

ARTICLE

Development of a French-language version of the Jefferson Scale of Physician Empathy and association with practice characteristics and burnout in a sample of General Practitioners

F. Zenasni PhD^a, E. Boujut PhD^b, C. Buffel du Vaure MD^c, A. Catu-Pinault MD^d, J.L. Tavani MD^e, L. Rigal MD^f, P. Jaury MD^g, A. Marie Magnier MD^h, H. Falcoff MDⁱ and S. Sultan PhD^j

a Assistant Professor, Institut Universitaire Paris Descartes de Psychologie (IUPDP) and LATI, Université Paris Descartes, Boulogne-Billancourt, France

b Assistant Professor, Institut Universitaire Paris Descartes de Psychologie (IUPDP) and LPPS, Université Paris Descartes, Sorbonne Paris-Cité, Boulogne-Billancourt, France

c Resident, Département de Médecine Générale, Université Paris Descartes, Sorbonne Paris-Cité, Faculté de Médecine, Paris, France

d Département de Médecine Générale, Université Paris Descartes, Sorbonne Paris-Cité, Faculté de Médecine, Paris and Atelier Français de Médecine Générale, France

e PhD Student, Institut Universitaire Paris Descartes de Psychologie (IUPDP) and LATI, Université Paris Descartes, Sorbonne Paris-Cité, Boulogne-Billancourt, France

f Senior Registrar, Département de Médecine Générale, Université Paris Descartes, Sorbonne Paris-Cité, Faculté de Médecine, Paris, France

g Professor, Département de Médecine Générale, Université Paris Descartes, Sorbonne Paris-Cité, Faculté de Médecine, Paris and Société Médicale Balint, France

h Professor, Département de Médecine Générale, Université Pierre et Marie Curie, France

i Associate Professor, Département de Médecine Générale, Université Paris Descartes, Sorbonne Paris-Cité, Faculté de Médecine, Paris and Société de formation Thérapeutique du Généraliste, France

j Professor, University of Montreal and Sainte-Justine, UHC, Québec, Canada

Abstract

Clinical empathy is a cognitive disposition involving understanding the inner experiences and perspectives of patients, combined with the ability to communicate this understanding to patients and is a key clinical skill of person-centered medicine. The 3 objectives of this paper are: (1) to develop a French version of the Jefferson Scale for Physician Empathy (JSPE) with appropriate psychometric properties; (2) to explore the relationships of clinical empathy with the sociodemographic characteristics of physicians, their training and aspects of their practice and (3) to examine associations between clinical empathy and burnout. A sample of 308 general practitioners was included. Confirmatory factor analyses suggested a factor structure close to the original questionnaire. However, they suggest that the use of a general empathy score is not warranted. According to the factor considered, greater empathy was independently related to being a woman, living as a couple, having experience of psychotherapy and longer consultations. As expected, a negative relationship was observed between empathy factors and burnout. Burnout could affect the ability of GPs to be empathic or the way they describe their own empathic skills.

Keywords

Burnout, clinical skill, family medicine, general practitioner, person-centered medicine, physician empathy, primary care, questionnaire

Correspondence address

Dr. Franck Zenasni, LATI, Université Paris Descartes, 71 avenue Edouard Vaillant, 92100 Boulogne-Billancourt, France. E-mail: franck.zenasni@parisdescartes.fr

Accepted for publication: 3 September 2012

Introduction

The activity of general practitioners involves examining the patient through verbal and non-verbal cues in physician-patient interpersonal exchanges [1]. In this

context, empathy appears an important factor in the quality of the general practitioner-patient interaction. According to Hojat *et al.* [2], empathy improves many aspects of healthcare practice, from history taking to patient satisfaction. Research has indicated that clinician empathy correlates positively with patient wellbeing

although this association with patient outcomes varies according to the illness and the methods used.

