The Etiology of burnout syndrome and the levels of stress among nurses

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Abstract

Introduction:
Burnout syndrome refers to emotional exhaustion and diminished personal performance as a result of the individual’s dwindling energy resources and adaptation power due to chronic job stresses. The present study was performed to examine the effect of different etiologies of this syndrome and the stress levels of nurses working in hospitals affiliated with Jahrom University of Medical Sciences.

Materials and Methods:
This study was a descriptive cross-sectional study. Census sampling was performed on all 212 nurses working in the hospitals of Jahrom University of Medical Sciences (Motahhari and Peymanieh) in winter 2012 and spring 2013. The data collection instrument included two checklists for investigating the causes of burnout syndrome and Cohen’s perceived stress scale. The data were analyzed with the SPSS software, using descriptive statistical methods, regression, and Pearson and Spearman correlation coefficients.

Results:
According to the nurses, management, social, and professions’ domains, respectively, were the most important causes of burnout syndrome. Most nurses (76.41%) suffered medium levels of stress. A statistically significant relationship was observed between the burnout degree and stress levels (p<0.05).

Conclusion:
The results showed that, according to the nurses, different factors had different effects on the incidence of job burnout syndrome; therefore, the incidence rate of this syndrome should be reduced by taking appropriate measures to ease different stresses.

Keywords: Syndrome, Stress, Nurses

Introduction
Today, huge interest has been drawn toward stress and its consequences in various professions, especially in the field of health. Constant conflict between professional standards, preserving character integrity and patient care and medical needs have made health workers, particularly nurses vulnerable to stress, fatigue, and mental exhaustion, known as burnout syndrome (1).

Stress is the result of interaction between stimulus and response. One of the most stressful situations for most people is workplace conditions. The term “burnout” was first coined by Freudenberger in 1974 to describe workers’ response to
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occupational stress that presented as impaired interpersonal relationship (2). Burnout syndrome can lead to emotional exhaustion, depersonalization, and lower personal function (3), resulting in depletion of energy resources and ability to adapt due to long-term occupational stresses (2). Emotional exhaustion leads to loss of motivation, frustration, and depersonalization, and increases negative feeling and attitude, and reduced personal performance provides the context for negative attitude toward profession, sadness and dissatisfaction, and ultimately, frustration and failure (4).

In relation to the difference between stress and burnout syndrome, the following argument is proposed: contact with occupational stressors leads to physical and mental disabilities that initially appears as stress and activation of coping mechanisms, and if this persists into dissatisfaction and inefficacy of coping mechanisms, burnout syndrome emerges. On the other hand, stress can have both positive and negative aspects, while burnout syndrome is always negative. Moreover, to study factors that cause burnout syndrome, the effect of occupational elements must certainly be established (5).

Many studies indicate that medical professionals are exposed to high levels of occupational stress (6, 7). Hospitals are prone to several occupational stresses including massive workload, uncertain medical protocols, emotional response to patients’ pain and death, organizational problems and conflicts, inadequate experiences, and lack of community support (8-10). Doctors and nurses as key components of hospitals suffer higher levels of depression disorders (11). Occupational stresses are responsible for 30% of sicknesses and absenteeism in health care workers, and impose a cost of 300-400 million dollars per year. Incidence of burnout syndrome in professional nurses is estimated at more than 40% (12).

Various studies in many countries have shown that people in medical professions are exposed to threats due to burnout syndrome caused by direct and indirect quality and security of professional and clinical conditions (3, 12, and 13). In a study by Galindo et al. in Brazil, 19% of nurses suffered severe burnout syndrome (4). In a study by Lorenzo et al., nurses tolerated greater stresses and were more vulnerable due to burnout syndrome caused by such factors as interpersonal relationships, stress due to care, and inter-professional factors (5).

Also, in Montero-Marin et al. study, a significant relationship was observed between various social risk factors, demographic factors including age, gender, children, and occupational risk factors such as working hours per week, monthly income, and incidence of various burnout syndromes (14). A study conducted on nurses and midwives in Australia showed moderate to severe fatigue and stress in 20% to 40% of working days. Half of the people experienced sleep disorders and almost 9% were exposed to risk of accidents on the way home (15).

