PSYCHOLOGICAL IMPACT ON NURSES CARING FOR EXTENDED CARE PATIENTS, JEDDAH

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Abstract:

Introduction: Nurses are an integral part of the healthcare system, and many of them work in very stressful environment which may affect them psychologically. The purpose of our study was to investigate depression, anxiety and stress and their determinants among nurses working in extended care.

Methodology: A total of 128 nurses were invited to participate in this cross-sectional study the participants completed a cross sectional survey, the Depression anxiety and stress scale 21 [DASS 21] and was compared to multiple variables to determine significance using SPSS.

Results: The prevalence of Depression, anxiety and stress symptoms were present in 40%, 50% and 25% of nurses respectively. There was a significant correlation between stress, resources availability, nationality, and colleague and manager relationship. Also our results showed a significant association between depression and resources availability. no statistical significance was found between anxiety and other determinants.

Conclusion: Psychological well-being of nurses is crucial on themselves and the care they provide. A very large proportion of nurses working in extended care have depression, anxiety or stress symptoms compared to the general population. Nurses should be involved and supported through support programs and coping strategies to maintain their wellbeing.

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INTRODUCTION:

With the growing complexity of the healthcare system, patients now have a considerable array of choices when it comes to receiving care from providers, there are several different types of care for patients, depending on their need.

Types of patient care include. primary health care which denotes the first level of contact between individuals and families with the health system; it offers care for mother and child which include family planning, immunization, prevention of locally endemic diseases, treatment of common diseases or injuries, provision of essential facilities and health education. Secondary Healthcare refers to a second tier of health system, in which patients from primary health care are referred to specialists in higher hospitals for treatment. Tertiary Health care refers to a third level of health system, in which specialized consultative care is provided usually on referral from primary and secondary medical care. **Long-term care** [**LTC**] also known as **extended care** is a variety of services which help meet both the medical and non-medical needs of people with a chronic illness or disability who cannot care for themselves for long periods. Long-term care is focused on individualized and coordinated services that promote independence, maximize patients' quality of life, and meet patients needs over a period of time. [1]

An extended care hospital is a hospital which has an average inpatient length of stay of greater than 25 days.[2]

Literature review:

Extended care nurses carry a very sensitive duty including promoting independence in some patients, maximizing patient's quality of life and meeting daily needs for others.[3] They are providing care to different patients suffering from multiple health and mental conditions in different age groups ranging from paralyzed, mechanically ventilated young adults to geriatric patients with severe stroke and badly infected bedsore.

As those critically unwell patients require extraordinary levels of care and attention, the psychological impact on nurses and level of burnouts will rise, and this has a direct impact on nurses caring behaviors and quality of provided care.[4]

Depression is a major mental disorder in most occupational and employment sectors and is projected to be the second most common cause of disability by the year 2020.[5]

The Department of Health's Boorman Review [DoH 2009] demonstrates that 80% of NHS staff surveyed, felt that their health and well-being impacts on the care they provide to patients[6].

Qualitative research of community nurses suggested that their emotional well-being was essential for them to fulfill their professional practice [7]

It is essential that factors affecting the healthcare providers well-being and their caring behaviors are examined.[8]

In a study aimed to examine the relationships between work stressors and level of psychological distress among nursing staffs in National Health Service, United Kingdom, the results showed that 6%, 27.7%, 22.7% of nurses presented with severe, moderate and mild anxiety, respectively, also, the results demonstrated that 2% - 4% of nurses presented with severe and moderate depression.[9]

The impact of psychological illness on health worker behaviors toward the work is significant. Department of Health's Boorman Review [DoH 2009] demonstrated that a quarter of the absence from work in National Health Service health workers was due to stress, anxiety, and depression [10].