The volume of research examining physician empathy is growing [3]. However, even though the question of clinical empathy appears relevant for the general practitioner-patient relationship, only a few investigations have been conducted with this population. A review of the literature conducted by Wensing *et al.* [4] indicated that humaneness, exploring the needs of patients and a “doctor-patient relationship with good communication skills” are some of the high priorities that patients expect from their general practitioner. Wynn [5] analyzed 77 scripts of GP-patient interactions. He categorized 4 kinds of empathy: cognitive; affective; sharing and nurturant. Cape *et al.* [6] examined the GP-patient relationship in the specific case of treatment of emotional problems. The results indicated that doctor empathy coded by external observers was positively correlated with listening interactions and patient involvement. Vested and Heje [7] studied the practice of GPs in a nationwide study conducted in Denmark between 2002 and 2005 using a questionnaire assessing 5 domains: doctor-patient relationship; medical care; information and support; organization of services and accessibility. The results indicated that patients (n = 50191) tended to recommend their general practitioner (n=703) to others if they judged them as empathic. Mercer *et al.* [8] examined the relationships between GP empathy, patient enablement at consultation and health outcomes in 136 patients. Their results showed a positive relationship both between GP empathy and patient enablement at the consultation and between patient enablement and changes in the main complaint and wellbeing evaluated 3 months after the consultation. Finally, using an experimental methodology, Verheul *et al.* [9] investigated the impact of a warm and empathic consultation compared to a cold and formal consultation in interaction with the certainty of the outcome. As expected, the greatest beneficial effects of empathic communication on stress reduction and expectancies were observed when it was combined with a positive expectations style. These data are in line with previous hypotheses suggesting that physician empathy (PE) in general practice has a significant effect on therapeutic efficacy [10].

A definition of physician empathy has been available for some years; it is a cognitive quality that involves an understanding of the inner experiences and perspectives of the patient as a separate individual, combined with a capability to communicate this understanding to the patient [1]. This conceptualization has increased the scientific study of clinical empathy and enabled specific self-report tools to be developed. Several scales of general empathy, such as the Interpersonal Reactivity Index [11] and the Empathy Quotient [12], have been designed. However, these tools are not appropriate for evaluating physician empathy, which presumes specific behaviors and attitudes related to clinical activity. There are only a few self-report questionnaires of physician empathy, mostly because PE has been evaluated through observations or interviews.

The Jefferson Scale of Physician Empathy (JSPE)

The JSPE is a scale to evaluate the clinical empathy of physicians and medical students which was developed by Hojat *et al.* [13]. Several dimensions were then taken into account, such as understanding subjective experiences of the patients and their families; interpersonal relationships with patients; attention to signals in interviewing patients; humor; attention to poetry and literature; absorption in stories, plays and movies; cognitive and affective sensitivity; emotional distance between physicians and patients; clinical neutrality; controlling physicians’ emotions; sentiments; imagination; tactfulness; perspective taking; role playing and non-verbal communication [2,13].

A final version of the questionnaire with 20 items was developed. The initial data suggested that this scale presents a 4-factor structure [2,13]. The factors were: (1) “physician’s view from patient’s perspective”; (2) “understanding patient’s experiences, feelings and clues”; (3) “ignoring emotions in patient care” and (4) “thinking like the patient”. Later analyses suggested a 3-factor structure: “perspective taking”; “compassionate care” and “standing in the patient’s shoes”. The scale was translated into several languages. Alcorta Garza *et al.* [14], tested a Spanish version of the questionnaire with a population of Mexican medical students (n = 1022). Exploratory factor analyses (EFA) showed a 3-factor structure similar to that observed by Hojat *et al.* Shariat, Eshtad and Ansari [15] tested a Persian version of the JSPE with a sample of 207 GPs. Again, EFA showed a 3-factor structure similar to the original scale. Roh *et al.* [16] translated the questionnaire into Korean, testing it with 493 medical students. EFA showed a factor structure similar to the original scale with a good internal reliability for the total scale ($\alpha = 0.84$). Finally, Di Lillo *et al.* [17] developed an Italian version of the JSPE with a sample of 289 physicians working in several hospitals. EFA showed a 6-factor structure with a first major component explaining 28% of the total variance. This factor represented perspective taking while 2 others represented the compassionate care and ‘standing in the patient’s shoes’ factors.

