



Association between person-centeredness and financially driven postponement in European primary care: a cross-sectional and multi-country study

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Abstract:	<p>Background. Previous research has shown that person-centred care has beneficial effects on several health related outcomes. The present study contributes to this large body of knowledge by empirically investigating the association between a GP's person-centred attitude and financially driven postponement of care in European countries.</p> <p>Methods. Data were collected within the QUALICOPC study, which included 69,201 patients and 7,183 GPs from 31 European countries. Financially driven postponement was measured by asking patients whether they had postponed care for financial reasons in the last 12 months. Person-centeredness was operationalised using the conceptual framework of Stewart et al. Data were analysed through multilevel logistic regression modelling.</p> <p>Results. Low-income patients are associated with higher financially driven postponement. Furthermore, a GP with a person-centred attitude is associated with lower financially driven postponement rates among her/his patients. We found that an increase in the GP's person-centeredness with one SD is associated with a decreased likelihood of postponing care for financial reasons with 0.923.</p>

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	Interpretations. Person-centred GPs can mediate the negative effect of primary health care systems on financially driven postponement of care.

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ABSTRACT

Background. Previous research has shown that person-centred care has beneficial effects on several health related outcomes. The present study contributes to this large body of knowledge by empirically investigating the association between a GP's person-centred attitude and financially driven postponement of care in European countries.

Methods. Data were collected within the QUALICOPC study, which included 69,201 patients and 7,183 GPs from 31 European countries. Financially driven postponement was measured by asking patients whether they had postponed care for financial reasons in the last 12 months. Person-centeredness was operationalised using the conceptual framework of Stewart et al. Data were analysed through multilevel logistic regression modelling.

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Interpretations. Person-centred GPs can mediate the negative effect of primary health care systems on financially driven postponement of care.

Keywords: Europe, financial driven postponement, primary care, strength, person-centred care, access

INTRODUCTION

Primary care systems should provide universal and accessible care that meets the medical need of the patient, regardless of their financial capabilities (1). However, a considerable part of patients postpone primary care (2). European data shows that approximately 15.0% of European citizens postpone care for financial reasons (3). Consequently, financially driven postponement remains one of the main reasons patients delay seeking health care (4). The World Health Organization (WHO) proposed strengthening primary care as a major strategy to provide equitable access to the (primary) health care system (5). This was hypothesised to decrease the rate of financially driven postponement. However, Detollenaere et al. (3) demonstrated that this hypothesis is not as straightforward as expected. In a European analysis, not all indicators of primary care strength at the macro level are associated with lower financially driven postponement of care. In addition, they found that a large proportion of the variance in financially driven postponement is attributed to characteristics of the GP and the practice; in other words, not only to the characteristics of strong primary care at the macro level. However, this study excluded provider characteristics (such as organisation of the practice or consultation style) from the analysis.

One of the provider characteristics that has been related to beneficial (health) outcomes is person centeredness. A person-centred provider explores illness and disease experiences, has a perspective on the whole person, and finds common ground, which enhances the patient-physician relationship and extends beyond isolated disease episodes (6-9). Prior research revealed that person-centeredness positively influences several outcomes such as better objective and subjective health status, therapy adherence, improved patient trust, and reduced utilisation of diagnostic testing (6, 10-13). Moreover, person-centeredness positively affects equity in health care (14). For example, a GP's person-centred attitude has a more positive impact on mental health outcomes for people with a low socioeconomic status than for wealthier people (14). Person-centeredness may as such be a driving force of equity, independent of macro level characteristics. In this context, we hypothesise that a GP's person-centred attitude may be related to a lower rate of financially driven postponement.

This study investigates the association between a GP's person-centred attitude and financially driven postponement of care in European countries, adjusting for a country's primary care strength.

