Original Article

Association of socio-demographic factors, economic level, work-family conflict and marital relations with depression in nurses

Gul Mehar Javaid Bukhari, Shaista Habibullah, Javeria Saleem Malik

University of the Punjab, Lahore, Federal Medical and Dental College, National Institute of Rehabilitation Medicine, Islamabad, Pakistan

Objective: To assess the socio-demographic, economic, work-family conflict and marital factors associated with depression in nurses.

Methodology: This was a Descriptive cross sectional study conducted on nurses working in a Federal Government Tertiary Care Hospital in Islamabad over a period of three months. The data were collected from female nurses who were between 25 to 40 years of age. Sample size was 250. Pretested modified Agha Khan University Anxiety and Depression Scale was used to collect primary data on depressive symptoms, socio-demographic variables, economic factors, work-family conflict and marital relations. SPSS version 20 was used for data analysis. Chi-square test was applied to see the association between different variables and depression.

Results: This study indicated various factors associated with significantly higher rates of depression in the target population including younger age (p=0.001), having a graduate degree (p=0.020) and being married (p=0.002). Economic stresses like having average personal income (p=0.004), living in a rented house (p=0.001), getting no financial support from parents or in-laws (p=0.003) and facing difficulty in transportation (p=0.000) were also associated with depression. Work-Family conflict (p=0.001) and marital disharmony (p=0.000) were also significant associates of depression in nurses.

Conclusion: Socio-demographic factors, economic level, work-family conflict and marital relations play an important role in causing depression in nurses. This may contribute to adverse health outcomes and burnout among this vital group of healthcare workers. (Rawal Med J 202;45:920-924).

Keywords: Depression, conflict, burnout.

INTRODUCTION

Depression is a mental disorder, characterized by changes in mood (guilt, sadness) changes in perception and thought pattern (low self-esteem, difficulty in concentration) changes in behavior (isolation) physical complaints (loss of appetite, sleep and libido) and is associated with a high risk of suicide.[1] In the working age population, depression costs in medical care are about 12 billion dollars annually and the loss in productivity costs about 44 billion dollars annually.[2] Globally, depression is more common in women as compared to men.[3] Women mostly suffer from depression in their productive age i.e. between 15 to 44 years.[4] Mental health problems are mostly neglected in Pakistan, where 10 to 16% of the populations, approximately 14 million people, majority of which are women, suffer from mild to moderate mental illnesses.[5] Depression in Pakistani women has been found to be associated with multiple factors including emotional and physical burden of child rearing and domestic work, emotional immaturity and lack of support.[6] Furthermore social, psychological and biological factors like stressful life experiences, early childhood abuse or trauma, financial strain, health problems, unemployment, substance abuse, marital problems and family history of depression increase the risk of depression in women, affecting approximately 25% of women.[7] Nursing is not a career of choice for males so a predominant majority of nursing professionals in Pakistan are female.[8] Prevalence of depression and its association has been widely studied. The prevalence of depressive symptoms among nurses in China is 35%, 51% in Brazilian nurses, 35-41% in USA nurses, 10% in Canadian

nurses and 11-80% in Iranian nurses.[9] A study conducted on nurses working in a teaching hospital in Karachi revealed that 8.6% of nurses were suffering from severe depression, 42.9% from moderate depression and 30% from mild depression.[10] Another study conducted in tertiary care hospitals in Karachi concluded that about 69.4% of nurses are suffering from depressive symptoms.[11] This study also concluded that monthly income is statistically associated with depression in nurses.[12] The rate of depression is high in young nurses.[13,14] There is a statistically significant association between depression and nurses marital status.[15] Work-family conflict was also found to be significantly and positively associated with depression in nurses.[16] Global statistics have indicated a worldwide shortage of nurses, particularly in the developing countries.[17,18] In the United States, by the year 2025, shortage of nurses will be more than 500,000.[19] According to Canadian Nursing Association (CNA), by the year 2022, Canada will have approximately 60,000 short of what it needs.[20] The crucial healthcare force is also alarming with countries showing proportions of nurses forsaking their professions to be as high as 30% (New Zealand), 20% (Australia), 14.6% (Germany), and 14% (Macau).[20,21]