Researches conducted with the JSPE have shown that physician empathy may be linked to sociodemographics, level of graduation and work-related variables. Most of these studies showed an effect of gender on empathy: women tended to report being more empathic than men, but not always [1,14,15]. The results also indicated a change in the level of empathy during clinical training; surprisingly, most showed that the scores of empathy were higher in the first years of study than in the last years, which could reflect a tendency to be more realistic (less idealistic) and/or a tendency for self-protection when students become confronted with more involving clinical situations [18].

Empathy and burnout in GPs

The prevalence of burnout in GPs is well known: about 1 in 3 has experienced exhaustion and burnout in the USA [19] and Europe [20]. The level of burnout in GPs may depend on several factors, such as participation in a group of supervision [21] or continuing medical education [22]. Among GPs, burnout leads to negative impairment, from impaired job performance to suicide [19,22], while an increasing amount of data suggests potential direct links between empathy and burnout. Two conflicting hypotheses may be formulated about these links depending on the causality path hypothesized.

The first states a positive relationship between empathy and burnout: a high level of empathy may cause “compassion fatigue” and then create exhaustion and burnout. According to Nielsen and Tulinius [21], compassion fatigue in general practice refers to “being exhausted emotionally” due to frequent, difficult patient encounters, associated with the need for great attention and empathic listening. However, this view relies on a specific definition of empathy which emphasizes affective aspects. One inappropriate consequence of affective empathy is that the physician may be too subjected to the feelings of the patient and could consequently suggest improper compassionate care.

The second hypothesis suggests a negative relationship between empathy and burnout: the more physicians experience burnout, the more they tend to dehumanize care [19]. Exhausted GPs will be less able to stand in the patient’s shoes and have an empathic listening and would prefer to protect themselves by putting the patient at a distance and depersonalizing them. In this perspective, Krasner *et al.* [23] showed that an increase in mindfulness skills of physicians favored a decrease in burnout. More interestingly, West *et al.* [24] examined the longitudinal evolution of self-reported medical errors, quality of life, burnout and empathy of internal medicine residents over 3 years. Their results indicated that a diminished empathy and higher levels of burnout were associated with an increase in self-perceived errors. Recently, Brazeau *et al.* [25] examined the relationships between the clinical empathy of 127 medical students evaluated by the JSPE for students and their burnout evaluated by the Maslach Burnout Inventory. In line with the second hypothesis, they found moderate and significant correlations indicating that the higher is the level of burnout, the lower is their empathy.

The aims of the present study were: (1) to develop a French version of the JSPE measuring clinical empathy and examine its psychometric properties; (2) to explore the association of clinical empathy with the personal data of physicians, including the sociodemographics and characteristics of private practice and (3) to test the negative association between the level of burnout and empathy.

Method

Participants

Participants were selected on a voluntary basis. They were approached during a national congress of family medicine held in Nice (France) in 2010 and through their professional societies. Three hundred and eight general practitioners (158 men and 150 women from 27 to 75 years old) participated in the present study. All were active in private practice; 67.5% worked in an urban area, 19.5% in a semi-rural area and 12.7% in a rural area. Table 1 presents the sociodemographics and the data relative to general practitioner activity.

Instruments

Sociodemographic and practice survey

Sociodemographic and professional context data were collected using a survey-like questionnaire. The information included were: age, sex, marital status, number of children, clinical supervisor status, professional or scientific society, past personal experience with psychotherapy (as reported by the clinician), seniority of practice, number of consultations per week (average number of consultations as reported by the clinician), mean length of a consultation (average minutes per consultation as reported by the clinician). These data are presented in Table 1.

