Could empathy have a protective role in physician burnout?

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Abstract*— *Background: **Physician burnout, and its effect on the quality of patient care, and the wellbeing of both physicians and patients, has become a widespread problem. On the other hand, empathy renders better patient care and contributes to physicians` satisfaction, thus reducing burnout. This study aimed to examine the factors associated with physician burnout and the associations between burnout and empathy.** ***Methods:*** **During the spring of 2016 Slovenian general practitioners (GPs) (n=316, 56% response rate), both trainees and specialists, completed online a socio-demographic questionnaire, questions about working conditions, physician health and the Slovenian versions of the Maslach Burnout Inventory (MBI) (Cronbach's α=0.818) and the Jefferson Scale of Empathy – Health Professional Version (JSE-HP) (Cronbach's α=0.798). For testing the two-factor structure of the JSE-HP (F1 for empathic attitude, F2 for biomedical orientation) principal component factoring with an orthogonal varimax rotation was used, explaining 36.2% of the total variance. Linear regression was used to calculate associations between the factors with regard to demographics, work, physician health, F1 and F2, and the total MBI score.** ***Results:*** **Of 316 GPs, 57 (18%) were men, 259 (82%) women, aged 40±10.2 years. Multivariate analysis revealed the total MBI score to be higher in GPs dealing with more than 40 patients/day (p=0.014) and lower in those who reported better overall health (p<0.001) and exhibited a stronger capacity for empathy (p=0.001) and less strict biomedical orientation (p=0.007).** ***Conclusions:*** **In this study individual and organizational factors for overall burnout were confirmed. Empathic attitude appeared as a potential protective factor against physicians` burnout opposed to strict biomedical orientation, but further investigations are required to affirm the nature of the relationships.**

***Index Terms*--empathy, general practice, physician, professional burnout.**

I. Introduction

Physician burnout is a persistent and alarming problem with a prevalence of 67% [1] and negative consequences on patient care and physician health [2]. The highest rates are observed among front-line physicians, including GPs [3,4]. Since it is a work-related syndrome, organizational factors have been gaining importance in recent years, besides the individual contributing factors [2]. Increased workload and time constraints are also believed to diminish empathy in clinical practice [5] – a capacity that represents the core of every caring and efficient doctor-patient relationship [6]. Associations with greater patient satisfaction and compliance in treatment have been found [7–9]. Negative associations between empathy and burnout have been documented many times [10–14], and skills that improve empathic communication contribute to a reduction in physician burnout [15,16]. Empathic skills are often viewed as being composed of an affective component, important for recognizing and attuning to the patient's feelings, and a cognitive component, which effectively acknowledges these feelings so the patient feels understood [17]. As the latter is subject to cognitive and metacognitive processes, learning is possible through interventions, which are easy to implement [16,18,19]. Another point in favor of enhancing cognitive empathy in GPs is the idea of the work then being less exhausting for them, because its other-oriented nature helps to disengage them from their own emotions [20]. Affective empathy, being rooted earlier in development, is subject to associative learning, and can be enhanced or broken by novel experience [19].

In our previous study, burnout and empathy in Slovenian GPs was reviewed, and a positive correlation between Perspective Taking, the main cognitive component of empathy, and personal accomplishment was established [14]. Given that it is somehow artificial to dissect empathy into its components, the aim of this study was to examine the correlations of overall burnout with an empathic attitude *vs.* strict biomedical orientation and other individual and organizational factors.

II. Material and Methods

Participants and procedure

In this cross-sectional study, 565 Slovenian GPs were invited to complete an online survey. The invitation was sent by email twice, through the distribution lists of the Slovenian syndicate of GPs and family medicine trainees. The questionnaire had been previously validated and included socio-demographic questions, questions concerning working conditions, health and well-being, and the Slovenian versions of the Maslach Burnout Inventory (MBI) [21] and the Jefferson Scale of Empathy – Health Professional Version (JSE-HP) [14,22]. Of 316 respondents, 123 were GP trainees and 193 were specialists (after a four-year period of specialized training), aged 40±10.2 years. The response rate was 56%. The data were collected from April to June 2016.

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Evaluation tools

The socio-demographic characteristics questionnaire comprised questions on gender (male/female), age (years), time working in family medicine (years), marital status (single/married/in a relationship/widowed), and children (yes/no). Participants also answered questions concerning working conditions and work environment (urban/rural, surgery in a health centre/private surgery with a concession, working in a nursing home); workload (number of patients per day, emergency care duty during the regular workday, number of nightshifts per month); and physician health (number of sick leave days per year, having a chronic illness), and rated their general and mental health on a five-point Likert-type scale (1=excellent, 5=poor).

