

Burnout among nurses and teachers in Jordan: a comparative study

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Summary

This study was conducted to evaluate burnout among nurses and teachers in Jordan, and to explore the differences between them. Several demographic factors were examined to evaluate their effect on burnout levels in both professions. The study adopted a descriptive cross-sectional design and was performed on 240 participants: 120 nurses and 120 teachers. A modified Maslach Burnout Inventory (MBI-modified) was used to assess the three dimensions of burnout. The results of this study showed moderate levels of burnout among both nurses and teachers; however, statistical analysis indicated that nurses had significantly higher levels of burnout than teachers. Moreover, the study showed that gender, marital status and experience significantly affected the level of burnout in teachers, but not in nurses. Educational level did not affect the level of burnout in either group. The study should help in setting proper intervention plans and psychological programs to tackle this important problem in both professions.

burnout, nurses, teachers

BACKGROUND

Burnout is a psychological syndrome of physical and emotional exhaustion that can occur through long-term exposure to chronic stressors, particularly job stress and lack of adequate coping mechanisms [1]. It is widely recognized that burnout has three core dimensions. The first dimension is emotional exhaustion (EE), which is the essential core element of burnout and includes loss of energy and physical debilitation. The second dimension is depersonalization or cynicism (DP), which includes loss of idealism and a negative view towards clients. The third

dimension is lack of personal accomplishment or lack of professional efficacy (PA), which includes a negative view toward oneself, inability to adapt and low self-esteem [2].

Burnout can lead to many psychological and physical problems. The psychological problems include dissatisfaction, role conflict, role ambiguity, excessive demand, time pressure, overload, inability to do one's job, absenteeism, lack of motivation and support in addition to potential conflict with colleagues and supervisors [3,4]. On the other hand, many studies have found that burnout may cause physical body complaints such as headache, sleep disturbances, muscle pain, irritability, tiredness, hypertension and myocardial infarction [5]. Furthermore, when individuals suffer from burnout, they may also experience discomfort, distress, decreased level of energy, and loss of interest in work [1,6]. As a result, organizations with high levels of em-

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ployee burnout experience decreased levels of efficacy and productivity, negative organizational outcomes, in addition to a general weakening of work capability [7].

Burnout can occur in any occupation. However, people working in occupations that involve human services are at a higher risk of burnout [8]. Nursing is one of the most common examples of such occupations, as nurses have to deal with multiple responsibilities, including patients, patient families and other healthcare professionals [9]. Furthermore, nurses represent an essential element in healthcare settings, where they put forth much effort to take care of patients and to educate them, and frequently their family members too, in order to enhance their quality of life [4,10]. Teaching is also considered one of the important occupations that provide human services and teachers play an essential role in the teaching-learning process [11]. Success is strongly associated with teachers' morale [12]. Teachers deal with a variety of students, have to take control of a class, work hard in school and may have to take their work home; all of this puts them under stress [13]. Thus, nursing and teaching careers are similar in their basic nature. Both nurses and teachers help, support, protect and educate other people [4]. Both groups face many stressors in the workplace, which puts them at a high risk of suffering from burnout compared with other professions [14,15].

STUDY PROBLEM

Burnout has been one of the hottest subjects in the field of psychology and organization function. Burnout affects people's lives beside its effect on organizations' functioning and development. Many international studies have previously investigated the level of burnout in nurses and teachers. However, there are only a limited number of such studies in Jordan and, to the best of our knowledge, none of them was involved in comparing these two important professions in terms of burnout levels. Furthermore, several demographic factors, such as gender, marital status, experience and educational level, were included in this study to evaluate their potential association with burnout levels in both professions.

STUDY QUESTIONS

The study sought to answer the following questions:

- What is the level of burnout among nurses and teachers?
- Are there statistically significant differences ($\alpha=0.05$) between nurses and teachers regarding burnout?
- Are there statistically significant differences ($\alpha=0.05$) in nurse burnout related to gender, marital status, experience, and educational level?
- Are there statistically significant differences ($\alpha=0.05$) in teacher burnout related to gender, marital status, experience, and educational level?

STUDY OBJECTIVES

- To explore the levels of burnout among nurses and teachers in Jordan.
- To explore the differences in burnout between nurses and teachers in Jordan.
- To explore the effects of gender, marital status, experience and education on burnout among nurses and teachers in Jordan.

