



Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Family physician experiences with and needs for clinical supervision: Associations between work experiences, professional issues and social support at work



Martina Auri Torppa*, Liisa Kuikka, Maarit Nevalainen, Kaisu Hannele Pitkälä

University of Helsinki, Department of General Practice and Primary Health Care, and Primary Health Care Unit, Helsinki University Hospital, Helsinki, Finland

ARTICLE INFO

Article history:

Received 14 July 2015

Received in revised form 5 January 2016

Accepted 8 January 2016

Keywords:

Family physician
Clinical supervision
Professionalism
Work experiences
Social support
Balint groups

ABSTRACT

Objective: To explore how work experiences, professional issues and social support at work are associated with a need for clinical supervision (CS) among family physicians (FP).

Methods: Web-based survey to FPs in Finland 2011 (response rate 68%; $n = 165$).

Results: Among FPs, 36% needed CS, 35% had experience with CS, and 29% did not need CS. Feeling emotionally drained from work was associated with both needing and experience with CS. FPs needing CS felt callous and had committed a medical error in the recent past more often than those with CS experience. FPs expressing a need for CS felt greater uncertainty regarding their professional knowledge and more alone at work than FPs not needing CS. Rewarding work experiences were common.

Conclusions: A large proportion of FPs expressed a need for CS. Need for CS is associated with feeling alone at work, experiences of callousness and uncertainty regarding medical knowledge. Experience of emotional drainage was associated with experience of and need for CS.

Practice implications: Emotional drainage may signal a need for CS among FPs. CS might enhance FPs' emotional well-being at work. It should be more widely available to FPs and could be integrated into continuing professional development.

© 2016 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Among family physicians (FP), the concept of clinical supervision (CS) is not well established [1,2]. In medicine, CS has been defined within the context of specialist training. According to this definition, CS includes the provision of monitoring, guidance and feedback on matters of personal, professional and educational development within the context of a physician's care of patients aimed at providing safe and appropriate patient care [3]. Thus, CS can be divided into three forms according to its three functions: educational (formative), administrative (normative), and supportive (restorative) [1,3]. The restorative/supportive function is important in Balint groups which are the most commonly used method of supportive CS in family medicine [4]. The work of the Balint group focuses on the enhancement of participants' understanding of patient–physician relationships and the development of the professional personality using shared reflections of participants' own patient cases within a supervised group of peers [5].

Many FPs have an unmet need for CS [6–8]. Research suggests that distress at work, emotional exhaustion and even burnout may indirectly indicate a need for CS [8–10]. However, few studies have explored which factors predict the need for CS. In our earlier study, FP needs for CS were associated with being female, active participation in continuous medical education and perceptions that the number of patients with requests had increased [6]. To our knowledge, no other studies have directly explored which issues associate with FP's needs for CS.

This study aims to explore how work experiences, professional issues and social support at work associate with a need for CS among FPs. We compare three groups of FPs: those experienced with CS, those who expressed a need for CS with no accessibility to it and those who expressed not needing CS.

2. Data and methods

2.1. Participants

We distributed a web-based survey to FPs working in health centers in Southern Finland in 2011. In this study, we aimed to include FPs from both sexes, across all ages and with shorter and

* Corresponding author at: Department of General Practice and Primary Health Care, University of Helsinki, PO Box 20, FIN-00014, Finland.
E-mail address: martina.torppa@helsinki.fi (M.A. Torppa).

longer working experiences. We, therefore, collected data using a convenience sample. We contacted physicians from health centers in Southern Finland who shared the email addresses of all physicians working in their institutions. We then contacted these physicians via email, inviting them to participate anonymously in a web-based survey; a second email served as a reminder. In Finland, supportive CS among FPs is not mandatory during the training process nor in clinical practice. The availability of supportive CS varies among FPs.