DATA AND METHODS

Data

This study merged data from the Quality and Costs of Primary Care in Europe (QUALICOPC)- and Primary Health Care Activity Monitor for Europe (PHAMEU) databases. The QUALICOPC database provides data on both meso and micro level of the health care system, while the PHAMEU-database only provides data on primary care strength on the macro level. Both are co-funded by the European Commission.

QUALICOPC database

The QUALICOPC study contains cross-sectional data collected among GPs and patients in 31 European countries (including EU-27 [except for France], FYR Macedonia, Iceland, Norway, Switzerland, and Turkey). In each country, an average of 220 general practitioner (GP) practices were selected, except for small countries where the average was 80. Ethical approval was obtained in accordance with the legal requirements of each country. Data collection took place between October 2011 and December 2013. Fieldworkers (N = 6,568) visited selected GP practices and consecutively invited patients (aged 18 years or older), who had a face-to-face consultation with the GP, to complete the questionnaire until 10 patient surveys were collected. The first nine patients willing to participate in the study completed a questionnaire about their experiences during the consultation and the primary care system in general. The tenth patient completed a questionnaire that measured her or his primary care values. Furthermore, one GP per practice was eligible to participate and complete a questionnaire. However, this study only uses data from the patient experience surveys. In total, 69,201 patients and 7,183 GPs completed the questionnaires and were included in the database. For more details regarding the study protocol and questionnaire development, we refer the reader to Schäfer et al. (15) and Schäfer et al. (16).

Our main patient-reported outcome, namely financially driven postponement of care, is measured based on the responses of the QUALICOPC participants on the question if they postponed a visit to a GP or other doctor for financial reasons in the last 12 months.

A variable for person-centeredness is constructed based on the QUALICOPC data, building on the framework proposed by Stewart et al. (9). The patient experience questionnaire of the QUALICOPC study covers the four domains of person-centred care: (i) exploring both the disease and illness experience (two questions), (ii) understanding the whole person (two questions), (iii) finding common ground (one question), and (iv) enhancing the patient-physician relationship (two questions). For each question, participants responded whether they agreed by indicating 'yes' or 'no'. For example, 'did the doctor ask about other possible problems besides the one the patient came in for?' The GPs of participants who answered 'yes' at least one of the seven questions, received a score of '1'. When participants answered all seven questions with 'yes', the GP received the highest score (which is 7) for 'person centred care'. More details on the construction of this scale are provided in Figure 1.

< Figure 1 about here >

PHAMEU database

Primary care strength is based on the work of Kringos (17), who developed a framework that measured and compared the strength of primary care systems. Her research emphasises that primary care strength is determined by the structure level and process level. The structure level consists of three dimensions, namely governance, economic conditions, and workforce development. Following the operationalisation of Kringos (17) the structure level is embedded as a continuous variable in the analyses. At the process level four dimensions are identified: access, continuity, coordination, and comprehensiveness. The PHAMEU database provides for each of these dimensions and each of the countries a scale from 1 to 3 (the higher the score, the stronger the primary care dimension).

In view of potential endogeneity, we included the following exogenous control variables: gender and age of both patient and GP, income of the patient, and location of the GP practice. These variables were all extracted from the QUALICOPC study. Following the answer of the respondent, gender was categorised in 'men' and 'women'. Income of the patient was measured by asking them the following question: 'Compared to the average in your country, would you say your household income is ...?'. They could choose between the following answer categories: 'below average', 'around average', or 'above average'. As this variable is only a control variable, we decided to dichotomise the variable in 'low income' (below average and around average) and 'high income' (above average). Last, location of the GP practice was determined by asking the GP how they would characterise the place where they are currently practising, they could choose between 'big (inner) city', 'suburbs', 'small town', 'mixed urban-rural', or 'rural'. These answer categories were dichotomised in 'urban' (combining the categories 'big (inner) city', 'suburbs, and 'small town') and 'rural' (combining the categories 'mixed urban-rural' and 'rural').

