

Burnout syndrome in neurological nursing

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Original Articles

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Abstract:

Objective: To ascertain the incidence of burnout syndrome in Nurses working in Neurological Nursing. Burnout Syndrome (SV) often occurs in Neurological Nursing, where the Nurses are in circumstances associated with suffering and death. **Design:** For the diagnosis of burnout syndrome we used the Maslach Burnout Inventory (MBI). Respondents consisted of Nurses $n = 120$ working at the Neurological Department, in a hospital and ambulances belonging to those wards in Slovakia. **Results:** In our study, out of $n = 120$ Nurses working at the Departments of Oncology 50, 83% showed high levels of burnout in their degree of emotional burnout (EE). We found that the age of Nurses has an impact on the formation of burnout syndrome: where the age range was 31-40 years old, 62.16% showed high degrees of burnout in the degree of depersonalization (DP); 64.86% showed a medium degree in the degree of personal satisfaction (PAT). The relation between seniority in

neurological care and burnout syndrome is not confirmed. However the relation between the total length of practice and the degree of burnout is confirmed. Conclusions: Based on the findings, the management of Neurological and Oncological Nursing it can be recommended that more focus be placed on programs of preventive measures in the field of burnout among Nurses.

Introduction

The concept of the term “burnout” begins to appear for the first time in the 1970s. Herbert Freudenberger, who defined this term in 1974 is considered its Founder. Several authors clarified the definition, for example Edelwich, Brodsky (1980), Pines, Aronson (1981) Sarros, Densten (1989), Glozier (2002), Kraft (2006), as a feeling of fatigue and exhaustion, or a whole range of physical challenges from recurring headaches, respiratory distress through gastrointestinal problems, to depression and insomnia. It not only affects psychosomatic areas, but also the realms of Psychology and the behavioral sphere. Many authors in our study looked at burnout syndrome among the helping professions, e.g. Venglářová *et al* (2011), Vorlíček, Abrahámová, Vorlíčková *et al* (2012), Klimeková (2007), Eliášová (2010), Sorková and Zvaríková (2003), Heftyová (2002) and others. Aronson, *et al* (1985) differentiates between burnout syndrome and exhaustion. Even though these phenomena are similar they have different causes. The cause of exhaustion may lay in any prolonged stress (physical, mental, emotional), but it does not mean that the situation of a completely exhausted person cannot be based on a sudden change in his life, e.g. as a result of some current trauma. The typical symptom of exhaustion is that

the negative aspects of a person are permanently in predominance than positive aspects. The person feels unappreciated and worthless. The burnout syndrome is also manifested by physical, emotional and mental fatigue, but everything is due to chronic stress which is associated with long-term commitment toward other people. A ‘Helper’, as described by Andrasiova (2006), is a syndrome formed by combining characteristic personality traits from social assistance and rigid life form at the expense of one’s personal development.

A ‘Helper, is highly oriented to the ideal, self and needs and capacity to receive help.

This ideal, however, can only be sustained with a denial of reality, and in time, will necessarily result in feelings of frustration, failure and subsequent burnout. Burnout can be understood as a complete fatigue of one’s work which was previously perceived positively, but today only gives a sense of non-satisfaction and excessive sacrifice that comes to nothing. The work of a Nurse in Oncology Nursing is very demanding in terms of mental composure and professionalism. As reported by Hnatova and Kovalcikova (2010), a Nurse is in constant confrontation with suffering, dying and death and is one of the main causes of burnout. Patient care, especially in the last stage of life is indeed stressful for Nurses, but may bring some sense of satisfaction for them.

Materials and methods

We used the standardized Maslach Burnout Inventory (MBI) Questionnaire to map the neurological impact on Nurses of their nursing practice; its impact as well as prevention of the occurrence of burnout syndrome in the conditions of Neurological Nurses in Slovakia. The sample consisted of $n=120$ respondents (92.50% women and 7.50% men): the age of Nurses under 30 years of age $n=27$ (22.50%); 31-40 years of age $n=37$ (30.83%); 41-50 years of age $n=31$ (25.83%); 51 years old and older $n=25$ (20.84%); by education, 25% secondary education, 15.83% secondary vocational education, 38.34% Bachelor (Bc.) Degree and 20.83% Master Degree (Mgr.); from these, 29.17% with Specialization and Certification studies. The length of nursing practice under 10 years $n=61$ (50.83%); 11-20 years $n=50$ (41.17%); 21-30 years $n=5$ (4.17%) and 31 years and older $n=4$ (3.33%). The sample consisted of Nurses working at the Inpatient Department of Neurology, Clinical and Radiation Oncology, Primary Care Clinics belonging to those Departments in Slovakia $n=58$ (48.33%) in Hospitals with Health Centers, or Teaching Hospitals, $n=62$ (51.67%) from specialized institutes.