2.2. Questionnaire

We explored CS by asking FPs to choose one of four options: (1) “I currently attend CS (e.g. Balint or other), (2) ‘I have attended CS (e.g. Balint or other), but am not attending now’, (3) “I would like to attend, but CS (e.g. Balint or other) is not available” and (4) “I do not need CS (e.g. Balint or other)”. Those choosing the first or second option were grouped into the category “FPs experienced with CS”, while those choosing the third option were identified as “FPs with a need for CS (with no accessibility to it)” and those choosing the fourth option were classified as “FPs with no need for CS”.

We assessed challenging work experiences using items from the Maslach Burnout Inventory (MBI) [11], a validated and common tool used to measure burnout [12,13]. However, its length limits its utility in surveys among physicians [13]. Two items from MBI “I feel burned out from my work” assessing emotional exhaustion and “I have become more callous towards people since I took this job” assessing depersonalisation, have showed a strong association with burnout among medical professionals [13]. In addition to these two items, we also used other items from MBI to explore emotional exhaustion from work: “I feel frustrated by my job”, “I feel I have to work too hard at my job” and “I feel my job is emotionally draining”. We also asked about FPs’ sense of personal accomplishment at work using the MBI item “I feel I can positively influence my patients’ lives through my work” [11,14]. We explored FPs’ rewarding work experiences using items from our previous survey for medical students [15], which included “I can use my professional skills comprehensively at work”, “I feel my patients trust me” and “I feel patient work is rewarding”. Response options for the MBI items and the rewarding work experience items included *never, seldom, sometimes, quite often or often*, from which *quite often* and *often* were categorised as “yes”. To study professionally challenging issues, we asked FPs about experiences of uncertainty and social support, using items from our previous survey for medical students [15]: “Do you feel uncertainty about your professional knowledge?” and “Do you feel uncertain about your professional skills?”. Response options

included *never, seldom, sometimes, quite often or often*, from which *quite often* and *often* were categorised as “yes”. The question “How do you tolerate uncertainty when making medical decisions?” included the response options *well, quite well* and *poorly* of which *poorly* was categorised as “not well”. The questions “Are you afraid of committing a medical error?” and “Have you committed a medical error in the past three months?” both included the responses *yes or no*. To explore social support, at work we used the item “I feel alone at my work”, which included the response options *never, sometimes, often and always*, from which we categorised *often or always* as “yes”. The item “I can consult a colleague at work” included the options *often enough, too seldom, not at all* and *I do not need to consult*. *Too seldom* and *not at all* were categorised as “no”.

Socio-demographic variables included age, gender, marital status, years of working experience, work position/specialisation. Satisfaction with work and satisfaction with life were rated using a scale from 0 to 10, where 0 represented the lowest level of satisfaction and 10 represented the highest.

We used SPSS (version 20) to perform all statistical analyses. We compared categorical data using the Pearson chi-square test or Fisher’s exact test when appropriate. The Kruskal–Wallis test served to analyse non-normally distributed continuous variables. We considered p values <0.05 to be statistically significant.

3. Results

We sent our questionnaire to 244 FPs, of whom 165 (68%) responded. Among responders, 59 FPs (36%) stated a need for CS, 58 (35%) revealed experience with CS and 48 FPs (29%) had no need for CS. The mean age of FPs stood at 39.5 years. Among responders, 124 (75%) were female and 148 (90%) were cohabitating with their partners. In terms of work history, 85 (52%) FPs possessed less than five years working experience, 116 (70%) held the position of junior doctor, trainee in family medicine or unspecialised physician (grouped as “other”), while 49 FPs (30%) identified as family medicine specialists. On a scale from 0 to 10, the mean score for satisfaction with work among FPs stood at 7.6, while the mean score for satisfaction with life stood at 8.3. FPs with a need for CS (36.9 years) were on average younger than FPs experienced with CS (42.8 years) and FPs not needing CS (38.7 years) ($p=0.026$). FPs with CS experience, FPs needing CS and FPs not needing CS showed no difference in terms of sex, marital status, work history, work position/specialisation or satisfaction with their work or life. However, in pairwise comparisons, a larger proportion of FPs experienced with CS were specialists in family medicine than of FP with a need for CS (41% vs. 24%, $p=0.042$) or than of FPs not needing CS (41% vs. 23%, $p=0.044$) (Table 1).

