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Burnout at a bone marrow transplantation unit in Turkey: effects of interactive psychoeducational seminars

Aim: Health staff working at bone marrow transplantation units (BMTUs) is found to be at a higher risk for suffering from burnout. This paper reports a critical assessment of how burnout level of the health staff working at a bone marrow transplantation unit changes after psychoeducational seminars.

Materials and methods: The study was conducted by the Consultation Liaison Psychiatry Division at the BMTU of the Department of Hematology at Ankara University, School of Medicine. Sixty-one health staff members (67%) working at the BMTU filled out socio-demographic and occupational data form, and validated Turkish versions of Maslach Burnout Inventory (MBI), Hospital Anxiety-Depression Scale (HADS), and Quality of Life Scale-short form (SF-36). After the baseline data were collected, 29 members refused to attend the psychoeducational seminars and served as "control" group for the study. The remaining 32 (intervention group) attended 9 interactive seminars focusing on reducing burnout. After completion of the seminars, both intervention and control groups filled out MBI, HADS, and SF-36 scales for the comparisons of the impacts of educational seminars.

Results: The mean age, gender distribution, educational level, marital status, history of psychiatric illness, and MBI, HADS and SF-36 subscale scores of the subjects in the two groups were not statistically significantly different at baseline. However, after the seminars, there were significant differences in MBI subscale (emotional exhaustion, depersonalization, and personal accomplishment) scores of the groups ($P < 0.05$). The burnout levels significantly reduced in the intervention group, but there were no significant differences in the HADS and SF-36 scores of the groups ($P > 0.05$).

Conclusion: The findings of this study indicate that burnout among health care professionals may be reduced with psychoeducational seminars. Future studies supporting our finding might lead to implementation of such cost effective seminars for BMTU staff.

Key words: Bone marrow transplantation unit, burnout, health staff, psychoeducation

Türkiye'de bir kemik iliği transplantasyon ünitesinde tükenmişlik: İnteraktif psikoeğitim seminerlerinin etkisi

Amaç: Kemik iliği transplantasyon (KİT) ünitesinde çalışan sağlık personelinin tükenmişlik açısından yüksek risk altında olduğu bildirilmiştir. Bu çalışma bir KİT ünitesinde çalışan sağlık personelinin tükenmişlik düzeylerinin psikoeğitim seminerleri sonrası nasıl değiştiğini ortaya koymayı amaçlamaktadır.

Yöntem ve gereç: Çalışma, Ankara Üniversitesi Tıp Fakültesi Konsültasyon Liyezon Psikiyatrisi Bilim Dalı tarafından, Ankara Üniversitesi Tıp Fakültesi Hematoloji Bilim Dalı KİT ünitesinde gerçekleştirilmiştir. KİT ünitesinde çalışan 61 (% 67) sağlık personeli, sosyo demografik ve meslekleri ile ilgili veri formlarını ve Türkçe geçerliliği olan Maslach Tükenmişlik Ölçeği (MTÖ), Hastane Anksiyete-Depresyon Ölçeği (HADÖ) ve Yaşam Kalitesi Ölçeği-kısa form (KF-36)'unu doldurmuşlardır. İlk değerlendirme verileri toplandıktan sonra 29 sağlık personeli eğitim seminerlerine katılmayı kabul etmemiş ve çalışmanın "kontrol" grubu olarak kabul edilmişlerdir. Geri kalan 32 sağlık personeli (çalışma grubu) tükenmişliği azaltmayı hedef alan 9 interaktif seminere katılmışlardır. Seminerlerin tamamlanmasından sonra, hem "çalışma", hem de "kontrol" grubu eğitim seminerlerinin etkisini karşılaştırmak için MTÖ, HADÖ ve KF-36'yı tekrar doldurmuşladır.