JSPE-Fr

The original JSPE for Health Professionals was translated into French using a back-translation methodology. First, the questionnaire was translated from English into French and then this version was translated from French into English. Finally, 3 researchers in psychology compared this version to the original JSPE. The French version was tested with a subset of 6 GPs with whom cognitive interviews were carried out focusing on the understandability of the items. Two meetings were also held with general practitioners in order to examine the acceptability and the comprehension of the scale. Some modifications were carried out in order to obtain the final version of the French JSPE. Thus, the final version tested contains 20 items answered on a 7-point Likert scale (from 1 “strongly disagree”, to 7 “strongly agree”). Ten items are positively worded and 10 are negatively worded.

Table 1 Sociodemographics, practice description and burnout of 308 general practitioners

		Mean	SD	Range
Sociodemographic and practice data	Age	51.1	9.51	27-75
	Number of children	2.05	1.02	0-4
	Seniority of practice (years)	22.9	9.98	1-50
	Number of consultations per week	91.2	31.58	15-200
	Mean length of consultation (minutes)	20.19	5.94	8-60
Empathy	Perspective taking	53.1	7.87	20-70
	Compassionate care	47.7	5.01	28-56
	Standing in the patient's shoes	10.8	2.42	2-14
Burnout	Exhaustion	14.5	8.96	0-42
	Depersonalization	6.63	4.98	0-24
	Personal accomplishment	40.18	6.07	20-48
Marital status			n	%
	<i>Living as a couple</i>		246	81.2
	<i>Living alone</i>		57	18.8
Clinical Supervisor	Yes		186	61.4
	No		116	38.1
Member of a professional society	Yes		215	78.9
	No		88	29.1
Personal experience with psychotherapy	Yes		156	51.5
	No		147	48.5

Table2 Descriptive scores of empathy and standardized estimate saturation coefficients for each JSPE-FR item in relation to the hypothesized structure (3 factors, no overarching factor)

Factor	Item	Coefficient
Perspective taking	2	0.55
	4	0.52
	5	0.28
	9	0.32
	10	0.58
	13	0.53
	15	0.49
	16	0.57
	17	0.2
20	0.49	
Compassionate care	1	0.13
	7	0.41
	8	0.42
	12	0.51
	14	0.71
	18	0.02
	19	0.31
Standing in the patient's shoes	3	0.75
	6	0.72

The Maslach Burnout Inventory (MBI)

The French version (1994) of the Maslach Burnout Inventory [26] was used. This is a 22-item questionnaire with a 7-point Likert scale (from 0 “never” to 6 “every day”). It enables the 3 components of the burnout syndrome to be assessed: emotional exhaustion; depersonalization and reduced personal accomplishment.

Procedure

Data were collected using 2 procedures: 61 GPs (19.8%) completed a paper-pencil version of the survey whereas 247 GPs (78.6%) completed a computerized version following a prompting e-mail. Overall, 460 GPs were prompted. No differences in terms of sociodemographics, practice and levels of empathy or burnout were observed between the 2 groups (see Tables 1 and 2). Participants completed questionnaires in the following fixed order: sociodemographic and practice survey; JSPE-Fr and MBI. The collected data were anonymous. The study was approved with no restriction by the medical review board of Paris Descartes University.

Data analysis

The structure of the questionnaire was tested with confirmatory factor analyses using the software Amos™. To explore the links between sociodemographic variables, regression analyses were conducted considering empathy scores as dependent variables and sociodemographic and professional practice variables as independent variables. Next, correlational analyses were carried out to explore the links between empathy and burnout scores. Finally, hierarchical regression analyses were conducted considering empathy scores as dependent variables and sociodemographic/practice variables (Block 1) and burnout scores (Block 2) as independent variables. These multivariate analyses enabled the effect of covariables to be controlled, which has not been done in previous research.