METHODOLOGY
This descriptive cross sectional study was conducted on female nurses who were working in a Federal Government tertiary care hospital in Islamabad over a period of three months. The sample size was 250 and the response rate was 93.2%. Data were collected from female nurses between 25 to 40 years of age. Those suffering from chronic diseases e.g. diabetes mellitus, asthma, hypertension and who were pregnant were not included in the study. Data were taken from those nurses who were dealing with patients and working on rotating shifts i.e. morning, evening and night shifts. These nurses work in various departments which include medicine, surgery, gynecology and obstetrics, pediatrics and emergency. The sample

was selected through random sampling (drawing lots). The structured questionnaires were handed over to each participant and the same were collected on the next day. Pretested modified form of Agha Khan University Anxiety and Depression Scale was used in this study.[21] The questions related to anxiety were not included as it was not a variable of interest in this study. The following cut-off scores were recommended by expert opinion and accordingly used: normal 1-13, mild depression 14-26, moderate depression 27-39 and severe depression 40-52. Ethical approval for the study was granted by the Institutional Review Board of the Health Services Academy, Islamabad.

Statistical Analysis: Statistical analysis was performed using SPSS version 20. Chi-square test was applied to find the association between depression and different variables.

RESULTS
About 40% (n=93) of the nurses who participated in this study were 25-30 years old and 56.7% (n=132) were graduates. More than ninety percent (n=218) were married with 34% (n=80) having two children. Almost all of the respondents (99.6%) were living in urban areas of the twin cities. More than a third (38%, n=90) had monthly incomes between51-60 thousand per month, a fourth (24.5%, n=57) were earning 61-70 thousand, about 19% (n=44) were making 41-50 thousand and only one reported an income of 80 thousand per month. Approximately three fourths (72%, n=168) reported two earning members in their family and about one-fifths (21%, n=48) were sole bread-winners. One-fourth (25.3%, n=59) of the respondents had three dependents, 35% (n=81) reported having two dependent family members, another while a fifth of the sample were supporting (18.5%, n=43) one dependent. Two-thirds of the respondents (65.7%, n=153) lived in rented houses, a fourth (24.9%, n=58) in joint family and a minority (9.4%, n=22) occupied their own houses. A vast majority (91.4%, n=213) reported having no financial support from parents or in-laws.

Table 1. Association between Depression and Sociodemographic factors.

Variables		Classification of Depression				p-value**
		Normal n*(1-13)	Mild Depression n*(14-26)	Moderate Depression n*(27-39)	Severe Depression n*(40-52)	
Age	25-30 Years	10(4.3%)	30(13%)	37(16%)	17(7.3%)	0.001
	31-35 Years	6(2.6%)	34(14%)	36(15%)	7(3%)	
	36-40 Years	3(1.3%)	23(9.9%)	22(9.4%)	8(3.4%)	
Educational Status	Under- Graduate	6(2.6%)	32(14%)	32(14%)	13(5.6%)	0.020
	Graduate	11(4.7%)	50(21%)	54(23%)	17(7.3%)	
	Masters	2(0.9%)	5(2.1%)	9(3.9%)	2(0.8%)	
Marital Status	Un- Married	2(0.8%)	5(2.1%)	6(2.6%)	2(0.8%)	0.002
	Married	17(7.3%)	82(35%)	89(38%)	30(13%)	
No of Children	1 Child	5(2.1%)	21(9%)	22(9.4%)	8(3.4%)	0.061
	2 Children	6(2.6%)	31(13%)	35(15%)	8(3.4%)	
	3 Children	5(2.1%)	22(9.4%)	18(7.7%)	12(5.1%)	
	4 Children	1(0.4%)	9(3.8%)	13(5.5%)	2(0.8%)	
	5 Children	0(0%)	2(0.8%)	0(0%)	1(0.4%)	
	None	0(0%)	0(0%)	3(1.3%)	1(0.4%)	
Residential Area	Urban Area	19(8.2%)	87(37.3%)	94(40%)	32(14%)	0.070
	Rural Area	0(0%)	0(0%)	1(0.4%)	0(0%)	

Table 2. Association between Depression and Economic factors.