Statistical analyses

To analyse the association between person centred care and financially driven postponement, logistic multilevel regression models were employed. In these multilevel models, patients (level 1) were nested within GP practices (level 2), which were nested within countries (level 3). All multilevel analyses were calculated using MLwiN (University of Bristol, United Kingdom, version 2.33), and first-order PQL was used as the non-linear estimation procedure. In the first model, we described the basic null model (Model A.0), in which we could evaluate the importance of each level independently. In Model A.1, we included the socioeconomic and demographic variables (control variables) of both patients and GPs. Subsequently, in Model A.4.0 to Model A.4.1, we sequently added the strength dimensions, which have a significant association (i.e. structure variable, access-, and comprehensiveness dimensions) with financially driven postponement and person-centred care, to the equation. The table presented in the manuscript summarises the formulation of the statistical model, and a step-by-step description of model construction is provided in the Appendix of this manuscript.

RESULTS

Figure 2 displays the mean score for person centred care per country. The mean score for person-centred care for the EU-31 is 5.48, with Cyprus showing the lowest score (4.28) and Switzerland the highest (6.09).

< Figure 2 about here >

The bivariate analyses reveal significant associations between financially driven postponement of care and person-centeredness and all the dimensions of primary care strength.

< Table 1 about here >

Using the variances in Model A.0. we calculated the variance partition coefficient (VPC) for each level, which decomposes the explained variance at different levels (i.e. patient, GP practice, and country levels). This model reveals the variances at the GP practice and country levels as 0.738 and 0.978 respectively. When calculating the VPC for each level ¹, we observed that 19.54% of the variance in financially driven postponement in Europe could explained by GP practice characteristics, while 14.74% are at the country level. Table 2 summarises the results of the multilevel regression analyses, all controlled for patient- and GP characteristics. In Model A.1, only the control variables were put into the statistical model. At the individual patient level, only income is significantly associated with financially driven postponement. The estimate for the effect of low income on financially driven postponement is 2.065 (Exp[0.725]). In other words, low-income patients are more likely to postpone care for financial reasons, compared to their middle- and high-income counterparts. Model A.1.0 shows no other significant predictors at the patient- and GP level (i.e. gender and age of both patient and GP and location of the GP) for financially driven postponement.

Considering primary care strength variables at the country level, the structure variable, access, and comprehensiveness dimensions are significantly inversely associated with financially driven postponement. From Models A.4.0 to A.4.2, we introduced the person-centred scale to the analyses, controlling for these strength dimensions (i.e. structure, access, and comprehensiveness), which are significantly associated with financially driven postponement of care (see the Appendix). These models reveal that the person-centred scale is modestly, but significantly related to postponement for financial reasons. Model A.4.0 indicated that when a GP scores one standard deviation (SD) higher on the person-centred scale, her/his patients report 0.923 (Exp[-0,080]) less postponement for financial reasons. This estimate is comparable in size to those reported in Model A.4.1 and Model A.4.2, which all differ significantly from 0 at the 5% significance level.

< Table 2 about here >

¹ The residual variance at the patient level was estimated as 3.29 ($=\pi^2/3$) using the latent variable method (26), because in logistic multilevel analysis, the individual-level residual variance is expressed on a different scale (probability) than the higher residual variances (27).

DISCUSSION

Much evidence has demonstrated the benefits of person-centred care, including better health status, increased therapy adherence, improved patient trust, reduced utilisation of diagnostic testing, and equity (6, 10-14). In this study, we aim to understand whether a person-centred health care provider can buffer inequity in access to primary care. Therefore, we empirically test the association between the GP's person-centred attitude and financially driven postponement in 31 European countries, adjusting for the strength of a country's primary care system.