Research by Kennedy and Grey [1997] found that high levels of distress in nursing staff was correlated with a younger age, low levels of self-efficacy, low satisfaction with social support, increased work pressure and low levels of supervisor support. [11] The same study found that 50% of the emotional exhaustion experienced by nurses was due to same factors [11]. Cross-national findings have demonstrated that roughly 33–54% of hospital nurses exhibited burnout scores higher than published norms for medical personnel.[12]

Other research finds that nurses who showed better mental health had worked more years on their unit, used coping strategies, felt supported in the workplace and had a lower workload.[13]

A recent study in 2015 in Hong Kong using the Depression anxiety and stress scale 21 found that the depression anxiety and stress symptoms to be present in 35.8%, 37.3% and 41.1% respectively among 850 nurses working in public hospitals, divorced widowed or separated females were more prevalent to report depression, anxiety and stress symptoms. The results

also showed that increasing age is a protective factor from depression, anxiety and stress.[14]

while another similar research in South Korea to examine the association between job related stress, emotionally arduous work and depressive symptoms among 441 female nurses revealed that around 38 % of nurses experienced depressive symptoms, younger and single nurses reported more incidence of depression.[15]

In Riyadh, Saudi Arabia a cross sectional study conducted in three major primary care centers to estimate the point prevalence of depression and screening cost using the patient healt questionnaire 2 and 9 [PHQ9, PHQ2], found that out of the 550 participants 49.9% suffered from symptoms of depression. The depression scores were associated with female gender and higher educational level.[16]

Also in Riyadh another study to measure the prevalence of depression, anxiety and stress among 575 medical students using the Depression, Anxiety, and Stress Scale-21 [DASS-21] questionnaire found that depression anxiety and stress is present in 43%, 63%, and 41%, respectively but dropped to 30%, 47%, and 30%, respectively to some extent after examinations, smoking and female gender predicted higher levels of depression, anxiety or stress[17]

A different cross-sectional study in the city of Abha, Saudi Arabia to measure the prevalence of depression, anxiety and stress using [DASS-42] among secondary school girls in Abha, Saudi Arabia found that of the 545 females recruited in this study had symptoms of depression anxiety and stress, 41.5%, 66.2% and 52.5% respectively[18]

From reviewing previous literatures, many studies aimed to explore how the patient death in hospital setting impact on nursing staff emotions and work environment. moreover, some limitations were met in explaining the psychological impact in extended care settings.

Rationale:
Long-term care nurses may perform skills such as vital sign checks, intravenous therapy, enteral tube feedings, wound care, range-of-motion exercises, indwelling urinary catheter care, respiratory therapy, cardiopulmonary resuscitation [CPR], ostomy care, tracheostomy care, management of stable ventilators, and medication administration. Long-term care nursing staff members also assist patients with activities of daily living such as feeding, dressing,

toileting and bathing. Moreover, long-term care nurses provide education, help apply adaptive equipment, and document all care that has been provided.

With this huge array of tasks, nurses in extended care are more prone to stress, anxiety and depression.

Research has shown that nurses levels of burnout and psychological stress to be closely related to their caring behaviors. [19]

As significant impact is expected on caring behaviors and quality of provided care, it is important that determinants disturbing healthcare providers psychological well-being are explored.[20]

In the extended care settings, as high levels of care and attention are provided over a long period of time to patients with severe illnesses, chronic injuries, and other disabilities, the quality of care will deteriorate over time and psychological impact on nurses and level of burnouts will rise[21]

A multi-national research was done on general hospital nurses has demonstrated that the quality of care change according to shifts, where 10–30% of nurses rated the quality of care on their ward during their last shift as fair/poor and up to 50% of them felt that the quality of patient care had deteriorated over the last year[22].

Over the next decade and as a consequence of long Life expectancy, the expansion of long-term care facilities in the developing countries will be needed, the field is expected to grow dramatically, and the need for specialized nursing staff in extended care will increase.

Aim of the study:
To explore how the psychological impact is significant on nurses.

Objectives:
1- To estimate the psychological impact on nurses working in extended care centers in Jeddah, KSA,2018
2- To identify determinants affecting the psychological status of nurses working in extended care centers in Jeddah, KSA, 2018

METHODOLOGY:
Design:
The study was a cross-sectional correlation-based survey design.

Sampling technique:
Extended care is provided in multiple governmental and private hospitals. including, International extended care center, Extended care department at king Fahad hospital and king Abdulaziz hospital, Chronic care specialist center and the extended care units at king Abdulaziz medical city and king Fahad armed forces hospital.

