

## Assessment of the Impact of the Job Satisfaction on Anxiety Level among Hospital Nurses in Lebanon: A Cross-Sectional Study

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## ABSTRACT

**Introduction:** During the past 4 years Lebanon suffered from a major economic crisis and a health care system crisis after COVID pandemic. Nurses as a part of the healthcare system, had to deal with the impact of both crisis and the consequences.

"In this study, job satisfaction and anxiety levels of nurses from 4 Lebanese public and private hospitals were assessed. Correlations of the job satisfaction and anxiety levels among them and with sociodemographic, professional and socio-economic ones, were evaluated.

**Objectives:** This study helps to determine the prevalence of the psychological distress and its association with the job satisfaction among hospital nurses during economic crisis in South and Beirut hospitals.

**Materials and Methods:** It is a cross-sectional study that aims to identify a cause-effect relation between hospital nurses Job satisfaction, level of anxiety and different sociodemographic and professional characteristics. The study was done through an online questionnaire including: an introduction to the study, an agreement of participation, the sociodemographic and professional information of the participants, the Generalized Anxiety Disorder Assessment (GAD-7) rating scale and the Nursing Workplace Satisfaction Questionnaire "NWSQ".

**Results:** Findings confirmed a significant relationship among salary decreasing due to economic crisis and job dissatisfaction (Spearman's  $\rho = 0.157$ ;  $p\text{-value} = 0.009$ ); and significant relationship between lower levels of job satisfaction and higher anxiety levels of Lebanese hospital nurses (Spearman's  $\rho = 0.367$ ;  $p\text{-value} < 0.0001$ ). Additionally, further correlations among sociodemographic and professional variables had explored.

**Conclusion:** The study shows the correlation between the decreased nurses job satisfaction with the increased level of anxiety among nurses in Beirut and South of Lebanon hospitals, a negative correlation between salaries during the economic crisis in parallel with the average spending per month and the total job satisfaction, and a positive correlation between the job satisfaction and the

anxiety levels. Also, both anxiety level and job satisfaction among nurses were subjective to the hospital locations and categories, the sociodemographic and professional characteristics and the economic crisis which has a significant impact on the nursing physiological status.

**Keywords:** job satisfaction, anxiety, public hospitals, private hospitals, nurses, economic crisis.

## INTRODUCTION

Job satisfaction refers to one's general emotional response towards his/her job resulting from their own appraisal or job experience and includes various dimensions and factors. Job satisfaction is also defined as one's tendency or positive feelings toward one's job. The Job satisfaction and work environment are of great importance, job satisfaction forms the fundamentals of most management policies to increase the productivity and efficiency of the organization [1]. Job satisfaction therefore is related to the positive sensation resulted from a job or profession and will affects individuals' attitudes towards their jobs [2].

In general, nurses represent a professional group with great physical and psychological pressure due to multiple work-related demands, shift working hours, and complex interpersonal relationships, for this reason health care worker have a high risk of psychological distress. They are forced to act and make quick decisions and it is a never-ending process of learning through experience [3].

The economic crisis has a big effect on anxiety levels, and it can have some serious results leading to negative effects on person's life. Anxiety is the feeling of fear that occurs when faced with threatening or stressful situations. It is a normal response when confronted with danger, but, if it is overwhelming or the feeling persists, it could be regarded as an anxiety disorder.

Many studies were performed by measuring the job stress among nurses and its adverse effects. A quantitative cross-sectional survey aimed to establish correlation of self-reported skill levels and behaviors in relation to evidence-based practice, was conducted in early 2012 among senior nurses and midwives of a regional New South Wales Local Health District. The study used the Nurses Workplace Satisfaction Questionnaire "NWSQ" to assess the nurses' satisfaction. The study concluded that nursing workplace policy which promotes and supports the pursuit of post-graduate education and which promotes job satisfaction gain, is likely to result in evidenced based practice capacity-related gains among senior nurses and midwives [4].

