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## Is Balint training associated with the reduced burnout among primary health care doctors?

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### ABSTRACT

The aim of our study was to examine whether the participation in Balint group is associated with the reducing burnout syndrome among primary health care doctors. This investigation was conducted on a population of 210 doctors employed in primary health centers in Belgrade. Out of 210 doctors, 70 have completed Balint training for a period of at least 1 year, whereas 140 doctors have never attended this training (the Non-Balint group). The level of burnout among physicians was assessed with the Serbian translation of the original 22-item version of the Maslach Burnout Inventory – Human Services Survey which defines burnout in relation to emotional exhaustion, depersonalization and personal accomplishment. We found that 45.0% of the Non-Balint participants and 7.1% of the Balint-trained participants responded with symptoms of high level of emotional exhaustion, with a statistically significant difference ( $p < 0.001$ ). In relation to depersonalization, 20% of the Non-Balint subjects were highly depersonalized compared to 4.4% of the Balint-trained subjects, with a statistically significant difference ( $p < 0.001$ ). Regarding the personal accomplishment, 21.4% of the Non-Balint subjects and 7.1% of the Balint-trained subjects had a perception of low personal accomplishment, with a statistical significance ( $p < 0.001$ ). In the multiple ordinal logistic model, with emotional exhaustion as a dependent variable, statistically significant predictor was female gender (OR = 2.51;  $p = 0.021$ ), while Balint training was obtained as a protective factor (OR = 0.12;  $p < 0.001$ ). Non-specialists were detected as a risk factor for depersonalization (OR = 2.14;  $p = 0.026$ ) while Balint group was found as a protective factor (OR = 0.10;  $p < 0.001$ ), according to the multiple ordinal logistic regression analysis. Regarding the reduced personal accomplishment, our results indicated that nonspecialists were at risk for this subdimension (OR = 2.09;  $p = 0.025$ ), whereas Balint participants were protected (OR = 0.18;  $p < 0.001$ ). Participation in Balint groups is associated with the reduced burnout syndrome among primary health care doctors

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## 1. Introduction

It may be stated that the doctor–patient relationship dates as back as the medicine itself [1]. The quality of a doctor–patient relationship often represents an indispensable element to determining accurate diagnoses and effective treatments thereafter; thus, confirming the importance of the relationship [1,2]. It is established that doctors, in addition to enhancing their medical skills, need to learn how to deal with the emotional risk factors that come along when treating a patient. Although the advanced skills are required for the purpose of building trust with a patient, they do not have a prominent space in medical schools' syllabi [3]. Communication skills training during the medical studies are insufficient; however, its level decreases even more significantly during the

physicians' residency programs in a particular medical discipline [4].

The goal of the Balint group experience, as recorded in the American Balint Society Mission Statement, is to *transform uncertainty, confusion, and difficulty in the doctor-patient relationship into understanding and meaning that nurtures a more therapeutic alliance between doctor and patient* [5]. In the 1950s, Michael Balint (1896–1970), a British psychoanalyst has developed a method of physicians' training focused on the doctor–patient relationship. Balint groups were named after him [6]. Balint group refers to a method designed to enhancing communication skills among physicians, but also putting emphasis on the doctor–patient relationship [7]. The reason why this education is considered adequate for physicians is not only the improvement of their communication

skills but also their psychological skills [8] and training to be able to apply a patient-centered approach [9]. According to Samuel [10], Balint training is based on goals which help doctors to better understand and explore their interpersonal skills and limits, enhance the perception of their communication with patients and blind spots in interactions with them.

Balint training is performed via Balint groups of 6–12 doctors, whose sessions are held on a weekly, fortnightly or monthly basis with a new case to be discussed within a group [11]. Typically, some medical information is given at the session; however, the discussion is focused on the doctor–patient relationship as well as on the central issue chosen by the presenter for that particular session. Thereafter, the case is being further explored from the point of view of both the doctor and the patient [12].

The uniqueness of the Balint approach is in the awareness and understanding of how influential the physicians' emotions are to the patients' state of mind, rather than focusing solely on diagnosis or treatment. It enables the physicians to better recognize their identification with patients [5].