After visiting these facilities, the researchers decided to choose by convenience sampling, the international extended care center and the extended care department at king Fahad hospital,

Participants:
The total targeted population of nursing staff, with a total of 300, were invited to participate, staff that were students of the nursing college, on vacation and leave, newly employed within 6 months and those who were not caring long stay patients were excluded from the study. Work settings included the international extended care center [IEC] and the extended care department in king Fahad hospital. A total of 148 questionnaires were completed and returned with response a rate of 49.3%. However, 20 of these questionnaires were not completed properly and was therefore excluded from the analysis, resulting in a sample of 128 participants.

Data collection technique:
An approval of the study was ensured from the research committee, the researchers visited the extended care centers and met the heads of nursing department of both facilities, the aim and objective of the study were explained. subsequent meeting was arranged with nurse managers during which questionnaires were given and distributed to the nursing staff to be completed and collected 4 weeks later. completed questionnaires were returned to head nurses, and the chief investigators manually received the questionnaire containing envelopes.

Data collection tool:
The questionnaire included an invitation to participate, questions regarding participants personal and work-related demographics. These questions were followed by a standardized questionnaire tool [The depression, anxiety and stress scale 21]. The data were collected in 2018.

Depression, anxiety and stress scale 21[DASS21]:
Depression, anxiety and symptoms of stress were measured by Lovibond and Lovibond's short version of the Depression Anxiety Stress Scale [23] The

Depression Anxiety Stress Scale 21 , is a validated reliable self-administered psychological instrument, it consists of 21 items in three domains. Each domain comprises seven items assessing three dimensions of mental health symptoms: depression, anxiety and stress. Respondents were required to indicate the presence of these symptom[s] over the past week on a 4-point Likert scale scoring from 0 to 3 [0: did not apply at all over the last week, 1: applied to some degree, or some of the time; 2: applied a considerable degree, or a good part of time; 3: applied very much or most of the time]. The more severe the symptoms in each dimension, the higher the subscale scores. This instrument is frequently used in clinical and non-clinical samples, possessing well-established psychometric properties in reliably measuring depression, anxiety and stress [at a Cronbach's alpha 0.91, 0.84 and 0.90 respectively]. It is also believed capable of differentiating between depression, anxiety and stress.[24]

Study variables:
Dependant variables:
Psychological impact including depression anxiety and stress.

Independent variables:
The sociodemographic variable such as age, gender, nationality, education, occupation, income, marital status, number of children, smoking, addiction, chronic and psychological disease.
Other variables that will be included are:
Practicing in an extended care center, years of experience, work shifts, graduation year, doctor-nurse relationship and level of communication, patient-nurse relationship, supervisor support, nurse position and job security.

Data entry and analysis:
Data entry and statistical analysis was done using SPSS 20.0 statistical software package. Quality control were done at the stages of coding and data entry. Data was presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations, medians and inert-quartile range for quantitative variables. T-test was used for testing significance of the difference in a quantitative variable between two groups, and ANOVA test for comparison between more than two groups. Chi-square test was used for comparison of categorical variables. Statistical significance was considered at p-value <0.05.

RESULTS:

The total number of caregivers who participated in the two extended care centers were 128 nurses. Eighty-four [66%] were from the International extended care center [IEC] and the rest were from the extended care department at king Fahad hospital in Jeddah. The mean age of the participants was 32±6 years. More than half of them were married. Non-Saudi Female staff nurses represent the majority, 82% and 88% respectively. 109 [87%] do not hold an extended care degree. However, 45 [35%] have attended extended care courses. Those who hold a bachelor degree represent the majority. Of all the participants, only two suffered from a chronic disease, while 14 [11%] were smokers. [Table. 1]

Table.1 Frequency distribution of respondents by socio-demographic characteristics and selected variables

