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Determinants of attitudes toward person-centred care (PCC) and psychophysical wellbeing among Polish primary care physicians - a national survey in Poland

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Abstract

Background

Person-centred care (PCC) is a core competence of family medicine and may also be linked to physicians' own wellbeing. Polish primary care is being reformed through the Coordinated Care (CC) programme, intended to strengthen continuity and partnership with patients. We examined whether PCC attitudes among Polish primary care physicians (PCPs) are associated with their wellbeing, and which demographic, professional and organisational factors are associated with these attitudes.

Methods

A national cross-sectional survey of PCPs was conducted between February and September 2026 through the College of Family Physicians in Poland. PCC attitudes were measured with the Polish 18-item Patient–Practitioner Orientation Scale (PPOS; Sharing and Caring subscales), and wellbeing with the Mayo Clinic Well-Being Index (eWBI; score ≥ 2 indicating higher distress risk). Pearson correlations, t-tests and multiple linear regression with backward stepwise elimination were used.

Results

In total, 375 physicians participated (70.7% women; mean age 42.6 years; 52.8% family medicine specialists). The mean PPOS score was 3.96 (SD 0.51), with higher Caring (4.28) than Sharing (3.63) scores; 51.4% of respondents were at higher distress risk. The eWBI score was weakly negatively correlated with PPOS ($r = -0.175$, $p = 0.001$), Sharing ($r = -0.179$, $p = 0.001$) and Caring ($r = -0.119$, $p = 0.024$). Physicians at higher distress risk had lower PPOS and Sharing, but not Caring, scores. In the final regression model ($R^2 = 0.145$), completed family medicine specialisation was associated with higher PPOS scores ($B = 0.240$, $p < 0.001$), whereas older age ($B = -0.007$ per year, $p = 0.002$) and more daily patient contacts ($B = -0.009$ per contact, $p < 0.001$) were associated with lower scores. CC participation, practice training status, ownership and other practice characteristics were not associated with PPOS score.

Conclusions

Polish PCPs endorse the caring dimension of PCC more strongly than sharing information and decisions. A more patient-centred orientation is weakly associated with lower distress risk. Individual factors – specialty training, age and daily workload – rather than practice organisation or CC participation were related to PCC attitudes. Reducing workload and expanding family medicine training may support person-centred care in Polish primary care.

1. Background

Person-centred care (PCC) is an approach in which the patient is treated as a whole person and an active partner in their own care, rather than only as the carrier of a disease [1]. In contrast to a paternalistic ("doctor-centred") model, in which the physician decides and the patient follows instructions, the physician also seeks to understand the patient's preferences, values, life circumstances and emotional needs, and builds these into the consultation and into jointly made treatment decisions.

A widely used conceptual framework by Mead and Bower describes five dimensions of patient-centredness: (1) a biopsychosocial perspective, considering psychological and social factors alongside biological ones; (2) seeing the "patient as a person" with their own experience of illness; (3) sharing power and responsibility between doctor and patient; (4) building a therapeutic alliance; and (5) recognising the "doctor as a person", whose own feelings and attitudes influence the consultation [2]. PCC has been associated with better patient experience and communication [3] and is regarded as a core competence of family medicine [1, 4].

Increasingly, PCC is also seen as a paradigm that concerns not only the patient but the physician's own wellbeing. Person-centred practice is emotionally and relationally demanding. Physicians who find meaning in their work and are protected from burnout may be better able to sustain it [5, 6], whereas burnout and low occupational wellbeing have been linked to reduced empathy and to more depersonalised, less patient-centred communication [7, 8]. Physicians’ patient-centredness comprises two distinct dimensions: Sharing (willingness to share information, power and decisions with patients) and Caring (regard for patients’ feelings, expectations and life context), which need not coincide, since empathy toward patients does not by itself imply sharing decisions with them.

Polish primary care is undergoing a structural reform intended to strengthen the family physician's role as care coordinator. The recently introduced Coordinated Care (CC) programme places family doctors at the centre of multidisciplinary teams that include specialists from various disciplines, dietitians and administrative care coordinators. Participation is optional for practices. The model is explicitly intended to support continuity of care and a more partnership-based relationship between physician and patient [9, 10].