STUDY SIGNIFICANCE

This study provides important information about burnout among nurses and teachers in Jordan and compares the two groups. The importance of this study can be illustrated through the following two aspects.

THEORETICAL SIGNIFICANCE

This study is an addition to the scientific knowledge that tackles burnout syndrome in general and that relates to nurses and teachers in particular. It also helps in understanding which of these two professions suffers more from burnout and hence needs more attention in addressing this problem.

APPLIED SIGNIFICANCE

This study helps psychological therapists in creating therapeutic counseling programs addressing burnout. It also helps nurses and teachers in the development of coping mechanisms to decrease their burnout levels. This can ultimately lead to an improvement in productivity and efficacy of nurses and teachers.

CONCEPTUAL AND OPERATIONAL DEFINITIONS

Burnout is a psychological syndrome of physical and emotional exhaustion that may lead to a loss of power, interest and concern in work, a negative attitude towards clients, distress, discomfort and lack of productivity at work [2].

For the purpose of this study, burnout is operationally defined as a score that each participant obtained on an overall scale of a modified Maslach's burnout inventory (MBI-modified).

Previous studies

Nurses and teachers are the most frequently studied groups in relation to burnout. Many studies have revealed that teachers and nurses experience burnout at higher levels than other professions; the following is a brief description of these studies.

Maslach et al. [16] conducted a study comparing between teachers and other professions; the results show that teachers experience high levels of exhaustion and depersonalization, which are the main components of burnout. In Turkey, Aydogan et al. [17] conducted a study to examine perceived levels of burnout among Turkish high-school teachers working both in Turkey and abroad. The results show that burnout is a common problem among Turkish teachers regardless of a country they work in. In Jordan, El-Omari & Freihat [11] explored burnout among Jordanian English teachers. They found that English teachers in Jordan are seriously suffering from burnout. In Japan, Shimizu et al. [18] conducted a study to investigate the relationship between nurses' turnover and burnout in a follow-up study. The results show that nurses' turnover was related to burnout, especially to emotional exhaustion. In Jordan, Al-khasawneh & Futa

[19] assessed the relationship between five types of factors (family factors, economic factors, job difficulties, competition between peers and organizational climate) and burnout. The results showed that the family factor was not a considerable stressor, but the other four factors were associated stressors among nurses. AlSuliman & AlHablani [20] conducted a study to determine the level of burnout among nursing staff in a military hospital in Saudi Arabia. The results showed that 75.9% of nurses in Tabuk military hospitals were suffering from burnout. In China, Yu et al. [21] conducted a study to examine the impact of work stress on job burnout among teachers, focusing on the mediator role of self-efficacy. The results show that both work stress and self-efficacy were significantly correlated with job burnout among teachers. Cañadas-De la Fuente et al. [22] conducted a study to estimate the prevalence of burnout in Spain. The results showed that nurses in Andalusia, Spain, recorded high levels of burnout. In Singapore, Ang et al. [23] evaluated the prevalence of burnout among nurses and to investigate the influence of demographic factors and personal characteristics on burnout. The results showed that age, job grade and neuroticism are significantly associated with each dimension of burnout. Staff nurses less than 30 years old with high to very high neuroticism were more likely to experience high EE, high DP, and low PA.

MATERIALS AND METHODS

This study adopts a descriptive cross-sectional design and correlative approach to explore the level of burnout among nurses and teachers in Jordan and its association with different demographic factors.

SAMPLE

The study population consisted of all nurses in Jordan University Hospital (JUH) in Amman, Jordan. The nurses' sample (N=120) was selected randomly from JUH and comprised 78 females and 42 males. This hospital was chosen because it is one of the largest hospitals in Jordan and is readily accessible to the researchers.

The population of teachers consisted of all public school teachers in Alrusyfa, a city near Amman. The teachers' sample (N=120) was selected randomly from four public schools in Alrusyfa

and comprised 54 females and 66 males. Demographic data collected for both nurses and teachers were: gender, marital status, experience and educational level (Table 1).

