Original Article

Prevalence of professional burnout and its related factors among nurses in Tabriz in 2010

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Abstract

Introduction: Burnout is a syndrome containing three dimensions of emotional exhaustion, depersonalization, and reduction of personal accomplishment. Nurses are exposed to professional burnout (PB) due to their exposure to physical, mental, and emotional stressors, which can lead to numerous complications in their personal, social, and organizational life. This study aimed to define the prevalence of PB amongst nurses working in hospitals in Tabriz and to detect its related effective factors in 2010.

Materials and Methods: This is a cross-sectional analytical study conducted on all selected nurses working in hospitals in Tabriz. The questionnaires were filled and returned by 712 subjects after taking their consent. The data were collected by a questionnaire including questions on demographic characteristics and Maslach Burnout Inventory (MBI). Independent *t*-test was employed to compare mean quantitative variables in two groups of individuals with and without PB. Chi-square test was also adopted to compare the prevalence of PB in levels of qualitative variables. Logistic regression test was employed for multiple analyses of PB related factors. In this analysis, variables in level of 0.2 which had an association with PB as a single variable were entered to the model.

Results: Among the nurses taking part in the study, 156 (21.9%, CI 95%: 19.0-25.1) suffered from PB based on its definition. The risk of burnout is increased by 1.12-folds for each overwork night shift. Higher education increases professional burnout by 3.17-folds.

Conclusion: The prevalence of burnout among nurses in Tabriz was revealed. Night shift and education level were shown to have an association with professional burnout.

Key words: Depersonalization, educational status, emotional exhaustion, Iran, nursing, personal accomplishment, professional burnout, shift work

Introduction

Professional burnout (PB) is negative transformations of attitude, spirit, and behavior in confrontation with mental work related pressures. This is made by severe occupational stress leading to various physical and mental diseases as well as a negative attitude toward professional activities and lack of appropriate communications with the patients. Signs of this syndrome are revealed when individuals' abilities are not enough for the demands in work environment. It contains three dimensions of emotional exhaustion, depersonalization, and reduction of personal accomplishment. Based on Maslach's definition, emotional burnout is quite similar to variable of mental pressure, ruining all emotional resources of the individuals. Depersonalization is a negative and cruel response to those receivers of services and is referred to individuals' negative view about their clients. Reduction of personal capability, a feeling of lower capability in doing personal duties, is counted as a negative evaluation of one's work.[1] This syndrome leaves numerous effects in individuals' social, physical, and psychological life and can lead to a reduction in quality of given care, quitting job, work absenteeism, any/or low spirit. This can also be associated with disorders such as physical fatigue, insomnia, alcohol consumption, drug abuse, and familial and marital problems.[1] Burnout syndrome is not a mental disorder, but can gradually result in a mental disability through time. Health staffs and nurses who are in close touch with other people are responsible for their health and life, and are more predisposed to develop this syndrome due to facing stressors such as patients' mortality, inter personal problems, low social support, high workload, risk of malpractice, the existing obstacle, inpatients' care as well as night shifts.[2] With regard to the mentioned reasons, nursing is ranked as a stressful profession.

Recognition and prevention of PB among nurses bring about promotion of their mental health, level of quality, and more efficient services, as the quality of patients' care is reduced amongst nurses who suffer from PB.[3-5]

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Former conducted studies report that PB is more prevailing in nurses so that the researches, conducted in China, revealed a moderate level of PB among nurses.[6] In Brasilia, 35.7% of nurses are involved in PB.[7] Nurses' PB in dimension of emotional exhaustion has been reported high in Turkey.[8]

In Colorado, 88.5 of nurses suffer from PB.[2] A study conducted in US on nurses in eight countries comparing their PB has reported Japanese nurses to have the highest level of emotional exhaustion, depersonalization, and the lowest personal accomplishment compared to those in US and Russia. Meanwhile, German nurses had the lowest level of emotional exhaustion.[9]

The researches in Iran with regard to nurses' BP show that PB is a common phenomenon in this profession and factors such as work environment conditions, work experience, work overload, Job satisfaction, age, sex, education, authorities' support, general health, emotional intelligence, type of employment, and working hours are associated with BP.[10-16]

In a study in Semnan, Iran, PB was reported in moderate level.[11] PB in dimension of personal accomplishment was reported high in Zanjan,[17] among hospital staffs in Mashhad in dimensions of emotional exhaustion and depersonalization in moderate level,[18] and in half of the nurses in Birjand in dimension of depersonalization, it has been reported high.[10] In a study in Shiraz, PB was reported low in 31.2% of nurses; moderate in 67.5%, and high in 1.2%. PB in dimensions of emotional exhaustion and depersonalization was reported moderate among working nurses in critical units, but high in dimension of lack of personal accomplishment,[19] while PB was reported 25% in other wards of hospitals in Tehran.[20]

With regard to lack of data in relation with PB among nurses in Tabriz, this study aimed to define PB in working nurses' hospitals in Tabriz and to detect its effective factors. It is hopped that revealing the extent of this problem and its effective factors can make a background to diminish nurses' PB and promote the quality of health and treatment services.