Character	Extended care centers		Total N [%]
	Int. Extended care N [%]	King Fahad hospital N [%]	
Nationality	**84**	**44**	**128**
Saudi	7[8.40]	16[36.36]	23[17.96]
Non-Saudi	77[91.60]	28[63.63]	105[82.04]
Marital Status	**84**	**44**	**128**
Married	45[53.6]	31[70.46]	76[59.37]
Single	39[46.4]	13[29.54]	52[40.62]
Gender	**84**	**44**	**128**
Male	12[14.28]	3[6.81]	15[11.71]
Female	72[85.71]	41[93.18]	113[88.28]
Educational level	**83**	**44**	**127**
Diploma	12[14.45]	25[56.81]	37[29.13]
Bachelor	70[84.33]	18[40.9]	88[69.29]
Master	1[1.20]	1[2.27]	2[1.57]
Smoking	**84**	**44**	**128**
Yes	11[13.09]	3[6.81]	14[10.93]
No	73[86.90]	41[93.18]	114[89.06]
Job category	**84**	**44**	**128**
Nurse	76[90.47]	43[97.72]	119[92.96]
other	8[9.52]	1[2.27]	9[7.03]
Extend. care degree	**80**	**43**	**123**
Yes	10[12.5]	4[9.30]	14[11.83]
No	70[87.5]	39[90.70]	109[88.61]
Extend care course	**84**	**44**	**128**
Yes	37[44]	8[18.18]	45[35.15]
No	47[46]	36[81.82]	83[64.85]

Regarding nurse's relationship with others, 85 [69%] of the 124 who reported their relationship with their supervisor were happy, 58% were happy with their relationship with colleagues, and 91% of 127 reported they were happy with their relationship with patients.

84 [66%] agree that they receive supervisor support, 56% agree that they have the adequate resources to perform their job, while only 33 [27%] stated that they are secured in their job. Regarding resources 65% agreed or strongly agreed that they have the required resources to perform their duties. But only 27% felt that their job was secured.[Table 2]

Table.2 Frequency distribution of respondents by work related characteristics.

character	Extended care centers		Total N [%]
	IEC N [%]	KF HOSPITAL N [%]	
Fair shifts	**83**	**36**	**119**
Yes	52[62.65]	24[66.66]	76[63.86]
No	31[37.35]	12[33.33]	43[36.13]
Supervisor relationship	**80**	**44**	**124**
Very happy	15[18.75]	13[29.54]	28[22.58]
Happy	55[68.75]	30[68.18]	85[68.54]
Sad	7[8.75]	1[2.27]	8[6.45]
Very sad	3[3.75]	0[0]	3[2.41]
Manager relationship	**80**	**44**	**124**
Very happy	24[30]	18[40.90]	42[33.87]
Happy	50[62.5]	22[50]	72[58.07]
Sad	3[3.75]	3[6.81]	6[48.38]
Very sad	3[3.75]	1[2.27]	4[32.25]
colleague relationship	**83**	**44**	**127**
Very happy	23[27.71]	13[29.54]	36[28.34]
Happy	58[69.87]	30[68.18]	88[69.29]
Sad	1[1.20]	1[2.27]	2[1.57]
Very sad	1[1.20]	0[0.00]	1[0.78]
Patient relationship	**83**	**44**	**127**
Very happy	20[24.09]	9[20.45]	29[22.83]
Happy	54[65.06]	33[75.00]	87[68.50]
Sad	9[10.84]	1[2.27]	10[7.87]
Very sad	0[0.00]	1[2.27]	1[0.78]
Patient relative's relationship	**83**	**43**	**126**
Very happy			
Happy	13[15.66]	3[6.97]	16[12.69]
Sad	50[60.24]	36[83.72]	86[68.25]
Very sad	16[19.27]	3[6.97]	19[15.07]
	4[4.81]	1[2.32]	5[3.96]
Resources availability	**84**	**44**	**128**
Strongly agree	11[13.09]	3[6.81]	14[10.93]
Agree	44[52.38]	27[61.36]	71[55.46]
Neither agree nor Disagree	16[19.04	8[18.18]	24[18.75]
Strongly disagree	11[13.09]	5[11.36]	16[12.50]
	2[2.38]	1[2.27]	3[2.34]
Job security	**79**	**43**	**122**
Secure	27[34.17]	6[13.95]	33[27.05]
Not secure	52[65.83]	37[86.05]	89[72.95]

Stress is the least frequent psychiatric illness [20%] followed by depression [40%], while anxiety is the most frequent illness [55%].