The basic financing of Polish primary care practices is capitation-based: the National Health Fund (NFZ) pays each practice a fixed annual fee for every person registered on its active list. Coordinated Care operates as an additional, supplementary contract on top of this base financing. It provides extra funding and staff (care coordinators, dietitians and access to selected specialist consultations), mainly for the structured management of chronic conditions in five diagnostic pathways: cardiovascular, pulmonary, diabetic, thyroid and kidney diseases.

1.1 Study aim

In this study we want to explore whether provision of PCC is associated with a higher level of wellbeing of Polish PCPs and which elements of their demographic, professional and organizational characteristics play role.

Specifically, we want to answer:

1. Is patient-centred orientation of Polish PCPs associated with their wellbeing, as measured by the risk of distress?
2. What demographic, professional and organizational factors are associated with PCC attitudes among Polish PCPs?

2. Methods

2.1 Study design, setting and participants

This is a cross-sectional survey conducted among primary care physicians (PCPs) practising in Poland — including family medicine specialists, physicians in family medicine residency training, and physicians without a family medicine specialization working in primary care.

The target sample size was calculated using Cochran's formula for a finite population [11], based on an estimated population of approximately 15,500 physicians working in primary care in Poland, not limited to family medicine specialists (data from the Supreme Medical Chamber [12]), a 95% confidence level (Z = 1.96), an assumed proportion of 0.5, and a 5% margin of error, yielding a minimum required sample of n = 375.

The questionnaire was distributed nationally through the mailing list of the College of Family Physicians in Poland. To obtain a sample reflecting the geographical distribution of family physicians, invitations were sent to each region in proportion to its size and the number of physicians working there, until the target sample size was reached. In total, approximately 2,500 email invitations were sent, followed by two reminders. Data was collected between February and September 2026. Of those invited, 375 physicians completed the questionnaire, a response rate of approximately 15%.

Before starting the survey, all participants received information about the study and were informed that participation was voluntary and that they could withdraw at any time without giving a reason. Completion of the questionnaire was taken as consent to participate.

2.2 Study tool

The survey instrument comprised three parts, taking approximately 10–12 minutes to complete. The English version of the full questionnaire is provided in Supplementary File 1.

Part 1 – Respondent's characteristics. This section collected information about physician's age (years), sex (F/M), experience in primary care (years), medical specialization status (completed FM specialization/ in training /other or none), professional status (employee/ practice (co) owner, practice type (solo or group practice), the size of active patient list, whether the practice trains family medicine residents (yes/no), patient population type (urban/rural/mixed), voivodeship (province) of the practice, average daily number of patient contacts (all forms of contact), participation in the Coordinated Care programme (yes/no).

Part 2 – Wellbeing measure. The Mayo Clinic (Physician) questionnaire was used [13]. This comprised seven dichotomous (yes/no) items covering burnout, emotional numbness, feelings of depression or hopelessness, falling asleep unintentionally in public, feeling overwhelmed by accumulated duties, emotional difficulties (anxiety, low mood, irritability), and physical-health interference with daily activities — all referring to the preceding month — plus two further items, rated on a 7-point Likert scale, on sense of meaning in work and adequacy of work-life balance, each recoded to a -1/0/+1 contribution to the score. The resulting eWBI score ranges from − 2 to 8, with higher scores indicating greater risk of distress; a cut-off of ≥ 2 was used to identify physicians at higher distress risk, consistent with prior use of the instrument.

Part 3 – Person-centred orientation, measured by the 18-item Patient–Practitioner Orientation Scale (PPOS) [14], in its Polish version translated and validated by Bányai et al. [15]. The PPOS is the self-reported measure of patient-centred attitudes among health professionals, patients and trainees, comprising two nine-item subscales — Sharing (beliefs about sharing power and information with patients) and Caring (the perceived importance of empathy, warmth and treating the patient as a whole person). Each item was rated on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree), with three items reverse-scored. Sharing, Caring and total PPOS scores were calculated as item means (range 1–6), with higher scores indicating a more patient-centred orientation. The PPOS item wordings shown in Figs. 1 and 2 are English back-translations of the Polish items.

