is even more difficult to address these problems considering the culture, ethnic and religion factors.

Sexual dysfunction could be caused by hormone dysregulation, neurogenic, physical activities, long-term physical stress such as when patient had long-term ureteral stent indwelling and psychological stress.[7–9] Chronic anxiety which can be caused by occupational stress and burnout is associated with sexual dysfunction and even erectile dysfunction.[10] A study in menopausal women from Iran showed that stress, anxiety, and depression significantly impact sexual function assessed using Female Sexual Function Index (FSFI).[11] A cross-sectional study by Papaefstathiou, et al showed that job stress in female can cause decreased vaginal lubrication during sexual intercourse and even can decrease orgasm rate and satisfaction.[12]

Burnout and occupational stress are common problems especially in modern society. The term “occupational burnout” or “job burnout” was first described as a health term from back in 1974 when this term described as a syndrome of emotional and psychological exhaustion caused by the patients occupation.[13] According to the latest description model of Copenhagen, burnout is a psychological conditions that have three elements; personal, professional, and client-related exhaustion which can be diagnosed in every type of occupation.[14] Occupational stress is also a psychological conditions described as the anxiety caused by one's professional occupation.[15] Cross-sectional studies shows that burnouts and stresses are linked to many health issues such as sleep disorders, increased alcohol consumption, depression, sedentarism, obesity, myalgia and even sexual dysfunction.[10,16]

Occupational stress and burnout are a growing concern among health professionals due to the demand for urgent care especially in emergency units and long work hours. Due to the unprecedented Covid 19 pandemic, health workers are experiencing increased stigmatization, harassment, physical violence and even psychological trauma, including increased rates of burnout.[17-18] The prevalence of burnout in medical professionals varies widely. Among all of the health workers, nurses are the most numerous. Overall prevalence of burnout among nurse is 11.23% with the highest burnout was observed in pediatric nurses while geriatric nurses had the lowest prevalence of burnout.[19] A cross-sectional study conducted in hospitals on East Java showed that around 34.8% of nurses had symptoms of burnout with 24.3% in the area of depersonalization.[20] A data of cross sectional conducted in Bandung, West Java also showed similar result with over a third of hospitals experienced a high burnout level.[21]

The effect of occupational burnout among nurses worldwide to sexual dysfunction is rarely studied. In Indonesia, a descriptive exploratory with a cross-sectional approach involving 485 nurses in medical and surgical units in three general hospitals showed that there is a high level of burnout syndrome in nurses who work in the hospitals (a high level of emotional fatigue, depersonalization and reduced personal accomplishment, around 34.8%, 24.3%, 24.5% respectively).[20] With its high prevalence of nurse occupational burnout, sexual dysfunction could be a significant problem experienced by nurses across the country.

OBJECTIVE

This study aims to see the correlation between occupational burnout and sexual dysfunction in Indonesian female nurses.

MATERIAL &METHODS

A cross sectional study was conducted in Kardinah General Hospital, Tegal, Central Java, Indonesia between January 2022 and March 2022. An anonymous, self-administered online questionnaire was collected from female nurses in

this hospital. Participation was voluntary without giving their names or any personal data to ensure anonymity. Our study subjects are female nurses from outpatient clinics, inpatient wards, high/intensive care unit, emergency unit, and operating theater. We included female nurses aged >18 years old, married, non-pregnant, and non-lactating. Subjects who didn't actively engage in sexual relationships during the last 6 months and have trouble filling the questionnaire were excluded. We distributed 285 online questionnaires to female nurses who matched our inclusion and exclusion criteria. All respondents completed the questionnaire and enrolled in the research.

In this study, we divided nurses into two groups based on how big their workload is. Their level of workload is categorized based on the department in which they worked. For the low workload group, we collected data from nurses who work in outpatient clinics and inpatient wards. High-workload nurses are collected from the intensive care unit, emergency department, and operating theater. We collected general demographics data from nurses which could be a confounding factor in our study such as age, body mass index (BMI), length of marriage, number of pregnancies, and number of kids.