Results

Factorial structure of the JSPE-Fr

Hojat's 3-factor models were tested by conducting CFA. First, a model including a general factor referring to overall physician empathy was tested and found to fit the data poorly. Then, the 3-factor model considering interrelations between factors, but without the overall factor was tested. The results indicated an acceptable fit between the data and the expected model ($\chi^2/df = 2.08$,

GFI = 0.90; AGFI = 0.87; RMSEA = 0.06). Table 2 shows the standardized estimate saturation coefficient for each item. Items 1 and 18 showed low saturations. Compassionate care was moderately correlated to scores for standing in the patient's shoes and perspective taking ($r = 0.46$ and $r = 0.33$, $p < 0.01$, respectively), while perspective taking was moderately correlated to standing in the patient's shoes ($r = 0.17$, $p < 0.01$). These results confirmed the absence of a general physician empathy factor for the present sample. Consequently, the following analyses only considered scores for the 3 independent subscales.

Empathy, sociodemographic and professional practice factors

When predicting each JSPE-Fr factor by sociodemographic and practice variables, these were found to explain 6.29% of perspective taking ($F(10,289) = 1.93$; $p = 0.04$), 6.8% of compassionate care ($F(10,289) = 2.09$; $p = 0.02$) and 2.16% of standing in the patient's shoes scores ($F(10,289) < 1$, NS). Table 3 shows the regression coefficient for each variable. Perspective taking was independently positively associated with personal past experience with psychotherapy ($\text{mean}_{\text{Yes}} = 53.4$; $\text{mean}_{\text{No}} = 51.2$; $F(1,289) = 5.47$, $p = 0.02$) and mean duration of consultation ($\beta = 0.19$, $F(1,289) = 7.81$, $p = 0.006$), while compassionate care was associated with being a woman ($\text{mean}_{\text{Men}} = 46.05$; $\text{mean}_{\text{Women}} = 47.63$; $F(1, 289) = 5.89$, $p = 0.015$) and living as a couple ($\text{mean}_{\text{Couples}} = 48.03$; $\text{mean}_{\text{Alone}} = 45.65$; $F(1, 289) = 8.14$, $p = 0.005$).

Empathy and burnout

Table 4 shows correlations between the JSPE-Fr and MBI scores. Empathy factors were mostly related to depersonalization and personal accomplishment (r from -0.30 to $r = 0.36$). Correlations with exhaustion were small or negligible. The factor ‘standing in the patient's shoes’ was not or only weakly correlated to burnout dimensions.

As expected, these results indicated that the greater the depersonalization, the lower the level of empathy. In contrast, the higher the personal accomplishment of a GP, the greater was their empathy. To examine the independent associations of predictors with empathy, regression analyses were carried out with empathy scores as dependent variables. Sociodemographic and professional variables were introduced as independent variables in a first block, in order to control their influence and the 3 burnout scores in a second block.

The whole model explained 18.9% ($F(13,276) = 4.95$; $p < 0.001$), 13.1% ($F(13,276) = 3.20$; $p < 0.001$) and 12.7% ($F(13,276) = 3.07$; $p < 0.001$) of perspective taking, compassionate care and standing in the patient's shoes scores, respectively.

Table 3 Summary of hierarchical regressions with empathy scores as dependent variables and burnout scores as independent variables

			Beta(β)	F value	p value
Block1	Perspective taking	Sex (men)	0.04	0.30	0.58
		Age	0.07	0.14	0.70
		Number of children	0.00	0.00	0.94
		Living as a couple (no)	-0.08	1.75	0.18
		Professional society (no)	-0.03	0.20	0.65
		Psychotherapy (no)	0.14	5.47	0.02
		Clinical supervisor (no)	0.04	0.37	0.54
		Seniority of practice (years)	-0.08	0.22	0.63
		Length of consultation (minutes)	0.18	7.80	0.006
		Number of consultations per week	0.01	0.02	0.88
Block2	Perspective taking (ΔR²=12.6%)	Exhaustion	0.04	0.44	0.50
		Depersonalization	-0.10	2.46	0.12
		Personal accomplishment	0.34	34.68	0.00
	Compassionate care (ΔR²=6.5%)	Exhaustion	0.02	0.11	0.73
		Depersonalization	0.23	11.64	0.001
		Personal accomplishment	11	3.56	0.06
	Standing in the patient's shoes (ΔR²=10.6%)	Exhaustion	-0.06	0.65	0.42
		Depersonalization	-0.25	14.22	0.00
		Personal accomplishment	0.12	3.77	0.05

Note: The results concerning Block 1 are indicated for the "perspective taking" model. For "compassionate care" and "standing in the patient's shoes" models, the results were similar and may be sent on request.