2.3 Statistical analysis

Descriptive statistics (means, standard deviations, medians, ranges, frequencies) were calculated for all study variables. To address research question 1, Pearson correlation coefficients were calculated between eWBI and PPOS total, Sharing and Caring scores, and mean PPOS/Sharing/Caring scores were compared between physicians with eWBI < 2 versus eWBI ≥ 2 (indicating higher distress risk).

Linear regression was used to model PPOS score as a function of sociodemographic and practice-level variables. Pearson correlation showed that physician age and years of experience in primary care were highly collinear ($r = .95$, $p < .001$); years of experience was therefore excluded as redundant. A full model was first fitted including all ten remaining candidate predictors (age, average daily patient contacts, sex, family medicine specialization status, professional status, number of physicians in the practice, active patient list size, practice training status, patient population type, and Coordinated Care participation); this

full model is reported in Supplementary File 2. Non-significant predictors were then removed one at a time using backward stepwise elimination (removing, at each step one variable based on the statistical criterion of the p-value), yielding a final, reduced model reported in Table 5. Both models are reported with unstandardized coefficients (B), standard errors, 95% confidence intervals, standardized coefficients (β) and p-values.

The analysis was conducted at a significance level of $\alpha = 0.05$ using Statistica version 13. Some respondents did not answer all questions. Missing responses were not imputed; each analysis included all respondents with complete data for the variables involved, so the number of respondents varies slightly between analyses (missing data for each variable are shown in Tables 1a and 1b).

3. Results

3.1 Participant and practice characteristics

A total of 375 physicians completed the survey, meeting the target sample size. The respondents came from all regions of Poland.

Tables 1a and 1b summarise the characteristics of the participating physicians and their practices. Mean age of respondents was 42.6 years (SD 13.4); 70.7% were women. Just over half (52.8%) had completed family medicine specialization, 28.0% were in family medicine residency training, and 19.2% had neither completed nor were pursuing family medicine specialization. Two thirds of physicians (67.0%) worked in a group practice, and 68.9% worked alongside five or more physicians (including residents). Active patient list size was 5,000-10,000 for 30.7% of practices and over 10,000 for 32.1%. Most practices served an urban (47.9%) or mixed urban-rural (36.9%) population, and 79.6% participated in the Coordinated Care programme. Physicians reported a mean of 30.9 daily patient contacts (SD 15.7).

Table 1a Respondents' demographic and professional characteristics

Physicians' characteristics (N = 375)		Value	Missing, n (%)
Age, years		42.6 ± 13.4	3 (0.8%)
Female sex		265 (70.7%)	0
Years of professional experience in primary care		14.0 ± 12.6	5 (1.3%)
Family medicine specialization:	completed	198 (52.8%)	0
	in training	105 (28.0%)	
	none	72 (19.2%)	
Owner / co-owner of the practice		106 (28.3%)	0
Number of daily patient contacts		30.9 ± 15.7	5 (1.3%)
eWBI score, range −2 to 8		1.71 ± 2.40	7 (1.9%)
Higher distress risk (eWBI ≥ 2)		189 (51.4%)	7 (1.9%)

For continuous variables values are mean ± SD. For categorical variables n (%) are presented with % calculated among respondents with non-missing data for that variable. eWBI = Mayo Clinic (Physician) Well-Being Index.

Table 1b Respondents' practice characteristics.

Practices' characteristics (N = 375).		Value	Missing, n (%)
Physicians in practice (incl. residents):	1	22 (5.9%)	2 (0.5%)
	2	18 (4.8%)	
	3-4	76 (20.4%)	
	5+	257 (68.9%)	
Active patient list size:	< 3,000	56 (15.0%)	1 (0.3%)
	3,000-5,000	83 (22.2%)	
	5,000-10,000	115 (30.7%)	
	>10,000	120 (32.1%)	
Training practice for family medicine		253 (67.8%)	2 (0.5%)
Patient population:	urban	179 (47.9%)	1 (0.3%)
	rural	57 (15.2%)	
	mixed	138 (36.9%)	
Participation in Coordinated Care		296 (79.6%)	3 (0.8%)

Values are n (%), with % calculated among respondents with non-missing data for that variable.