In Iran, various studies have been conducted on occupational stresses of medical workers and nurses, and also on their causing agents. In a study by Rastgari et al., factors such as higher wages, improved workplace conditions, promotions, legal support, and reformed organizational policies were cited by nurses as the most important factors in enhancing quality of working life (16). In Gholamnejad & Nikpaima study, lack of rewards and incentives, huge workload, exclusion from important departmental decisions, lack of control over work conditions, and lack of promotion made up for the most important occupational stresses of nurses (17). In a study by Bahrami et al., the highest frequency of stress in men was in responsibility of the role, and in women, in duality of roles (18).
Given the importance of investigating influential factors in incidence of nurse’s burnout syndrome work from ‘nurses perspective, in line with planning to eliminate or reduce their impact on nurses’ mentality and quality of their work, and consequently, community health, on the one hand, and lack of sufficient research into mutual relationship between stress and occupational burnout and factors affecting it on the other, the present study was conducted with the aim to investigate various factors causing incidence of burnout and their relationship with stress on nurses working in affiliated hospitals to University of Medical Sciences.

**Materials and Methods**

This was a descriptive cross-sectional study. Census sampling was performed on all nurses (212 nurses) working in Medical Sciences hospitals in Jahrom (Motahari, and Paymonieh) during winter 2012 and spring 2013. Data collection tool comprised two researcher-made two part checklists to assess factors influencing incidence of burnout syndrome. The first part contained demographic details and occupational and health status of the person in terms of physical and mental illnesses, and the second part included 33 items, measuring factors involved in burnout syndrome in managerial (13 items), professional (13 items) and social (7 items) domains. The domains and items of this checklist were prepared from review of previous articles and studies and experiences of experts in nursing.

To complete the checklist, nurses had to select one of the options: never, a little, medium, high, and very high against the effect of each item in incidence of burnout in their own opinion. To assess its validity, the checklist was made available to 10 expert professors from school of nursing, and necessary modifications were implemented. Reliability of the tool was confirmed by retest method with 10 days interval on 20 nurses working in hospital, with Pearson correlation coefficient of 0.81. Scores of 0, 1, 2, 3, and 4 were given to each option chosen by participants to determine score of the effect of each item. The overall score of items was then divided by total number of nurses. To determine burnout score of each participant, items scores were summed up, and scores 0-45 were considered as low burnout, 46-91 as moderate burnout, and 91-136 as high burnout.

The standard Cohen et al. (1983) perceived stress scale was used to assess stress indicator. This scale assesses two subscales of negative and positive perceived stress with 14 Likert-style items. Internal consistency of the scale was found through two-tailed Cronbach’s alpha from 84% to 86% in two groups of students and a group of smokers on quitting program. To decide score of stress, in negative perception section (questions: 1, 2, 3, 8, 11, 12, and 14), options: very much, much, moderate, low, and never scored 4, 3, 2, 1, and 0 respectively, and inverse scores to above applied to positive perception part. Scores between 0-18.6 were considered as low stress, 18.7-37.2 as moderate stress, and 37.3-56 as high level of stress.

Data were analyzed using SPSS-16 software. Mean scores of subscales and items were calculated, and mean scores of each subscale and each factor were compared using Friedman test, regression and Pearson and Spearman correlation coefficients at significant level 0.05.

**Results**

Of the 212 nurses studied, 162 (76.4%) were female, 130 (61.3%) were married, and 177 (83.5%) had bachelor’s degree. Nurses’ mean age was 26.72±6.56 years. In terms of employment status, 81 (38.2%) had permanent employment, 74 (34.9%) had transient employment, and the rest had contractual employments. The majority (67 (34.96%)) worked in pediatrics department, and minority (8 (3.8%)) in dialysis department. Two-hundred nurses (94.3%) had no history of sedative use and 202 nurse had no history of smoking. Nine
nurses (4.2% had a chronic disease, and 12 (5.7%) suffered from a known mental disorder, 182 were happy with their private lives, and 177 (83.5%) had no second jobs. Tables 1 to 3 show frequency and intensity of importance of managerial, professional, and social factors.

In the managerial area, from nurses’ perspective, doctors’ domination and lack of proper facilities were identified as the most effective factors, and lack of coordination of nursing unit with others and lack of accountability of nursing officials as the least important factors in causing occupational burnout (tables 1-3).

According to results and nurses’ perspective, in professional area, emotional hurts and physical injuries during work had the most effect, and lack of familiarity with facilities and equipment, and also lack of information had the least effect in causing burnout syndrome (table 2).

