THE IMPACT OF BALINT WORK ON ALEXITHYMIA, PERCEIVED STRESS, PERCEIVED SOCIAL SUPPORT AND BURNOUT AMONG PHYSICIANS WORKING IN PALLIATIVE CARE: A LONGITUDINAL STUDY

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Abstract

Objectives: Physicians working with palliative patients have a substantial risk of emotional exhaustion because of their daily confrontation with suffering and death. Common concerns include alexithymia, high stress, low perceived social support and a greater burnout risk. This longitudinal study aimed to evaluate the effectiveness of Balint training in preventing the development of these symptoms in these medical professionals. **Material and Methods:** The design of the study was longitudinal. A group of 69 physicians working with palliative patients from 5 county hospitals in Romania (33 men, 36 women) participated in the study. Out of them, 31 joined and systematically attended a local Balint group whereas the others did not participate in such a group, either during the study or previously. They were given, both at the beginning (2015) and at the end of the study (2017), 4 psychometric instruments assessing alexithymia (*Bagby's Toronto Alexithymia Scale*), perceived stress (*Cohen and Williamson's Perceived Stress Scale*), social support (*Duke-UNC Functional Social Support Questionnaire*) and burnout (*Maslach Burnout Inventory*). A split-plot ANOVA analysis was used for evaluating the significance of Balint groups participation, with gender and age considered as auxiliary variables. **Results:** In the study group, Balint training significantly improved the scores of global burnout ($F(1, 64) = 25.104$, $p < 0.0001$), 2 of its components (emotional exhaustion ($F(1, 64) = 18.390$, $p < 0.0001$) and depersonalization ($F(1, 64) = 10.957$, $p < 0.002$), alexithymia ($F(1, 64) = 3.461$, $p < 0.0001$) and perceived social support ($F(1, 64) = 57.883$, $p < 0.0001$), but not the scores of perceived stress and low personal accomplishment. Gender had an additional contribution in decreasing alexithymia ($F(1, 64) = 7.436$, $p < 0.009$) and increasing perceived social support ($F(1, 64) = 15.426$, $p < 0.0001$), with higher effects in men. **Conclusions:** This study points to the potential usefulness of Balint training in addressing alexithymia and burnout, and in improving perceived social support among physicians working with palliative patients. As the Balint method is easily understood and does not require special investments, it could represent a cost-effective instrument of addressing job-related psychological risks. Int J Occup Med Environ Health. 2019;32(1):53–63

INTRODUCTION

Modern medicine is characterized by a progressive shift from the classical "disease-centered paradigm" to more subtle "personalized" or "patient-centered" care (PCC). This process seems to represent a steady tendency in the long run, as PCC caters better to the preferences of patients [1–4], results in better adherence [5] and satisfaction regarding therapy [6], and is associated, especially in chronic diseases, with a better self-reported quality of life [7,8].

However, if performed intensively (especially in the absence of a team, or without appropriate psychological assistance), PCC can be a supplementary risk factor for burnout in medical professionals [9]. Approximately 40–60%

of all physicians may be affected by burnout throughout their career [10,11], and this risk is increased by:

– external circumstances, for example organizations characterized by high perceived responsibilities, time pressure and a low level of control, or without well-established procedures and methods to overcome the consequences of intensive work involvement [12–14];
– internal variables, such as:
  - alexithymia – defined as the "inability to find appropriate words to describe one's feelings" [15,16]. Alexithymia is encouraged by medical education [17] as a part of the "heroic caring stereotype." Once internalized, alexithymia has long-term consequences, such as psychological distress [18], depression, emotional exhaustion and depersonalization [19,20], as well as a higher risk of psychosomatic symptoms [15], with low chances of recovery. It is also related to reduced perceived network support, limited social skills and a reduced capacity to use social interactions for affect regulation [21];
  - high levels of perceived stress. Enduring stress is considered a "normal" component of the medical profession, especially in specialties where the patient's vital prognosis comes at play [22];
  - lack of social support [23]. This circumstance often arises in medical specialties where therapeutic teams are absent or unstable over time.