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Bulgular: İlk değerlendirme sırasında iki grup arasında ortalama yaş, cinsiyet dağılımı, eğitim seviyesi, medeni durum, ruhsal hastalık öyküsü, MTÖ, HADÖ ve KF-36 alt ölçekleri arasında istatistiksel olarak anlamlı fark bulunamamıştır. Bununla birlikte, seminerler sonrası, MTÖ alt ölçeklerinde (duygusal tükenme, duyarsızlaşma, kişisel başarı) iki grup arasında anlamlı fark saptanmıştır ($P < 0.05$). Çalışma grubunda tükenmişlik düzeyleri anlamlı olarak azalırken, HADÖ ve KF-36 ölçek değerlerinde anlamlı bir fark bulunmamıştır ($P > 0.05$).

Sonuç: Bu çalışmanın sonuçları sağlık personelinde tükenmişliğin psikoeğitim seminerleri ile azaltılabildiğini göstermektedir. Sonuçlarımızı destekleyen ileride yapılacak çalışmalar KİT personelinde maliyet etkinliği de olan seminerlerin geliştirilmesine öncülük edecektir.

Anahtar sözcükler: Kemik iliği transplantasyon ünitesi, tükenmişlik, sağlık personeli, psikoeğitim

Introduction

Burnout is a type of prolonged response to chronic job-related stressors, where staff experiences both psychological–emotional and physical stress (1). The main characteristics of burnout have been described by Chapman (2) and Maslach (3) as emotional exhaustion as a result of overwork, feeling of depersonalization towards patients, lack of competence, and a sense of failure that primarily affects people who are somehow dealing with other people in their work. Staff exhibiting signs of burnout become less effective in their work and less able to cope with the demands and changes in their environment (4).

Health care professionals, including bone marrow transplantation unit (BMTU) staff, working with the patients with a life-threatening disease are found to be at higher risk for suffering from burnout. Studies report prevalence rates ranging from 25% to 60% (4-14). Despite these high prevalence rates, literature reveals only a limited number of studies dealing with the prevention and measures to reduce the impacts of burnout in medical professionals (4,7,15-18).

The aim of this prospective study was to examine the effects of psychoeducational seminars that were hypothesized to reduce the level of burnout for BMTU.

Materials and methods

The present study is a part of a project dealing with various psychosocial problems encountered in the BMTU of the Department of Hematology at Ankara University, School of Medicine, Ankara-Turkey. The study was conducted at BMTU in collaboration with the Consultation Liaison Psychiatry Division of the same University. The study protocol was approved by the Ethics Committee of Ankara University, School of Medicine in December 2006. Data collection and the administration of the psychoeducational seminars were carried out between January 2007 and July 2007.

All the health staff (n = 91) working at BMTU were invited to participate in the study, and a total of 61 (67%) volunteered. All the participants filled out socio-demographic and occupational data form, and validated Turkish versions of Maslach Burnout Inventory (MBI) (19,20), Hospital Anxiety-Depression Scale (HADS) (21,22), and Quality of Life Scale-Short Form (SF-36) (23,24) at baseline. After the collection of the baseline data, 29 participants refused to attend the psychoeducational seminars mainly due to time constrains, and they served as "control" group for the study. The remaining 32 participants (intervention group) attended 9 interactive seminars focusing on reducing the burnout level. After the intervention group completed the psychoeducational seminars, both intervention and control groups filled out MBI, HADS, and SF-36 scales for the comparisons of the impacts of educational seminars. In addition, presence of some practical difficulties, such as refusing participation due to time constrains and inability to fill out scales due to any mental and physical condition (e.g. blindness), were the exclusion criteria.

The main outcome measure of this study, Maslach Burnout Inventory (MBI), was administered to assess pre-and-post education burnout levels. MBI is a 22-item questionnaire that measures 3 dimensions of burnout: emotional exhaustion resulting from work (emotional exhaustion subscale- 9 items); feelings of distance between a patient and a practitioner (depersonalization subscale- 5 items), and feelings of

success and achievement in one's work (personal accomplishment subscale- 8 items). Higher scores on emotional exhaustion and depersonalization subscale indicate higher burnout levels; in contrast, lower scores on personal accomplishment indicate higher burnout levels (19,20).