3.2 PPOS, Sharing and Caring scores

Mean PPOS score was 3.96 (SD 0.51; median 3.94; range 2.22-5.44). The Caring subscale (mean 4.28, SD 0.55) scored consistently higher than the Sharing subscale (mean 3.63, SD 0.63), indicating a relatively stronger orientation toward the relational/socio-affective dimension of care than toward sharing information and decision-making power (Table 2).

Table 2 Descriptive statistics for PPOS, Sharing, and Caring scores (N=375)

Scale	Mean	SD	Median	Q1-Q3	Min–Max
PPOS (total)	3.96	0.51	3.94	3.61-4.28	2.22–5.44
Sharing	3.63	0.63	3.67	3.22-4.00	1.44–5.33
Caring	4.28	0.55	4.33	4.00-4.67	2.67–5.78

Figures 1 and 2 show the response distribution for each of the 18 PPOS items, illustrating which specific attitudes were most and least patient-centred. The 15 directly scored items (Figure 1) are shown separately from the 3 reverse-scored items (Figure 2, items 9, 13 and 17), which use reversed legend colours so that green consistently marks the patient-centred response across both figures.

3.3 PCC orientation and physician wellbeing

eWBI score was weakly but significantly negatively correlated with PPOS total score: physicians with a more patient-centred orientation had a lower risk of distress (Table 3).

The correlation was numerically stronger for the Sharing subscale (r = −.179) than for the Caring subscale (r = −.119), although both were statistically significant (Table 3).

Table 3 Pearson correlations between eWBI and PPOS total/subscale scores.

		PPOS	Sharing	Caring
eWBI	r	-.175	-.179	-.119
	p	.001	.001	.024

When physicians were grouped by eWBI score (< 2 vs. ≥ 2), those in the higher-risk group had significantly lower mean PPOS and Sharing scores, whereas the difference in Caring scores was not statistically significant (Table 4). The study was not powered to establish clinically meaningful thresholds for these differences.

Table 4 PPOS, Sharing and Caring scores by eWBI risk group. Values are mean (SD).

	eWBI < 2 (n=178)	eWBI ≥ 2 (n=185)	p-value (t-test)	Total (n=363)
PPOS	4.01 (0.48)	3.89 (0.52)	0.036	3.95 (0.50)
Sharing	3.70 (0.62)	3.54 (0.63)	0.016	3.62 (0.63)
Caring	4.31 (0.54)	4.24 (0.55)	0.269	4.28 (0.55)

3.4 Determinants of PCC attitudes

The full model — encompassing the demographic/professional and organizational/workload predictors — explained 15.6% of the variance in PPOS score (R^2 = .156, $p < .001$; Supplementary File 2).

Within this full model, three predictors reached statistical significance: physician age, average daily patient contacts, and having completed family medicine specialization (relative to no specialization). All remaining predictors (sex, practice co-ownership, number of physicians in the practice, active patient list size, practice training status, patient population type, and Coordinated Care participation) were not statistically significant. The resulting reduced model, retaining physician age, average daily patient contacts, family medicine specialization status and active patient list size, explained 14.5% of variance (Table 5), only marginally less than the full model, indicating that the six removed predictors jointly contributed very little unique explanatory power.

Notably, Coordinated Care participation did not show a significant association with PPOS score. Whether the practice trains family medicine residents was also unrelated to physicians' orientation, in contrast to the individual-level finding that physicians who had personally completed specialization scored higher. Practice co-ownership was likewise unrelated to PPOS score.

Younger physician age and completed family medicine specialization were independently associated with higher PPOS scores, in contrast to the Coordinated Care and residency-training components. A higher average daily number of patient contacts was independently, significantly associated with lower PPOS scores. Active patient list size did not reach significance for any category in the full model, though the largest category (>10,000 patients) approached significance in the reduced model (Table 5, $p = .058$).

Table 5. Reduced (final) multiple linear regression model for PPOS score, retaining only predictors surviving backward stepwise elimination (R^2 = .145, $F=8.55$, $df=7$, $p<0.001$).