Occupational burnouts among nurses were assessed using Copenhagen Burnout Inventory (CBI) designed by Kristensen, et al back in 2005.[22] This questionnaire assessed burnout in three domains or subscore; 6 items assessing personal burnout, 7 items assessing work-related burnout, and 6 items assessing client-related burnout. We measured and added scores from each subscore and with 50 scores as a cut off we categorized nurses burnout status into 'burnout" and "no burnout" if it is less than 50.[23] In this study, we also include raw scores number from each subscore and total CBI score in our analysis.

Female sexual dysfunction (FSD) was assessed using Female Sexual Function Index (FSFI) developed by Rosen, et al in 2000.[24] This questionnaire is a brief multidimensional scale to assess sexual function in women. Consisted of 19 items, FSFI assessed the sexual function in women over the past 4 weeks in six domains or subscore; sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. To calculate sexual desire, the sum of the first two questions is multiplied by 0.6. Arousals are calculated by adding the score of third to sixth questions and multiplied it by 0.3. Lubrication is the sum of scores from seventh to tenth questions multiplied by 0.3. Orgasm scores are calculated by adding scores from eleventh to fourteenth questions and multiplying it by 0.4. Fifteenth to seventeenth question's scores are added and multiplied by 0.4 to yield the satisfaction score. The last two questions assess pain subscore with their score added and multiplied by 0.4 to yield pain score. Total score from each subscore then summed to yield total FSFI scores. Aside from raw numerical value of FSFI subscore and total FSFI score, we also include categorical data of "FSD status." Total FSFI score values below 26 (maximum 36) suggest sexual dysfunction.[25-26] Data collected are then managed in Microsoft Excel™ before analyzed and presented in our result section.

Statistical analysis was conducted using IBM SPSS software ver 25.0. Normality test was conducted using Kolmogorov-Smirnov test. Based on each variable data normality distribution, significant difference of a dependent variable between two independent variables was assessed using either independent t-test or Mann-Whitney test. Correlation analysis was also conducted using either Pearson correlation or spearman rank-order correlation based on variable data distribution normality. Multi-step regression analysis was also conducted on variables with significant correlation to determine the strength of each predictor variable to predict outcome variable (total FSFI score). Logistic regression is also used for categorical dependent variables (Degree of FSD) to determine its odds ratio for each independent variable showing significant correlation in spearman correlation analysis.

RESULTS

A total of 285 nurses participated as samples of this study, 164 nurses (57.54%) were in the low workload group and 121 nurses (42.46%) in the high workload group. The demographic data that includes the sample's age, length of marriage, number of pregnancies, number of kids, and body mass index (BMI) was acquired and compared between the nurses who work with high workload and low workload (Table 1). Analysis of CBI score and subscore, burnout status, FSFI score and subscore, and FSD status between different workload groups shows no significant impact of workload to all variables (Table 2).

We analyzed some factors that might affect FSD status, FSFI score and subscores (Table 3). Spearman correlation analysis shows a significant negative correlation between CBI score, subscores and burnout status to FSFI score ($p < 0.05$). These correlations however were very weak with its

correlation coefficient absolute number being under 0.20. The strongest correlation was shown by the total CBI score (r = 0.19). Our analysis showed no correlation between age, BMI, length of marriage, number of pregnancies, and number of kids with FSFI score ($p > 0.05$). All of these independent factors also showed no correlation with FSD status ($p > 0.05$).

Correlation analysis was conducted between CBI score, subscores, and burnout status with FSFI subscore (Table 3). Our data showed that lubrication, orgasm, and satisfaction are negatively affected. Pain was positively correlated with CBI score, personal burnout, work related burnout, and burnout status, while the subject's age and length of marriage showed significant negative correlations with pain. Overall correlations were very weak or weak, with correlation coefficients only around 0.12 - 0.22.