The question of burnout vulnerability and how it can be overcome is particularly important for physicians working with palliative patients [24,25]. Not only are these professionals pressed to provide PCC daily, but they also have to overcome the inherent emotional difficulties stemming from the specificity of these cases (e.g., impossibility to cure, repeated exposure to death, fear related to the formation of bonds and then loss of their object, patient's emotional dependence, unpredictable changes during the course of the illness) [26,27]. Once present, burnout symptoms can directly impact on the well-being

of patients who may perceive their therapy as less safe and acceptable [28]. Moreover, these changes are aggravated by physicians' unawareness and/or lack of action regarding their own burnout risk, possibly causing a permanent alteration in the nature of the therapeutic relationship [29]. In the case of Romanian physicians, attentiveness to these risks has increased only recently (as palliative care is quite a new specialty); however, the currently high rate of development in this field, with 115 PC services organized nationally in 2018 [30], ensures a steady preoccupation with this topic in the upcoming years.

Taking into consideration the current rise in the number of palliative cases, investigating how we can better support these physicians in delivering PCC, while preventing or overcoming the risk of burnout, represents a meaningful purpose, with the potential to ensure the well-being of all participants in the therapeutic process. In this respect, participating in Balint groups has been reported as an effective way of preventing and addressing burnout in physicians [31–33]. Moreover, this method is typically easy to implement, even in the absence of solid organizational support, making it advantageous in countries where health care resources are limited. This includes Romania, where the number of active Balint groups has increased steadily since the 1990s [34]. Still, scientific studies on Balint group effectiveness for physicians remain rare. They are not focused on a single specialty and use various evaluations of outcomes, thereby making their results difficult to validate or replicate. Even less is known about the particular use of Balint training for addressing burnout in physicians working with palliative patients [35].

This study aimed to assess the direct impact of participation in Balint groups on the burnout risk among Romanian physicians attending palliative patients, and on the psychological factors consistently related to burnout (alexithymia, perceived stress and perceived social sup-

port). Complementarily, the authors measured the collateral influence which demographic factors (age and gender) may have on the above mentioned variables.

MATERIAL AND METHODS

The design of the study was longitudinal. At the beginning of the study (June 2014), 92 physicians were randomly pre-selected from those working with palliative patients in 5 county hospitals in Romania. None of these pre-selected physicians had been informed previously about the Balint method or its use. In a distinct series of informative sessions, they were presented with materials about the principles which lie at the basis of the organization of Balint groups, the typical routine of a Balint group meeting and the potential benefits of participating in this kind of activity for medical professionals. From those attending the presentations, 45 expressed an initial interest in the Balint method, and 31 actually participated in 20 or more Balint meetings in January 2015–July 2017. In total, they attended 6 Balint groups, run by leaders with a medical professional background and comprising 8–15 stable active members (mostly, but not exclusively, physicians). Due to their systematic interest and involvement, these physicians were considered the study group ("Balintians" – B). In the same period, 38 physicians from the initial sample did not attend Balint groups and were considered the control group ("non-Balintians" – NB). The study group and the control group did not differ significantly in terms of age, gender and years of medical experience (Table 1).

All the participants were administered the following psychological instruments twice, at the beginning of the study (T0 = January 2015) and at the end (T1 = July 2017).

Bagby's Toronto Alexithymia Scale

The *Bagby's Toronto Alexithymia Scale* (TAS-20) [36] is a self-reported questionnaire with 20 items and 3 subscales: "difficulty identifying feelings" (F1), "difficulty describing feelings to others" (F2), and "externally-oriented thinking" (F3), all characteristic for alexithymia. The instrument comprises 3 cut-off points, i.e., ≤ 51 – no alexithymia, ≥ 61 – alexithymia, and 52–60 – possible alexithymia. The scale has been reported to have good internal consistency (Cronbach's $\alpha = 0.81$) and test-retest reliability (0.77, $p < 0.01$), as well as the adequate levels of convergent and concurrent validity [37,38].

Table 1. Participants in the study evaluating the effectiveness of Balint training conducted in Romania in 2015–2017*

Variable	Participants (N = 69)		t (df)	χ^2 (df)	p
	study group (N = 31)	control group (N = 38)			
Age [years]			1.198 (67)		0.235
M±SD	50.12±5.74	48.26±6.94			
min.–max	39–62	34–58			
Gender [n]				0.007 (1)	0.933
male	15	18			
female	16	20			
Medical experience [years]			0.633 (67)		0.529
M±SD	23.35±4.99	22.42±6.86			

* There were no significant differences between the study and control groups in terms of age, years of medical experience and gender.

Cohen and Williamson's Perceived Stress Scale

The *Cohen and Williamson's Perceived Stress Scale* (PSS) [39] is a 14-item self-report instrument, designed to measure the degree to which situations in one's life are viewed as stressful. The answers are distributed on a 5-point Likert scale, with total scores of 0–56 (higher scores represent high stress levels). The questionnaire has been described as displaying good convergent validity, high internal consistency and reliability (Cronbach's α > 0.80) [40,41].