Table 1
Characteristics of family physicians’ (FP) experienced with clinical supervision (CS), with a need for CS and FPs with no need for CS.

	FPs experienced with CS ^a (n = 58)	FPs with a need for CS ^b (n = 59)	FPs with no need for CS ^c (n = 48)	p value [*]
Mean age, years (SD)	42.8 (11.8)	37.0 (9.2)	38.7 (10.2)	0.029
Gender, female, n (%)	46 (79)	47 (79)	31 (65)	0.14
Marital status, married or living with a partner, n (%)	54 (93)	51 (86)	43 (90)	0.32
Work experience less than five years, n (%)	24 (41)	33 (56)	28 (58)	0.15
Work position/specialisation, n, (%)				
Specialist in family medicine	24 (41)	14 (24)	11 (23)	0.053
Other	34 (59)	45 (76)	37 (77)	
Mean satisfaction with life (scale 0–10), mean (SD)	8.2 (1.9)	8.4 (1.7)	8.4 (1.3)	0.92
Mean satisfaction with work (0–10), mean (SD)	7.9 (1.4)	7.4 (1.8)	7.6 (1.4)	0.28

We used the Chi-square test or Fischer’s exact test to compare categorical variables and the Kruskal–Wallis test to compare non-normally distributed continuous variables.

^a FPs responding I currently attend or I have attended but am not attending now.

^b FPs responding I wish to attend, but CS is not available.

^c FPs responding I do not need CS.

^{*} p values <0.05 were considered significant.

Table 2
Work experiences, professionally challenging issues and social support at work among family physicians (FP) experienced with clinical supervision (CS), FPs with a need for CS and FPs with no need for CS.

	FPs experienced with CS ^g (n = 58)	FPs with a need for CS ^h (n = 59)	FPs with no need for CS ⁱ (n = 48)	p-value [*]
Challenging work experiences and personal accomplishment				
<i>Emotional exhaustion (modified from MBI^a)</i>				
I feel frustrated by my job ^b (<i>quite often or often</i>), n (%)	1(2)	5(9)	4(8)	0.23
I feel I have to work too hard at my job ^b (<i>quite often or often</i>), n (%)	19(33)	19(32)	14(29)	0.92
I feel my job is emotionally draining ^b (<i>quite often or often</i>), n (%)	10(17)	9(15)	1(2)	0.039
I feel burned out from my work ^b (<i>quite often or often</i>), n (%)	9(16)	12(20)	9(19)	0.79
<i>Depersonalisation (modified from MBI^a)</i>				
I've become more callous towards people since I took this job ^b (<i>quite often or often</i>), n (%)	5(9)	13(22)	5(11)	0.074
<i>Personal accomplishment (modified from MBI^a)</i>				
I feel I can positively influence my patients' lives through my work (<i>quite often or often</i>), n (%)	45(78)	42(71)	37(77)	0.68
Rewarding work experiences				
I feel my patients trust me ^b (<i>quite often or often</i>), n (%)	52(90)	51(86)	44(92)	0.68
I can use my professional skills comprehensively at work ^b (<i>quite often or often</i>), n (%)	47(81)	47(80)	38(79)	0.98
I feel working with patients is rewarding ^b (<i>quite often or often</i>), n (%)	53(91)	48(81)	38(79)	0.17
Professionally challenging issues				
I feel uncertainty about my own professional knowledge ^b (<i>quite often or often</i>), n (%)	12(21)	15(25)	5(10)	0.14
I feel uncertainty about my own professional skills ^b (<i>quite often or often</i>), n (%)	10(17)	14(24)	6(13)	0.32
I tolerate uncertainty when making medical decisions ^c (<i>not well</i>), n (%)	4(7)	1(2)	1(2)	0.26
I am afraid of committing a medical error ^d (<i>yes</i>), n (%)	30(54)	39(66)	28(60)	0.34
I have committed a medical error in the past three months ^d (<i>yes</i>), n (%)	18(31)	29(49)	21(40)	0.17
Social support at work				
I feel alone at work ^e (<i>often or always</i>), n (%)	18(31)	23(39)	9(19)	0.076
I can consult a colleague at work ^f (<i>too seldom or not at all</i>), n (%)	11(19)	20(34)	9(19)	0.10

We used the Chi-square test or Fischer's exact test to compare categorical variables.