The results of the statistical analysis show, a modest, but significant association between person-centeredness and financially driven postponement rates in Europe. We found that an increase in the GP's person-centeredness with one SD is associated with a decreased likelihood of postponing care for financial reasons by 0.923. Qualitative research of Brown et al. (7) is in line with our findings. They identified a link between person-centred care and accessibility to primary care in Canada. The association between person-centeredness and (financial) access to primary care can be attributed to the fact that GPs with a person-centred attitude design care around a person by considering their context, such as financial difficulties.

Furthermore, a large body of evidence determined that deprived patient groups in Europe are at risk of postponing care (for financial reasons) (2, 18-22). Therefore, this study contributes to the existing literature by showing that a GP can provide equitable access to care by applying a person-centred consultation style. This could be especially relevant for vulnerable patient groups. Research of Jani et al. (14) supports this result. They found that person-centred consultation by a GP improves the early outcome of depression, especially in deprived areas. In this paper, Jani et al. (14) emphasize the challenges of providing person-centred care in deprived areas due to the lower number of health care providers and high morbidity rates which may result in a higher workload and pressure among GPs, making it difficult to apply and design person-centred care. Consequently, we advocate for the monitoring of person-centred care as a core quality outcome measure.

We end this article by discussing some research limitations. Although it is agreed that person-centeredness is a multifaceted construct (6), until now, no validated definition and operationalisation have been identified (11). In addition, during our literature search, we noticed that the concepts patient- and person-centred care are mixed and used as synonyms. Starfield (8) argued that these concepts have different nuances; therefore, they cannot be used together. Patient-centred care is disease episode-oriented, concerned with the evolution of a patient's disease, and focuses on managing these diseases. However, person-centred care considers disease episodes as inherently linked to oscillating health during life, focuses on the experience (and its evolution) of people's health problems and diseases, and approaches diseases as interrelated phenomena. The third limitation of this paper is that because of data restrictions, we only measured the GP's person-centeredness. However, other health care professionals also play a major role in providing person-centred primary health care. Nurses are the most trusted professionals by both patients and other health care professionals (23-24). As trust is one prerequisite to achieve person-centred care, we believe that nurses can also exercise this role (25). We look forward to future research addressing the effect of nurses' person-centred attitudes on accessibility to

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3 health care. Bearing these limitations in mind, the novelty of our research is that we are the first to study the
4 association between person-centeredness and financially driven accessibility to primary care by using data
5 from 31 European countries.
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Figure 1 Conceptual framework of patient-centeredness by Stewart et al. (2003) and the operationalisation in this study