States of anxiety and depression were measured with the Hospital Anxiety and Depression Scale, a well-established 14-item scale containing 2 subscales: Hospital Anxiety and Depression Scale-A (anxiety, 7 items; range = 0–21) and Hospital Anxiety and Depression Scale-D (depression, 7 items; range = 0–21). Higher scores indicate more anxiety and/or depression (21,22).

One of the most straightforward ways of measuring quality of life (QOL) is through the use of health status measures where patients are asked to rate different aspects of their life. Perhaps the most commonly used measure in QOL research is the Short- Form 36 or SF-36, a generic measure developed and validated in the Medical Outcomes Study to assess important QOL domains relevant to patients suffering from a wide range of medical conditions. The SF-36 consists of eight QOL domains that comprise 2 summary measures – the physical component summary and the mental component summary. Also validity and reliability of scale has previously been done and used often among Turkish individuals (23,24).

The 4-week psychoeducational seminars consisted of 9 separate, 1-h interactive presentations, and same topics were held by the same trained 1 psychiatrist, 3 psychologists, and 3 social workers. The topics and the order of the presentations were:

(1) General communication skills,

(2) Stress at work and coping strategies,

(3) Anger management strategies,

(4) Understanding patients' and their relatives' feelings,

(5) Psychosocial aspects of chronic diseases,

(6) Crisis intervention,

(7) Telling the bad news,

(8) Differences between a team and a group,

(9) Burnout and coping strategies.

Statistical analysis

All the statistical analyses were performed using SPSS (version 13). The T-test for independent-samples was used to compare the means between grouping variables. Chi-square test was used to compare categorical variables. Confidence intervals were 95% (2-sided) for all the analyses.

Results

Sixty-one subjects participated in the study. The control group consisted of 12 male and 17 female participants (n; 29) with a mean age of 36.48 ± 6.91 years. The intervention group consisted of 9 male and 23 female participants (n = 32) with a mean age of 36.28 ± 8.99 years. The control and intervention groups did not significantly differ for mean age, gender distribution, educational level, marital status, and history of psychiatric illness (Table 1). Additionally, there were no significant differences between the control and intervention groups in terms of burnout levels, depression and anxiety levels, and functioning as indicated by baseline MBI, HADS, and SF-36 subscale scores, respectively. Among all the parameters, occupation was the only parameter that reached a significant level ($P < 0.05$) mainly due to disproportional attendance of nurses (12 out of 13) to the educational seminars. Comparisons of demographic variables between intervention and control groups are presented in Table 1.

In Table 2, correlations between Maslach Burnout Inventory (MBI), Hospital Anxiety and Depression Scale (HADS), and SF-36 are presented; however, there is no correlation between SF-36 and MBI and HADS subscales. HADS-D were found to be positively correlated with MBI-emotional exhaustion subscale and negatively correlated with MBI-personal accomplishment subscale. No correlation was found for HADS-A with any other scales.

As the goal of this study was to assess the impacts of psychoeducational seminars on the burnout levels, MBI subscale scores of the control and intervention group were the primary outcome measures (Table 3). The results of this study indicate that in comparison to the control group, the subscale scores of MBI (emotional exhaustion, depersonalization, and personal accomplishment) of the intervention group

Table 1. Comparisons of demographic variables between intervention and control groups.