Table 1. Sample characteristics of nurses (N=120) and teachers (N=120)

Demographic data	Nurses	Percentage	Teachers	Percentage
Female	78	65%	54	45%
Male	42	35%	66	55%
Marital status				
Single	53	44.2%	26	21.7%
Married	67	55.8%	94	78.3%
Experience				
1-5 Years	68	56.7%	28	23.3%
6-10 Years	38	31.7%	39	23.5%
≥ 11 Years	14	11.7%	53	44.2%
Education				
Diploma	24	20%	-	-
Bachelor's degree	78	65%	103	85.8%
Post graduate degree	18	15%	17	14.2%

RESEARCH TOOLS

Modified Maslach Burnout Inventory (MBI-modified)

Maslach Burnout Inventory is the most popular and widely used tool for measuring burnout; it was used here with few modifications. The original MBI consists of 22 items, while the version modified for the purpose of this study (MBI-modified) consisted of 27 items developed according to the literature and a survey of 10 specialists in nursing and educational psychology in Jordan. Each of the 27 items in MBI-modified was assessed on a 5-point Likert scale as follows: 1 'never', 2 'rarely', 3 'sometimes', 4 'frequently', 5 'always'.

The scale consists of the following dimensions: emotional exhaustion subscale, which assesses loss of energy and physical debilitation, personal accomplishment subscale, which assesses work achievements, and depersonalization subscale, which assesses loss of idealism and a negative view towards clients. High mean scores of emotional exhaustion and depersonalization beside low mean scores in personal accomplishment corresponded to high levels of burnout among

nurses' and teachers' samples. The average values were based on the following equation: highest score (5) – lowest score (1)/number of categories (3). The degree of burnout is mild when the average score ranges from 1 to 2.33. The degree of burnout is moderate when the average score ranges from 2.34 to 3.66. The degree of burnout is high when the average score ranges from 3.67 to 5.

The validity of MBI-modified was assessed in terms of the following.

Content validity: MBI-modified was presented to 10 arbitrators, including professors specialized in nursing, educational psychology, measurement and evaluation, from the University of Jordan. Arbitrators were requested to provide their views and suggestions on each of the 27 questions of MBI-modified in term of its linguistic appropriateness, its association with the dimension of burnout it was assigned to, and its suitability for the Jordanian context. Acceptance rate for dimension association and local suitability was at least 80% for all questions in the proposed scale and hence none of the questions was removed.

However, linguistic paraphrasing was applied to some questions based on arbitrators' suggestions.

Structure validity (internal consistency): the construct validity of MBI-modified was applied

to 40 nurses and teachers outside the study sample. Correlation coefficients between the score of each question and the overall score of MBI-modified were calculated (Table 2).

Table 2. Correlation coefficients of each item with the overall score for MBI-modified

No.	PA (total score)	No.	EE (total score)	No.	DP (total score)
1	0.66	3	0.78	9	0.58
2	0.76	6	0.64	13	0.78
4	0.80	7	0.57	15	0.85
5	0.57	10	0.77	17	0.87
8	0.82	18	0.69	19	0.66
11	0.84	20	0.72	24	0.72
12	0.72	22	0.63	26	0.74
14	0.77	23	0.89		
16	0.71	25	0.74		
21	0.62	27	0.68		

PA personal accomplishment EE emotional exhaustion DP depersonalization.

To verify the reliability of MBI-modified, the scale was applied to 40 nurses and teachers of the study population from outside the sample. Cronbachs alpha was found at 0.81. A split-half method gave a correlation value of 0.80, which indicates acceptable scale reliability.

ETHICAL APPROVAL

Ethical approval was obtained from the institutional review board (IRB) at Jordan University Hospital to allow the collection of information from the nurses' sample. Administrative approval was obtained from the Jordanian Ministry of Education to allow information collection from the teachers' sample.

STATISTICAL ANALYSIS

To address the study questions, means, standard deviations, frequency and percentages were obtained for each dimension of burnout and each demographic factor. We also used Student's t-test on the overall scores to compare nurses and teachers in terms of their burnout levels. Finally, we used one-way analysis of variance (ANOVA) in order to evaluate the associ-

ation of each demographic factor with the level of burnout.

RESULTS AND DISCUSSION

This study aimed to compare the level of burnout between nurses and teachers in Jordan. Several demographic factors, such as gender, marital status, experience and educational level, were included in this study to evaluate their potential association with burnout levels in both professions. The results will be discussed according to study questions.

QUESTION 1: WHAT IS THE LEVEL OF BURNOUT AMONG NURSES AND TEACHERS?