Prevention of physicians' burnout via Balint groups has been demonstrated in various studies [7,9,13–17]. The term 'Burnout' refers to the dimensions of emotional exhaustion, depersonalization and reduced personal accomplishment, which most commonly occur with professionals who provide human care. Emotional exhaustion is perceived as a feeling of overwhelm and tiredness. It can lead to depersonalization and low personal accomplishment, where the former means creating distance with colleagues, team members and patients, and the latter refers to experiencing personal discontent and unhappiness [18]. The Maslach Burnout Inventory (MBI) [18] is considered the most important and used tool for the burnout measurement, even though it was instigated much later than the original burnout concept, introduced by Freudenberger [19] in 1974. The burnout originates from hard work, mental and physical exhaustion and stress [20,21].

Typical burnout symptoms are similar to those that may be found in circumstances of chronic stress and can be grouped into psychosomatic (e.g. headache, fatigue, gastrointestinal disorders), behavioral, emotional and/or defensive symptoms [22–24]. Albeit there are numerous studies on the relation between Balint groups and burnout, they include either a small number of respondents or only consist of case reports and discussions in Balint groups [7,9,13–17]. The present study represents the first research in Serbia in relation to Balint groups and encompasses a large sample size. Balint groups in Serbia are mostly conducted on a voluntary basis, except for general practice residents who have one mandatory Balint group session a year. A few studies in relation to the burnout

syndrome among primary health care doctors were conducted in Serbia [25–27], but none of them has dealt with the association between Balint training and burnout. The aim of our study was to examine whether the participation in a Balint group is associated with the reducing of burnout syndrome among primary health care doctors.

## 2. Methods

### 2.1. Study design and participants

This cross-sectional study was conducted on a population of 210 doctors employed in primary health centers in Belgrade. Out of 210 doctors, 70 have completed Balint training for a period of at least 1 year, whereas 140 doctors have never attended this training (the Non-Balint group). Sample size calculation was based on the requirement to detect a difference of proportion of a moderate or a high level emotional exhaustion, depersonalization or personal accomplishment between the Balint and Non-Balint groups (0.1 and 0.3, respectively). Minimum required sample size for alpha of 0.05, power of 0.8 and ratio of Non-Balint to Balint groups of two, was 96 and 48, respectively. The training was conducted on a fortnightly basis. Participants had at least 36 hours of Balint group work per annum. The doctors participating in this research, which was conducted in the period October–December 2016, were chosen by the method of random choice (by computer listing) from six health centers. The inclusion criteria involved the following: position of general practitioners (nonspecialists) and primary health care specialists, working experience of minimum 5 years, participation in Balint groups for at least 1 year and employment at a given health center.

Based on the list provided by the Balint Society of Serbia, eligible respondents were invited to participate in the study. This included doctors who have completed the Balint training and were at work on the test day. The procedure required for the primary health centers' directors to be informed on the research before it starts. However, the researcher was in charge to provide the questionnaires to respondents in person. The inclusion criteria for Non-Balint participants were position of a general practitioner (nonspecialist) and primary health care specialist, with at least 5 years working experience, and who worked at the chosen health centers. Exclusion criteria for both groups related to doctors on sick leave or holiday absence at least 1 month before the data collection period, who have not been working for more than 1 year (prolonged studies abroad, prolonged illness, or various and frequent changes in the workplace over the past 5 years), and with an exposure for a short period of time to

increased mental or physical trauma (death or disease in the family, divorce, etc.), regardless of the professional environment.

Self-reported anonymous questionnaires were distributed to all participants. Balint-trained doctors took participation in the investigation and each of them was grouped with two other randomly chosen Non-Balint doctors, who worked at the same health center and had the same level of education (specialization level). All prospective respondents were informed in writing that their participation is voluntary and that information provided would be treated with confidentiality. The participants provided their written consent on participation thereafter. The ethics committees of six health centers and Faculty of Medicine University of Belgrade, Serbia, approved the design of the study and the consent procedure.

## 2.2. Instruments

The level of burnout among physicians was assessed with the Serbian translation of the original 22-item version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) [28,29]. This scale has previously been validated for the Serbian-speaking area [29].

This questionnaire has assessed the burnout across three dimensions. Emotional exhaustion was measured using nine items (e.g. 'I feel emotionally drained from my work'), depersonalization was measured using five items (e.g. 'I feel I treat some patients as if they were impersonal objects') and personal accomplishment was measured using eight items (e.g. 'I deal very effectively with the problems of my patients').