Table 3 reveals that in nurses’ perspective, lack of legal support, and workplace conflict and threat by patients and their family members had the most effect and domestic conflict due to work had the least effect from among other social causes. Stepwise regression was used to explain the effect of factors associated with nurses’ stress, and results are presented in the table below.
Table 2: Importance of professional factors in creating burnout syndrome in nurses

<table>
<thead>
<tr>
<th>Professional factors</th>
<th>Never Number (%)</th>
<th>Little Number (%)</th>
<th>Moderate Number (%)</th>
<th>High Number (%)</th>
<th>Very high Number (%)</th>
<th>Item score</th>
<th>Mean domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have low self-confidence at work</td>
<td>56(26.4)</td>
<td>54(25.5)</td>
<td>70(33)</td>
<td>23(10.8)</td>
<td>4(9)</td>
<td>1.13±0.28</td>
<td></td>
</tr>
<tr>
<td>There is no certain therapeutic protocol</td>
<td>29(13.7)</td>
<td>68(32.1)</td>
<td>75(35.4)</td>
<td>29(13.7)</td>
<td>11(5.2)</td>
<td>1.65±0.61</td>
<td></td>
</tr>
<tr>
<td>University education is inefficient.</td>
<td>22(10.4)</td>
<td>67(31.6)</td>
<td>77(36.3)</td>
<td>31(14.6)</td>
<td>15(7.1)</td>
<td>1.76±0.61</td>
<td></td>
</tr>
<tr>
<td>Job description is not clear</td>
<td>35(16.5)</td>
<td>48(22.6)</td>
<td>78(36.8)</td>
<td>31(14.6)</td>
<td>20(9.4)</td>
<td>1.77±0.61</td>
<td></td>
</tr>
<tr>
<td>Different nursing sections are not coordinated</td>
<td>20(9.4)</td>
<td>57(26.9)</td>
<td>86(40.6)</td>
<td>24(11.3)</td>
<td>25(11.8)</td>
<td>1.89±0.39</td>
<td></td>
</tr>
<tr>
<td>There is a lot of sensitivity in doing the tasks.</td>
<td>19(9)</td>
<td>37(17.5)</td>
<td>73(34.4)</td>
<td>55(25.9)</td>
<td>28(13.2)</td>
<td>2.16±0.74</td>
<td></td>
</tr>
<tr>
<td>I am not able to defend my professional rights</td>
<td>47(22.2)</td>
<td>65(30.7)</td>
<td>67(31.6)</td>
<td>18(8.5)</td>
<td>15(7.1)</td>
<td>1.66±0.49</td>
<td></td>
</tr>
<tr>
<td>I do tasks beyond my physical ability</td>
<td>33(15.6)</td>
<td>68(32.1)</td>
<td>69(32.5)</td>
<td>26(12.3)</td>
<td>16(7.5)</td>
<td>1.64±0.80</td>
<td></td>
</tr>
<tr>
<td>I am not familiar with the equipment</td>
<td>57(26.9)</td>
<td>67(31.6)</td>
<td>66(31.1)</td>
<td>20(9.4)</td>
<td>2(0.9)</td>
<td>1.25±0.69</td>
<td></td>
</tr>
<tr>
<td>I am not up-to-date.</td>
<td>40(18.9)</td>
<td>71(33.5)</td>
<td>76(35.8)</td>
<td>15(7.1)</td>
<td>10(4.7)</td>
<td>1.45±0.39</td>
<td></td>
</tr>
<tr>
<td>Emotional harms occur while working.</td>
<td>21(9.9)</td>
<td>37(17.5)</td>
<td>54(25.5)</td>
<td>64(30.2)</td>
<td>36(17)</td>
<td>2.26±0.84</td>
<td></td>
</tr>
<tr>
<td>There is the risk of physical harms (needle stick, contracting communicable diseases...)</td>
<td>19(9)</td>
<td>17(8)</td>
<td>48(22.6)</td>
<td>60(28.3)</td>
<td>68(32.1)</td>
<td>2.66±1.12</td>
<td></td>
</tr>
<tr>
<td>I have night shifts</td>
<td>24(11.3)</td>
<td>34(16)</td>
<td>73(34.4)</td>
<td>51(24.1)</td>
<td>30(14.2)</td>
<td>2.13±0.98</td>
<td></td>
</tr>
<tr>
<td>On the job training is not efficient</td>
<td>27(12.7)</td>
<td>47(22.2)</td>
<td>88(41.5)</td>
<td>28(13.2)</td>
<td>22(10.4)</td>
<td>1.86±1.02</td>
<td></td>
</tr>
<tr>
<td>Evaluations are not organized</td>
<td>18(8.5)</td>
<td>50(23.6)</td>
<td>61(28.8)</td>
<td>54(25.5)</td>
<td>29(13.7)</td>
<td>2.16±0.79</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Importance of social factors in creating burnout syndrome in nurses