Materials and Methods

In this cross-sectional analytical study, all working nurses in university hospitals (15 hospitals), private hospitals (8 hospitals), and social security hospitals (2 hospitals) in Tabriz were recruited in 2010 (About 2000 subjects). Inclusion criteria were nurses' own interest to join the study. Exclusion criteria were experiencing a relative death, having a critical condition in the last 6 month, and reluctance to fill the questionnaire in any stage of the research. The sampler referred to hospitals one by one during 3 days to have the highest number of subjects, distributing the questionnaires to those nurses who are interested in attending the study at the beginning of each working shift and pick up the filled questionnaires at the end of those shifts. Total of 800 working nurses in university, private, and social security hospitals filled the questionnaires and 96 were left out of the study due to a critical condition. Finally, the data of 712 subjects were analyzed. Sampling went on from May to September 2010. The date collection tools included a questionnaire containing questions on occupational and demographic characteristics as well as Maslach's Burnout Inventory.[1] Maslach's Burnout Inventory is a common tool to measure PB containing 22 items: Nine items are related to emotional exhaustion; five items, depersonalization, and eight items are related to feeling of personal accomplishment.

The frequency of these feelings is measured by scores 0 (never) to 6 (everyday). Each domain yields a separate score. Reliability and validity of Maslach's Burnout Inventory were first confirmed by Filian[21] in Iran. Its reliability was measured 0.78 through test-retest. Cut points of PB scores were considered as those in the study of Filian as follows: Emotional exhaustion: low (<16), moderate (17-26), high (≥27).

Depersonalization: low (<6), moderate (7-12), high (≥13)
Personal accomplishment: low (≤31) moderate (32-38), high (≥39)

A person is defined to have PB if he/she is high in emotional exhaustion or depersonalization and low regarding personal accomplishment.[1] The data were analyzed by descriptive and analytical statistical tests through SPSS ver $_{16}$. Independent *t*-test and Chi-square test were employed to compare mean quantitative variables in two groups of with and without PB, and comparison of PB prevalence in levels of qualitative variables, respectively. Logistic regression test was adopted for multiple analyses of PB related factors. Alternatives in level of 0.2 which had a single variable association with PB were entered to the model.

Results

Mean age of the subjects was 34.37 (6.99) years. Mean of work experience, number of night shifts in each month and number of monthly overwork were 9.71 (6.89), 8.66 (2.88), and 48.75 (39.37), respectively.

From total of 712 subjects, 156 (21.9%, CI 95%: 19-25.1) suffered from PB based on its definition. In other words, the prevalence of PB among the nurses attending the study was

21.9%, which with confidential interval of 95% estimates the prevalence of PB among population of nurses in Tabriz in range of 19-25.1%. The association between PB and qualitative and quantitative variables has been presented in Tables 1 and 2 (with single variable), respectively. As shown in Table 1, most of the nurses were female, indigenous, married, with BS of nursing, working in university hospitals, with no second job, and staff nurses. The prevalence of PB increased significantly with higher level of education. The prevalence of PB was significantly higher in university and social security hospitals compared to private hospitals.

A significant association between PB and type of employment is also seen in this Table. As observed in Table 2, PB is not associated with nurses' age and work experience, but with the number of overwork hours and monthly night shifts (marginal) so that number of night shifts and overwork hours were higher among nurses with PB compared to other nurses.

Table three represents multiple analyses of PB related factors in nurses attending the study. In this analysis, the variables in level of 0.2 which were associated with PB were entered to logistic regression model. As it is presented in Table 3, the risk of PB is increased by 1.12-folds for each extra night shift, and higher education increases PB by 3.17-folds.