Each of the 22-items contained a question for respondents to describe their feelings on a 7-point Likert-type scale, ranging from never having those feelings to having those feelings few times a week. Higher mean MBI subscale scores indicate higher feelings of emotional exhaustion, depersonalization and/or personal accomplishment. Accordingly, high scores relating to emotional exhaustion and depersonalization correspond to a higher degree of burnout, but a high score for personal accomplishment corresponds to a lower degree of burnout on that dimension. The authors obtained permission from Mind Garden, Inc., to use the Serbian translation of the MBI-HSS for the period of 1 year [29].

Participants also completed a short questionnaire regarding their basic sociodemographic (gender, age, marital and parental status) and work-related characteristics (length of medical service, specialization, subspecialization, vocational education and academic achievement).

## 2.3. Data analysis

Since the outcome variable (burnout) is an ordinal variable, we have used the ordinal logistic regression analysis. The collected data were analyzed using SPSS Statistics Software 24.0 for Windows through chi-square test, univariate and multivariate ordinal logistic regression model. All statistically significant variables at a level  $<0.05$  in a univariate model were included in the multivariate ordinal logistic regression analysis.

## 3. Results

### 3.1. Descriptive characteristics of participants

All 210 doctors, 70 Balint-trained and 140 Non-Balint subjects, have completed the questionnaires. Nine Non-Balint participants who refused to participate in this investigation were randomly replaced by other nine eligible respondents. The sample reflected gender differences in primary health care system in Serbia. Over three-quarters (82.9%) of the current physicians in the primary health care were females, while 17.1% were males. The mean age was  $48.3 \pm 9.6$  and ranged from 30 to 65 years. The basic characteristics of Balint participants and Non-Balint participants are presented in Table 1.

### 3.2. Factors associated with subdimensions of the MBI

Subdimensions of the MBI among Balint-trained and Non-Balint participants are presented in Table 2. Using Maslach's three categories, the Non-Balint participants have experienced a significant level of burnout in emotional exhaustion, depersonalization and personal accomplishment. Actually, 45.0% of the Non-Balint participants and 7.1% of the Balint-trained participants responded with symptoms of high level of emotional exhaustion, with a statistically significant difference ( $\chi^2 = 41.94$ ;  $p < 0.001$ ). In relation to depersonalization, 20% of the Non-Balint subjects were highly depersonalized compared to 4.4% of the Balint-trained subjects, with a statistically significant difference ( $\chi^2 = 41.94$ ;  $p < 0.001$ ). Regarding the personal accomplishment, 21.4% of the Non-Balint subjects and 7.1% of the Balint-trained subjects had a perception of low personal accomplishment, with a statistical significance ( $p < 0.001$ ).

Factors associated with subdimensions of the MBI by univariate ordinal logistic regression model are presented in Table 3. We found that female doctors ( $OR = 2.34$ ;  $p = 0.024$ ) and doctors older than 50 years ( $OR = 1.92$ ;  $p = 0.014$ ) had a higher risk of emotional exhaustion. With regard to the same subdimension, our results confirm the protective role of Balint group ( $OR = 0.12$ ;  $p < 0.001$ ), vocational education ( $OR = 0.45$ ;

**Table 1.** Sociodemographic features of the participants.

Variable	Balint <i>N</i> (%)	Non-Balint <i>N</i> (%)	Total <i>N</i> (%)
Gender			
– Women	59 (84.3)	115 (82.1)	174 (82.9)
– Men	11 (15.7)	25 (17.9)	36 (17.1)
Age			
≤50	43 (61.4)	61 (43.6)	104 (49.5)
>50	27 (38.6)	79 (56.4)	106 (50.5)
Marital status			
– Married	42 (60.0)	82 (58.6)	124 (59.0)
– Single	28 (40.0)	58 (41.4)	86 (41.0)
Parental status			
– Yes	44 (62.9)	95 (67.9)	139 (66.2)
– No	26 (37.1)	45 (32.1)	71 (33.8)
Length of medical service			
≤20 years	40 (58.0)	59 (42.1)	99 (47.4)
>20 years	29 (42.0)	81 (57.9)	110 (52.6)
Specialization			
– No (GP)	21 (30.0)	42 (30.0)	63 (30.0)
– Yes (Specialist)	49 (70.0)	98 (70.0)	147 (70.0)
Subspecialization			
– Yes	1 (1.4)	7 (5.0)	8 (6.4)
– No	69 (98.6)	133 (95)	202 (93.6)
Vocational education			
– Yes	57 (81.4)	34 (24.3)	91 (43.3)
– No	13 (18.6)	106 (75.7)	119 (56.7)
Master's degree			
– Yes	10 (14.3)	2 (1.4)	12 (5.7)
– No	60 (85.7)	138 (98.6)	198 (94.3)
PhD degree			
– Yes	5 (7.1)	1 (0.7)	6 (2.9)
– No	65 (92.9)	139 (99.3)	204 (97.1)

GP: General practitioner.