Sixty percent of the nurses suffered from one or more of psychiatric illness, 19% have anxiety, 18% have both anxiety and depression, and 17% have the three psychiatric illnesses, namely, depression, anxiety, and stress all together.

Stress:

Stress was found to be present in 15[17%] of the nurses working at the International extended care center and on 10[23%] of nurses working at the extended care department of king Fahad hospital. Most of the females and males reported no symptoms of anxiety 81% and 73% respectively.

Marital status had no impact on stress as only 11 single participants and 14 married participants had stress symptoms. There was a statistically significant association between Saudi nationality and stress, [p 0.009], also with nurses who were sad or very sad with their manager relationship [p value 0.033]. Poor colleague relationship [p value 0.004] and lack of available resources [p value 0.000] were also a strong predictor.[Table.3]

Table.3 Frequency distribution of respondents by stress status and other selected variables.

Variables		Stress symptoms		P Value
		No N [%]	Yes N [%]	
Location	IEC	69[82.14]	15[17.86]	**0.509**
	King Fahad hospital	34[77.27]	10[22.73]	
Gender	Male	11[73.33]	4[26.66]	**0.458**
	Female	92[81.41]	21[18.58]	
Nationality	Saudi	14[60.86]	9[39.13]	**0.009**
	Non-Saudi	89[84.76]	16[15.23]	
Marital Status	Single	41[78.84]	11[21.15]	**0.702**
	Married	62[81.57]	14[18.42]	
Smoking	Yes	10[71.42]	4[28.57]	**0.366**
	No	93[81.57]	21[18.42]	
Fair no. of shifts	Yes	64[84.21]	12[15.78]	**0.313**
	No	33[76.74]	10[23.25]	
Extended care degree	Yes	11[78.57]	3[21.42]	**0.914**
	No	87[79.81	22[20.19]	
Extended care courses	Yes	39[86.66]	6[13.33]	**0.193**
	No	64[77.10]	19[22.89]	
Supervisor relationship	Very happy	22[78.57]	6[21.43]	**0.172**
	Happy	71[83.52]	14[16.47]	
	Sad	6[75.00]	2[25.00]	
	Very Sad	1[33.33]	2[66.66]	
Manager relationship	Very happy	35[83.33]	7[16.66]	**0.033**
	Happy	60[73.17]	12[26.82]	
	Sad	5[83.33]	1[16.66	
	Very Sad	1[25.00]	3[75.00]	
Colleague relationship	Very happy	30[83.33]	6[16.66]	**0.004**
	Happy	73[82.95]	15[17.05]	
	Sad	0[0.00]	2[100.00]	
	Very Sad	0[0.00]	1[100.00]	
Patient relationship	Very happy	22[75.86]	7[24.13]	**0.090**
	Happy	74[85.05]	13[14.95]	
	Sad	7[70.00]	3[30.00]	
	Very Sad	0[0.00]	1[100.00]	
Patient relative's relationship	Very happy	13[81.25]	3[18.75]	**0.073**
	Happy	73[84.88]	13[15.12]	
	Sad	14[73.68]	5[26.31]	
	Very Sad	2[40.00]	3[60.00]	
Resources Availability	Strongly agree	12[85.71]	2[14.28]	**.000**
	Agree	63[88.73]	8[11.26]	
	Neither	14[58.33]	10[41.66]	
	Disagree	14[87.5]	2[12.5]	
	Strongly disagree	0[0.00]	3[100.00]	
Supervisor support	Strongly agree	15[83.33]	3[16.66]	**0.044**
	Agree	71[84.52]	13[15.48]	
	Neither	14[63.63]	8[36.36]	
	Disagree	3[100.00]	0[0.00]	
	Strongly disagree	0[0.00]	1[100.00]	
Job Security	Secured	24[72.72]	9[27.28]	**0.106**
	Insecure	76[85.39]	13[14.61]	

Depression:
There was a statistically significant association between depression and lack of resources availability [p value 0.003] and job security [p value 0.036]

There were no any statistically significant association between the study location, gender, nationality, smoking, job category, marital status, fair-shifts, extended care degree or courses, nurse's relationship with others and depression.