Discussion

The findings showed that 21.9% of working nurses

Table 1: Comparison of PB based on various levels of qualitative variables

Variable	Burnout			Statistic	*P* value**
	Yes *n* (%)	No *n* (%)	Total *n* (%)		
Gender					
Male	23 (23.2)	76 (76.8)	99 (13.9)	χ^2=0.12 df=1	0.732
Female	133 (21.7)	480 (78.3)	613 (89.1)		
Residence status					
Indigenous	125 (22.0)	442 (78.0)	567 (79.6)	χ^2=0.03 df=1	863/0
Non indigenous	31 (21.4)	114 (78.6)	145 (20.4)		
Level of education					
Associate degree	1 (2.9)	34 (97.1)	35 (4.9)	χ^2=8.08 df=2	0.018
Bachelor's degree	151 (22.8)	512 (77.2)	663 (93.1)		
Master degree	4 (28.6)	10 (71.4)	14 (2.0)		
Marital status					
Single	40 (20.4)	156 (79.6)	196 (27.5)	χ^2=1.53 df=2	0.464
Married	115 (22.8)	390 (77.2)	505 (70.9)		
Widow or divorced	1 (9.1)	10 (90.9)	11 (1.6)		
Type of hospital					
University	128 (25.0)	385 (75.0)	513 (72.1)	χ^2=13.14 df=2	0.001
Private	18 (11.4)	140 (88.6)	158 (22.2)		
Social security	10 (24.4)	31 (75.6)	41 (5.7)		
Employment status					
Official	62 (23.4)	203 (76.6)	256 (37.2)	χ^2=13.98 df=3	0.003
Temporary	58 (26.0)	165 (74.0)	223 (31.3)		
Contract	22 (12.4)	156 (87.6)	178 (25.0)		
Experimental	14 (30.4)	32 (69.6)	46 (6.5)		
Second job					
No	138 (21.3)	511 (78.7)	649 (91.3)	χ^2=1.99 df=1	0.158
Yes	18 (29.0)	44 (71.0)	62 (8.7)		
Shift schedule					
Morning shift	35 (25.7)	101 (74.3)	136 (19.1)	χ^2=2.07 df=2	0.355
Morning and evening	6 (15.8)	32 (84.2)	38 (5.4)		
Circulating	115 (21.4)	422 (78.6)	537 (75.5)		

*Total excluding PB status, ***P*-value of Chi-square test

Table 2: Comparison of mean and SD of quantitative variables in two groups of nurses with and without PB

Variable	Burnout		Statistic	*P* value**
	Yes	No		
Age	34.7 (6.9)	34.3 (7.0)	*t*=0.66 df=656	0.507
Work experience	9.7 (6.7)	9.7 (6.9)	*t*=0.04 df=669	0.971
Monthly night shifts	9.1 (3.0)	8.5 (2.8)	*t*=1.94 df=536	0.054
Number of overwork hours	56.7 (48.7)	46.6 (36.2)	*t*=2.36 df=497	0.047

***P* values are for independent *t*-tests

Table 3: Multiple analysis of PB related factors in working nurses in hospitals in Tabriz

Variable	Odds ratio (or)	Confidence interval 95%	*P* value
Monthly night shifts(for each extra night shift)	1.12	1.22-1.03	0.011
Number of overwork hours (for each extra hour)	1.0	0.99-1.01	0.131
Higher education	3.17	1.06-9.50	0.039
Type of hospital(Reference: University)			
Private	0.75	0.28-2.02	0.573
Social security	0.42	0.11-1.67	0.219
Employment status(Reference:Official)			
Temporary	1.26	0.51-3.07	0.618
Contract	1.23	0.54-2.82	0.627
Experimental	0.40	0.14-1.10	0.077
Second job	1.47	0.66-3.29	0.343

in hospitals in Tabriz suffer from PB. The results are consistent with those of Sahraeian (25% in Tehran) and Talaei (24.5% in Mashhad).[20,22] PB in the present study is lower compared to Mealer *et al*. in Colorado (86%), Toral–Villanueva *et al*. (40%), Moreira *et al*. in Brazil (35.7%), and Khajehdin *et al*. (44.5%)[2,7,23,24] while is higher compared to Fernandez *et al*. (17.2%) and Torindade and Lautert (6.9%).[25,26]

Dissatisfaction from work environment, inappropriate relationship between manager and the staffs, occupational stresses, and feeling of accomplishment disability can lead to emotional burnout. Working in the fields with not enough reward, feeling of efficiency and self-discovery, when duties are not well perceived, or there is no new and different approach, in case of an unpleasant work environment and lack of mental peace all increases the depersonalization[21,22,27-29] leading to separation of individuals from work, and consequently being indifferent toward the clients. The ability to control occupational events is one of the most important factors, which is effective on personal accomplishment. It can be concluded that most of the nurses are not probably able to prove their competency in work environment, possibly due to the lack of positive conditions in work environment. High level of PB in dimension of personal accomplishment can be an indicator for existence of negative attitude and lack of interest and satisfaction toward the profession as well as the reduction of self-confidence.[30]