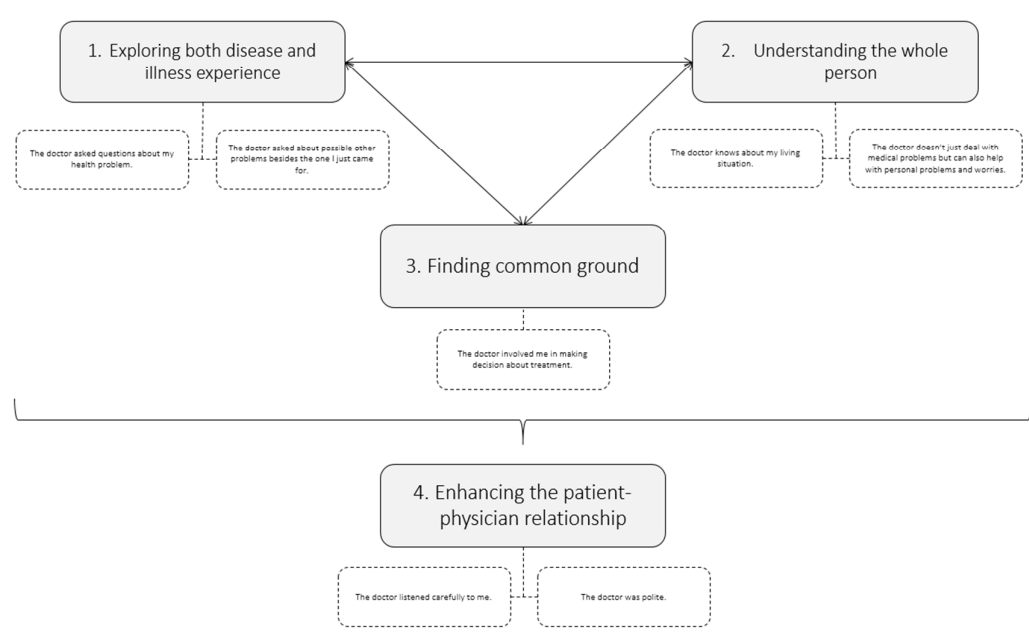
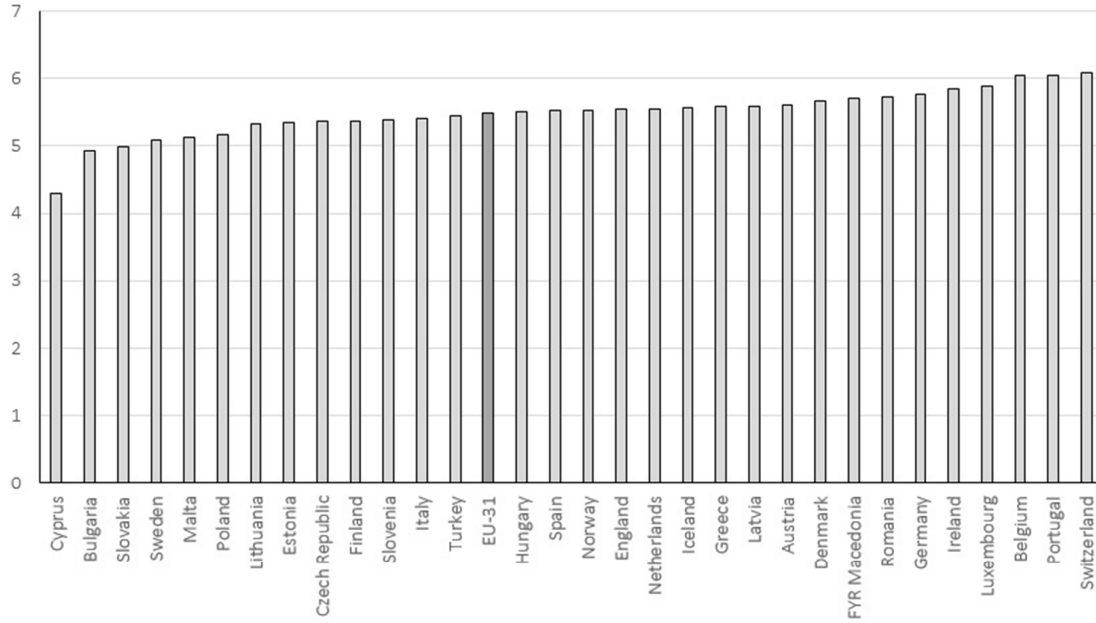


Figure 2 Score on the person centred scale, mean per country



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Table 1 Bivariate associations between financially driven postponement and person-centeredness and strength dimensions of the primary care system

	Postponement of GP visit due to financial reasons		
	No	Yes	t
	N mean (SD)	N mean (SD)	
Person-centeredness (ranging from 1-7)	7164 5.389 (1.435)	742 5.180 (1.570)	3.530 ***
Structure (ranging from 1-3)	7589 2.248 (0.132)	799 2.195 (0.105)	13.326 ***
Access (ranging from 1-3)	7589 2.261 (0.133)	799 2.194 (0.138)	13.031 ***
Continuity (ranging from 1-3)	7589 2.359 (0.053)	799 2.355 (0.047)	2.294 **
Coordination (ranging from 1-3)	7589 1.727 (0.213)	799 1.647 (0.189)	11.231 ***
Comprehensiveness (ranging from 1-3)	7589 2.370 (0.162)	799 2.323 (0.175)	7.201 ***