		Intervention Group	Control Group		Total	Sign (p)
Sex	Female	23	12	34	61 (100%)	No sign
	Male	9	17	27		No sign
Education	Elementary	9	5	14		No sign
	High School	3	6	9	61 (100%)	No sign
	University	20	18	38		No sign
Marital status	Married	18	16	34		No sign
	Single	11	6	17	61 (100%)	No sign
	Widow/Divorced	3	7	10		No sign
Job	Doctor	9	6	15		No sign
	Nurse	**12**	**1**	**13**	61 (100%)	**P < 0,05**
	Health care	1	12	13		No sign
	Staff / Security staff	10	10	20		No sign
Managerial job	Yes	6	1	7	61 (100%)	No sign
	No	26	28	54		No sign
Physical morbidity	No	18	13	31		No sign
	Cardiac disease	1	2	3		No sign
	DM	1	2	3	61 (100%)	No sign
	Hypertension	2	1	3		No sign
	Cancer	2	2	4		No sign
	Other	8	9	17		No sign
Psychiatric morbidity (before)	Yes	6	8	14	61 (100%)	No sign
	No	26	21	47		No sign
Psychopathology (before)	Depression	3	4	7		No sign
	Anxiety disorders	1	2	3	14(%22.9)	No sign
	Sexual disorders	1	1	2		No sign
	Others	1	1	2		No sign
Any psychotrop used (before)	Yes	7	5	12	61 (100%)	No sign
	No	25	24	49		No sign
Psychotrop (before)	Antidepressant	5	4	9		No sign
	Anxiolytic	2	1	3	12(%19.6)	No sign
	Antipsychotic	0	0	0		No sign
Follow-up suggested	Yes	7	3	10	61 (100%)	No sign
	No	25	26	51		No sign

Table 2. Correlation between MBI, HADS subscales, and SF-36.

	Maslach EE		Maslach Dep		Maslach PAc		HADS-A		HADS-D	
	Pear-cor	sign	Pear-cor	Sign	Pear-cor	sign	Pear-cor	Sign	Pear-cor	sign
Maslach EE	1		.215	.131	**-.435****	**.001**	.220	.120	**.277***	**.049**
Maslach Dep	.215	.131	1		-.043	.765	.098	.496	.034	.811
Maslach PAc	**-.435****	**.001**	-.043	.765	1		-.216	.127	-.342	.014
HADS-A	.220	.120	.098	.496	-.216	.127	1		**.630****	**.000**
HADS-D	**.277***	**.049**	.034	.811	**-.342***	**.014**	**.630****	**.000**	1	
SF-36 total	-.251	.076	.004	.979	.125	.384	-.202	.156	-.223	.116

Maslach EE; Emotional exhaustion. Maslach Dep; Depersonalization. Maslach PAc; Personal accomplishment
HADS-A; Hospital Anxiety and Depression Scale-anxiety subscale .
HADS-D; Hospital Anxiety and Depression Scale-depression subscale

Table 3. The effects of psychoeducational seminars on MBI and HADS subscales

	Control Group* (n=29)		Intervention Group (n=32)			
	Baseline Mean ± SD	Follow-up Mean ±SD	Baseline Mean ± SD	Post education Mean ± SD	t	P
MBI Subscales						
Emotional exhaustion	13.00±5.36	18.62±5.15	13.43±5.97	11.50±5.73	-5.084	**.001**
Depersonalization	4.20±3.26	4.62±2.55	3.62±2.48	2.75±2.42	-2.934	**.005**
Personal Accomplishment	23.44±4.57	21.27±3.68	23.06±3.37	24.21±3.56	3.171	**.002**
HADS Subscales						
HADS-A	6.03±2.75	7.13±2.89	7.40±4.02	6.96±3.34	-1.98	0.63
HADS-D	5.24±3.13	7.00±3.47	5.40±4.14	5.12±3.95	-1.45	1.22

MBI; Maslach Burnout Inventory. HADS-A; Hospital Anxiety and Depression Scale-Anxiety.
HADS-D; Hospital Anxiety and Depression Scale-Depression . SD; Standart Deviation. $P < 0.05$ (significant)
*Control group did not attend psychoeducational seminars.

significantly improved ($P < 0.05$) after the educational seminars. However, baseline and post-education HADS ($t = -1.95$, $P > 0.5$) and SF-36 scale ($t = -0.210$, $P > 0.05$) scores of the control and intervention groups did not change significantly.