Lack of observed personal accomplishment in the present study can be as a result of job dissatisfaction; lack of adequate respect, low personnel's participation in decision making and lack of distinguish between efficient, and non-efficient staffs. With regard to the association of PB with demographic characteristics, no significant association was seen between age and PB (in dimension of emotional exhaustion $P = 0.645$, $r = -0.20$; in personal accomplishment, $P = 0.591$, $r = 0.023$; in dimension of depersonalization, $P = 0.222$, $r = -0.052$), which concords with studies of Moghimian[31] and Yaghobinia.[32] Sharma[33] *et al*. also reported no association between age and PB among surgeons, while Meltzer,[34] Poncet[35] and Trindade and Lautert[26] concluded that PB was found more in lower age group compared to higher age group, possibly as a result of their investigation of PB among young subjects and at their early years of work, when they had not been well adjusted to their new conditions. Adequate education and support can lower this difference among these individuals. Thorsen[36] and Ihan[27] showed that PB is increased by age possibly due to facing frequent occupational stressors with no authorities' support within years.

In the present study, there was a significant association between level of education and PB so that higher education increased the risk of PB by 3.17-folds, which is consistent with the study of Erlen and Sereika.[37] Meanwhile in the study of Khazaei,[10] the highest PB in dimension of personal accomplishment was among nurses with bachelor's degree, in dimension of depersonalization among those with associate degree, and in dimension of emotional exhaustion, it was seen more among nurse aids. Wu reported nurses with lower education to have lower personal accomplishment.[38] Higher PB seen amongst those with higher education can be as a result of role obscurity, conflicts, role density, high tension, and lack of job satisfaction.

With regard to the association of PB with occupational factors, the subjects with shorter work experience had significantly more PB in the present study. Thorsten *et al*.,[36] Ihan *et al*.,[27] and many other researchers reported an invert significant association between work experience and dimensions of PB. Fresh staffs, especially those who have not undergone enough education at the beginning of the work, face problems in confrontation with occupational stressors. They are more

prone to lower risk of PB through time, attaining coping skills, getting professional in their field of work, and ultimately adaptation with work environment and factors.

Working as a staff nurse especially at night shift disturbs individuals' circadian cycle and their rest and sleep. Those working in night shift have to sleep in daytime, when it is not possible to have a deep and good quality sleep. Night shift also impairs individuals' physiologic balance.[39] The findings in the present study showed a direct and significant association between monthly night shifts and PB so that the risk of PB increases by 1.12-folds for each extra night shift. There was no association between working as a staff and PB. Delpasand *et al*.[40] reported no association between working as a staff nurse and PB. Sotoudeh[10] and Zhang Feng[39] reported PB more among the staff nurses, and Zencirci reported high PB in evening shift. Toubaei,[20] Moghimian,[31] and Khazaei[10] showed a significant association between the type of hospital and PB so that the highest PB in all three dimensions was seen in social security hospitals while in private hospitals PB was the lowest. High number of clients in social security and private hospitals, lack of extra benefit for the staffs and receiving a fixed salary (not related to the number of the clients), and on the other hand, low number of clients in private hospitals as well as the possibility of selecting highly beneficial patients and those with minor complications can be the reasons for this difference. Some nurses, not interested in joining the study, stated that not having enough time to fill the questionnaire, the pile of questionnaires they had to fill for other researches and lack of researchers' feed back to participating nurses in a research had lowered their interest and mood. As PB is expected to be more among latter indifferent nurses, the real estimation of PB seems to be much more than that reported in the present study. The authorities in Nursing Association and Nursing Office are suggested to pay more attention to the importance of the researches in nursing profession and to emphasize on the role of these researches in scientific and logical reflection of the problems to the health system.

With regard to the fact that one-fifth of the nurses suffer from PB, it seems that more attention of nursing managers and authorities in different levels should be paid for making a friendly communication with the staffs, team work encouragement, sharing the personnel in decision making, giving occupational supports, reducing occupational conflicts and obscurities, having more control on occupational events and ultimately, consideration of psychological factors to lower risk of PB. Cross- section of the study resulting in detection of the association between predicting variables and PB, but not the reason of this association as well as the limitation of the study to the nurses who were interested to attend the research just in Tabriz and lack of generalization can be mentioned as the limitations in the present study.

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