Variables		Classification of Depression				p-value**
		Normal n*(1-13)	Mild Depression n*(14-26)	Moderate Depression n*(27-39)	Severe Depression n*(40-52)	
Income	30-40 Thousand	1(0.4%)	2(0.8%)	7(3%)	2(0.8%)	0.004
	41-50 Thousand	5(2.1%)	16(6.9%)	17(7.3%)	6(2.6%)	
	51-60 Thousand	7(3%)	33(14%)	36(15.4%)	14(6%)	
	61-70 Thousand	4(1.7%)	24(10%)	22(9.4%)	7(3%)	
	71-80 Thousand	2(0.8%)	11(5%)	13(5.6%)	3(1.3%)	
	More Than 80 Thousand	0(0%)	1(0.4%)	0(0%)	0(0%)	
No of Earning Members in Family	1 Person	3(1.3%)	16(6.9%)	20(8.6%)	9(3.9%)	0.071
	2 Persons	13(5.6%)	64(27.5%)	68(29%)	23(9.9%)	
	3 Persons	3(1.3%)	3(1.3%)	6(2.6%)	0(0%)	
	4 Persons	0(0%)	2(0.8%)	0(0%)	0(0%)	
	5 Persons	0(0%)	2(0.8%)	0(0%)	0(0%)	
	More Than 5 Persons	0(0%)	0(0%)	1(0.4%)	0(0%)	
No of Dependents	1 Person	4(1.7%)	14(6%)	19(8.2%)	6(2.6%)	0.075
	2 Persons	6(2.6%)	31(13%)	34(14.5%)	10(4.3%)	
	3 Persons	6(2.6%)	23(9.9%)	19(8.2%)	11(4.7%)	
	4 Persons	2(0.8%)	15(6.4%)	19(8.2%)	3(1.3%)	
	5 Persons	0(0%)	3(1.3%)	2(0.8%)	1(0.4%)	
	More Than 5 Persons	0(0%)	1(0.4%)	0(0%)	1(0.4%)	
	None	1(0.4%)	0(0%)	1(0.4%)	0(0%)	
Type of House	Own House	2(0.8%)	9(3.8%)	10(4.3%)	1(0.4%)	0.001
	Rented House	13(5.6%)	56(24%)	65(27.8%)	19(8.2%)	
	Joint Family House	4(1.7%)	22(9.4%)	20(8.5%)	12(5.1%)	
Financial Support by Parents or In-Laws	Yes		8(3.4%)	5(2.1%)	3(1.3%)	0.003
	No	15(6.4%)	79(33.9%)	90(38.6%)	29(12.4%)	
Difficulty in Transportation	Yes	10(4.3%)	44(18.8%)	53(22.7%)	17(7.3%)	0.000
	No	9(4%)	43(18.4%)	42(18%)	15(6.4%)	

*n is the score on Modified Agha Khan University Anxiety and Depression Scale
**p-value of Chi-square test