^a MBI: Maslach Burnout Inventory.

^b Answer options: never, seldom, sometimes, quite often or often.

^c Answer options: poorly, quite well or well.

^d Answer options: yes or no.

^e Answer options: never, sometimes, often or always.

^f Answer options: often enough, too seldom or not at all, I do not need to consult with anyone.

^g FPs responding I currently attend or I have attended but am not attending now.

^h FPs responding I wish to attend, but CS is not available.

ⁱ FPs responding I do not need CS.

^{*} p values <0.05 were considered significant.

FPs with a need for CS, those experienced with CS and those not needing CS did not differ in terms of frustration with their job, feelings of having to work too hard at their job, feeling burned out from work, or feeling callous toward other people since beginning this job. Significantly larger proportions of FPs with a need for CS and of FPs experienced with CS felt emotionally drained from their job compared with FPs not needing CS (15% vs. 17% vs. 2%, respectively; $p=0.039$). When compared pairwise, a larger proportion of FPs with a need for CS than of FPs experienced with CS felt they were more callous toward other people since taking this job (22% vs. 9%, $p=0.044$) (Table 2).

FPs commonly reported personal accomplishment and rewarding work experiences. For instance, 75% felt they could positively influence their patients' lives, 89% felt that their patients trust them, 80% felt that they can comprehensively use their professional skills at work and 84% felt that working with patients was rewarding. We found no differences regarding these issues between FPs with CS experience, FPs with a need for CS and FPs not needing CS (Table 2).

FPs with a need for CS, FPs with CS experience and FPs not needing CS did not differ with regards to feeling uncertain about their professional knowledge or skills, tolerance toward uncertainty, or feeling afraid about committing or having committed a medical error during the last three months. When compared pairwise, the proportion of those who felt uncertainty related to their professional knowledge was larger among FPs with a need for

CS than among FPs not needing CS (24% vs. 13%, $p=0.048$). In addition, the proportion of FPs who committed a medical error in the past three months was larger among FPs with a need for CS than among those with CS experience (49% vs. 31%, $p=0.046$) (Table 2).

Among our respondents, 50 (30%) felt alone at work and 40 (24%) felt they could not consult a colleague at work. Concerning these experiences, we found no difference between FPs with a need for CS, those experienced with CS and those not needing CS. When compared pairwise, a larger proportion of FPs who had a need for CS than of those FPs not needing CS felt alone at work (39% vs. 19%, $p=0.023$) (Table 2).

4. Discussion and conclusions

4.1. Discussion

Among FPs, 36% reported needing CS, which was unavailable, 35% had experience with CS and 29% reported not needing CS. Few work-related issues were associated with the need for CS. Feeling emotionally drained from work was associated with both needing and experience with CS. FPs expressing a need for CS reported becoming more callous towards people and committing a medical error in the recent past more often than FPs with experience of CS. FPs not needing CS felt less uncertain of their professional knowledge and were feeling less often alone at work than FPs

needing CS. The mean level of satisfaction with work was high among FPs, and the majority of FPs reported personal accomplishment and rewarding work experiences. For instance, more than four out of five FPs felt that working with patients was rewarding, however a third reported feeling alone at work.

The strengths of our study include first, its high response rate [16,17], as well as representing both experienced and young physicians working in primary health care. Respondents included FPs of all ages, both sexes and physicians with shorter (<5 years) and longer (5 or more years) work histories. Questionnaires were completed in meticulous detail. The anonymity of the survey may have increased participants' willingness to share their experiences. Another strength of the study includes its use of previously validated items [11,15]. We also piloted the questionnaire before sending it to health centers, during which respondents reported finding it easy to understand and complete [15]. One limitation of the study includes its Finnish context, which may limit the ability to generalize our findings. The small sample size also reduces the statistical power of the analysis. Furthermore, the cross-sectional nature of our study does not permit us to make conclusions regarding any causal relationships. One limitation is that we could not use the lengthy MBI questionnaire which could have compromised the response rate. Therefore, we chose the two items which had been shown in previous studies to reflect physicians' burn out. Additionally, we chose items enabling us to explore FP's working experiences causing emotional exhaustion and depersonalisation.