In this study, we conducted a regression analysis of CBI score, subscores, and burnout status to find which variables are able to predict low FSFI score (Table 4). Our data proved that there were no independent variables that can become a predictor variable with all variables showing no significant p value and very small coefficient, which indicate their

Table 1. Demographic data of samples between high workload group and low

	Workload	
	High workload (n = 121)	Low workload (n = 164)
Age (years) (range (median))	23 - 58 (32)	24 - 57 (33)
BMI (Kg/m^2) (range (median))	23.6– 28.1 (24.7)	23.1 – 27.7 (24.2)
Length of marriage (years) (range (median))	1-30 (8)	0-31 (8)
Number of pregnancy (n (%))		
0	12 (48)	13 (52)
1	46 (46.5)	53 (53.5)
2	48 (46.6)	55 (53.4)
3	11 (25.0)	33 (75.0)
4	4 (40.0)	6 (60.0)
5	0 (0)	3 (100)
6	0 (0)	1 (100)
Number of children (n (%))		
0	10 (55.6)	8 (44.4)
1	59 (47.97)	64 (52.03)
2	42 (39.62)	64 (60.38)
3	9 (26.5)	25 (73.5)
4	0 (0)	3 (100)
5	1 (100)	0 (0)

n = number of samples; kg = kilogram; m = meter

Table 2. CBI score, burnout status, FSFI score, and FSD status between different workload groups.

	Workload		
	High workload (n = 121)	Low workload (n = 164)	P
Total CBI score (mean (SD))	42.6 (8.4)	43.2 (8.7)	0.22
CBI personal burnout (median (IQ))	14.0 (3.5)	13.0 (4.8)	0.27
CBI work related burnout (median (IQ))	18.0 (4.0)	17.0 (4.0)	0.26
CBI client related burnout (median (IQ))	13.0 (4.5)	13.0 (4.0)	0.26
Burnout status (n (%))			0.23
No Burnout	70 (57.8)	132 (80.5)	
Burnout	51 (42.2)	32 (19.5)	
Total FSFI score (median (IQ))	22.4 (4.12)	24.2 (4.2)	0.47
Sexual desire (median (IQ))	3.6 (0.6)	3.6 (0.6)	0.88
Arousal (median (IQ))	3.6 (1.2)	3.6 (0.9)	0.12
Lubrication (median (IQ))	4.8 (1.6)	4.8 (1.5)	0.12
Orgasm (median (IQ))	4.4 (1.2)	5.2 (1.2)	0.40
Satisfaction (median (IQ))	4.8 (1.2)	4.8 (1.2)	0.25
Pain (median (IQ))	2.2 (2.0)	2.4 (2.0)	0.50
FSD Status (n (%))			0.25
No FSD	17 (17.3)	18 (11.0)	
FSD	104 (82.7)	146 (89.0)	

SD = standard deviation; IQ = Interquartile range

Table 3. Correlation analysis of factors affecting total FSFI score, CBI scores and burnouts status to FSFI subscore, and statistical analysis of factors affecting FSD status.