Symptoms of depression was present among 45% of nurses working at the International extended care center and 32% of nurses working at the extended care department in king Fahad hospital, more than half of the males 53% from both hospitals had symptoms of depression while only 38% of females had symptoms. Regarding nationality, Saudis who participated were 23, and 13 had symptoms of depression, while 38 out of the 105 foreigners had depression according to the DASS 21. [Table.4]

Table.4 Frequency distribution of respondents by depression status and other selected variables.

Variables		Depression symptoms		P Value
		No N [%]	Yes N [%]	
Location	IEC	47[55.95]	37[45.05]	**0.509**
	King Fahad hospital	30[68.18]	14[31.81]	
Gender	Male	7[46.66]	8[53.33]	**0.458**
	Female	70[61.94]	43[38.05]	
Nationality	Saudi	10[43.47]	13[56.43]	**0.071**
	Non-Saudi	67[63.80]	38[36.19]	-
Marital Status	Single	27[51.92]	25[48.08]	**0.702**
	Married	50[65.78]	26[34.22]	
Smoking	Yes	8[57.14]	6[42.85]	**0.366**
	No	69[60.52]	45[39.48]	
Fair no. of shifts	Yes	49[64.47]	27[35.52]	**0.313**
	No	22[51.16]	21[48.84]	
Extended care degree	Yes	6[42.85]	8[57.14]	**0.914**
	No	69[63.30]	40[36.70]	
Extended care courses	Yes	26[57.77]	19[42.23]	**0.193**
	No	51[61.44]	32[38.55]	
Supervisor relationship	Very happy	16[57.14]	12[42.85]	**0.172**
	Happy	55[64.70]	30[35.29]	
	Sad	4[50.00]	4[50.00]	
	Very Sad	1[33.33]	2[66.66]	
Manager relationship	Very happy	26[61.90]	16[29.10]	**0.43**
	Happy	46[63.88]	26[36.11]	
	Sad	3[50.00]	3[50.00]	
	Very Sad	1[25.00]	3[75.00]	
Colleague relationship	Very happy	19[52.77]	17[47.23]	**0.087**
	Happy	58[65.90]	30[34.10]	
	Sad	0[0.00]	2[100.00]	
	Very Sad	0[0.00]	1[100.00]	
Patient relationship	Very happy	17[58.62]	12[41.37]	**0.094**
	Happy	57[65.51]	30[34.48]	
	Sad	3[30.00]	7[70.00]	
	Very Sad	0[0.00]	1[100.00]	
Patient relative's relationship	Very happy	8[50.00]	8[50.00]	**0.064**
	Happy	58[67.44]	28[32.55]	
	Sad	9[47.36]	10[52.63]	
	Very Sad	1[20.00]	4[80.00]	
Resources Availability	Strongly agree	6[42.85]	8[57.14]	**.003**
	Agree	50[70.42]	21[29.57]	
	Neither	9[37.50]	15[62.50]	

	Disagree	12[75.00]	4[25.00]	
	Strongly disagree	0[0.00]	3[100.00]	
Supervisor support	Strongly agree	9[50.00]	9[50.00]	0.37
	Agree	55[65.47]	29[34.53]	
	Neither	11[50.00]	11[50.00]	
	Disagree	2[66.66]	1[33.33]	
	Strongly disagree	0[0.00]	1[100.00]	
Job Security	Secured	15[45.45]	18[54.55]	0.036
	Insecure	59[66.29]	30[33.71]	

Anxiety:

Anxiety which is the most prevalent psychiatric illness was found to be present in [60%] of the nurses working at the International extended care center and on [48%] of nurses working at the extended care department of king Fahad hospital. 57% of Smokers and 55% of non-smokers had symptoms of anxiety. While all the participants who strongly disagreed that they have the required resources showed signs of anxiety.

There was no any statistical significance between anxiety and any of the variables investigated in our study.[Table.5]

Table.5 Frequency distribution of respondents by anxiety status and other selected variables.