Table 4 Intercorrelations between empathy factor scores

	Exhaustion	Depersonalization	Personal accomplishment
Perspective taking	-0.08	-0.18**	0.36**
Compassionate care	-0.11	-0.26**	0.18**
Standing in the patient's shoes	-0.15**	-0.30**	0.21**

** = results significant at 0.01

Burnout scores alone explained 12.6% of perspective taking, 6.5% of compassionate care and 10.54% of standing in the patient's shoes. The higher the personal accomplishment, the better the perspective taking ($\beta = 0.34$, $F(1,276) = 34.7$, $p < 0.0001$). The greater the depersonalization, the lower the compassionate care ($\beta = -0.23$, $F(1,276) = 11.64$, $p < 0.001$). Finally, the lower the depersonalization, the better the standing in the patient's shoes ($\beta = -0.25$, $F(1,276) = 14.22$, $p < 0.0001$). Perspective taking was not independently predicted by any of the burnout dimensions.

Discussion

The first aim of this study was to examine the structural validity of the JSPE-Fr. The results confirm in part the 3-factor structure observed in the original scale and in previous adaptations of the scale in other languages. However, they do not support the presence of a general clinical empathy suggesting that the 3 factors need to be considered independently. However, the absence of a general physician factor in the present study may be due

to the specificity of the physician sample interviewed (i.e., general practitioners) or to cultural specificities. We suggest that more research needs to be carried out using the JSPE-Fr to confirm its structural validity with advanced methods such as CFA, as was done here.

The second objective of the study was to identify sociodemographic and practice factors associated with the clinical empathy of general practitioners.

The results indicate that empathy is not strongly influenced by sociodemographic and private practice variations, suggesting that its level/status probably depends on more subjective and/or psychosocial factors. Considering sociodemographic variables, gender and marital status were both found to be related to compassionate care. Concerning gender, the results are in line with previous data indicating that women physicians are more empathic than men [27]. However, results indicate that this effect seems to be limited to the compassionate care factor, which also significantly depends on the marital status of the GP with individuals living as a couple reporting more compassionate care than others. Compassionate care, as an affective dimension of empathy, is also a social dimension which may favor

mutual concern and agreement in married life. The perspective taking factor is associated with the personal experience of psychotherapy and the average length of consultation. Having followed a psychological treatment may help physicians to take the perspective of patients better. It may also highlight that both greater empathy and psychotherapy are determined by a specific interest in the physician for human relations in care. Concerning the length of consultation, the results suggest that taking the patient's perspective is a process requiring time in the physician-patient relationship and thus longer consultations.

The third objective of the study was to examine relationships between empathy and burnout. We hypothesized that a higher level of burnout would affect GP empathy, when all other variables were controlled. The results confirmed this hypothesis indicating that the greater was the degree of depersonalization, poorer was the compassionate care and the potential to stand in the patient's shoes. These results suggest that, as predicted, GPs experiencing burnout probably protect themselves by putting patients at a distance and depersonalizing care. Burnout may be very unsafe, not only for the physician, but also for the patient if it is not taken into account. On the contrary, as suggested by results observed in the present study, the higher the feeling of personal accomplishment, the better the perspective taking of the GP. This is in line with previous studies showing that a high degree of wellbeing and self-accomplishment in physician activity favors empathy toward the patient [19]. In order to clarify how burnout may affect empathy, it would be helpful if future studies could examine the mediation effect of affective empathy.