**Table 2.** Subdimensions of the Maslach Burnout Inventory among Balint and Non-Balint participants.

Subdimensions	Balint <i>N</i> (%)	Non-Balint <i>N</i> (%)	Total <i>N</i> (%)	<i>p</i> <sup>a</sup>
Emotional exhaustion				
Low	56 (80.0)	48 (34.3)	104 (49.5)	
Moderate	9 (12.9)	29 (20.7)	38 (18.1)	<0.001
High	5 (7.1)	63 (45.0)	68 (32.4)	
Depersonalization				
Low	64 (94.1)	87 (62.1)	151 (72.6)	
Moderate	1 (1.5)	25 (17.9)	26 (12.5)	<0.001
High	3 (4.4)	28 (20.0)	31 (14.9)	
Reduced personal accomplishment				
Low	61 (87.1)	69 (49.3)	130 (61.9)	
Moderate	4 (5.7)	41 (29.3)	45 (21.4)	<0.001
High	5 (7.1)	30 (21.4)	35 (16.7)	

<sup>a</sup>Based on the results of Chi-Square test.

$p = 0.003$ ) and master's degree ( $OR = 0.18$ ;  $p = 0.029$ ) of our sample. In relation to the depersonalization, according to our results, nonspecialists were at higher risk of being depersonalized ( $OR = 1.96$ ;  $p = 0.036$ ), while Balint group ( $OR = 0.11$ ;  $p < 0.001$ ) and vocational education ( $OR = 0.40$ ;  $p = 0.006$ ) represented the significant protective factors for this subdimension. Relating to the reduced personal accomplishment, we noted that nonspecialists experienced a higher risk for this subdimension ( $OR = 2.19$ ;  $p = 0.008$ ), whereas protective effects were observed among married doctors ( $OR = 0.56$ ;  $p = 0.038$ ), doctors who are parents ( $OR = 0.55$ ;  $p = 0.038$ ), Balint-trained doctors ( $OR = 0.15$ ;  $p < 0.001$ ), doctors with vocational education ( $OR = 0.34$ ;  $p < 0.001$ ) and with master's degree ( $OR = 0.12$ ;  $p = 0.047$ ).

Table 4 presents the factors associated with subdimensions of the MBI by multiple ordinal logistic regression model. In the multiple ordinal logistic model, with emotional exhaustion as a dependent variable, statistically significant predictor was female gender ( $OR = 2.51$ ;  $p = 0.021$ ), while Balint training was obtained as a protective factor ( $OR = 0.12$ ;  $p < 0.001$ ).

Nonspecialists were detected as a risk factor for depersonalization ( $OR = 2.14$ ;  $p = 0.026$ ) while Balint group was found as a protective factor ( $OR = 0.10$ ;  $p < 0.001$ ), according to the multiple ordinal logistic regression analysis.

Regarding the reduced personal accomplishment, our results indicated that nonspecialists were at risk for this subdimension ( $OR = 2.09$ ;  $p = 0.025$ ), whereas

**Table 3.** Factors associated with subdimensions of the Maslach Burnout Inventory by univariate ordinal logistic regression model.

