PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Mental well-being and job satisfaction in general practitioners in Denmark and their patients' change of general practitioner: a cohort study combining survey data and register data
AUTHORS	Nørøxe, Karen Busk; Vedsted, Peter; Bro, Flemming; Carlsen, Anders Helles; Pedersen, Anette Fischer

VERSION 1 – REVIEW

REVIEWER	Peter Pype Ghent University Belgium
REVIEW RETURNED	24-Mar-2019

GENERAL COMMENTS	Dear authors This is a very relevant study and I enjoyed reading it. I have one question that I would like to read your comments upon. A lot of patient variables have been measured as confounders but at the GP level only seniority and gender were taken into account. Can you please explain why these two aspects were considered relevant and no other variables were taken into account?

REVIEWER	Prof. Dr. Oliver Hirsch FOM University of Applied Sciences
REVIEW RETURNED	01-Mar-2019

GENERAL COMMENTS	This is an important topic in general as well-being and job satisfaction in GPs are affected throughout Europe. The Background section should be expanded. Past research has shown that patient satisfaction in contradiction to the topic of the manuscript is a construct with ceiling effects in primary care. This should be discussed and the difference to the approach of the authors should be demonstrated. Please elaborate more on other research in this area. Do dissatisfied patients consult other GPs and were they then more satisfied with treatment or is a special subgroup of patients with certain characteristics reacting to structural deficits of the healthcare system ? Please further explain the statistical quality criteria of the composite burnout score. If I have understood correctly you have categorised your scores, also burnout, within your sample according to the respective distribution. It is not quite clear to me why you are not referring to established norms like Soler (2008). How can you be sure that your sample of GPs is an adequate representation of the population of Danish GPs ? Isn´t COGP with 1.17% in your patient sample a rare event which is negligible ? This would fit with the patient satisfaction ceiling

	effect in primary care in my opinion. Are the RR in this context to be considered just as moderate ? Discussion: Please discuss more the negative and unexpected findings which are interesting results.

VERSION 1 – AUTHOR RESPONSE

REVIEWER 1:

Comments: This is a very relevant study and I enjoyed reading it. I have one question that I would like to read your comments upon. A lot of patient variables have been measured as confounders but at the GP level only seniority and gender were taken into account. Can you please explain why these two aspects were considered relevant and no other variables were taken into account?

Response: Patient characteristics are important determinants of COGP. Therefore, we included a range of socio-demographic patient variables obtained from Danish registers. At GP level we adjusted for gender and seniority as these factors may influence patients' decision-making regarding COGP as well as the GPs' state of well-being/satisfaction. The aim of this study was not to estimate GP-related factors' influence on well-being. Adjusting for more GP factors (e.g. personality and clinical skills) could influence the result in a way that we could not interpret the estimates. It is a continues discussion within research on medical quality whether one should adjust for differences among health care providers. Ideally, one provider should be able to deliver the same quality as the other, despite differences in e.g. personality.

REVIEWER 2:

Comment 1: This is an important topic in general as well-being and job satisfaction in GPs are affected throughout Europe.

Response: We agree that GP well-being and satisfaction and the potential impact on patient care is an important topic. In the background section we refer to several key articles on this subject. The importance of the topic is further highlighted in the section entitled 'implications', and the 'Discussion' include reflections on potential mechanisms by which GP well-being may affect healthcare quality.

Comment 2: The Background section should be expanded. Past research has shown that patient satisfaction in contradiction to the topic of the manuscript is a construct with ceiling effects in primary care. This should be discussed and the difference to the approach of the authors should be demonstrated. Please elaborate more on other research in this area.

Response: We aimed to examine whether GP well-being and satisfaction may have an impact on the patient-assessed quality of patient care. In this study patients' change of GP (COGP) is used as a proxy for dissatisfaction with care. Considering the focus on a relation between GP-well-being and a

proxy for patient-assessed medical quality together with the comprehensibility of the full manuscript, we decided not to expand the background section further. We do agree that the literature regarding patient satisfaction is huge.

Comment 3: Do dissatisfied patients consult other GPs and were they then more satisfied with treatment or is a special subgroup of patients with certain characteristics reacting to structural deficits of the healthcare system?

Response: Nearly all Danish citizens are registered (listed) with a specific general practice, which they must consult for medical advice. This means, that they cannot consult another general practice if dissatisfied with care, unless they choose to change to another general practice. The manuscript has been revised to make this clearer (in the section entitled 'Setting'). We have no information on whether patients who changed GP became more satisfied with treatment.

Comment 4: Please further explain the statistical quality criteria of the composite burnout score. If I have understood correctly you have categorised your scores, also burnout, within your sample according to the respective distribution. It is not quite clear to me why you are not referring to established norms like Soler (2008).

Response: Burnout was assessed by the Maslach Burnout Inventory Human-Services Survey (MBI-HSS). Burnout is considered a matter of degree and the MBI-HSS is not a diagnostic instrument. Burnout is often categorised according to established cut-off values; this approach allows for comparison of burnout symptoms over time and across populations, but it does not signify clinical significance. Little is known about which level of burnout that may affect clinical performance.
It is correct, that we categorized each burnout dimension according to quartiles of the sum-score within the sample of GPs (the median score and the interquartile interval of each subscale is given in Table 2). To evaluate burnout as a multidimensional construct, burnout was additionally categorized based on a composite burnout score. The choice of categorization of GP well-being was based on the purpose; to examine whether well-being (low and high levels) were associated with COGP. The chosen approach allowed for exploration of non-linear and dose-response like associations.

Comment 5: How can you be sure that your sample of GPs is an adequate representation of the population of Danish GPs?

Response: As described, this study only includes GPs in single-handed practices who responded to the questionnaire, which could impair generalisability of findings. The restriction to GPs in single-handed practices ensured precise linkage of each patient with a specific GP. The prevalence of burnout and low job satisfaction was the same for GPs in single-handed practices and GPs in partnership practices. This information is now included in the manuscript.

Comment 6: Isn´t COGP with 1.17% in your patient sample a rare event which is negligible ? This would fit with the patient satisfaction ceiling effect in primary care in my opinion. Are the RR in this context to be considered just as moderate ?

Response: The pros and cons of using COGP as a proxy for patient dissatisfaction is now further addressed in the 'strengths and limitations' section. This includes a note that COGP was a rare event (which may relate to a ceiling effect regarding patient satisfaction with a high prevalence of satisfied patients). Overall, the use of COGP as a proxy for dissatisfaction may increase the risk of underestimating the association between GP-related factors and patient satisfaction (rather than overestimating). We acknowledge that the study does not allow for causal conclusions and that effect sizes should be interpreted cautiously. Still, we find that the possible implications of the study are highly important: GP distress is prevalent, and COGP among patients may reflect serious aspects of care quality.

Comment 7: Discussion: Please discuss more the negative and unexpected findings which are interesting results.

Response: We agree that the negative and unexpected findings are interesting. We reflect on potential explanations for these in the 'Discussion'. We discuss the following findings; (1) that emotional exhaustion was not associated with COGP, while clear associations were found for the remaining two burnout components and for job satisfaction, (2) that COGP was associated with work-specific aspects of well-being, while no associations were found for well-being measures related to life in general, (3) that COGP was not associated with self-reported work-ability among GPs. In addition, we point out that our categorisation of well-being might not distinguish the level of poor well-being that may affect the patient-experienced quality of care.