Nevertheless, the present study is subject to some limitations. First, concerning the selection of the participants, the sample was not randomly selected, but was a convenience sample. This may have introduced some biases, such as selecting psychologically-minded participants as suggested by the large proportion of GPs with personal psychotherapy experience. Second, the study was cross-sectional and thus no conclusions on causal pathways among the examined variables could be drawn. For example, although the average length of consultations and burnout were envisaged as predictors here, they could be seen as dependent variables, with empathic professionals tending to develop relational styles requiring more time with patients and favoring a more rewarding professional role.

Conclusion

To conclude, a French-language version of the clinical empathy scale JSPE-Fr was developed in this study and the expected factor structure was confirmed. However, the results did not support an overall empathy factor suggesting that the use of the JSPE should be limited to its

3 dimensions. One key result of this research is the confirmation of a negative link between GP burnout and empathy, independent of sociodemographics and practice characteristics. Through empathy, burnout could affect care and thus not only the health and quality of life of physicians, but also that of patients. More research is needed to confirm these causal assumptions as part of the ongoing development of person-centered medicine.

Acknowledgments

We are greatly indebted to the health professionals who agreed to give some of their precious time to participate in this study. Chavie Fiszer helped in the translation process of the clinical empathy scale. Support for this research was granted to Serge Sultan by Sanofi-Aventis France and Université Paris Descartes (AO collaboratif) awarded to Serge Sultan, Franck Zenasni and Hector Falcoff.

References

- [1] Hojat, M., Gonnella, J.S., Nasca, T.J., Mangione, S., Veloksi, J.J. & Magee, M. (2002). The Jefferson Scale of Physician Empathy: further psychometric data and differences by gender and specialty at item level. *Academic Medicine* 77 (Supplement 10) S58-60.
- [2] Hojat, M., Mangione, S., Kane, G.C. & Gonnella, J.S. (2005). Relationships between scores of the Jefferson Scale of Physician Empathy (JSPE) and the Interpersonal Reactivity Index (IRI). *Medical Teacher* 27 (7) 625-628.
- [3] Pedersen, R. (2009). Empirical research on empathy in medicine - A critical review. *Patient Education and Counseling* 76 (3) 307-322.
- [4] Wensing, M., Jung, H.P., Mainz, J., Olesen, F. & Grol, R. (1998). A systematic review of the literature on patient priorities for general practice care. Part 1: Description of the research domain. *Social Science & Medicine* 47 (10) 1573-1588.
- [5] Wynn, R. (2005). Empathy in general practice consultations: a qualitative analysis. *Epidemiologia e Psichiatria Sociale* 14 (3) 163-169.
- [6] Cape, J., Barker, C., Buszewicz, M. & Pistrang, N. (2000). General practitioner psychological management of common emotional problems (II): A research agenda for the development of evidence-based practice. *British Journal of General Practice* 50 (454) 396-400.
- [7] Vedsted, P. & Heje, H.N. (2008). Association between patients' recommendation of their GP and their evaluation of the GP. *Scandinavian Journal of Primary Health Care* 26 (4) 228-234.
- [8] Mercer, S.W., Neumann, M., Wirtz, M., Fitzpatrick, B. & Vojt, G. (2008). General practitioner empathy, patient enablement, and patient-reported outcomes in primary care in an area of high socio-economic deprivation in Scotland - a pilot prospective study using structural equation

modeling. *Patient Education and Counseling* 73 (2) 240-245.

[9] Verheul, W., Sanders, A. & Bensing, J. (2010). The effects of physicians' affect-oriented communication style and raising expectations on analogue patients' anxiety, affect and expectancies. *Patient Education and Counseling* 80 (3) 300-306.

[10] Balint, M. (1954). Training general practitioners in psychotherapy. *British Medical Journal* 1 (4854) 115-120.

[11] Davis, M.H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology* 44, 113-126.