<table>
<thead>
<tr>
<th>Social factors</th>
<th>Never Number (%)</th>
<th>Little Number (%)</th>
<th>Moderate Number (%)</th>
<th>High Number (%)</th>
<th>Very high Number (%)</th>
<th>Item score</th>
<th>Mean domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>The society does not have a suitable outlook toward nursing.</td>
<td>22(10.4)</td>
<td>40(18.9)</td>
<td>59(27.8)</td>
<td>56(26.4)</td>
<td>35(16.5)</td>
<td>2.19±0.80</td>
<td></td>
</tr>
<tr>
<td>Nursing has not been defined well.</td>
<td>22(10.4)</td>
<td>40(18.9)</td>
<td>56(26.4)</td>
<td>54(25.5)</td>
<td>40(18.9)</td>
<td>2.09±1.2</td>
<td></td>
</tr>
<tr>
<td>There is threat from patients and their family members at workplace</td>
<td>19(9)</td>
<td>37(17.5)</td>
<td>73(34.4)</td>
<td>49(23.1)</td>
<td>34(16)</td>
<td>2.19±0.99</td>
<td></td>
</tr>
<tr>
<td>There is not enough legal support at workplace</td>
<td>25(11.8)</td>
<td>32(15.1)</td>
<td>54(25.5)</td>
<td>58(27.4)</td>
<td>43(20.3)</td>
<td>2.29±1.06</td>
<td></td>
</tr>
<tr>
<td>I have interpersonal problems with my coworkers.</td>
<td>49(23.1)</td>
<td>61(28.8)</td>
<td>53(25)</td>
<td>27(12.7)</td>
<td>22(10.4)</td>
<td>1.58±0.87</td>
<td></td>
</tr>
<tr>
<td>Nursing is not introduced properly in the media</td>
<td>29(13.7)</td>
<td>38(17.9)</td>
<td>56(26.4)</td>
<td>50(23.6)</td>
<td>39(18.4)</td>
<td>2.15±1.03</td>
<td></td>
</tr>
<tr>
<td>I have conflicts at home because of my job.</td>
<td>69(32.5)</td>
<td>47(22.2)</td>
<td>48(22.6)</td>
<td>35(16.5)</td>
<td>13(6.1)</td>
<td>1.27±0.67</td>
<td></td>
</tr>
</tbody>
</table>
According to regression table, occupational burnout factors in the three areas were explained by variance of 0.49 in nurses. In nurses’ perspective, social, managerial, and professional areas respectively are influential in causing burnout. Factors such as: doctors’ dominance, high incidence of physical injuries, and inadequate facilities were the most important factors in incidence of burnout respectively. According to the present study results, there was a significant relationship between managerial and social factors and intensity of their effects in incidence of occupational burnout (P<0.001).

Of all participants, 162 (76.41%) were at moderate level, 41 (19.33%) and 9 (4.26%) at high and low levels respectively, with mean burnout score of 86±7.5, which based on classification, is moderate. In relation to stress, 58 nurses (27.35%) were at low level, 134 (63.2%) at moderate, and 20 (9.5%) were at high level of stress, and mean overall stress indicator was 24.88±7.19, indicating moderate level of stress in participating nurses. In this study, there was an insignificant relationship between stress score and age and work history (r=0.202, P<0.05), while, there was a significant relationship between level of stress and factors such as sedative use and satisfaction with personal life (r=0.31, P<0.05). Furthermore, a significant relationship was observed between level of stress, gender, workplace ward, weight gain, and second job (r=0.33, P<0.05).

Stress level was higher among women and those with weight gain and second jobs. In relation to workplace ward, CCU, emergency, and gynecology, level of stress was higher than in other wards. In this study, there was a significant statistical relationship between burnout score and level of stress (r=0.294, P<0.05).

**Discussion**

Study results showed, from nurses’ perspective, different factors have different effects on occupational burnout syndrome, and social factors and doctor-dominance have the greatest effects, which agree with results obtained by Eric at Texas University (19). In a study by Mahmoodian et al., the biggest problem in nurses’ opinion (40%) was the disrespect from doctors (20). In a study by Zaighami et al., results showed that doctor-nurse relationship was unfavorable, and its improvement could result in increased cooperation and enhanced quality of patient care (21). Studies conducted in Australia, Canada, and England also confirm lack of doctors’ attention to nurses’ opinions, comments and concerns (20).