Physician burnout was self-assessed with the MBI [21], a well-known instrument which lists 22 items scored on 7-point Likert-type scale (0=Never, 6=Everyday). The MBI is composed of 3 subscales: Emotional Exhaustion (EE, 9 items, score range 0-54), Depersonalization (D, 5 items, score range 0-30), Personal Accomplishment (PA, 8 items, score range 0-48). High levels of burnout are represented by high scores on the EE and D subscales and low scores on the PA subscale. The Cronbach's α of the Slovenian version of the MBI we used was 0.818. The MBI had been previously validated for the evaluation of burnout in health professionals, including GPs [4,23,24].

The empathic attitude of the physicians was assessed by the JSE-HP, in which Hojat et al. wanted to capture the essence of empathy in the context of patient care, and assess the empathic capacity of students and practitioners [22,25]. It consists of 20 items that use a 7-point Likert-type scale (1=strongly disagree, 7=strongly agree); higher scores indicate greater empathic attitude, with a score range of 20-140 [22]. For the HP version of the JSE a three factorial structure was previously confirmed, with two major factors defined as Perspective Taking (PT) and Compassionate Care (CC) and a third, minor, factor which included only 2 negatively worded items named Standing in the Patient's Shoes (SPS) [22]. A review of the literature revealed that various factor structures of the JSE have been used in previous studies [26], as well as a two-factor model with students [27,28]. When considering the content of the items, CC stands out as an affective component and PT as a cognitive component, including SPS. In this study we decided on a two-factor model supporting the previously observed duality of empathy [29–31]. The validity and reliability of the JSE are known [9,22]; it has been translated into multiple languages [32]; and the Slovenian version has been previously presented [14]. The Cronbach's α for the scale used was 0.798.

Data analysis

The sample was presented with the frequency and percentage distribution or by mean values and standard deviations. For the factor analysis a principal component factoring with an orthogonal varimax rotation was used. An eigenvalue equal to or greater than 1, known as the Kaiser's criterion [33], which is often implemented to retain the most important factors, was used. The two-factor solution explained 36.2% of the total variance. F1 was saturated with statements related to empathic attitude, and F2 with statements describing strict biomedical orientation, evidence-based decision-making and knowledge of health conditions and deteriorations. The meaning of empathy (empathic attitude) used for F1 is concordant with Hodges and Klein`s definition of empathy as a term, applied to various phenomena which cover a broad spectrum ranging from feelings of concern for other people that create a motivation to help them, experiencing emotions that match another individual's emotions and knowing what the other is thinking or feeling, to blurring the line between self and other [31].

In the multivariable analysis, linear regression was used to calculate associations between demographic variables, factors of empathy and overall burnout. The results of the linear regression were presented with the F, df and p-values. All analyses were performed using SPSS version 26.0 for MS Windows (IBM Corp., Armonk, NY) with the significance criterion set at $p<0.05$.

III. RESULTS

A total of 316 Slovenian GPs (82% female), who had worked in this speciality for 11.2 ±10.4 years, were included in the data analysis. Most of them (86.1%) were married or in a relationship, and 69% had children. At the time of the survey, a somewhat larger proportion of the GPs worked in an urban (63%) rather than a rural (37%) setting. The majority of the GPs had 40 or more patient interactions per working day (89.6%). On a scale from 1 to 5 their overall health was assessed with 3.5±0.9 points. More sample details are in Table I.

TABLE I. SAMPLE DESCRIPTION.

	n=316	*%*
Gender:		
Male	57	18.0
Female	259	82.0
Children:		
Yes	218	69.0
No	98	31.0
Marital status:		
Married, in a relationship	272	86.1
Single	44	13.9
Work setting:		
Urban	199	63.0
Rural	117	37.0
Patient interactions/day:		
<40	33	10.4
≥40	283	89.6
Night shifts/month:		
<4	241	76.3
≥4	75	23.7
Emergency care duty:		
Yes	152	48.1
No	164	51.9
Chronic disease:		
No	230	72.8
Yes	86	27.2
Sick leave days/year:		
0	136	43.0
1-5	119	37.7
≥6	61	19.3

Table II summarises the relationship between different demographic, health and work related factors and overall burnout. The factors that were associated with a low total burnout score on the MBI were shown to be less than 40 patient interactions daily (p=0.014), a high overall health rating (p<0.001), a high empathic attitude (p=0.001) and less strict biomedical orientation (p=0.007).

TABLE II. MULTIVARIABLE ANALYSIS OF ASSOCIATIONS BETWEEN DEMOGRAPHIC CHARACTERISTICS, WORKING CONDITIONS, EMPATHY AND TOTAL MBI SCORE IN GPS.