[12] Allison, C., Baron-Cohen, S., Wheelwright, S., Stone, M. & Muncer, S. (2011). Psychometric analysis of the Empathy Quotient (EQ). *Personality and Individual Differences* 51, 829-835

[13] Hojat, M., Gonnella, J.S., Nasca, T.J., Mangione, S., Vergare, M. & Magee, M. (2002). Physician empathy: definition, components, measurement, and relationship to gender and specialty. *American Journal of Psychiatry* 159 (9) 1563-1569.

[14] Alcorta-Garza A.G.J., Tavitas, S., Rodríguez, F.J. & Hojat, M. (2005). Validación de la escala de empatía médica de Jefferson en estudiantes de medicina mexicanos. *Salud Mental* 28, 57-63.

[15] Shariat, S.V., Eshtad, E. & Ansari, S. (2010). Empathy and its correlates in Iranian physicians: A preliminary psychometric study of the Jefferson Scale of Physician Empathy. *Medical Teacher* 32 (10) e417-421.

[16] Roh, M.S., Hahm, B.J., Lee, D.H. & Suh, D.H. (2010). Evaluation of empathy among Korean medical students: a cross-sectional study using the Korean Version of the Jefferson Scale of Physician Empathy. *Teaching and Learning in Medicine* 22 (3) 167-171.

[17] Di Lillo, M., Cicchetti, A., Lo Scalzo, A., Taroni, F. & Hojat, M. (2009). The Jefferson Scale of Physician Empathy: preliminary psychometrics and group comparisons in Italian physicians. *Academic Medicine* 84 (9) 1198-1202.

[18] Chen, D., Lew, R., Hershman, W. & Orlander, J. (2007). A cross-sectional measurement of medical student empathy. *Journal of General Internal Medicine* 22 (10) 1434-1438.

[19] Shanafelt, T.D., West, C., Zhao, X., Novotny, P., Kolars, J., Habermann, T. & Sloan, J. (2005). Relationship between increased personal well-being and enhanced empathy among internal medicine residents. *Journal of General Internal Medicine* 20 (7) 559-564.

[20] Soler, J.K., Yaman, H., Esteva, M., Dobbs, F., Asenova, R.S., Katic, M., Ozvacic, Z., Desgranges, J.P., Moreau, A., Lionis, C., Kotányi, P., Carelli, F., Nowak, P.R., de Aquiar Sá., Azeredo, Z., Marklund, E., Churchill, D., Ungan, M. & European General Practice Research Network Burnout Study Group. (2008). Burnout in European family doctors: the EGPRN study. *Family Practice* 25 (4) 245-265.

[21] Nielsen, H.G. & Tulinius, C. (2009). Preventing burnout among general practitioners: is there a possible route? *Education for Primary Care* 20 (5) 353-359.

[22] Brondt, A., Sokolowski, I., Olesen, F. & Vedsted, P. (2008). Continuing medical education and burnout among Danish GPs. *British Journal of General Practice* 58 (546) 15-19.

[23] Krasner, M.S., Epstein, R.M., Beckman, H., Suchman, A.L., Chapman, B., Mooney, C.J. & Quill, T.E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *Journal of the American Medical Association* 302 (12) 1284-1293.

[24] West, C.P., Tan, A.D., Habermann, T.M., Sloan, J.A. & Shanafelt, T.D. (2009). Association of resident fatigue and distress with perceived medical errors. *Journal of the American Medical Association* 302 (12) 1294-1300.

[25] Brazeau, C.M.L.R., Schroeder, R., Rovi, S. & Boyd, L. (2010). Relationships Between Medical Student Burnout, Empathy and Professionalism Climate. *Academic Medicine* 85 (10) S33-S36.

[26] Maslach, C. & Jackson, S. (1981). *The Maslach Burnout Inventory*. Palo Alto, CA: Consulting Psychologists Press.

[27] Chen, D.C., Pahilan, M.E. & Orlander, J.D. (2010). Comparing a self-administered measure of empathy with observed behavior among medical students. *Journal of General Internal Medicine* 25 (3) 200-202.