Among FPs, 36% expressed a need for CS, yet no access to it. This represents a higher proportion than from our previous study in 2008, where 25% of FPs reported needing CS [6]. Similarly, in an earlier Finnish study, 20% of health centre physicians reported needing CS, yet lacked access to it [18]. Thus, we cannot conclude that the need for CS has increased or that the availability of CS has decreased, although it is possible that either or both may have occurred. In Denmark, a quarter of FPs reported needing CS [7]. Furthermore, 35% of FPs in our study had experience with CS. This proportion is similar to findings from our previous study from 2008 [6] and to findings reported from Denmark [7]. In our study, 29% of FPs expressed not needing CS. This proportion is also consistent with our findings from 2008 [6]. There was a trend that specialists in FM had more experience of CS than those lacking experience or with no need for CS. This might indicate that specialists in FM are more aware of the importance of reflective thinking than others due to their training and clinical experience.

We found an association between feeling emotionally drained from one's job and both needing and experience with CS. Emotional exhaustion is a core feature of burnout syndrome and commonly suggested as the first stage in its development [19–21]. We also know that psychological problems as well as emotional distress among FPs signal the need for restorative measures [8]. However, the culture of medicine traditionally neglects or ignores physicians' needs and, thus, imposes barriers to physicians seeking support or, for example, CS [2,22]. Callousness is another core component of burnout syndrome [11,13]. Callousness was more common among FPs reporting needing CS than among those with CS experience. From our analysis of associations, no conclusions can be drawn regarding causality; however, it is of interest that we found an association between experience with CS and feeling less callous. This finding may prove useful in research on the outcomes related to CS. Of particular interest, we found that feeling burned out from one's work was not associated with needing CS. This single issue was previously linked to signal burnout syndrome [13].

Overall, few work experiences were associated with FPs' needs for CS in this study. For example, we found no association between FPs feeling that they work too hard and either experience with or

needing CS. This may signal that FPs are accustomed to working hard and cope with it using strategies other than CS [23,24].

FPs not needing CS showed no difference from the other two groups in terms of demographic characteristics or rewarding work experiences. They were, however, less frequently uncertain about their professional knowledge and reported feeling alone at work less often than did their colleagues reporting a need for CS. This may indicate that FPs not having a need for CS use alternative means for professional development and coping mechanisms in their work [23,24].

Across our entire sample, a third reported feeling alone at work, whilst a quarter of FPs lacked opportunities to consult with their colleagues. According to a Finnish study, isolation at work among FPs equates with making decisions alone, a lack of collaboration with other health centre workers and secondary care specialists, not being a part of the work community and a lack of mentoring at work [25]. In earlier studies in Finland, 67–71% of FPs working in health centers thought their work left them isolated too often [26,27]. These figures are higher than those from our study. The work environment in health centers in Southern Finland has changed in recent years, especially for young physicians who now have ample consultation opportunities with personal educational tutors for clinical issues [28]. However, this is different from supportive CS (e.g., Balint) which emphasizes shared reflection on emotional work experiences with a professional especially trained for this task.

Our respondents commonly reported feeling satisfied with their work and rewarding work experiences. A Dutch study of FPs' emotional reactions to aspects of their work also found that positive feelings were common, but not complementary to negative feelings associated with their work [29]. Positive feelings from work correlated with more openness to their patients and a better quality of care [29]. In a ten-country European study, the average job satisfaction among FPs stood at 3.45 on a five-point Likert scale [30]. The level of job satisfaction reported among FPs in our study (7.6 out of 10) is consistent with this. However, a comparison of the scores between these two studies is not straightforward given the wording of the questions and the different measurement scales used. FPs' satisfaction with work is also important [22], because it is associated with a better quality of work, indicated by, for example, better communication with patients [30]. In turn, physicians' dissatisfaction with their work is associated with suboptimal health care delivery, poor clinical outcomes, higher job turnover, and malfunctioning within the health care system [22,31].