	FSD status			FSFI subscore												FSFI score	
				Sexual desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain			
	No FSD	With FSD	p	p	r	p	r	p	r	p	r	p	r	p	r	p	r
Total CBI score	42.54(8.5)	42.74(8.8)	0.19	0.56	-0.03	0.18	-0.07	**0.02***	**-0.18**	**0.01***	**-0.20**	**0.02***	**-0.21**	**0.03***	**0.17**	**0.01***	**-0.19**
CBI personal burnout	14.0(3.0)	14.0 (3.0)	0.15	0.32	-0.08	0.19	-0.09	**0.02***	**-0.15**	**0.03***	**-0.21**	**0.02***	**-0.20**	**0.01***	**0.18**	**0.04***	**-0.17**
CBI Work related burnout	18.0 (6.0)	16.0 (4.0)	0.55	0.74	-0.04	0.26	-0.09	**0.03***	**-0.12**	**0.01***	**-0.17**	**0.01***	**-0.17**	**0.04***	**0.17**	**0.02***	**-0.16**
CBI client related burnout	12.0(4.0)	14.0 (3.0)	0.45	0.80	-0.03	0.25	-0.10	**0.04***	**-0.17**	**0.03***	**-0.21**	**0.01***	**-0.20**	0.06	0.12	**0.03***	**-0.16**
Burnout status			0.68	0.76	-0.04	0.11	-0.12	**0.03***	**-0.16**	**0.04***	**-0.19**	**0.04***	**-0.22**	**0.03***	**0.19**	**0.04***	**-0.18**
No Burnout	23(65.7)	182(72.8)															
Burnout	12 (42.9)	68 (27.2)															
Age	33 (10.0)	34 (9.0)	0.88	0.71	-0.03	0.72	-0.03	0.86	0.02	0.84	-0.03	0.57	-0.039	**0.03***	**-0.18**	0.15	-0.10
BMI	25.2 (4.82)	24.2(4.50)	0.75	0.55	0.08	0.20	0.05	0.70	-0.05	0.80	0.01	0.52	-0.044	0.09	-0.12	0.24	-0.05
Length of marriage	7 (9.0)	8 (10.0)	0.92	0.43	-0.05	0.43	-0.04	0.65	-0.03	0.68	-0.03	0.61	-0.035	**0.03***	**-0.18**	0.42	-0.10
Number of pregnancies	2 (1.0)	2 (2.0)	0.76	0.41	0.06	0.35	0.02	0.44	0.06	0.92	-0.02	0.87	-0.011	0.28	-0.07	0.98	-0.02
Number of children	2 (1.0)	2 (1.0)	0.72	0.30	0.07	0.80	0.08	0.52	0.05	0.84	-0.02	0.77	-0.019	0.94	0.01	0.87	-0.03

Table 4. Multiple linear regression analysis with total FSFI score as an outcome variable.

	FSFI score		
	Beta	95% CI for B	p
Total CBI score	-0.120	-0.171 – 0.031	0.09
CBI personal burnout	0.087	-0.240 – 0.538	0.43
CBI Work related burnout	-0.165	-0.658 – 0.176	0.25
CBI client related burnout	-0.634	-0.473 – 0.258	0.57
Burnout status	-0.081	-2.134 – 0.430	0.18

Beta = standardized coefficient; 95% CI = Confidence interval of 95%

DISCUSSION

Our study showed the prevalence of sexual dysfunction in female nurse were as high as 87.7% which seem to be much higher than any other prevalence studies.[4-5] This difference might be caused by some factors such as different participants study population, sampling method, the levels of education, the nature of their work or schedules, understanding of the human body, or a lack of disclosure. Meanwhile, the prevalence of occupational burnout in high and low workload nurses in our study was 42.2% and 19.5% from both groups respectively. However, only 68 out of 285 nurses are having burnout status and also FSD based on the electronic questionnaire results. A systematic review and meta-analysis of burnout among healthcare workers in Covid 19 pandemic showed a much higher prevalence, as high as 52% (95% CI 0.40-0.63).[27] Different study design, subject, and the use of Maslach Burnout Inventory (MBI) to assess occupational burnout in majority of the studies might be the main reason to this different of prevalent.

There was no significant difference in occupational burnout or sexual dysfunction between high and low workload group. This finding was in contrast to a previous study, a meta-analysis of occupational burnout among nurses from 61 studies, which showed that nurses who work in intensive care units have the highest burnout compared to other places in the hospital.[19] This results might be due to the small number of participants from the high workload group in our study. On the other hand, there is maybe coping mechanism differences among healthcare individuals in different countries that may affect the results. Further studies need to be done to investigate this association with a larger number of participants.

Our analysis showed that there were significant negative correlations between CBI score, subscores, and burnout status with FSFI total score and some of the subscores; lubrication, orgasm, satisfaction. In addition, these variables also showed significant positive correlation with pain ($p < 0.05$). The correlations varied from very weak to weak ($r < 0.20$). However, these variables showed no

significant correlation with FSD status ($p > 0.05$). These results were different from the previous study which showed no significant correlations from any of these variables ($p > 0.05$). They used the same study design, CBI and FSFI questionnaire to investigate the variables, which is comparable to our study, but their study subjects were different from our study, which might bring about different results.[12] Our study subjects were female nurses who was already familiar with human biology, psychology, and medical terms, so it might be easier for the subjects to complete the questionnaire from our study.