Variables		Anxiety symptoms		P Value
		No N [%]	Yes N [%]	
Location	IEC	34[40.47]	50[59.52]	0.202
	King Fahad hospital	23[52.27]	21[47.72]	
Gender	Male	6[40.00]	9[60.00]	0.707
	Female	51[45.13]	62[54.86]	
Nationality	Saudi	7[30.43]	16[69.56]	0.133
	Non-Saudi	50[47.61]	55[52.39]	-
Marital Status	Single	19[36.53]	33[63.46]	0.132
	Married	38[50.00]	38[50.00]	
Smoking	Yes	6[42.85]	8[57.14]	0.894
	No	51[44.73]	63[55.27]	
Fair no. of shifts	Yes	37[48.68]	39[51.31]	0.145
	No	15[34.88]	28[65.11]	
Extended care degree	Yes	6[42.85]	8[57.14]	0.559
	No	49[44.95]	60[55.05]	
Extended care courses	Yes	20[44.44]	25[55.56]	0.988
	No	37[44.57]	46[55.42]	
Supervisor relationship	Very happy	15[53.57]	13[46.42]	0.218
	Happy	39[45.88]	46[54.11]	
	Sad	1[12.5]	7[87.5]	
	Very Sad	1[33.33]	2[66.66]	
Manager relationship	Very happy	22[52.38]	20[46.61]	0.318
	Happy	32[44.44]	40[55.55]	
	Sad	1[16.66]	5[83.33]	
	Very Sad	1[25.00]	3[75.00]	
Colleague relationship	Very happy	17[47.22]	19[52.78]	0.469
	Happy	40[45.45]	48[55.55]	
	Sad	0[0.00]	2[100.00]	
	Very Sad	0[0.00]	1[100.00]	
Patient relationship	Very happy	13[44.82]	16[55.17]	0.293
	Happy	42[48.27]	45[51.72]	
	Sad	2[20.00]	8[80.00]	
	Very Sad	0[0.00]	1[100.00]	

Patient relative's relationship	Very happy	8[50.00]	8[50.00]	**0.222**
	Happy	40[46.51]	46[53.48]	
	Sad	8[42.10]	11[57.89]	
	Very Sad	0[0.00]	5[100.00]	
Resources Availability	Strongly agree	5[35.71]	9[64.28]	**0.253**
	Agree	36[50.70]	35[49.30]	
	Neither	8[33.33]	16[66.66]	
	Disagree	8[50.00]	8[50.00]	
	Strongly disagree	0[0.00]	3[100.00]	
Supervisor support	Strongly agree	9[50.00]	9[50.00]	**0.529**
	Agree	39[46.42]	45[53.57]	
	Neither	7[31.81]	15[68.18]	
	Disagree	2[66.66]	1[33.33]	
	Strongly disagree	0[0.00]	1[100.00]	
Job Security	Secured	12[36.36]	21[63.63]	**0.239**
	Insecure	43[48.31]	46[51.68]	

DISCUSSION:

Our study showed an alarming high prevalence of all three psychiatric illnesses. Globally and locally within Saudi Arabia depression is found to be prevalent in around 15 –20% of the Saudi general population using the data from primary health care records[16], and has a global prevalence of nearly 13% according to The World health organization[27] [WHO], which is nearly half of the prevalence found in our study 40%. But when compared to other similar studies done on nurses our findings seem to be more correspondent. The Cehung study[14] A study done in Hong Kong using the depression, anxiety and stress scale 21 on nurses showed a prevalence of depression, anxiety and stress at 35.8%, 37.3% and 41.1% respectively.

These findings and results seem to be more realistic and similar to those of our study, where depression, anxiety, and stress were at 40%, 55% and 20% respectively. This could be due to the fact that nurses by nature provide a 24-hour service to patients and are also affected by the diurnal and nocturnal nature of their job. Nurses also tend to occupy a more complex workload forcing them to carry a greater emotional burden of stress and anxiety. Also, the severity and symptoms of any of the psychiatric illnesses measured using the depression, anxiety and stress scale are limited to the events within the past 7 days only, participants may thus be subject to over or under-reporting depending on the events and the load of responsibilities or work within the past week.