Predictor		B	95% CI for B	β	p
Physician age (years)		-0.007	-0.012, -0.003	-0.188	.002
Average daily patient contacts		-0.009	-0.014, -0.004	-0.191	<.001
FM specialization	none (ref.)				
	in training	-0.062	-0.150, 0.026	-0.085	.165
	completed	0.240	0.165, 0.315	0.371	<.001
Practice list size	≤ 3,000 (ref.)				
	3,000–5,000	-0.054	-0.146, 0.038	-0.063	.251
	5,000–10,000	0.028	-0.052, 0.109	0.037	.492
	>10,000	0.077	-0.003, 0.156	0.102	.058

FM - family medicine

4. Discussion

4.1 Summary of main findings and comparison with other studies

Results of this national survey showed more Caring than Sharing orientation of Polish PCPs. It also revealed that more patient-centred orientation was weakly associated with a lower risk of distress. Among the potential determinants examined, a higher daily volume of patient contacts was associated with less patient-centred attitudes, whereas completed family medicine specialization and younger age were associated with more patient-centred approach. Practice-level characteristics, including participation in Coordinated Care, were not associated with PCC attitudes.

4.1.1 Profile of patient-centred attitudes

Our finding that Caring exceeded Sharing scores replicates a pattern reported across PPOS studies internationally, including in Spain [16] and China [17], suggesting that a relatively stronger endorsement of empathic, relational attitudes than of power- and information-sharing is not specific to Poland. Direct numeric comparison of PPOS means across countries is complicated by differences in the number and composition of items retained after psychometric refinement (e.g. the Spanish study analysed a reduced 10-item version [16]); therefore, such comparisons were not attempted.

The relatively low Sharing scores in our sample are also consistent with the expectations of Polish patients. In a general-population survey of four Visegrad countries, Polish respondents had the lowest Sharing scores, indicating the strongest preference for a doctor-centred approach to sharing information

and decisions [15]. Because patients tend to be more satisfied when their physician's orientation matches or exceeds their own [18], Polish physicians' more limited endorsement of Sharing may partly reflect, and be reinforced by, their patients' expectations. Strengthening shared decision-making in Polish primary care may therefore require work with patients as well as with physicians.

4.1.2 PCC orientation and physician wellbeing

Consistent with our earlier European-level finding that patient-centred orientation is negatively associated with physicians' perceived stress [19], we found a weak negative association between PCC orientation (PPOS) and risk of distress (eWBI) among Polish PCPs. Although small, this association is consistent with the view that PCC is not solely a matter of patients' experience but is also linked to physicians' own psychological sustainability in practice [5, 8].

The correlation with eWBI was somewhat stronger for Sharing than for Caring, although the difference between the two correlations was not formally tested and should be interpreted with caution. One possible interpretation is that distress erodes physicians' willingness or capacity to relinquish control and engage in shared decision-making, a more effortful, time- and energy-intensive communicative stance, whereas empathic, relational concern (Caring) may be more stable, persisting as a professional value under strain or reflecting a disposition established earlier in training. This would be consistent with evidence that stress and burnout erode the more effortful, communication-intensive aspects of patient-centred practice. In a study of resident physicians, declines in empathy over a demanding shift predicted less patient-centred communication [8].

To our knowledge, the PCC–wellbeing association has not previously been examined separately by PPOS subscale; longitudinal studies are needed to confirm this pattern and establish the direction of effect.

4.1.3 Determinants of PCC attitudes

Previous findings regarding age and PPOS have been inconsistent: younger age was associated with more patient-oriented attitudes toward Sharing in a Greek study of physicians [20], whereas studies among health-care professionals in Spain and Kazakhstan found no significant association between age and PPOS scores [16, 21]. Krupat et al. described a non-linear relationship between years in practice and physicians' orientation [14]. Because age and years of experience in primary care were almost perfectly correlated in our sample ($r = .95$), the age effect cannot be separated from experience or from generational (cohort) differences: younger physicians have graduated from curricula that place more emphasis on communication skills and shared decision-making. At the same time, patient-centred attitudes are not simply acquired with time, as less patient-centred attitudes have been reported among students in later years of medical school [22, 23], which underlines the importance of the training environment.