To answer this question, mean, standard deviation and the overall level of burnout according to the MBI-modified were obtained for nurses and teachers. The figures for nurses' burnout were $M = 3.25$, $SD = 0.36$ and the overall level of burnout for the nurses' sample was moderate. For teachers, the figures were $M = 3.01$, $SD = 0.44$ and the overall level of burnout was also moderate.

This result can be explained by the fact that nurses feel physically as well as emotionally

exhausted, tired, face excessive demand, have to deal with sick people, help to save patients' lives, and work too hard and under pressure on all kinds of nursing tasks. Generally, all nurses participating in this study reported moderate to high levels of emotional exhaustion and depersonalization and low levels of personal accomplishment. Despite that, an MBI-modified analysis revealed that nurses deal with problems quietly and effectively, easily understand patients' feelings and create a relaxed atmosphere for patients. This result is in agreement with multiple studies which also found moderate to high levels of burnout among nurses [20,22,23].

Regarding the teachers' sample, they also feel physically as well as emotionally exhausted, experience overload, role conflict, role ambiguity, low professional status, have to work with difficult students who are resistant to learning,

and suffer time pressure, lack of promotion and relatively low salary compared with other professions in Jordan. Generally, all teacher participants in the study reported moderate levels of burnout. Despite that, MBI-modified showed that they are making much effort to deliver knowledge, understand students' feelings, communicate with students effectively and aspire to enable the students to excel. This result is in agreement with those of previous studies [11,17].

QUESTION 2: ARE THERE STATISTICALLY SIGNIFICANT DIFFERENCES ($\alpha=0.05$) BETWEEN NURSES AND TEACHERS REGARDING BURNOUT?

To answer this question, statistical analysis using t-test was performed. Table 3 illustrates the results of this analysis.

Table 3. Differences between nurses and teachers in terms of burnout levels

Variable	Group	N (%)	Mean	SD	t	DF	Sig.
Burnout	Nurses	120 (100%)	3.25	0.36	1.97	118	0.05
	Teachers	120 (100%)	3.01	0.44			

The results in Table 3 indicate that the level of burnout in nurses is higher than that in teachers and this difference is statistically significant ($P = 0.05$). The significant difference between nurses and teachers may be mainly related to working hours – hospital nurses work morning, evening or overnight shifts. Besides that, they work on holidays and weekends. Teachers work from Sunday through Thursday in the morning only, and they have regular holidays and weekends off. This result agrees with a study by Ogunbamila [24], which found that health workers (including nurses) reported higher levels of burnout than either teachers or the police personnel, but was in contrast with a study by Maslach et al. [16] which found that teachers have a higher level of burnout than other studied professions.

QUESTION 3: ARE THERE STATISTICALLY SIGNIFICANT DIFFERENCES ($\alpha=0.05$) IN BURNOUT FOR NURSES RELATED TO GENDER, MARITAL STATUS, EXPERIENCE AND EDUCATIONAL LEVEL?

To investigate the potential association of demographic factors with the level of burnout in nurses,

t-test was used for factors with two continuous variables, while one-way ANOVA was used for factors with more than two continuous variables.

GENDER

Table 4 indicates that there is no significant difference in mean values of nurses' responses in terms of their gender ($M_{\text{male}} = 3.18$, $F_{\text{female}} = 3.27$, $t = 1.17$, $P = 0.24$), and hence gender is not found to be associated with the level of burnout in nurses ($P = 0.24$). This result can be explained by the fact that all nurses, regardless of their gender, have similar working hours and job duties, similar responsibilities towards patients, and a lack of resources to adapt with stressors. In general, previous studies showed that male nurses are more likely to experience depersonalization than female nurses, while female nurses are more likely to experience emotional exhaustion than male nurses. Our results are in line with the study of Lahana et al. [25], but not with the study of Lasebikan & Oyetunde [26], which found that female nurses suffer from burnout more than male nurses.