Another study aimed to assess the prevalence and risk factors of these mental states in a

representative sample of Australian nurses. The Depression Anxiety Stress Scale was administered to 102 nurses. Information about sociodemographic and professional and work characteristics were obtained using lifestyle and in-house designed questionnaires. Prevalence rates of depression, anxiety, and stress were found to be 32.4%, 41.2%, and 41.2% respectively. Binominal logistic regressions for depression and stress were significant ( $p = 0.007$ ,  $p = 0.009$ ). Job dissatisfaction significantly predicted a higher risk of nurses developing symptoms of depression and stress respectively ( $p = 0.009$ ,  $p = 0.011$ ) [5].

For nearly 4 years, Lebanon has been assailed by the most devastating, multi-pronged crisis in its modern history. The unfolding economic and financial crisis that started in October 2019 has been further exacerbated by the economic impact of the COVID-19 outbreak, the massive Port of Beirut explosion in August 2020, Russia and Ukraine war, and the currency crisis.

Lebanon hospitals are facing the worst resource shortage experienced in the last decades as consequence of the above-mentioned facts, and nurses working in Lebanese healthcare system are doing their utmost to overcome this challenging situation.

A study conducted in Lebanon aimed to examine the direct effect of nurses' emotional intelligence on their job satisfaction, as well as the indirect effect through the mediating role of job stress. The sample consisted of 365 nurses working in Lebanese hospitals during the COVID-19 period. The results revealed that emotional intelligence elements (Self-awareness, self-management, social-awareness and relationship-management) had a significant positive effect on nurses' job satisfaction [6].

Nurses may experience Job dissatisfaction from a failure to cope with competitive work environments, long work hours coupled with overtime and an encroachment on personal life by the psychological burden associated with ethical dilemmas and decision making for patients. This leaves them with negative perception and lack of motivation and commitment to their work and the organization. This, in turn, affects the performance of the organization and ultimately, its bottom

line.

Job satisfaction among hospital nurses has been studied in many developing and developed countries, but not in areas recently affected by wars and refugee crises or economic crises in the Middle East including Lebanon.

### **Objectives**

The purpose of the study is to describe and compare the level of satisfaction and anxiety and its effect on the performance of nurses among Beirut and South of Lebanon hospitals and to prove that there is a correlation between the hospital Nurse's job satisfaction and the increased level of anxiety. This study helps to determine the prevalence of the psychological distress and its association with the job satisfaction among hospital nurses during economic crisis in South and Beirut hospitals. This will help to measure the level of nurse's job satisfaction among nurses in Beirut and in South of Lebanon hospitals, to identify the factors that influence the job satisfaction among nurses, and to assess whether nurses job satisfaction cause a decrease in the level of anxiety among nurses. It also help to describe job satisfaction and anxiety among nurses in some public and private university hospitals in Beirut and South Lebanon, to measure the effect of the hospital's category on job satisfaction and anxiety levels, controlling for significant determinants, and to determine significant determinants of job satisfaction and anxiety and to create a "best-fit" model highlighting modifiable factors leading to potential improvements.

## **MATERIALS AND METHODS**

### **Population**

Nurses of all categories (nursing directors, nursing supervisors, head nurses, registered nurses and practical nurses) from four university hospitals, two publics and two privates, in Beirut and South of Lebanon were assessed in this study.

### **Inclusion/ Exclusion criteria**

Every respondent with a work experience less than 4 years was excluded to ensure the assessment of the economic crisis on the salaries and its impact on the job satisfaction and anxiety level.

### **Instruments**

The study is based on a closed-ended questionnaire that was as an electronic survey with many sections: The first section was an introduction to the study, describing the purpose of the study and its procedure, followed by an explicit question on the agreement to participate in this study and serving as an informed consent.

The second section addressed sociodemographic and professional information such as the gender of the participants, age, number of experience years, number of working days per week, number of working hours per day, if they work another job, their marital status, if they have kids and how many, their salary ranges before economic crisis and during economic crisis as well as their current average spending per month.