For the diagnosis of burnout syndrome, we used the Maslach Burnout Inventory (MBI) whose authors are Christina Maslach and Susan Jackson (1981,1986). The MBI has been modified three times; the last correction in 1996; and at present, is used in this form (Maslach, Jackson, Leiter 1996; Bakker, Demerouti, Schaufeli 2002; Bartošiková 2006).

We found several studies in the available databases in which MBI was verified in the helping professions, for example, Kalliath *et al* (2000), Gil-Monte (2005), Aguayo *et al* (2011), Chirkowska-Smolak, Kleka (2011), Córdoba *et al* (2011), Sabah *et al* (2012), Mészáros *et al* (2014),

Figueiredo-Ferraz, Gil-Monte, Grau-Alberola (2013), Dyrbye *et al* (2013), Chen *et al* (2014) and others. The MBI Questionnaire used is according to Kebza and Šolcová (2003). Several studies have verified it in terms of psychometric properties including Leiter, Schaufeli (1996), Schutte *et al* (2000), Rothmann, Vuuren (2002), Rothmann, Malan (2003), Campbell, Rothmann (2005), Córdoba *et al* (2011), Aguayo *et al* (2011) where many other parameters for EE (Emotional exhaustion-emotional burnout) moved the alpha coefficient from 0.81-0.92 for DP (Depersonalization) 0.57-0.82 and PA (Personal accomplishment-personal satisfaction) from 0.50-0.86. According to Maslach, Jackson (1981,1986), Maslach, Jackson, Leiter (1996), Venglářova (2011), Aguayo *et al* (2011), Chen *et al* (2014) the MBI Questionnaire made up of 22 questions is divided by different dimensions into three subscales. The first subscale is made up of nine questions and is focused on emotional burnout (**EE**) characterized by emotional tension and inability to meet requirements. The second subscale consists of five questions that assess depersonalization (**DP**), the feeling of a decrease of competence and poor performance. The third subscale contains eight questions focused on personal satisfaction or job satisfaction (**PA**); characterized by numbness, impersonality, and negativism. Since SV is a complicated psychological construct, the various subscales are combined in order to affect as many areas as possible. The total score is not measured (**Table 1**).

In a statistical analysis, we used the chi-square test of independence for the pivot table. According to Chráska (2007), this test of significance can be utilized when deciding whether there is a correlation between the two phenomena. We are reviewing the test by comparing values calculated and values from the table. Values from the table are

Table 1 Spot evaluation of MBI subscales

| FACTOR (dimension) | Level of burnout | | |
|-----------------------|------------------|--------|-------------|
| | low | medium | high |
| EE | 0–16 | 17–26 | 27 and more |
| DP | 0–6 | 7–12 | 13 and more |
| PA | 39 and more | 38–32 | 0–31 |

seen thanks to the significance level (α) and the degree of freedom (f). Significance level (α) was at 0.05.

Degree of freedom (f) is calculated based on data from the pivot Table. It applies that $f=(r-1)(s-1)$, where (r) is the number of rows and (s) is the number of columns of the pivot Table.

Results

Based on statistical analysis, we present the data obtained in the individual components of MBI (**Table 2 & 3**), comparison by years of experience in the Oncology Department and overall experience (**Table 4,5 & 6**), by type of workplace (**Table 7 & 8**) and the age of Nurses (**Table 9 & 10**).