Table 4. Effect of gender on the level of burnout among nurses

Variable	Gender	N (%)	Mean	SD	t	DF	Sig.
Nurses' burnout	Male	42 (35%)	3.18	0.36	1.17	118	0.24
	Female	78 (65%)	3.27	0.35			

MARITAL STATUS

Based on the results in Table 5, there is no statistically significant difference between single and married nurses ($S_{\text{single}} = 1.77$, $M_{\text{married}} = 1.55$, $t = 1.16$, $P = 0.21$). Therefore, marital status is not found to be associated with the level of burnout. This result can be explained by the fact that single and married nurses have the same stressors

because of high work pressures and work the same hours. This pattern was also reported by Higashiguchi et al. [27], but disagrees with the findings of Okwaraji & Aguwa [28] and Lasebikan & Oyetunde [26], who reported that burnout occurred more often in single nurses, and with other studies, which found that married nurses experienced higher levels of burnout than single nurses [29].

Table 5. Effect of marital status on the level of burnout among nurses

Variable	Marital status	N (%)	Mean	SD	t	DF	Sig.
Nurses' burnout	Single	53 (44.2%)	1.77	0.42	1.16	119	0.21
	Married	67 (55.8%)	1.55	0.50			

EXPERIENCE

Table 6 shows that there is no significant association between burnout in nurses based on their experience ($F = 0.26$, $P = 0.76$), since nurses are overloaded, lack sufficient support from co-workers and managers, and handle large numbers of patients every day. All of these reasons and others play an important role in the fact that

there are no differences between nurses in terms of their experience. This result is in agreement with a study by Palfi et al. [30]. However, it contradicts the studies by Sabbah et al. [29] and Lahana et al. [25], which found that nurses with more work experience are more prone to burnout than those with less experience, and other studies which indicated higher levels of burnout among nurses with less experience [31].

Table 6. Effect of experience on the level of burnout among nurses

	Sum of squares	DF	Mean square	F	Sig.
Between groups	0.07	2	0.03	0.26	0.76
Within groups	15.13	117	0.12		
Total	15.20	119			

EDUCATION

Table 7 shows that there is no statistically significant difference in the level of burnout in nurses based on their education level ($F = 1.59$, $P = 0.21$). This is due to the fact that the nature of the nurse's work does not depend on their educational degree. More highly educated nurses

do their own job and are responsible for training new nurses, which may lead to job dissatisfaction. This result is consistent with the study of Gulavani & Shinde [32]. Other researchers indicate a significant association between educational level and burnout, for instance Mohammadpoorasl et al. [33], who found that higher educational level increased the risk of burnout

among nurses and attributed it to a lack of satisfaction and working too hard. Other studies, such as that by Rashhedi et al. [34], found that

inadequate educational level, such as a diploma degree, leads to burnout as a result of conflict and role confusion.

Table 7. Effect of educational level on the level of burnout among nurses

	Sum of squares	DF	Mean square	F	Sig.
Between groups	0.40	2	0.20	1.59	0.21
Within groups	14.80	117	0.12		
Total	15.20	119			

QUESTION 4: ARE THERE STATISTICALLY SIGNIFICANT DIFFERENCES ($\alpha=0.05$) IN BURNOUT FOR TEACHERS RELATED TO GENDER, MARITAL STATUS, EXPERIENCE AND EDUCATIONAL LEVEL?

To investigate the potential association of demographic factors with the level of burnout in teachers, t-test was used for factors with two continuous variables, while one-way ANOVA was used for factors with more than two continuous variables.

GENDER

Our results (Table 8) indicate that female teachers suffer from burnout more than male

teachers and the difference is statistically significant ($M_{\text{male}} = 3.00$, $F_{\text{female}} = 3.16$, $t = 2.05$, $P = 0.04$). This result can be explained based on the social and gender roles of females, since in the local culture females are usually responsible for home tasks and are more involved in taking care of children. This result conforms to the findings of Antoniou et al. [35], who reported higher levels of burnout among female teachers, but not with the findings of (Rad & Nasir [36], who found that male teachers have higher levels of burnout than female teachers. Other studies [11,37] found no significant differences in burnout based on teachers' gender.

Table 8. Effect of gender on the level of burnout among teachers

Variable	Gender	N	Mean	SD	t	DF	Sig.
Teachers' burnout	Male	66 (55%)	3.00	0.40	2.05	118	0.04
	Female	54 (45%)	3.16	0.47			

MARITAL STATUS

There was a higher level of burnout in married teachers compared with single teachers ($S_{\text{single}} = 2.73$, $M_{\text{married}} = 3.16$, $t = 3.79$, $P = 0.000$) (Table 9). This finding could be related to many stressors

facing married teachers, including the burden of responsibilities towards their partner and children. This result is in agreement with the study of Nimehchisalem & Mousavy [38], but not with the study of Gensh [37], which found no significant difference in burnout based on marital status.