The third section contained the *Generalized Anxiety Disorder Assessment (GAD-7)* rating scale which addresses as a 4 points with 0 as “Not at all”, 1 “several days”, 2 “more than half the days” and 3 “nearly every day”, rating the following symptoms of anxiety: Feeling nervous, anxious or on edge, not being able to stop or control worrying, worrying too much about different things, trouble relaxing, being so restless that it is hard to sit still, becoming easily annoyed or irritable, feeling afraid as if something awful might happen. The total score for the seven items ranges from 0 to 21 is calculated as per the following scale: 0-4= minimal anxiety, 5-9= mild anxiety, 10-14: moderate anxiety and 15-21: severe anxiety. The GAD-7 has a sensitivity of 89% and a specificity of 82%. It is moderately good at screening three other common anxiety disorders - panic disorder (sensitivity 74%, specificity 81%), social anxiety disorder (sensitivity 72%, specificity 80%) and post-traumatic stress disorder (sensitivity 66%, specificity 81%) [7].

The fourth section enclosed *The Nursing Workplace Satisfaction Questionnaire “NWSQ”* using 5 points Likert scale from 1 as fully agree to 5 as definitely disagree, and it is a questionnaire used to evaluate dimensions of job satisfaction related to overall satisfaction with high validity, reliability and specificity demonstrated. It includes 17 points under 3 sections intrinsic, extrinsic and relational job satisfaction: how much does the nurse enjoy his/her job, criteria of doing their job and the people they work with. Exploratory factor analysis confirmed the validity of this 'three-way' conceptualization of nursing job satisfaction. Internal consistency analysis on a larger sample of responses yielded high Cronbach's Alpha values for all three domains and for the total overall, suggesting a stable and reliable measure [8].

### **Statistical analysis**

Data were presented as number and percentage for categorical variables, and continuous data were expressed as the mean  $\pm$  standard deviation (SD) and median and interquartile range (IQR= [Q1, Q3]). The data is gathered using a Google form, then transferred to SPSS program version 26. Chi-square test or Fisher's exact test were performed to evaluate significant differences in proportions or percentages between the two groups. Fisher's exact test was used where the chi-square test was not appropriate. The relationship between two numerical variables was calculated using Spearman correlation coefficient rho where the variable distributions were not Normal. The test for normal distribution was performed using the Shapiro-Wilk test. Finally, all tests with p-value ( $p$ )  $<$  0.05 were considered significant.

### **RESULTS**

298 responses from nurses of all categories, from 4 hospitals were gathered, 21 responses excluded according to the exclusion criteria and 277 responses were included in the study, the responses are distributed according to the following table:



Parameters	Frequency (%) / mean $\pm$ SD, median (IQR)
Age	35.89 $\pm$ 6.79 36 (10)
Years of experience	13.09 $\pm$ 5.71 13 (10)
Working days / week	4.21 $\pm$ 0.67 4 (0)
Working hours / day	11.49 $\pm$ 2.14 12 (0)
Salary Per Month Before the economic crisis (in USD)	869.5 $\pm$ 241.65 870 (160)
Salary Per Month during the economic crisis (in USD)	328.5 $\pm$ 129.21 350 (230)
Average spending / month in (USD)	484.5 $\pm$ 285.42 360 (430)
Hospital location	
South of Lebanon	157 (56.7%)
Beirut	120 (43.3%)
Hospital category	
Private university hospital	178 (64.3%)
Public university hospital	99 (35.7%)
Job position	
Registered nurse	222 (80.1%)
Head nurse	28 (10.1%)
Practical nurse	27 (9.7%)
Gender	
Female	180 (65.0%)
Male	97 (35.0%)
Working in closed units	
No	151 (54.5%)
Yes	126 (45.5%)
Working schedule	
Alternate shifts	128 (46.2%)
Day duty	86 (31.0%)
Night duty	63 (22.7%)
Working in another job	
No	195 (70.4%)
Yes	82 (29.6%)
Marital status	
Married	219 (79.1%)
Single	35 (12.6%)
Widowed	18 (6.5%)
Divorced	5 (1.8%)