Discussion

Aiken *et al* (2001) reported that as a result of their study between 1998-1999 on a sample 43,329 Nurses who were investigated using MBI, they realized that the rate of burnout in the emotional area (from Pennsylvania 13 471/43.2%; from Canada 17 450/36%; from England 5 006/36.2%; from Scotland 4 721/29.1%; from Germany 2 681 /15.2%). In our study of n-120 Nurses working at the Department of Neurology, we showed a high rate of burnout in the Emotional Burnout Dimension (EE) - 50.83%. We agree with Mr. Kmet (2010)

who states that the risk of emotional exhaustion and feelings of inner emptiness arise if the Nurse treats eight patients instead of four patients; the risk of SV increases by 23% allocated to each additional patient. The Nurses are exposed to excessive physical and mental stress. Similarly our findings compared (**Table 5**) with the Spanish Study, showed that in the Intensive Care Departments (Iglesias *et al* 2010, In Preventing...2014), Nurses had the highest level of burnout in Emotional Burnout Level; a medium level in depersonalization; and a low level of personal satisfaction. The study of Catalana *et al* (1996 In Balbay *et al* 2011), which compared the level of burnout among the oncology professionals and personnel working with HIV positive people: the oncology staff was found with a high level of burnout 4%, which was although less 4% of the working staff with HIV positive patients indicates a high tendency for oncology center professionals for the formation of burnout syndrome.

We found that the type of health facility can affect the rate of burnout among Nurses (**Table 7 & 8**) where there is confirmed a relationship between the monitored facility and the rate of burnout in the degree of emotional burnout; 33.33% of Nurses working in specialized institutions vs. 17.50% in a Hospital or University Hospital. The length of service is an important factor in the burnout process. According to Aronsona

Table 2 Comparison of the degree of burnout in various dimensions of MBI

| Degree of burnout | EE | | DP | | PA | |
|-------------------|-----|-------|-----|-------|-----|-------|
| | n | % | n | % | n | % |
| low | 25 | 20.8 | 25 | 20.83 | 41 | 34.17 |
| medium | 34 | 28.33 | 44 | 36.67 | 58 | 48.33 |
| high | 61 | 50.83 | 51 | 42.50 | 21 | 17.50 |
| Total | 120 | 100 | 120 | 100 | 120 | 100 |

Table 3 Statistical dependence between dimensions MBI

| Dimension | $\chi^2_{\text{calc.}}$ | f | $\chi^2_{\text{tab.0,05}}$ | Evaluation |
|------------|-------------------------|---|----------------------------|---|
| EE, DP, PA | 31.587 | 4 | 9.488 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab.0,05}}$ |

Table 4 Experience in Neurological Nursing in relation with dimension MBI

| Years of Experience | | Under 10 r. | | 11 – 20 r. | | 21 – 30 r. | | 31+ | | Total | |
|---------------------|--------|-------------|-------|------------|-------|------------|------|-----|------|-------|-------|
| | | n | % | n | % | n | % | n | % | n | % |
| EE | Low | 16 | 13.33 | 9 | 7.50 | 0 | 0.00 | 0 | 0.00 | 25 | 20.83 |
| | Medium | 19 | 15.83 | 14 | 11.67 | 1 | 0.83 | 0 | 0.00 | 34 | 28.33 |
| | High | 26 | 21.67 | 27 | 22.50 | 4 | 3.33 | 4 | 3.33 | 61 | 50.83 |
| DP | Low | 13 | 10.83 | 11 | 9.17 | 1 | 0.83 | 0 | 0.00 | 25 | 20.83 |
| | Medium | 24 | 20.00 | 14 | 11.67 | 2 | 1.67 | 0 | 0.00 | 40 | 33.34 |
| | High | 24 | 20.00 | 25 | 20.83 | 2 | 1.67 | 4 | 3.33 | 55 | 45.83 |
| PA | Low | 5 | 4.17 | 14 | 11.67 | 0 | 0.00 | 4 | 3.33 | 23 | 19.17 |
| | Medium | 31 | 25.83 | 20 | 16.67 | 3 | 2.50 | 0 | 0.00 | 54 | 45.00 |
| | High | 25 | 20.83 | 16 | 13.33 | 2 | 1.67 | 0 | 0.00 | 43 | 35.83 |

et al (1985), in the care of people with seniority there is a proportional decrease in the sense of satisfaction from their work. Dimunová a Nagyová (2012) examined the effect of the length of service in their work on SV in a cohort of 844 Nurses. In the final assessment, they did not confirm the statistical significance of the relationship.