Duke-UNC Functional
Social Support Questionnaire

The *Duke-UNC Functional Social Support Questionnaire* (FSSQ) [42] is an 8-item instrument that measures the strength of the person's social support network. The scoring is realized on a 1–5 proportional scale (the higher the average score, the greater the perceived social support). The test has high construct validity, and high internal consistency and reliability (with Cronbach's α = 0.89–0.92) [43,44].

Maslach Burnout Inventory

The *Maslach Burnout Inventory* (MBI) [45] is the most well-known instrument for the assessment of burnout. It comprises 22 items and 3 subscales: emotional exhaustion (EE), depersonalization (DP) and low personal accomplishment (LPA) (with 9, 5 and 8 items, respectively). The answers are provided on a 7-point, fully anchored scale (from 0 = "never" up to 6 = "every day"). Greater burnout is indicated by higher scores on each of the subscales. The test has a good reported test–retest reliability of up to 0.82, and high validity [46]. In this study, the authors considered the criteria of clinical burnout to be met if the participants had a score above 30 on the EE scale and if at least 1 of the scores of the other 2 dimensions was above the recommended cut-off points (DP = 11; LPA = 35).

Ethics

The study procedures were considered by the Ethical Boards of all hospitals to be appropriate and in accordance with the ethical standards for human experimentation.

Statistics

This longitudinal study measured the evolution of the scores for burnout, alexithymia, perceived stress and perceived social support, as dependent variables, in relation to the systematic participation in Balint groups, as the independent variable. Responses were processed using the SPSS Statistics 17.0.1 software package (SPSS, Inc., Chicago, IL, USA). The analysis included firstly a descriptive level, in which the scores of the variables were collected and their evolution throughout the study period was observed. Next, the authors conducted a split-plot analysis of variance (ANOVA) to assess the statistical significance of changes in the participants' perceived stress, perceived social support and burnout (i.e., global burnout and its components), in relation to Balint training. The independent variables included 1 within-groups variable (time, with 2 levels), and 2 between-groups variables (Balint training and gender, with 2 levels each). Age was introduced in the analysis as a covariate. This statistical procedure made it possible to distinguish between the independent effects of Balint training and gender on the scores of perceived stress, perceived social support, alexithymia and burnout. Also, it was appropriate for testing the effect size, in the form of the Eta^2 coefficient.

RESULTS
Descriptive analysis

In the study group, the mean burnout (global, EE, DP) and perceived stress scores decreased from T0 to T1 whereas an opposite outcome was seen in the control group. The mean perceived social support score increased in the study group from T0 to T1 whereas in the control group it had a very slight decrease. The means of LPA and alexithymia decreased in both groups that were studied from T0 to T1 (Table 2).

At T0, 20 participants (28.98%) (9 males and 11 females) met the criteria for clinical burnout. Although this percentage rate remained nearly unchanged at T1 (27.53%) (9 males and 10 females), the individuals affected by clinical burnout were typically not the same as those at T0. In this respect, the authors noticed a solid positive impact of Balint training, indicated by the ratio B:NB = 0.46 (males 0.28, females 0.66).

Statistical analysis

The 2 groups did not differ at T0 with respect to the main variables evaluated in the study, this being proven by t-test scores, which showed no significant differences (p = 0.31–0.98). Instead, at T1, alexithymia, perceived social support and burnout (global score, EE and DP) differed significantly between the participants in the study and control groups (p = 0.001–0.005) (Table 2).

The effects of Balint training

The results of the ANOVA analysis showed a significant effect of Balint training on global burnout (Wilks' λ = 0.687, F(1, 64) = 25.104, p < 0.0001, Eta^2 = 0.313), EE (Wilks' λ = 0.749, F(1, 64) = 18.390, p < 0.0001, Eta^2 = 0.251) and DP (Wilks' λ = 0.834, F(1, 64) = 10.957, p < 0.002, Eta^2 = 0.166). The same effect was not observed for the LPA component of burnout (Wilks' λ = 0.945, F(1, 64) = 3.189, p < 0.008, Eta^2 = 0.055) (Table 3).

Balint training had a favorable impact on the scores of alexithymia (Wilks' λ = 0.941, F(1, 64) = 3.461, p < 0.0001, Eta^2 = 0.658) and perceived social support (Wilks' λ = 0.487, F(1, 64) = 57.883, p < 0.0001, Eta^2 = 0.513). In contrast, the changes in participants' perceived stress were not predicted by Balint training (Table 4).