**Table 1.** Statistical distribution of the categorical sociodemographic and professional characteristics.

The chi-square test and Fisher's exact test showed a correlation between the hospital location, the hospital category, the job position, the working schedule, the nurse's job satisfaction, working in a single job or more, the marital status and the nurse's job satisfaction. In addition, the results showed

no correlation between the gender and whether working in closed unit or not with the nursing job satisfaction.

variables	Job Satisfaction Levels n (%)			p-value (test)
	satisfied	neutral	dissatisfied	
<i>Hospital location</i>				
Beirut	20 (16.0)	73 (60.8)	27 (22.5)	0.002* (C)
South of Lebanon	27 (17.2)	65 (41.4)	65 (41.4)	
<i>Hospital category</i>				
Private university hospital	48 (27.3)	40 (22.2)	90 (50.5)	<0.0001* (C)
Public university hospital	11 (11.2)	65 (65.2)	23 (23.6)	
<i>Job position</i>				
Head nurse	7 (25.0)	14 (50.0)	7 (25.0)	0.0011* (F)
Practical nurse	12 (44.4)	7 (25.9)	8 (29.6)	
Registered nurse	28 (12.6)	117 (52.7)	77 (34.7)	
<i>Gender</i>				
Male	16 (16.5)	45 (46.4)	36 (37.1)	0.59 (C)
Female	31 (17.2)	93 (51.7)	56 (31.1)	
<i>Working in closed units</i>				
No	26 (17.2)	77 (51.0)	48 (31.8)	0.86 (C)
Yes	21 (16.7)	61 (48.4)	44 (34.9)	
<i>Working schedule</i>				
Alternate shifts	16 (12.5)	73 (57.0)	39 (30.5)	0.0001* (C)
Day duty	22 (25.6)	45 (52.3)	19 (22.1)	
Night duty	9 (14.3)	20 (31.7)	34 (54.0)	
<i>Working in another job</i>				
No	34 (17.4)	117 (60)	44 (22.6)	<0.0001* (C)
Yes	13 (15.9)	21 (25.6)	48 (58.5)	
<i>Marital status</i>				
Divorced	1 (20.0)	2 (40.0)	2 (40.0)	<0.0001* (F)
Married	27 (12.3)	117 (53.4)	75 (34.2)	
Single	19 (54.3)	12 (34.3)	4 (11.4)	
Widowed	0 (0.0)	7 (38.9)	11 (61.1)	

\*=significant test, C=chi-square test; F= Fisher's exact test

**Table 2.** Relationships between categorical sociodemographic and professional characteristics, and the NWSQ.

The Spearman correlation test showed a positive correlation between: the age, working hours/ day, the average spending/ month, the years of experience and the nurses' job satisfaction levels.

However, no correlation was found between the working days/ week, with the nurses' job satisfaction levels, the salary average before the economic crisis and the nurses' job satisfaction levels, and the salary average during the economic crisis and the nurses' job satisfaction levels.

Correlation analysis	Spearman's rho (p-value)
Age / Job Satisfaction Levels	0.157** (p-value =0.009)
Years of experience / Job Satisfaction Levels	0.140* (p-value=0.019)
Working days-week / Job Satisfaction Levels	0.012 (p-value=0.85)
Working hours-day / Job Satisfaction Levels	0.164** (p-value=0.006)
Salary per month before the economic crisis (in USD) / Job Satisfaction Levels	0.004 (p-value =0.95)
Salary per month during the economic crisis (in USD) / Job Satisfaction Levels	-0.112 (p-value =0.063)
Average spending /month (in USD) / Job Satisfaction Levels	0.447** (p-value<0.0001)
* = Correlation is significant at the 0.05 level (2-tailed);	
** = Correlation is significant at the 0.01 level (2-tailed).	