*: p < 0.05, **: p < 0.01, ***: p ≤ 0.001

Table 2 Multilevel logistic regression model (short), log odds and their standard error (SE) are provided

	Model A.0			Model A.1.0			Model A.4.0			Model A.4.1			Model A.4.2		
	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.
Gender (reference: men)															
Female				-0,110	0,089		-0,095	0,093		-0,096	0,093		-0,094	0,093	
Age (demeaned)				-0,001	0,003		0,001	0,003		0,001	0,003		0,001	0,003	
Income (reference: middle and high income)															
Low income				0,725	0,090	***	0,717	0,093	***	0,722	0,093	***	0,714	0,093	***
Gender GP (reference: men)															
Female				0,049	0,104		0,040	0,107		0,053	0,107		0,031	0,107	
Age GP (demeaned)				-0,001	0,005		0,001	0,005		0,001	0,005		0,001	0,005	
Location GP practice (reference: urban)															
Rural				-0,082	0,131		-0,153	0,138		-0,153	0,138		-0,154	0,139	
Person centred care							-0,080	0,031	*	-0,082	0,031	*	-0,079	0,031	*
Structure							-3,481	1,035	***						
Process															
Access										-4,586	1,076	***			
Comprehensiveness													-1,893	1,020	
Intercept	-2,682	0,166	***	-2,972	0,194	***	5,201	2,303	*	7,723	2,406	**	1,937	2,420	
Variance country	0,738	0,215	***	0,787	0,232	***	0,571	0,177	***	0,474	0,152	***	0,723	0,217	***
Variance GP	0,978	0,141	***	1,023	0,151	***	1,069	0,159	***	1,070	0,16	***	1,070	0,159	***

* : p < 0.05, ** : p < 0.01, *** : p ≤ 0.001

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APPENDIX

Appendix Table 1 Multilevel logistic regression model (full model), log odds and their standard error (SE) are provided

	Model A.0			Model A.1.0			Model A.2.0			Model A.3.0			Model A.3.1			Model A.3.2		
	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.
Gender (reference: men)																		
Female				-0.110	0.089		-0.096	0.093		-0.109	0.089		-0.111	0.089		-0.111	0.089	
Age (demeaned)				-0.001	0.003		0.001	0.003		-0.001	0.003		-0.001	0.003		-0.001	0.003	
Income (reference: middle and high income)																		
Low income				0.725	0.090	***	0.713	0.093	***	0.729	0.090	***	0.734	0.090	***	0.725	0.090	***
Gender GP (reference: men)																		
Female				0.049	0.104		0.032	0.108		0.057	0.103		0.069	0.104		0.049	0.104	
Age GP (demeaned)				-0.001	0.005		0.001	0.005		-0.001	0.005		-0.001	0.005		-0.001	0.005	
Location GP practice (reference: urban)																		
Rural				-0.082	0.131		-0.154	0.139		-0.081	0.131		-0.082	0.131		-0.082	0.131	
Person centred care							-0.080	0.031	*									
Structure										-3.346	1.002	***						
Process																		
Access													-4.304	1.058	***			
Continuity																-2.070	3.080	
Coordination																		
Comprehensiveness																		
Intercept	-2.682	0.166	***	-2.972	0.194	***	-2.542	0.257	***	4.473	2.227	*	6.653	2.362	**	-2.486	7.243	
Variance country	0.738	0.215	***	0.787	0.232	***	0.833	0.246	***	0.540	0.167	***	0.468	0.148	***	0.786	0.231	***
Variance GP	0.978	0.141	***	1.023	0.151	***	1.066	0.159	***	1.024	0.151	***	1.026	0.151	***	1.023	0.151	***

Appendix Table 1 Multilevel logistic regression model (full model), log odds and their standard error (SE) are provided (*continued*)