Gender differences

The ANOVA analysis showed, in the case of certain variables, a significant impact of gender alongside Balint training (Table 4). This included alexithymia (Wilks' λ = 0.881,

Table 2. Scores of alexithymia, perceived stress, perceived social support and burnout between the participants and control groups in the study evaluating the effectiveness of Balint training conducted in Romania in 2015–2017

Variable	T0*								T1**							
	study group (N = 31)		control group (N = 38)						study group (N = 31)		control group (N = 38)					
	M	95% CI	M	95% CI			t^a (df)	p	M	95% CI	M	95% CI			t^a (df)	p
Alexithymia	48.22	45.45–50.99	48.57	46.59–50.56			−0.21	0.83	37.40	34.18–40.61	46.46	44.57–48.35			−4.97	0.001
Perceived stress	40.51	38.81–42.21	40.42	38.83–42.00			0.08	0.93	39.10	37.45–40.74	40.46	38.80–42.12			−1.19	0.23
Perceived social support	22.19	20.71–23.66	23.26	21.76–24.76			−1.02	0.31	29.00	27.41–30.58	23.16	21.82–24.50			5.75	0.001
Burnout																
global	69.80	64.24–75.37	71.89	67.96–75.82			−0.64	0.52	65.66	60.52–70.80	76.06	71.68–80.45			−3.14	0.003
emotional exhaustion	29.45	25.96–32.94	29.97	27.55–32.39			−0.25	0.79	26.86	23.90–29.82	33.00	30.13–35.86			−3.04	0.004
depersonalization	11.77	9.83–13.70	11.78	10.40–13.17			−0.01	0.98	10.63	8.76–12.50	13.80	12.58–15.01			−2.90	0.005
low personal accomplishment	28.58	26.53–30.62	30.52	28.78–32.26			−1.48	0.14	28.16	26.29–30.04	29.56	27.56–31.56			−1.04	0.30

* Beginning of the study – January 2015. ** End of the study – July 2017.
^{a} Two-tailed t-test for independent samples (Balintians vs. non-Balintians), df = 67.

Table 3. Repeated measure split-plot analysis of variance (ANOVA) for burnout and its components[a]

Burnout/Source of variance	M^2	F	p	Eta^2
Global				
time	8.918	0.476	0.493	0.009
time × age	7.418	0.396	0.532	0.007
time × Balint training	469.938	25.104	0.0001	0.313
time × gender	1.164	0.062	0.804	0.001
time × Balint training × gender	8.663	0.463	0.499	0.008
Emotional exhaustion				
time	8.135	0.597	0.443	0.011
time × age	8.369	0.614	0.437	0.011
time × Balint training	250.673	18.390	0.0001	0.251
time × gender	10.986	0.806	0.373	0.014
time × Balint training × gender	6.034	0.443	0.509	0.008
Depersonalization				
time	0.596	0.065	0.800	0.001
time × age	0.073	0.008	0.929	0.000
time × Balint training	100.606	10.957	0.002	0.166
time × gender	4.064	0.443	0.509	0.008
time × Balint training × gender	0.337	0.037	0.849	0.001
Low personal accomplishment				
time	2.692	0.428	0.516	0.008
time × age	4.594	0.730	0.397	0.013
time × Balint training	10.292	1.635	0.206	0.029
time × gender	19.841	3.152	0.081	0.054
time × Balint training × gender	12.049	1.914	0.172	0.034

[a] df 1.

Table 4. Repeated measure split-plot analysis of variance (ANOVA) for alexithymia, perceived stress and perceived social support[a]

Variable/Source of variance	M^2	F	p	Eta^2
Alexithymia				
time	18.428	3.461	0.068	0.059
time × age	0.047	0.009	0.925	0.000
time × Balint training	562.595	105.654	0.0001	0.658
time × gender	39.595	7.436	0.009	0.119
time × Balint training × gender	182.836	34.336	0.0001	0.384

Table 4. Repeated measure split-plot analysis of variance (ANOVA) for alexithymia, perceived stress and perceived social support[a] – cont.

Variable/Source of variance	M^2	F	p	Eta^2
Perceived stress				
time	2.692	0.428	0.516	0.008
time × age	4.594	0.730	0.397	0.013
time × Balint training	10.292	1.635	0.206	0.029
time × gender	19.841	3.152	0.081	0.054
time × Balint training × gender	12.049	1.914	0.172	0.034
Perceived social support				
time	0.394	0.068	0.795	0.001
time × age	3.041	0.527	0.471	0.009
time × Balint training	333.879	57.883	0.0001	0.513
time × gender	87.943	15.426	0.0001	0.217
time × Balint training × gender	26.269	4.554	0.037	0.076

[a] df 1.