Fig 1. Depression and Work-Family Conflict.
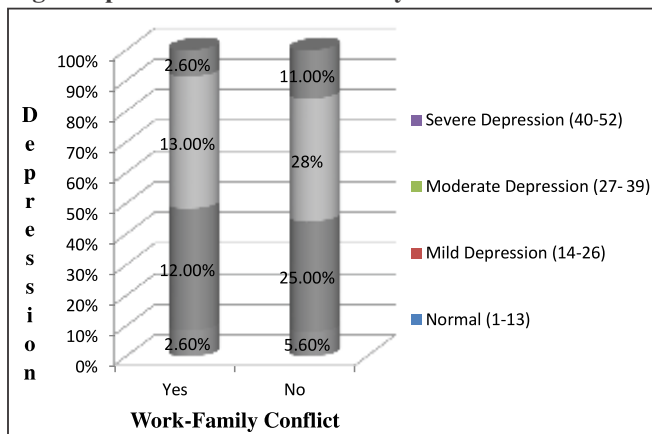
Fig 2. Depression and Marital Satisfaction.
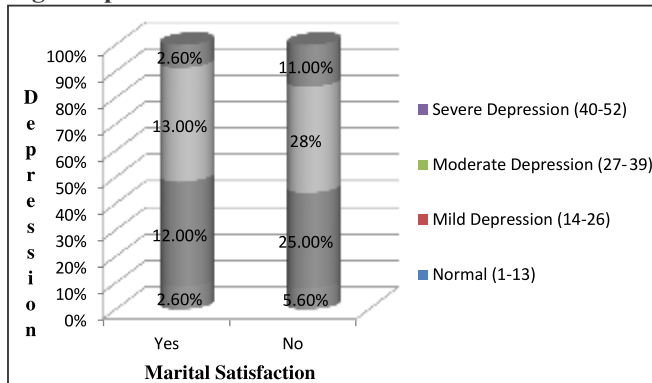
More than half (53%, n=124) experienced difficulty in transportation to and from work. 62.7% (n=146) of the participants of the study reported high levels of work-family conflict. The study participants also reported high levels of marital dissatisfaction with 70% (n=163) of the nurses not happy in their marital life. The (figure 1) illustrates the higher prevalence of depression in nurses who believed that they were facing work-family conflicts (58.3%) as compared to those who were not (33.4%). The (figure 2) illustrates the higher prevalence of depression in nurses who were not satisfied from their marital life (64%) compared to those who were satisfied (27.6%).

DISCUSSION
Our study shows a higher prevalence of depression in nurses between the age of 25-30 years (p=0.001) which is similar to the findings in other studies.[13,14,15] The result is consistent with the results of the studies conducted on nurses in Hong Kong and Tehran.[14,16]

This is also consistent with research indicating that married working women from Asian societies are much more prone to work-home conflict than their European counterparts due to culturally defined gender roles.[22] Hence economic status and its consequences that nurses have to face on a daily basis appear to affect their mental health and wellbeing. The same linkage has been found at a global level where low economic level has consistently been found to be associated with depression.[23,24] Moderate depression was more prevalent in nurses as compared to mild and severe depression. This result is in line with the study conducted on nurses in Karachi.[11] As shortage of nurses is becoming a global issue[18,19,20,21,22] therefore serious attention should be given to the issues that are causing depression and ultimately burnout in nurses. Furthermore, the results of this study may not be generalizable to those nurses working in private sector hospitals or provincial government settings because this study was conducted on a single sample.

CONCLUSION
Socio-demographic factors, economic level, work-family conflict and marital relations play an important role in causing depression in nurses. This may contribute to adverse health outcomes and burnout among this vital group of healthcare workers.

Author Contributions:
Conception and Design: Gul Maher Javed Bukhari
Collection and Assembly of data: Gul Maher Javed Bukhari
Analysis and interpretation of data: Gul Maher Javed Bukhari
Drafting of the article: Gul Maher Javed Bukhari, Shaista Habibullah
Critical revision of the article for important intellectual content: Shaista Habibullah
Statistical Expertise: Gul Maher Javed Bukhari, Javeria, Saleem Malik
Final approval and guarantor of the article: Gul Maher Javed Bukhari, Javeria, Saleem Malik
Corresponding author email: Gul Maher Javed Bukhari: drgulmehar@gmail.com
Conflict of Interest: None declared
Rec. Date: Apr 21, 2020 Revision Rec. Date: Aug 21, 2020 Accept Date: Sept 23,2020

REFERENCES
1.   Furegato ARF, Santos JLF, Silva EC. Depression among nursing students associated to their self-esteem, health perception and interest in mental health. Rev Lat Am

Enfermagem. 2008;16:198-4.

2. Abbas MAF, Zaid LZA, Hussaein M, Bakheet KH, Al-Hamdan NA. Anxiety and depression among nursing staff at King Fahad medical city, kingdom of Saudi Arabia. West East Institute Journal. 2013.

3. Azad AH, Hasan S, Umar SA. Frequency and predictors of depression among elderly of Rawalpindi, Pakistan. J Postgrad Med Inst. 2016;30:35-4.