Discussion

This study reports a critical assessment of how burnout levels of health care professionals and staff working at bone marrow transplantation units change after psychoeducational seminars.

Burnout is a specifically work-related syndrome involving emotional exhaustion, treating patients in an unfeeling, impersonal way (depersonalization), and a sense of low personal accomplishment (18). Burnout among health care professionals working at emergency, intensive care and oncology-hematology units has recently been brought to the attention of researchers. It is thought that the highly stressful environment, unpredictable nature of the work, and dealing with dying patients puts professionals at risk of burnout. Health care professionals are at high risk for burnout, role conflict, and job dissatisfaction, and probably because of this, a growing interest in the psychosocial work environment has been detected in the last few decades (1,25). Though, recent research studies provide useful information regarding the negative effects of burnout in health care

professionals, such as reduced performance and thus reduced professional satisfaction, the consequences of burnout and the possible prevention strategies for burnout has not been studied sufficiently (25).

It is of concern that few physician practices have instituted burnout assessment or prevention programs. Some researchers recommend periodically surveying physicians and organizations for stress, satisfaction, and burnout, as well as for key mediators of work control and work-home interference and background variables, such as work hours. A focus on these remediable factors may improve work life, diminish turnover, and improve the quality of care (26) or, as reported by Freeborn (27), describe valuable preventive measures, including increasing physician participation in decision making, monitoring workload, promoting teamwork, increasing work fulfillment through goal setting and feedback, and orienting health care professionals so they establish reasonable job expectations. Previous results suggest that an organizational intervention is called for work redesign, time management, self-management, and workload management. For example, time management training, multi-faceted "burnout" workshops and interpersonal skills training can be successfully used to reduce burnout (27).

So what can health organizations do about their personnel's (e.g., physicians, nurses, care providers) burnout problem? The model suggests that first work control needs to be explicitly addressed: do they feel that they have a word in how their work days are organized? Can they modulate the pace of their work, or minimize hassles, interruptions, and paperwork? Can role conflicts be reduced and build physician loyalty to the organization as a part of team work. Furthermore, if education regarding ways to improve communication skills with patients, with their colleagues and directors is provided or if they are taught how to tell bad news and express and manage their feelings, anger, stress and burnout, will their exhaustion reduce?

To best of our knowledge, the only study focusing on prevention and reduction of burnout at the BMTU was performed in a University Hospital in Basel. In that study, the authors describe the impacts of a 4-year continuous psychosomatic liaison activity and report that interventions, such as weekly psychosocial round-ups with the whole team, regular participation in ward rounds at BMTU, and conducting workshops to prevent burnout effectively, reduce the burnout level of staff (15). Similar to our findings, interpersonal skills training, time and workload management training as well as monitoring workload, promoting teamwork, increasing work fulfillment through goal setting and feedback appear to be valuable interventions to reduce occupational stress and burnout level in various medical settings (28-31).

The results of the study highlighted that all 3 dimensions of burnout (emotional exhaustion, depersonalization, and personal accomplishment) might be reduced with psychoeducational seminars. The positive impacts of educational seminars on burnout levels did not appear to be due to any reduction in anxiety and depression or improved social functioning as indicated by HADS and SF-36 scores, respectively. Furthermore, the relation between depression and burnout has been investigated previously and it was suggested that burnout and depression are related but distinct concepts (32).

Finally, sources of stress such as these are not unique to the field of cancer medicine, but they are thought to occur more frequently compared to many other specialties, and must be dealt with in the context of generic difficulties arising from overload, managerial responsibilities and conflicts, and pressure on resources that often characterize the provision of health care (1).

Conclusion

In conclusion, it can be said that burnout among health care professionals at BMTU may be reduced with interactive psychoeducational seminars focusing on various sources of stress and burnout. Future studies supporting our finding might lead to implementation of such cost effective approaches for BMTU staff.

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