	B	SE	95% CI for B	p
Female gender	2.01	2.59	-3.09, 7.12	0.438
Age in years	0.01	0.12	-0.21, 0.24	0.902
Children	1.57	2.56	-3.47, 6.61	0.540
Married, in a relationship	-3.50	3.08	-9.57, 2.57	0.257
Rural setting	1.79	2.10	-2.35, 5.93	0.396
≥40 patient interactions/day	7.69	3.13	1.54, 13.85	0.014
≥4 night shifts/month	1.29	2.60	-3.82, 6.41	0.619
Emergency care duty	-1.46	2.15	-5.70, 2.77	0.497
Sick leave days/year	-1.82	1.43	-4.64, 1.01	0.206
Chronic disease	0.24	2.44	-4.56, 5.05	0.920
Overall health assessment	-10.39	1.30	-12.95, -7.84	<0.001
F1 – empathy / empathic attitude	-3.24	1.01	-5.22, -1.26	0.001
F2 – strict biomedical orientation	2.69	0.98	0.76, 4.62	0.007

B: unstandardized coefficient, SE: standard error, 95% CI: 95% confidence interval, R2=0.290 (F=8.436, df=13, p<0.001)

IV. DISCUSSION

Our finding of overall burnout association with workload (Table II) is consistent with burnout being an occupational phenomenon [21]. In recent years excessive workload has been observed as an important organizational factor contributing to physician burnout [3,14,34,35]. In primary care, the number of patient visits was found to correlate with higher burnout in GPs [14]. What is more, Yuguero et al. showed the most empathic and least burned out physicians received fewer visits [35].

Although the ICD-10 does not classify burnout as a medical condition, it is closely associated with depression and anxiety [36]. Furthermore, taking long-term stress into account as a cause of disease, the shown correlation between burnout and lower overall health seems plausible (Table II).

To further support the correlation between empathy and burnout, a number of studies should be mentioned. A significant negative association was confirmed in several studies of Spanish, French and Slovenian GPs [11,12,14,37,38]. Our study confirmed low burnout was associated with a high empathic disposition in GPs (Table II). A similar result was observed in a study of French GPs [39], where a high cognitive empathy predicted low burnout independently of the affective component. Enhanced affective empathy in communication could be a disadvantage, since some authors have warned of greater burnout risk with emotional engagement [15]. While the capacity for two people to resonate with each other affectively, prior to any cognitive understanding, is the basis for developing shared emotional meanings, it is not enough for mature empathic understanding. Such an understanding requires the formation of an explicit representation of the feelings of another person as an intentional agent, which necessitates additional computational mechanisms beyond the affect sharing level [29]. The cognitive components that give way to empathic understanding have a more protracted course of development than the affective components, even though many precursors are already in place very early in life. Given this, it is our belief that discussion on empathy or empathic communication should grow beyond its cognitive *vs.* affective components, due to their interconnectedness towards an empathic attitude as an individual and professional attribute. Hence an experience of emotion is a state of mind, the content of which is at once affective (pleasant or unpleasant) and conceptual (a representation of the individual in relation to the surrounding world) [40]. Emotion is also, however, an interpersonal communication system that elicits a response from others. Thus, emotions can be viewed both as intrapersonal and interpersonal states, and the construct of empathy entails both such dimensions.

All these results support the idea of intentional building and maintenance of cognitive empathy skills, which are shown to increase both components of empathy [16], although affective empathy is believed to be an automatic process [19].

The connections of empathy to lower burnout requires more consideration in the education of medical students and working GPs. There is a great deal of evidence for building empathy through self-reflection, for example in a Balint group or through reflective writing, role play, communication skills training, and mindfulness [41]. Some of these interventions have been shown to concomitantly decrease burnout [16,41].

On the other hand, further research is required to establish the nature of the association between burnout and empathic attitude. At this moment, we are not able to say that GPs with burnout were more strictly biomedically oriented at first and later developed burnout. It is possible that burnout affected the transformation of their attitude towards a more biomedical approach as a coping mechanism. This is also a limitation of the study being cross-sectional rather than longitudinal, as determining a causal relationship between burnout and empathy is not possible. A second limitation would be that self-reported burnout and empathy could be biased due to social desirability, or could reflect generational or cohort influences, especially in syndicate members. Thirdly, sampling was not random, since all the invited individuals did not participate, and therefore the information gained could not be applicable to all GPs. Fourthly, the explained variance for the two-factor model is 36.2%, so other organizational and individual factors could explain the remaining variance and should be further researched.

Quality of care and its implications for primary care practice is a growing area of research. One of the research fields undoubtedly represents empathic communication and more

longitudinal research is required to demonstrate the efficacy of training in empathy and its impact on burnout. The presented two-factor model by content differentiates between empathic and biomedical orientation; its associations with burnout imply that more efforts would be beneficial for further in depth exploration of the nature of this association. In any case, it is of great importance for GPs to develop their communication skills, focusing on the empathic dimensions of interpersonal interactions with patients.

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