**Table 3.** Spearman correlation table between numerical sociodemographic and professional characteristics and the NWSQ.

The chi-square test and Fisher's exact test showed a correlation between the hospital location, the hospital category, the working schedule, whether working in another job or not and the nurse's anxiety levels, and no correlation between the job position, the gender, whether working or not in a closed unit, the marital status and the nurses' anxiety level.

variables	Anxiety Levels n (%)			p-value (test)
	Mild anxiety	Moderate anxiety	Severe anxiety	
<i>Hospital location</i>				
Beirut	7 (5.8)	54 (45.0)	59 (49.2)	0.016* (C)
South of Lebanon	7 (4.5)	46 (29.3)	104 (66.2)	
<i>Hospital category</i>				
Public university hospital	3 (3.0)	14 (14.1)	82 (82.8)	<0.0001* (C)
Private university hospital	11 (6.2)	86 (48.3)	81 (45.5)	
<i>Job position</i>				
Head nurse	1 (3.6)	10 (35.7)	17 (60.7)	0.54 (F)
Practical nurse	2 (7.4)	6 (22.2)	19 (70.4)	

Registered nurse	11 (5.0)	84 (37.8)	127 (57.2)	
<i>Gender</i>				
Male	3 (3.1)	36 (37.1)	58 (59.8)	0.62 (F)
Female	11 (6.1)	64 (35.6)	105 (58.3)	
<i>Working in closed units</i>				
No	9 (6.0)	58 (38.4)	84 (55.6)	0.45 (C)
Yes	5 (4.0)	42 (33.3)	79 (62.7)	
<i>Working schedule</i>				
Alternate shifts	3 (2.3)	57 (44.5)	68 (53.1)	0.012* (F)
Day duty	9 (10.5)	25 (29.1)	52 (60.5)	
Night duty	2 (3.2)	18 (28.6)	43 (68.3)	
<i>Working in another job</i>				
No	11 (5.6)	83 (42.6)	101 (51.8)	0.0005* (F)
Yes	3 (3.7)	17 (20.7)	62 (75.6)	
<i>Marital status</i>				
Divorced	0 (0.0)	1 (20.0)	4 (80.0)	0.89 (F)
Married	11 (5.0)	83 (37.9)	125 (57.1)	
Single	2 (5.7)	11 (31.4)	22 (62.9)	
Widowed	1 (5.6)	5 (27.8)	12 (66.7)	

\*=significant test, C=chi-square test; F= Fisher's exact test

**Table 4.** Relationships between categorical sociodemographic and professional characteristics and the GAD-7.

The Spearman Correlation Coefficient showed no correlation between the years on experience, the working days/week, the working hours/day and the average salary per month before the economic crisis with the anxiety levels. It also showed a negative correlation between the average salary per month during the economic crisis and the nurses' anxiety level, and a significant positive correlation between the average spending per month and the nurses' anxiety levels.

Correlation analysis	Spearman's rho (p-value)
Age/ Nurses' Anxiety Levels	0.001 (p-value= 0.99)
Years of experience/ Nurses' Anxiety Levels	0.022 (p-value= 0.71)
Working days-week/ Nurses' Anxiety Levels	-0.040 (p-value= 0.51)
Working hours - day/ Nurses' Anxiety Levels	0.006 (p-value= 0.92)
Salary per month before the economic crisis (in USD)/ Nurses' Anxiety Levels	0.004 (p-value= 0.94)
Salary per month during the economic crisis (in USD)/ Nurses' Anxiety Levels	-0.352** (p-value <0.0001)
Average spending /month (in USD)/ Nurses' Anxiety Levels	0.493** (p-value <0.0001)
** . Correlation is significant at the 0.01 level (2-tailed).	
* . Correlation is significant at the 0.05 level (2-tailed).	

**Table 5.** Spearman correlation table between numerical sociodemographic and professional characteristics and the GAD-7.