From our multiple linear regression we can conclude that CBI score, subscores and burnout status have weak predicting ability for the FSFI total score ($p > 0.05$). Further studies are needed as a comparison to our study for the predicting ability of occupational burnout to female sexual dysfunction.

Age, BMI, length of marriage, number of pregnancies, and number of children also showed no correlations with FSFI score, some of the subscores and FSD status in our study. Only the subject's age and length of marriage showed significant positive correlation with pain. These findings correlate with the report that the severity of sexual dysfunction worsens as menopause progresses. The most frequently reported symptoms include low sexual desire (40–55%), poor lubrication (25–30%) and dyspareunia (12–45%), one of the complications of genitourinary syndrome of menopause (GSM). The deterioration of sexual response is largely due to declining levels of sex steroids (estrogens and androgens), but it's also important to consider psychological and relationship changes associated with age, as well as an increase in metabolic and cardiovascular comorbidities.[28]

These results were also different from previous study which compared the correlations between age, BMI, and number of children with FSFI score and subscores. They showed that there were positive significant correlation of age with lubrication subscore, negative significant correlation of BMI with arousal subscore, positive significant correlation of number of children with arousal, lubrication, orgasm and negative significant correlation with desire.[12]

Although this is only the second study that investigate about correlation between occupational burnout with female sexual dysfunction in our knowledge, there are some limitations in our study. We used cross sectional study in our investigation, which was unable to draw a causal conclusion. Therefore, further studies using a different study design might present different results with our study. Secondly, our study subject is limited to married female nurses because sexual relationship between unmarried couples is still considered as a taboo to be discussed in east countries especially our country. Therefore, a wider range, different professionals and larger number of study subjects might also give a difference and represent the population better. Although the questionnaire was anonymous, an embarrassment in completing the questionnaire might become a bias. Another source of bias is that respondents who are extremely burnt out and busy are less likely to respond than those with more energy and time to fill out all the questionnaires. Another source of bias is also might be due to the absence of questionnaires documenting other possible factors that might contribute to sexual dysfunction status such as quality of relationship between couple, menstruation status, use of contraception, history of medical and psychological problems or previous surgery.

CONCLUSION

Married female nurses have a relatively high occupational burnout and are prone to sexual dysfunction. This study showed statistically significant but weak correlation between occupational burnout with sexual dysfunction in married female nurses from the CBI total score, subscores and burnout status with FSFI total score and subscores in terms of lubrication, orgasm, satisfaction, and pain.

REFERENCE

1. Smith RL, Gallicchio L, Flaws JA. Factors Affecting Sexual Function in Midlife Women: Results from the Midlife Women's Health Study. J Womens Health (Larchmt). 2017 Sep;26(9):923-932.
2. Elsamra S, Nazmy M, Shin D, Fisch H, Sawczuk I, Fromer D. Female sexual dysfunction in urological patients: findings from a major metropolitan area in the USA. BJU Int. 2010 Aug;106(4):524-6.
3. Basson R, Berman J, Burnett A, Derogatis L, Ferguson D, Fourcroy J, et al. Report of the international consensus development conference on female sexual dysfunction: definitions and classifications. J Urol. 2000 Mar;163(3):888-93.
4. McCool ME, Zuelke A, Theurich MA, Knuettel H, Ricci C, Apfelbacher C. Prevalence of Female Sexual Dysfunction Among Premenopausal Women: A