When compared to other studies[14,21] , the presence of both depression and anxiety among nurses in our study were more prevalent by around 5% and 10% respectively, this can be expected in nurses working in extended care more than other nurses due to the burden of dealing with the extremely excessive workload and the nature of caring of intubated, bedridden or cognitively impaired individuals.

The clark and currie study[24] showed that patients who suffer from chronic diseases are at higher risk of having depression or anxiety, only two participants from our study population have a chronic disease most likely due to the young mean age of 32±6 .

Surprisingly, the data analysis of stress and nationality showed a significant presence of stress among Saudi nurses when compared to their non-Saudi counterparts, this could be due to the minority of Saudi nurses at our study. Could this be a result of a disruption owing to personal conflicts or work-related factors? Or do Saudi nurses have a deficiency in coping mechanisms?

Also, manager or colleague's relationship was negatively correlated with the nurse's level of stress, [P value 0.033, 0.004] respectively. And this can be expected as managerial or collegial disturbances will most likely result in stress. Other studies [cehung] also confirmed that collegial disturbances are related to psychological illness.

Resources availability was not investigated in any of the other similar studies we researched, however in our statistical analysis we found a significant correlation with both depression and stress [p value 0.003 and 0.000] respectively.

Other studies conducted among nurses[23] also revealed that being a female, divorced or separated and a diffrent study[14] where being single are more consistent with depression, anxiety or stress. However,

our findings were not consistent with those results and showed no significance or difference between both gender or marital status. This might be due to the lack of male participants at our study as they represented less than 12% of the study population, and due to lack of reporting of being divorced or separated due to social stigmas.

It is very common for nurses to complain or somehow have a type of sleep issues, for instance Perry et al[25] study on nurses showed that 70% of nurses report some kind of sleep disturbance, Alarmingly the mean of sleeping time of nurses at our study were at 6 hours per night, Are these sleep disturbances related to stressful work or personal circumstances. Our data shows that the mean of number of hours of sleep of participants who has symptoms of depression anxiety or stress is 5.92, 5.90 and 5.8 Hours respectively, while participants who did not have any symptoms of the three psychiatric illnesses had a mean of over 6.2 hours per night.

Recommendations:
At Ministry of health and hospital level: we recommend the ministry of health or the health care authority to make an action toward improving the nurse's psychological wellbeing, Nurses should have an easy access to psychiatric consultation and psychological support, Health care authorities should also encourage nurses to be able to seek help and discuss their psychological issues without any limitation, embarrassment or fear of social stigma. Hospitals should also provide all the required resources for nurses to perform their job adequately.

Managerial level: Poor manager relationship had a significant impact in our study, we recommend managers and supervisors to try and create an anxiety, stress and depression free working environment. Managers should also be supportive and help nurses who are at increased risk or showing signs of a psychiatric illness to seek psychiatric help and find ways or methods to cope with anxiety or stress.

Individual level: nurses should review themselves periodically and watch for any signs or symptoms of depression, anxiety or stress. Nurses should be aware of how to cope with stressful events in the workplace.

Limitations:
As a cross sectional study, determining the causality was not possible. Further research should investigate the variables over time using a cohort study. Gathering an approval from the ministry of health, king Abdulaziz medical city, King Fahad armed forces

hospital and the private sector is very challenging and time consuming, and this limited our sample size.

Male nurses represented a minority in our total population, as they represented only less than 12%. Furthermore, a conduction of another research with a higher male percentage is needed to generalize the findings.

Due to time and financial limitation the research was confined to king Fahad hospital and the international extended care center only.

CONCLUSION:
Psychological well-being of nurses is crucial on themselves and the care they provide. Our study showed a statistically significant result between nationality, resources availability, manager relationship, colleague relationship and stress. We also identified resources availability as a predictor for depression. Anxiety showed no correlation with any of the variables used. Nurses should be involved and supported through support programs and coping strategies to maintain their wellbeing.

Ethical consideration:
The research was approved officially by the " Scientific Committee in Saudi Board Family Residency Program ".
An approval was gained from the "Research Committee" in the Directorate of health affairs in Jeddah and from the International extended care center, Jeddah

Confidentiality was ensured, with no use of names of subjects participating in the study.
In addition, the data was not disclosed except for the study purpose.

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