Table 9. Effect of marital status on the level of burnout among teachers

Variable	Marital status	N (%)	Mean	SD	t	DF	Sig.
Teachers' burnout	Single	26 (21.7%)	2.73	0.43	4.79	119	0.000
	Married	94 (78.3%)	3.16	0.39			

EXPERIENCE

There was a statistically significant difference in the level of burnout among teachers based on their experience ($F = 5.52$, $P = 0.005$) (Table 10).

Table 10. Effect of experience on the level of burnout among teachers

	Sum of squares	DF	Mean square	F	Sig.
Between groups	1.98	2	0.99	5.52	0.005
Within groups	20.99	117	0.18		
Total	22.98	119			

In order to identify the group most associated with the highest level of burnout in teachers based on their experience, a post-hoc Scheffe multiple comparison test was performed and the results are presented in Table 11.

Table 11. Post-hoc Scheffe multiple comparison among teachers in terms of their experience and burnout

(I)experience (J)experience	Mean difference (I-J)	Std. error	Sig.	95% Confidence interval	
				Lower bound	Upper bound
1-5 years 6-10 years	-0.24	0.41	0.04	3.01	-3.17
≥11 years	-0.33	0.37	0.01	-3.11	-3.25
6-10 years 1-5 years	0.24	0.41	0.04	3.17	-3.01
≥11 years	-0.09	0.44	0.27	2.76	2.94
≥11 years 1-5 years	0.33	0.37	0.01	3.25	3.11
6-10 years	0.09	0.44	0.27	-2.94	2.76

There is statistically significant difference between experience group 1 (1-5 years), experience group 2 (6-10 years) and experience group 3 (equals or more than 11 years), where group 1 is shown to have the highest level of burnout (Table 11). On the other hand, there is no statistically significant difference between experience group 2 and experience group 3. The high level of burnout in teachers with 1-5 years of experience can be related to negative perceptions of their work and negative perceptions from the society toward teachers' job in general. This result is in agreement with a study by Patrick et al. [39], which found that less experienced teachers are more consistently burnt out. Other studies also reported similar findings, where longer teacher experience was linked to higher job satisfaction and lower level of burnout [35,40]. However, these results are in disagreement with the study of Al-Haramleh [41], which found that

teachers with more than 5 years of experience had higher levels of burnout.

EDUCATION

There is no statistically significant difference in burnout level among teachers based on their educational level ($t = 0.12$, $P = 0.73$) (Table 12). Teachers with different educational degrees showed the same level of burnout. This can be explained by the fact that all teachers, regardless of their educational level, face similar prolonged stressors, such as lack of available resources and materials in addition to the high demand from their institutions to improve students' performance. This finding is in agreement with other studies [11,40], but (El-Omari & Freihat, 2011), and disagrees with the study of (Seferoglu et al. [42] found that lower educational level was linked to higher level of burnout.

Table 12. Effect of educational level on the level of burnout among teachers

Variable	Educational degree	N (%)	Mean	SD	t	DF	Sig.
Teachers' burnout	Bachelor	103 (85.8%)	2.44	0.57	0.12	119	0.73
	Postgraduate	17 (14.2%)	1.97	0.43			

CONCLUSIONS AND RECOMMENDATIONS

This study showed that both nurses and teachers in Jordan generally experience moderate levels of psychological burnout syndrome in their work but also that nurses had relatively higher levels of burnout than teachers. Furthermore, the level of burnout in teachers was found to be affected by gender, marital status and experience, but not education. On the other hand, none of the studied demographic factors were found to affect the level of burnout in nurses.

Based on the results of this study, we suggest the following recommendations:

To stimulate awareness in organizations associated with nurses and teachers about the prevalence of burnout among their members and about the importance of dealing with this problem.

To guide the associated organizations in creating interventions required to decrease the level of burnout among their members, including education about the proper mechanisms of coping strategies, granting extra annual leave and providing supportive work environments.

To encourage local psychotherapists to develop specific psychological programs to tackle the burnout syndrome in nurses and teachers.

To conduct more studies on burnout among other professions in Jordan, such as physicians, pharmacists and physiotherapists.

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