Systematic Review and Meta-Analysis of Observational Studies. Sex Med Rev. 2016 Jul;4(3):197-212.
5. Satyawan YT, Rahardjo HE. Prevalence of sexual dysfunction in medical and non-medical profession women. Indonesian Journal of Urology. 2014 Jan; 21(1):1-7.
6. Manurung MA, Rahardjo HE. Does Perceived Male Sexual Dysfunction Affect Female Sexual Function?.
7. Shimizu T, Feng Q, Nagata S. Relationship between turnover and burnout among Japanese hospital nurses. J Occup Health.2005;47:334-6.
8. Chen L, Shi G, Huang D, Li Y, Ma C, Shi M, et al. Male sexual dysfunction: A review of literature on its pathological mechanisms, potential risk factors, and herbal drug intervention. Biomed Pharmacother. 2019;112:108585.
9. Fawzi R, Ali Z. Association of JJ stent insertion and sexual function: A cohort study. F1000Research. 2018 Dec 24;7:1978.
10. Chrousos GP. Stress and disorders of the stress system. Nat Rev Endocrinol. 2009 Jul;5(7):374–81.
11. Yazdanpanahi Z, Nikkholgh M, Akbarzadeh M, Pourahmad S. Stress, anxiety, depression, and sexual dysfunction among postmenopausal women in Shiraz, Iran, 2015. J Family Community Med. 2018;25(2):82–7.
12. Papaefstathiou E, Apostolopoulou A, Papaefstathiou E, Moysidis K, Hatzimouratidis K, Sarafis P. The impact of burnout and occupational stress on sexual function in both male and female individuals: a cross-sectional study. Int J Impot Res. 2020;32(5):510–9.
13. Fredeunberg HJ. Staff Burn-Out. J Soc Issues. 1974;30(1):159–65.
14. Sestili C, Scalingi S, Cianfanelli S, Mannocci A, Del Cimmuto A, De Sio S, et al. Reliability and Use of Copenhagen Burnout Inventory in Italian Sample of University Professors. Int J Environ Res Public Health. 2018 Aug 9;15(8):1708.
15. Mark GM, Smith AP. Stress models: a review and suggested new direction. In: Houdmont J, Leka S, editors. Occupational Health Psychology, European Perspectives On Research, Education and Practice volume 3. Nottingham: Nottingham University Press; 2008. p. 111–44.
16. Salvagioni DAJ, Melanda FN, Mesas AE, González AD, Gabani FL, Andrade SM de. Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. PLoS One. 2017 Oct 4;12(10):e0185781–e0185781.
17. Roycroft M, Wilkes D, Fleming S, et al. Preventing psychological injury during the covid-19 pandemic. BMJ. 2020;369:m1702.
18. Bagcchi S. Stigma during the COVID-19 pandemic. Lancet Infect Dis. 2020;20:782.
19. Woo T, Ho R, Tang A, Tam W. Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. J Psychiatr Res. 2020 Apr;123:9–20.
20. Rusca Putra K, Setyowati. Prevalence of burnout syndrome among nurses in general hospitals in provincial East Java: Cross-sectional study. Enferm Clin. 2019;29(Insc 2018):362–6.
21. Sudrajat D, Indrianti T, Supriatin E, Hayati S, Lindayani L. Nurse burnout: comparing public and private hospitals in Indonesia. Br J Healthc Manag. 2021 Feb 2;27:1–7.
22. Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. Work Stress. 2005;19(3):192–207.
23. Creedy DK, Sidebotham M, Gamble J, Pallant J, Fenwick J. Prevalence of burnout, depression, anxiety and stress in Australian midwives: a cross-sectional survey. BMC Pregnancy Childbirth. 2017;17(1):13.
24. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther. 2000;26(2):191–208.
25. Khamisa N, Oldenburg B, Peltzer K, Ilic D. Work relatedstress, burnout, job satisfaction and general health ofnurses. Int J Environ Res Public Health. 2015;12:652-66.
26. Zachariou A, Filiponi M, Kirana PS. Translation and validation of the Greek version of the Female Sexual Function Index questionnaire. Int J Impot Res. 2017;29:171–4.
27. Ghahramani S, Lankarani KB, Yousefi M, Heydari K, Shahabi S, Azmand S. A Systematic Review and Meta-Analysis of Burnout Among Healthcare Workers During COVID-19. Front Psychiatry. 2021 Nov 10;12:758849.
28. Scavello, I., Maseroli, E., Di Stasi, V., & Vignozzi, L. Sexual health in menopause. 2019. Medicina; 55(9): 559.