Analysis of the various dimensions of the relationship in the practice in the Neurology Department shows in **Table 4** where we see the highest rate of burnout in Emotional Burnout: 22.50% indicates Nurses with 11-20 years of service; in **Table 5** we see that there is no relationship between the length of experience in Neurological Nursing and

Table 5 The statistical calculation in dependence of length of work in Neurological Nursing and MBI

| dimensions | $\chi^2_{\text{calc.}}$ | f | $\chi^2_{\text{tab.0,05}}$ | Evaluation |
|------------|-------------------------|---|----------------------------|--|
| EE | 7.995 | 6 | 12.592 | $\chi^2_{\text{vyp.}} < \chi^2_{\text{tab. 0.05}}$ |
| DP | 8.921 | 6 | 12.592 | $\chi^2_{\text{vyp.}} < \chi^2_{\text{tab. 0.05}}$ |
| PA | 15.433 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0.05}}$ |

Table 6 The statistical correlation between total length of nursing practice and MBI

| dimension | $\chi^2_{\text{vyp.}}$ | f | $\chi^2_{\text{tab.0,05}}$ | Evaluation |
|-----------|------------------------|---|----------------------------|--|
| EE | 13.57 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0.05}}$ |
| DP | 18.100 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0.05}}$ |
| PA | 13.295 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0.05}}$ |

Table 7 Comparison by type of workplace

| Type of institution | | Hospital with Out Patient Clinic/ University Hospital | | Specialized Institutions | | Total | |
|---------------------|--------|---|-------|--------------------------|-------|-------|-------|
| | | n | % | n | % | n | % |
| EE | Low | 15 | 12.50 | 10 | 8.33 | 25 | 20.83 |
| | Medium | 22 | 18.33 | 12 | 10.00 | 34 | 28.33 |
| | High | 21 | 17.50 | 40 | 33.33 | 61 | 50.83 |
| DP | Low | 15 | 12.50 | 10 | 8.33 | 25 | 20.83 |
| | Medium | 24 | 20.00 | 20 | 16.67 | 44 | 36.67 |
| | High | 19 | 15.83 | 32 | 26.67 | 51 | 42.50 |
| PA | Low | 23 | 19.17 | 18 | 15.00 | 41 | 34.17 |
| | Medium | 28 | 23.33 | 30 | 25.00 | 58 | 48.33 |
| | High | 7 | 5.83 | 14 | 11.67 | 21 | 17.50 |

degree of burnout in dimensional burnout (EE) and depersonalization (DP).

The question in the study on the degree of personal satisfaction (PA) confirmed this relationship. We confirmed this relationship with the study by Iglesias *et al* (2010) which states that respondents with a seniority of 10 years are more prone to emotional burnout

and depersonalization and personal dissatisfaction (PA). We can say that if the Sister has over 10 years of experience she has increasing risk of SV.

We verified that the age of Nurses will affect SV. According Erikson, Grove (2008), age plays an important role in situations where they need to suppress or evoke

Table 8 Statistical dependence according to workplace

| dimensions | $\chi^2_{\text{calc.}}$ | f | $\chi^2_{\text{tab.0,05}}$ | Evaluation |
|------------|-------------------------|---|----------------------------|--|
| EE | 9.736 | 2 | 5.991 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0,05}}$ |
| DP | 4.549 | 2 | 5.991 | $\chi^2_{\text{vyp.}} < \chi^2_{\text{tab. 0,05}}$ |
| PA | 6.973 | 2 | 5.911 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0,05}}$ |

Table 9 Comparison of Nurses by age

| Age | | until 30 r. | | 31 – 40 r. | | 41 – 50 r. | | 51+ | | Total | |
|-----|--------|-------------|-------|------------|-------|------------|-------|-----|-------|-------|-------|
| | | n | % | n | % | n | % | n | % | n | % |
| EE | Low | 9 | 7.50 | 7 | 5.83 | 6 | 5.00 | 3 | 2.50 | 25 | 20.84 |
| | Medium | 8 | 6.67 | 9 | 7.50 | 13 | 10.83 | 4 | 3.33 | 34 | 28.33 |
| | High | 10 | 8.33 | 21 | 17.50 | 12 | 10.00 | 18 | 15.00 | 61 | 50.83 |
| DP | Low | 9 | 7.50 | 4 | 3.33 | 5 | 4.17 | 8 | 6.70 | 26 | 21.67 |
| | Medium | 13 | 10.83 | 10 | 8.30 | 14 | 11.66 | 7 | 5.83 | 44 | 36.67 |
| | High | 5 | 4.17 | 23 | 19.17 | 12 | 10.00 | 10 | 8.30 | 50 | 41.66 |
| PA | Low | 11 | 9.17 | 10 | 8.33 | 15 | 12.50 | 5 | 4.17 | 41 | 34.17 |
| | Medium | 14 | 11.67 | 24 | 20.00 | 6 | 5.00 | 13 | 10.83 | 57 | 47.50 |
| | High | 2 | 1.66 | 3 | 2.50 | 10 | 8.33 | 7 | 5.83 | 22 | 18.33 |