Variables	Burnout dimensions								
	Emotional exhaustion			Depersonalization			Reduced personal accomplishment		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Gender	2.34	1.12–4.90	<b>0.024</b>	1.23	0.53–2.83	0.626	0.70	0.35–1.40	0.309
Female									
Male <sup>a</sup>									
Age	1.92	1.14–3.23	<b>0.014</b>	1.24	0.68–2.28	0.481	0.89	0.52–1.53	0.668
≤50 <sup>a</sup>									
>50									
Marital status	1.22	0.72–2.05	0.465	0.69	0.38–1.27	0.235	0.56	0.32–0.97	<b>0.038</b>
Married									
Single <sup>a</sup>									
Parental status	1.34	0.78–2.32	0.288	0.86	0.46–1.62	0.645	0.55	0.31–0.97	<b>0.038</b>
Yes									
No <sup>a</sup>									
Length of medical service (years)	1.38	0.82–2.30	0.224	1.20	0.65–2.20	0.557	0.85	0.49–1.46	0.548
≤20 <sup>a</sup>									
>20									
Group	0.12	0.06–0.24	<b>&lt;0.001</b>	0.11	0.04–0.31	<b>&lt;0.001</b>	0.15	0.07–0.33	<b>&lt;0.001</b>
Balint									
Non-Balint <sup>a</sup>									
Vocational education	0.45	0.27–0.77	<b>0.003</b>	0.40	0.21–0.77	<b>0.006</b>	0.34	0.16–0.62	<b>&lt;0.001</b>
Yes									
No <sup>a</sup>									
Specialization	1.38	0.79–2.41	0.255	1.96	1.05–3.68	<b>0.036</b>	2.19	1.23–3.90	<b>0.008</b>
Yes (Specialist) <sup>a</sup>									
No (GP)									
Master's degree	0.18	0.04–0.84	<b>0.029</b>	0.24	0.03–1.82	0.167	0.12	0.02–0.97	<b>0.047</b>
Yes									
No <sup>a</sup>									
PhD degree	0.46	0.09–2.53	0.375	0.58	0.06–5.69	0.640	0.29	0.03–2.68	0.278
Yes									
No <sup>a</sup>									

OR: Odds ratio; CI: confidence interval; GP: General Practitioner.

<sup>a</sup>Reference categories.

Bold values refer to variables that were associated with subdimensions of the Maslach Burnout Inventory by univariate ordinal logistic regression model.

**Table 4.** Factors associated with subdimensions of the Maslach Burnout Inventory by multiple ordinal logistic regression model.\*

Variables	Burnout dimensions								
	Emotional exhaustion			Depersonalization			Reduced personal accomplishment		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Gender	2.51	1.15–5.50	<b>0.021</b>	–	–	–	–	–	–
Female									
Male <sup>a</sup>									
Age	1.51	0.86–2.65	0.149	–	–	–	–	–	–
≤50 <sup>a</sup>									
>50									
Marital status	–	–	–	–	–	–	0.73	0.36–1.49	0.386
Married									
Single <sup>a</sup>									
Parental status	–	–	–	–	–	–	0.62	0.29–1.32	0.213
Yes									
No <sup>a</sup>									
Group	0.12	0.06–0.27	<b>&lt;0.001</b>	0.10	0.03–0.32	<b>&lt;0.001</b>	0.18	0.08–0.44	<b>&lt;0.001</b>
Balint									
Non-Balint <sup>a</sup>									
Vocational education	0.81	0.41–1.58	0.530	0.99	0.46–2.12	0.984	0.73	0.36–1.47	0.378
Yes									
No <sup>a</sup>									
Specialization	–	–	–	2.14	1.09–4.18	<b>0.026</b>	2.09	1.10–3.96	<b>0.025</b>
Yes (Specialist) <sup>a</sup>									
No (GP)									
Master's degree	0.44	0.09–2.27	0.329	–	–	–	0.30	0.03–2.68	0.280
Yes									
No <sup>a</sup>									

OR: Odds ratio; CI: confidence interval; GP: General practitioner.

<sup>a</sup>Reference categories.

\*All variables statistically significant at level 0.05 in univariate model entered in model multiple ordinal logistic regression.

Bold values refer to variables that were associated with subdimensions of the Maslach Burnout Inventory by multiple ordinal logistic regression model.

Balint participants were protected (OR = 0.18;  $p < 0.001$ ).

#### 4. Discussion

In the present study, we examined the difference in the burnout between Balint participants and Non-Balint participants. We found that Non-Balint participants had a high level of burnout compared to Balint participants.

All three domains of burnout in our sample were predicted by not being a participant of Balint group which is consistent with the study involving Swedish primary health care doctors [30].

Furthermore, a study conducted on the population of 17 Israeli doctors, found that Balint groups can reduce burnout and contribute to their personal accomplishment [7], and these results are consistent with our study. In the US, a study was carried out on 14 doctors and it showed that Balint participants had more developed psychological skills compared to Non-Balint participants [31].

In an additional Swedish survey conducted on the population on Balint-trained doctors and Non-Balint doctors, it was concluded that Balint participants subsequently became more patient-centered and felt more satisfied and competent in their contacts with patients [6]. Another study in Finland suggested that Balint groups contribute to the professional growth [32]. It seems that the achievements in the said studies could lead to a more profound notion of personal accomplishment, which was confirmed in our study.