In terms of occupational burnout, most nurses in this study were at average level. In Lorezo et al. study, nurses were at high level of occupational stress, which leads to burnout (5). Many studies have cited ambiguity in level of authority, doctor’s dominance, or conflict with doctors, as main factors in creating stress in medical teams, especially in nurses (20). According to the theory of...
control-demand of Carazak, occupational stress occurs when psychological demand of work is high and range of decision-making is low (control over work). Nurses with high mental demands and low range of decision-making experience high levels of stress (20). Increasing bureaucracy can have damaging effect on physiology and psychology of nurses, and have adverse effects on their health because interpersonal relationships at work are considered an important and underlying factor in occupational burnout and stress (22, 23).

In the present study, in professional area, emotional harms and physical injuries during work were the most important factors in incidence of occupational burnout. A significant relationship was found between level of stress and occupational burnout, which is in line with Rezaee et al. study (23). In a study by Bagajav et al. on nurses and doctors working in hospitals, a significant relationship was found between stress and occupational burnout (24). In Lorenzo et al. study, there was a mutual and strong relationship between occupational burnout and peripheral and personal stresses (5). This relationship was also significant in studies in Japan (25) and Taiwan (11), which is in agreement with present study. According to a declaration by the International Nursing Council, employees under high levels of occupational and personal stresses are 30% more likely to have workplace accidents. Each of these complications can directly and indirectly cost the person and especially the organization (20). According to a study by Faller et al., working nurses in hospitals enjoy poor mental health, and it seems this is associated with professional and occupational disorders (26).

In the present study, in nurses’ perspective, night shift was considered an important cause of occupational burnout. Several findings indicate that night shift largely increases the prevalence of psychological disorders, including mood disorders. Sleep disorder is often associated with depression. Nurses experience depression much more than other professions (27). According to results of a study by Moreno et al., night shifts increase stress and sleep disorder in nurses (22). According to findings by Stimpfel et al., nursing work in excess of 10 hours increases incidence of burnout syndrome by 2.5 times (25).

In view of nurses, inappropriate salary and benefits was the third cause of stress in the managerial area, which agreed with studies by Wus Li et al. and Tsai et al. (11). While in a study by Brooks and Anderson, 57% of nurses were happy with their wages. Inappropriate salary and benefits is one of the factors in dissatisfaction and job turnover (16). No organization, in the long-term can provide quality services with low payments. Nurses’ wages and benefits should improve according to their hard work and rotating shifts (17).

In the opinion of nurses studied, lack of legal support and workplace threat and conflict from patients was the most important social indicator of stress and burnout syndrome. In Rastgari et al. study, half nurses believed workplace to lack safety, and more than half cited lack of necessary rules in this area (17). In a study by Laschinger et al., creating a safe workplace and increased social support and approval were cited as effective factors in reducing burnout syndrome (29). Among other findings in the present study was the relationship between level of stress and factors such as use of tranquilizers and personal satisfaction with life. In Rastgari et al. study, more than two thirds of nurses believed family problems were a consequence of nursing (30), although no relationship was found between stress and burnout with marital status.

In the present study, nearly 20% of nurses considered tasks much and very much beyond their physical capabilities, and considered that as a cause of occupational burnout. In a study by Van et al., huge
work load was the main cause of occupational burnout (27). In Faller’s study in California, it was found that incidence of burnout increased in nurses with increasing number of patients (26). Failure to involve nurses in major decisions, unaccountability of authorities, and lack of coordination of nursing unit with other units were among other concerns of nurses in managerial area, which was in agreement with studies by Rastgari et al. (16), Nouroznejad et al. (31) and Brook and Anderson (28). Communication between nurses and other members of medical team improves job satisfaction and has positive consequences for patients, nurses and doctors (17). It seems, through planning, managers should adopt strategies to increase nurses’ participation in decisions, so that decisions are more tangible for them. 

In nurses’ views, inappropriate perception of the community and improper recognition of nurses by the media were important factors in incidence of burnout syndrome in the social area. In a study by Zhang and Feng in public hospitals in Taiwan, a significant relationship was observed between job satisfaction and motivational factors such as professional social place and station (32). In Fradelos et al. study, a direct relationship was found between burnout syndrome and nurses’ social place as an effective indicator of quality of life (33). In addition to emphasis on the role of media, nurses themselves should enhance social view of nursing in their conversations with people who have regained their health. Nurses play a positive and important role in medical team, which has a positive effect on increasing people’s awareness of nurses’ role (17).

Many studies have shown that incidence of burnout syndrome is the results of exposure to various and chronic stresses in the workplace. Present study results also confirm relationship between stress and burnout syndrome. Accordingly, burnout syndrome should be reduced by adopting appropriate measures and reducing various stresses. Planning and preventive actions should take place at three levels of reducing stress, treating stress and employing appropriate people or conducting occupational counseling according to personal and workplace conditions (28).

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