4.2. Conclusions

Although rewarding work experiences and satisfaction with one's work are common among FPs, a large proportion of them report needing CS with no access to it. Emotionally challenging work experiences are fairly common among FPs and one in five experiences being burnt out from work. Some dimensions of emotional exhaustion may signal the need for CS among FPs. Finally, a lack of social support at work persists, given that one in three FP feels alone at work.

4.3. Practice implications

The means to enhance FPs' emotional and social well-being at work should be developed. CS may represent one way of supporting FPs in this. Thus, CS should be more widely available to family physicians and it could be integrated into continuing professional development of FPs.

Conflict of interest

The authors have no conflict of interest related to this article.

Acknowledgements

We wish to thank Finnish Work Environment Fund, Finnish Medical Foundation, Finnish Foundation for General Practice, General Practitioners in Finland, Finnish Medical Association and Finnish Association of Occupational Health Physicians for supporting this study.

References

- [1] Supervision and Support in Primary Care, in: J. Burton, J. Launer (Eds.), Radcliffe Medical Press, Abington, 2003.
- [2] H. Wilson, Self-care for GPs: the role of supervision, *N. Z. Fam. Physician* 27 (2000) 1–10.
- [3] S. Killminster, D. Cottrell, J. Grant, B. Jolly, AMEE Guide no. 27: effective educational and clinical supervision, *Med. Teach.* 29 (2007) 2–19.
- [4] S. vanRoy Vanehule, R. Inslegers, Research on Balint groups: a literature review, *Patient Educ. Couns.* 98 (2015) 685–694.
- [5] M. Balint, *The Doctor, His Patient and the Illness*, 2nd ed., Churchill Livingstone, Edinburgh, Scotland, 1964 Reprinted 1986.
- [6] M.A. Torppa, K. Toivola, J. Ruskoaho, K.H. Pitkälä, Clinical supervision among family physicians: prevalence, needs and attitudes, *J. Prim. Care Community Health* 4 (2013) 275–280.
- [7] H.G. Nielsen, M. Söderström, Group supervision in general practice as a part of continuing professional development, *Dan. Med. J.* 59 (2012) 1–5.
- [8] E. Jackson-Bowers, C. Holmswood, General Practitioners Peer Support Needs in Managing Consumers' Mental Health Problems: A Literature Review and Needs Analysis, Primary Mental Health Care Australian Resource Centre, 2002.
- [9] M.A. Torppa, L. Kuikka, M. Nevala, K.H. Pitkälä, Emotionally exhausting factors in GP's work, *Scand. J. Prim. Health Care* (2015) accepted for publication 2015.
- [10] M. Elovainio, P. Salo, M. Jokela, T. Heponiemi, A. Linna, M. Virtanen, T. Oksanen, M. Kivimäki, J. Vahtera, Psychosocial factors and well-being among Finnish GPs and specialists: a 10-year follow-up, *Occup. Environ. Med.* 70 (2013) 246–251, doi:<http://dx.doi.org/10.1136/oemed-2012-100996>.
- [11] C. Maslach, S.E. Jackson, The measurement of experienced burnout, *J. Occup. Behav.* 2 (1981) 99–113.
- [12] L.N. Dyrbye, F.S. Massie Jr., A. Eacker, W. Harper, D. Power, S.J. Durning, et al., Relationship between burnout and professional conduct and attitudes among US medical students, *J. Am. Med. Assoc.* 304 (2010) 1173–1180.
- [13] C.P. West, L.N. Dyrbye, J.A. Sloan, T.D. Shanafelt, Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals, *J. Gen. Int. Med.* 24 (2009) 1318–1321.
- [14] W.B. Schaufeli, A.B. Bakker, Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study, *J. Org. Behav.* 25 (2004) 293–315.