	Model A.3.3			Model A.3.4			Model A.4.0			Model A.4.1			Model A.4.2		
	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.	Coef.	SE	Sig.
Gender (reference: men)															
Female	-0.110	0.089		-0.108	0.089		-0.095	0.093		-0.096	0.093		-0.094	0.093	
Age (demeaned)															
Age	-0.001	0.003		-0.001	0.003		0.001	0.003		0.001	0.003		0.001	0.003	
Income (reference: middle and high income)															
Low income	0.724	0.090	***	0.727	0.090	***	0.717	0.093	***	0.722	0.093	***	0.714	0.093	***
Gender GP (reference: men)															
Female	0.050	0.104		0.048	0.104		0.040	0.107		0.053	0.107		0.031	0.107	
Age GP (demeaned)															
Age GP	-0.001	0.005		-0.001	0.005		0.001	0.005		0.001	0.005		0.001	0.005	
Location GP practice (reference: urban)															
Rural	-0.083	0.131		-0.083	0.131		-0.153	0.138		-0.153	0.138		-0.154	0.139	
Person centred care							-0.080	0.031	*	-0.082	0.031	*	-0.079	0.031	*
Structure							-3.481	1.035	***						
Process															
Access										-4.586	1.076	***			
Continuity															
Coordination	-1.483	0.732													
Comprehensiveness				-1.997	0.982								-1.893	1.020	
Intercept	-0.427	1.264	***	1.753	2.327		5.201	2.303	*	7.723	2.406	**	1.937	2.420	
Variance country	0.667	0.201	***	0.671	0.202	***	0.571	0.177	***	0.474	0.152	***	0.723	0.217	***
Variance GP	1.022	0.150	***	1.025	0.151	***	1.069	0.159	***	1.070	0.16	***	1.070	0.159	***

*: p < 0.05, **: p < 0.01, ***: p ≤ 0.001

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	
Title and abstract	1	(a) Indicate the study’s design with a commonly used term in the title or the abstract	Manuscript, page 1, line 3-4
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	Manuscript, page 1, line 7-10
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Manuscript, page 2, line 2-21
Objectives	3	State specific objectives, including any prespecified hypotheses	Manuscript, page 2, line 21-25
Methods			
Study design	4	Present key elements of study design early in the paper	Manuscript, page 3, line 3
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants	Manuscript, page 3, line 8-20
		(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	NA
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Manuscript, page 3, line 21-33 Manuscript, page 4, line 2-20
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Manuscript, page 3, line 21-33 Manuscript, page 4, line 2-20
Bias	9	Describe any efforts to address potential sources of bias	Manuscript, page 4, line 10-20
Study size	10	Explain how the study size was arrived at	Manuscript, page 3, line 6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Manuscript, page 3, line 21-33 Manuscript, page 4, line 2-20

Statistical methods

12	(a) Describe all statistical methods, including those used to control for confounding	Manuscript, page 4, line 22-32
	(b) Describe any methods used to examine subgroups and interactions	NA
	(c) Explain how missing data were addressed	NA
	(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed	Manuscript, page 4, line 22-32
	<i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed	
	<i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	
	(e) Describe any sensitivity analyses	NA

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Results

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Manuscript, page 3, line 18-20
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Manuscript, page 5, line 2-3
		(b) Indicate number of participants with missing data for each variable of interest	NA
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	NA
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	NA
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	NA
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	NA
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Manuscript, page 5, line 8-28
		(b) Report category boundaries when continuous variables were categorized	NA
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	NA

Discussion

Key results	18	Summarise key results with reference to study objectives	Manuscript, page 6, line 8-14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Manuscript, page 6, line 24-36
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Manuscript, page 6, line 2-36
Generalisability	21	Discuss the generalisability (external validity) of the study results	Manuscript, page 6, line 24-36

Other information

Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Submission tool
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*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

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5 **Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE
6 checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at
7 <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.
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