4. Siu AL, Bibbins-Domingo K, Grossman DC, Baumann LC, Davidson KW, Ebell M et al. Screening for depression in adults: U.S. Preventive Services Task Force Recommendation Statement. J Assoc Am Med. Coll. 2016;315:380-7.

5. Trivedi JK, Mishra M, Kendurkar A. Depression among women in the South-Asian region: The underlying issues. J Affect Disord. 2007;102:219-5.

6. Naqvi H. Depression in Pakistan: an epidemiological critique. "J Pak Psychiatr Soc. 2007.

7. Kausar N, Khan SD, Akram B. Major depression in Jalalpur Jattan, district Gujrat, Pakistan: Prevalence and Gender differences. J Pak Med Assoc. 2015;65:292-5.

8. Nyamwata J, Kokonya D, Odera P, Sanga PK. Prevalence of depression and related sociodemographic factors among nurses working at Moi teaching and referral hospital, Uasin Gishu Country, Eldoret. Int J Ment Health Nurs. 2017;2:100-7.

9. Zamanzadeh V, Valizadeh L, Negarandeh R, Monadi M, Azadi A. Factors influencing men entering the nursing profession, and understanding the challenges faced by them: Iranian and developed countries perspectives. Int J Community Based Nurs Midwifery. 2013;2:49-6.

10. Maharaj S, Lees T, Lal S. Prevalence and risk factors of depression, anxiety and stress in a cohort of Australian nurses. Int J Environ Res Public Health. 2019;16:6-1.

11. Khalid S, Irfan U, Sheikh S, Faisal M. Frequency of stress and depression in female nurses working in a teaching hospital. Khyber Med Univ J. 2010;2:10-4.

12. Ali A, Rasheed A, Naz S, Siddique MA. A study of depression and associated factors among nurses working in tertiary care hospitals in Karachi. IMJ. 2018;10: 138-2.

13. C M, O, Kerr MS, Forbes DA. Depression in nurses.

CJNR. 2010;42:66-2.

14. Chenng T, Yip PSF. Depression, Anxiety and symptoms of stress among Hong Kong nurses: A cross sectional study. Int J Environ Res Public Health. 2015;12:11072-1.

15. Tourigny L, Baba VV, Wang X. Burnout and depression among nurses in Japan and China: the moderating effect of job satisfaction and absence. Int J Hum Resour. 2010;21:2741-7.

16. Khamesh F, Rouhi H, Ebady A, Hajiamini Z, Salimi H, Radfar S. Survey relationship between demographic factors and stress, anxiety and depression in nurses working in selected hospitals in Tehran city. J Holist Nurs Midwifery. 2011;21:13-1.

17. Hao J, Wu D, Liu L, Li X, Wu H. Association between work-family conflict and depressive symptoms among Chinese female nurses: The mediating and moderating role of psychological capital. Int. J. Environ. Res. Public Health. 2015; 12: 6682-9.

18. Senior K. Wanted 2.4 million nurses and that's just in India. World Health Organ. 2010;88:327-8.

19. Barnett T, Namasivayam P, Narudin DAA. A critical review of the nursing shortage in Malaysia. Int. Nurs. Rev. 2010;57:32-9.

20. Hu SX, Luk AL, Smith GD. The effects of hazardous working conditions on burnout in Macau nurses. Int. J. Nurs. Sci. 2015;2:86-2.

21. Chachula KM, Myrick F, Younge O. Letting go: How newly registered nurses in Western Canada decide to exit the nursing profession. Nurse Educ today. 2015;35:912-8.

22. Zaghloul AA. Developing and validating a tool to assess nurse stress. J Egypt Public Health Assoc. 2008;83:223-7.

23. Ali BS, Reza H, Khan MM, Jehan I. Development of an indigenous screening instrument in Pakistan.: The Agha Khan University Anxiety and Depression scale. J Pak Med Assoc. 1998;48:261-5.

24. Faiz R, Forson C, Calveley M, Grey S. 'Ideal Worker' Versus 'Good Woman': Voices from Pakistan. 7th Equality Diversity and Inclusion Conference 2014, 8-10 June 2014, Munich, Germany.