In addition to the above results, the Spearman correlation test shows a high statistical significance between the hospital nurses' salaries during the economic crisis and job satisfaction, and a high statistical significance between the job satisfaction and the anxiety level. These correlations are identified by a negative relation between salary per month during the economic crisis and total job satisfaction score: decreased salary per month during the economic crisis leads to a higher job satisfaction score (high score means low job satisfaction), and a positive relation between total job satisfaction score and the total anxiety score: increased total job satisfaction score leads to a higher anxiety score (high score means high anxiety level).

Spearman's correlations		Total job satisfaction score	Total anxiety score
Salary per month during the economic crisis (in USD)	Spearman's correlation	-0.157**	
	p-value	0.009	
Total job satisfaction score	Spearman's correlation		0.367**
	p-value		<0.0001
**. Correlation is significant at the 0.01 level (2-tailed).			

**Table 6.** Correlation between the nurses' salaries during the economic crisis and the nurses' job satisfaction, and between the nurses' job satisfaction and the nurses' anxiety levels.

## DISCUSSION

Our results show that there is a correlation between the hospital nurse's job satisfaction and the increased level of anxiety during economic crisis in Lebanon, this result matches what already found in similar study performed in 2016 and showed that a significant proportion of nurses suffered from stress, as well as their satisfaction with job is very low with severe anxiety [9].

Our results also show that there is a cause-effect relation between the salary range and the job

dissatisfaction and the level of anxiety, similar result confirmed by a study in Saudi Arabia, that assessed how dissatisfaction with salary, workload and teamwork, individually and in combination, was associated with those conditions, concluded that the dissatisfaction with workload were significantly associated with both anxiety and stress [10]. Furthermore, our results confirmed that scores for job satisfaction are higher, with lower scores for anxiety, among nurses practicing in private university hospitals compared to those practicing in public university hospitals. This comparison was not found in the literature in our available knowledge. These results are comparable to a cross-sectional study in China in 2019 that focused on the associations between the sub dimensions of occupational stress and psychosomatic wellbeing among nurses, and identified that workload and time pressure were correlated with anxiety. The study also identified that professional and career issues were associated with depression, and that interpersonal relationships and management problems were associated with anxiety, depression, and somatic symptoms [11]. Finally, the results confirm that scores for job dissatisfaction and anxiety are higher among nurses with low salaries compared to their colleagues with high ones, which goes along with what already have been showed in a study conducted in Lebanon and investigated the reasons for the migration of Lebanese nurses and incentives that would attract them back to their home country and showed that the top reasons for nurses to leave Lebanon included unsatisfactory salary or benefits [12].

## **CONCLUSION**

In conclusion the results show the correlation between the decreased nurses job satisfaction with the increased level of anxiety among the hospital nurses in Beirut and South of Lebanon hospitals.

The results of our study also show the high negative correlation between salaries after economic crisis in parallel with the average spending per month and the total job satisfaction in addition to a high positive correlation between the total job satisfaction and the anxiety levels. In addition to the mentioned above, the results showed that both anxiety level and job satisfaction among hospital

nurses are subjective to the hospital locations and categories, and to the variables in the sociodemographic and professional characteristics. It also shows how the economic crisis has a significant impact on the nursing physiological status in both job satisfaction and anxiety levels.

### **Limitations**

The study limitation was to have the approval of the of the hospitals in Beirut and South of Lebanon do fill the questionnaire by their staff. We had to shift to other hospitals of the same categories and restart the approval process which compromised our study time.

**Local Ethics Committee approval:** Approval from three Institutional Review Boards with letters references: “2023-1105” on December 12, 2023, “3/2024” on February 5, 2024, and “IRB23RP26” on December 12, 2023, were obtained for the study.

### **Conflict of interest and source of funding statement**

The authors report no conflict of interest, and the research did not receive any specific grant from funding agencies in the public, commercial, or not for profit sectors.

### **Authors' contribution**

All authors contributed to the final manuscript.

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