Table 10 Statistical differences according to age of Nurses

| dimension | $\chi^2_{\text{vyp.}}$ | f | $\chi^2_{\text{tab.0,05}}$ | Evaluation |
|-----------|------------------------|---|----------------------------|--|
| EE | 10.735 | 6 | 12.592 | $\chi^2_{\text{vyp.}} < \chi^2_{\text{tab. 0,05}}$ |
| DP | 16.078 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0,05}}$ |
| PA | 18.808 | 6 | 12.592 | $\chi^2_{\text{vyp.}} > \chi^2_{\text{tab. 0,05}}$ |

emotions that are appropriate to the situation. In our survey, the largest representation of Nurses were aged 31-40 years old (30.83%). According to a study conducted on a sample of 843 Nurses in the United States, the age of Nurses has an effect on the formation of SV. In this study, Grove (2008) divided Nurses by age into two groups, before 30 and more than 30 years old. They focused on the survival of positive and negative emotions in relation to age and SV. They found that there were no differences between age groups in experiencing positive emotion; among Nurses up to 30 years old significantly more experiences were reported such as frustration, agitation and anger, and therefore these Nurses burned out earlier than their older colleagues who are better able to manage their emotions.

The relationship between the age of Nurses (31-40) and dimension of emotional burnout is not confirmed; but the degree of depersonalization (62.16%) and the degree of personal satisfaction (64.86%) has been shown.

Confirmed was the relationship in the degree EE and age and the relationship and degree in age in 72% of Nurses over 51 years of age and degree of 52% for a younger age. Therefore, the older the nurse, the more the feeling of satisfaction from her work disappears. Of course, there are many external factors including the currently decreasing status of nursing in society and inadequate salary.

In our study, burnout in older Nurses can be compared with a study of Erikson and Grove (2008), which claims that by thirty years of service Nurses will experience burnout.

The result may be influenced by the different social status of Nurses abroad compared to the status of Nurses in our country. According Maslachova (in Kebza, Šolcová, 2003) in burnout syndrome, we are dealing with systemic rather than personal issues, and the occurrence of SV in an employee signals something that is not good, or does

not work well in the organization. Therefore, we wanted to find out how to influence the employer toward prevention of the occurrence of SV on Nurses. Since the Labor Code obliges employers to provide employees working in the third risk group recovery stays or reduced working time, we wanted to find out whether this regulation is observed on Neurological and Oncological Departments as compared to working with carcinogenic substances according to law changing into a third risk group. Therefore, we considered recovery stays an important component in the prevention of the formation and development of SV. From $n = 120$ of respondents (120) said that their employer provides recovery stays. Of these only 1.65% said that their employer offer recovery stays beyond the laws; 79.34% of respondents have reduced working hours and 76.86% reported supplemental leave.

For prevention, most Nurses 90.08% use various social activities; 82.65% seek recreational activities; 28.1% of Nurses engage in sports; 66.12% go to culture events such as cinema or theater. According Andrášiova (2006), important parts of preventing burnout are adequate and regular rest; ability to relax; purposefully eliminate stressors and raise salutors. Employers should provide psychological support programs for staff in hazardous work places that would allow health professionals to cope with their congested emotions; according to Andrášiova (2006) there is very low support in such work places and institutions. In statistical analysis, we confirmed the relationship between preventive measures and the rate of burnout in all three dimensions of the MBI Questionnaire.

Conclusion

We can say that the risk of burnout at different levels for Nurses not only will threaten but according to the research is already

really present in this profession in all three dimensions.

In agreement with other authors, we affirm that Nurses in Neurological and Oncological Nursing have the highest rates of emotional burnout. An interesting finding was that even though we confirmed the relationship of age to the degree of burnout in depersonalization, personal satisfaction had no effect on burnout on an emotional level. Preventing burnout is not only an internal matter, but also has to be carried out at the level of organization to ensure balance between the level of competence, accountability and effective teamwork. We think that management is not aware of all the possibilities and forms of prevention that would be effective to protect against burnout. Therefore, in the future it would be appropriate to focus research on the possibility of preventative measures in relationship to burnout.

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