$F(1, 64) = 7.436$, $p < 0.009$, $Eta^2 = 0.119$), with a higher decrease in men (mean difference T1–T0 = –7.785 [95% CI: –10.877–(–4.693)]) compared to women (mean difference T1–T0 = –5.468 [95% CI: –6.594–(–4.343)]). Similarly, gender played a significant additional role to Balint training when it comes to the increase in perceived social support (Wilks' $\lambda = 0.783$, $F(1, 64) = 15.426$, $p < 0.0001$, $Eta^2 = 0.217$). The increase was higher in men (mean difference T1–T0 = 5.214 [95% CI: 3.055–7.372]) compared to women (mean difference T1–T0 = 1.718 [95% CI: 0.227–3.210]).

The Balint training × gender interaction had a marginal statistical significance ($p < 0.052$) regarding the feeling of low personal accomplishment. Oppositely, there were no significant gender-related differences regarding the other 2 components of burnout (EE, DP) and the burnout global score (Table 3). The impact of gender on the variations of perceived stress was not significant (Table 4).

DISCUSSION

This study aimed to evaluate the impact of Balint training on alexithymia, perceived stress, perceived social support and burnout among physicians working with palliative patients. Although burnout as a clinical phenomenon remained unchanged in terms of frequency throughout the study (around 30%), participating in Balint groups seems to have had a protective role, in the sense that the prevalence of clinical burnout among Balint trainees was much lower compared to the control group. Statistically, the decrease in burnout scores attributable to Balint training was significant, not only in terms of the global score, but also concerning emotional exhaustion and depersonalization.

A similar positive impact was observed when analyzing the distinct impact of Balint training on alexithymia and perceived social support. Alexithymia scores decreased significantly, corresponding to a process of unlocking emotional expressions which, in turn, may prevent serious illness [47]. Oppositely, perceived social support significantly increased in Balint trainees, potentially leading to a higher chance of health benefits derived from its commonly acknowledged buffer role against stress [48]. For both alexithymia and perceived social support, the positive effects of Balint training were influenced by gender, with a higher impact in men than in women. This finding could be due to the alternative means women have for preventing or addressing

alexithymia, and for addressing those circumstances when social support becomes inadequate. Among such strategies, the literature mentions their higher propensity for building local networks in order to obtain help and their better efficiency in using them [49].

In terms of perceived stress, this dimension was not influenced by Balint participation. Balint training, which is typically focused on medically-related circumstances, may not have been effective in addressing the multiple sources of stress to which Romanian physicians are exposed outside of the medical profession.

Similarly, low personal accomplishment was not influenced by Balint training. This could be explained by other societal variables (e.g., low income, lack of facilities, poor social recognition), which are commonly reported by Romanian physicians as sources of personal unhappiness and vocational dissatisfaction [50].

Limitations

This study had several limitations. The sample size was rather small, so the generalization of findings should be made with caution. The attendance threshold for being considered a "Balintian" was established by the study authors. Among the psychological variables potentially influenced by Balint participation, only alexithymia, perceived stress, perceived social support and burnout were taken into account, although the spectrum of Balint influence could have been larger. Similarly, when testing the impact of gender on variables such as perceived social support, one should also consider collateral variables, such as marital status, which could significantly influence the degree of perceived social support, at least in the case of women [51].

Despite its limitations, the analysis has the merit of a longitudinal design, multi-centricity and a gender-specific investigation of Balint influence. Its results could be used in an organizational climate which is not yet established and which could potentially offer a good opportunity for changes in the way physicians' mental health is improved, and the

subsequent evaluation of the impact of these changes. Ideally, this could supplement physicians' personal strategies for coping with professional stress, and eventually contribute to better psychological comfort and satisfaction with care, both among physicians and their patients.

CONCLUSIONS

The global effects of Balint training for Romanian physicians working with palliative patients are favorable, at least regarding alexithymia, perceived social support and burnout. Some of these effects are gender-specific, which would require further research in order to better understand the underlying mechanisms of this asymmetry. As a whole, the results of this study offer reasons for optimism, paving the way for preventive action in a field traditionally perceived as demanding and entailing a high risk of developing mental exhaustion. Since Balint training can be typically implemented without extravagant costs, these findings are encouraging further development of patient-centered care.

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