- [15] L. Kuikka, M.K. Nevalainen, L. Sjöberg, P. Salohekkilä, H. Karppinen, M. Torppa, H. Liira, J. Eriksson, K.H. Pitkälä, The perceptions of a GP's work among fifth-year medical students in Helsinki, Finland, *Scand. J. Prim. Health Care* 30 (2012) 121–126.
- [16] S.T. Creavin, A.L. Creavin, C.D. Mallen, Do GPs respond to postal questionnaire surveys: a comprehensive review of primary care literature, *Fam. Pract.* 28 (2011) 461–468.
- [17] S.E. Kellerman, J. Herold, Physician response to surveys: a review of the literature, *Am. J. Prev. Med.* 20 (2001) 61–67.
- [18] P.T. Jaatinen, U. Saxen, P. Aho, Osa terveystieteiden kokee osaamisensa riittämättömäksi (Self-experienced adequacy of professional skills among health care physicians), *Suom Lääkäril* 62 (3071) (2007) 75 (in Finnish).
- [19] A.B. Bakker, W.B. Schaufeli, H.J. Sixma, W. Bosveld, D. vanDierenonck, Patient demands, lack of reciprocity, and burnout: a five year longitudinal study among general practitioners, *J. Org. Behav.* 21 (2000) 425–441.
- [20] C.L. Cordes, T.W. Dougherty, A review and an integration of research on job burnout, *AMR* 18 (1993) 621–656.
- [21] M.P. Leiter, C. Maslach, The impact of interpersonal environment on burnout and organisational commitment, *J. Org. Behav.* 1099 (9) (2016) 297–308.
- [22] J.E. Wallace, J.B. Lemaire, W.A. Ghali, Physician wellness: a missing quality indicator. A review, *Lancet* 374 (2009) 1714–1721.
- [23] J. Zwack, J. Schweitzer, If every fifth physician is affected by burnout, what about the other four? Resilience strategies of experienced physicians, *Acad. Med.* 88 (2013) 382–389.
- [24] K.A. Walker, M. Pirotta, What keeps Melbourne GPs satisfied in their jobs? *Aust. Fam. Physician* 36 (2007) 877–880.
- [25] M. Aira, P. Kumpusalo, A. Vehviläinen, E. Kumpusalo, Occupational isolation among general practitioners in Finland, *Occup. Med.* 60 (2010) 430–435.
- [26] E. Kumpusalo, O. Haggren, A. Vehviläinen, M. Liukko, S. Kujala, J. Takala, Miten terveystieteiden lääkärit viihtyvät työssään? Terveystieteiden nykytila ja tulevaisuus 2002–tutkimus I (How do health center doctors thrive in their work? The current status and future of health center work 2002—study I), *Suom Lääkäril* 57 (2002) 4235–4239 (in Finnish).
- [27] P. Mäntyselkä, M. Aira, A. Vehviläinen, E. Kumpusalo, Increasing size of health centers may not prevent occupational isolation, *Occup. Med.* 60 (2010) 491–493.
- [28] M. Hartikainen, J. Eriksson, K. Pitkälä, A. Helin-Salmivaara, Koulutusterveyskeskukset Hyksin erityisvastualueella. Huippupaikkoja, rimanalituksia ja kaikkea siltä väliltä (Education health centers in the area of Helsinki University Hospital. Variations in performance), *Gen. Pract.* 28 (2013) 28–32 (in Finnish).
- [29] R. Grol, H. Mokkink, A. Smits, J. vanEijk, M. Beek, P. Mesker, J. Mesker-Nielsen, Work satisfaction of general practitioners and the quality of patient care, *Fam. Pract.* 2 (1985) 128–135.
- [30] J.M. Bensing, Brink-Muinen van den, W. Boerma, S. van Dulmen, The manifestation of job satisfaction in doctor–patient communication; a ten-country European study, *Int. J. Pers.-Cent. Med.* 3 (2013) 44–52.
- [31] T. Heponiemi, M. Elovainio, J. Presseau, M.P. Eccles, General practitioners' psychosocial resources, distress, and sickness absence: a study comparing the UK and Finland, *Fam. Pract.* 31 (2014) 319–324.