In a nonjudgmental environment such as the Balint group, doctors have a possibility to explore their boundaries, reduce stress and protect themselves from burnout [16]. According to Salinsky and Sackin [33], doctors are skilled to make defenses. However, sometimes such defenses may lead to creating a distance toward the patient.

Since depersonalization is expressed as a negative, cynical and distant attitude toward others [18], Balint training can represent one of the factors which will lead to reducing of depersonalization.

It was found that Balint groups increase the compassion of doctors in their relations with patients [14]. A study conducted in Australia confirmed the same [34]. Michael Balint also emphasized that an understanding of the patient's inner world is central for a doctor's insight. He further pointed out that the perception of *the patient's attitude towards his illness [which] is of paramount importance for any therapy* [35]. This progress of doctors' sensitivity may lead to lower depersonalization what is the case in the present study.

Salinsky and Sackin [33] pointed out that the focus of the Balint group is to assist the doctors to better identify their own defenses, and to use what they

have heard in the group as a tool to improve communication skills with patients and colleagues. This was established by other authors as well [12,14].

Balint groups as an 'adult playground' offers an open, non-threatening and supportive space for a 'shared care' to doctors [14]. They are unique in offering a protective and nonjudgmental ambience for its participants providing them a possibility to discover and increase an insight into doctors' emotional aspects of attachment and separation from their patients [36]. It appears that such a secure place as Balint group can help its participants to be less emotionally exhausted, which was confirmed by our study.

Like in other studies conducted on the population of doctors from primary health care service [25,37], in our investigation the domain of emotional exhaustion was the most prominent among Non-Balint participants. In a study conducted in the Netherlands [38], the percentage of doctors with a high level of emotional exhaustion was smaller compared to our Non-Balint sample (7%:45%), also depersonalization (11%:20%) and for reduced personal accomplishment was almost the same (22%:21.4%) [38]. In a research conducted in Spain, the high values of all three dimensions of burnout were observed with a smaller number of primary care doctors compared to our Non-Balint participants (20.9% for emotional exhaustion, 16.3% for depersonalization and 4.7% for low sense of personal accomplishment) [23].

In the present study, the multiple ordinal logistic regression modelling of emotional exhaustion has demonstrated an increased probability that female doctors and Non-Balint participants suffer from a high emotional exhaustion. Female doctors reached higher scores of emotional exhaustion in another investigation from our country [25], similar as in the studies carried out in the Netherlands [38,39], Germany [40], Finland [41], Canada [42], Greece [43] and Lebanon [44].

Since the burnout syndrome is highly prevalent among nonspecialists [7,45], some researchers investigated the differences between specialists and nonspecialists in relation thereto [46] and they found that nonspecialists are more prone to depersonalization.

Our results suggested that nonspecialists were more exposed to two burnout parameters – depersonalization and low personal accomplishment, compared to specialists. This result is in line with other studies, in the Netherlands [47], Finland [48], Brazil [49] and Ireland [50].

In Greece, there is a growing tendency of levels of depersonalization among nonspecialists [43]. With respect to the relation of the burnout and the nonspecialists' age, studies have shown diverse outcomes. For instance, in Turkey, burnout parameters decrease with age [51] as opposed in India where they increase with age [52], whereas in a study involving Pakistani

doctors the age made no difference among doctors [53].

According to our results, being a Balint participant and a specialist decreases the odds of burnout in the domain of reduced personal accomplishment.

#### 4.1. Limitations of the study

Our study encountered several limitations. Since this is a cross-sectional study design, each variable was measured only once and there is no information of the educational process in Balint groups and a process of burnout syndrome. Furthermore, the study is based on self-report to a questionnaire; such data were subject to report bias. Additional longitudinal studies are needed to approach the process of education in Balint groups and burnout syndrome.

### 5. Conclusion

Doctors in primary health centers exhibit high levels of burnout, which calls for greater attention to their psychological needs and development of better communication skills. Precisely, the psychological support and improvement of communication is offered and taught in Balint education. According to our results, Balint groups are associated with the reduced burnout syndrome among primary health care doctors. Therefore, introduction of such training in the medical educational program should be taken into consideration. Nevertheless, additional studies are necessary in order to confirm the relationship between Balint education and burnout reduction.

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