Completed family medicine specialization, but not residency-in-training status, was independently associated with higher PPOS scores. To our knowledge, this distinction has not been directly examined

in the PPOS literature. It may reflect the consolidation of communication-skills competencies over the course of, and following, residency, consistent with studies from Greece and China in which previous training in communication skills predicted more patient-centred attitudes [20, 24]. However, the 'no family medicine specialization' group in our sample consisted largely of internists, paediatricians and long-serving primary care physicians practising under legacy entitlements. The contrast between completed specialization and 'none' in our study may also reflect a difference in professional culture between family medicine, with its explicit emphasis on person-centredness of family physicians [4], and other specialties, rather than the completion of training alone.

Workload, operationalised as average daily patient contacts, was the clearest organizational correlate of PPOS score. A higher volume of daily contacts is likely to compress the time available for the exploratory, dialogic consultation style that PCC requires, pushing physicians toward a more directive pattern of interaction out of practical necessity; longer consultations in general practice have been associated with more psychosocial discussion and better patient involvement [25, 26]. Findings of our study are in contrast with the Spanish validation study, in which PPOS scores were not associated with the number of patients attended per day [16]. This may reflect differences in typical daily workload between the two health systems. Reverse causation is also possible: physicians with a stronger patient-centred orientation may organise their work to see fewer patients per day. Active patient list size showed only a marginal, non-significant association, suggesting that day-to-day visit volume, rather than the size of the registered patient population per se, is the more proximal organizational barrier.

Coordinated Care participation, examined here as an exploratory factor, was not significantly associated with PCC orientation. This null finding is best read considering how Polish primary care is already organised, rather than as evidence that the reform has no value. Polish primary care practices are financed mainly through capitation with a fixed annual fee for every person registered on active list of patients, regardless of how often that patient is seen. This model already creates a structural incentive toward continuity of care. Coordinated Care adds a supplementary layer of coordination resources on top of this base system, rather than introducing continuity-oriented incentives. So, it may be unsurprising that CC enrolment status alone does not differentiate physicians' attitudes. In addition, almost four in five respondents (79.6%) worked in participating practices, so the comparison group was relatively small, and the study had limited power to detect a modest difference.

Practice training status was similarly unrelated to PPOS score, even though physicians who had themselves completed specialization scored higher. Together, these findings suggest that the individual physician's own training history, specialty background and daily workload, rather than the organizational setting of the practice, are the factors most closely related to patient-centred attitudes.

4.2 Strengths and limitations

This study has several strengths. It used a validated instrument for physician wellbeing (the Mayo Clinic Well-Being Index, eWBI) alongside the PPOS and, going beyond the European analysis, examined in detail

the demographic, professional and organizational determinants of PCC attitudes among Polish PCPs, including the country-specific Coordinated Care reform.

The sample met an a priori sample-size calculation and drew on a national, multi-region network of PCPs rather than a single region or institution. Use of the PPOS subscales allowed the PCC–wellbeing association to be examined separately for the Sharing and Caring dimensions rather than only at the level of a single composite score. The regression analysis reports the full predictor set, including non-significant variables, so that organizational and reform-level factors, including Coordinated Care participation, are evaluated transparently rather than only through variables that happened to reach significance.

Several limitations should also be noted. The cross-sectional design precludes causal inference, particularly for the eWBI–PPOS association and for the null Coordinated Care finding, which cannot be distinguished from an effect that has not yet had time to manifest. The small number of physicians working in practices outside Coordinated Care also limited the power of this comparison. All data were self-reported and may be subject to social desirability bias. The Polish version of the PPOS was validated in the general population [15] and has not been validated among physicians. Participants were engaged with the College of Family Physicians in Poland and may differ systematically from non-members (e.g. in specialization status or existing favourability toward PCC), limiting generalisability. Because Polish law permits physicians other than family medicine specialists to hold patient lists, the 'no specialization' category in our models is heterogeneous and should not be read as 'untrained'. Finally, the modest R^2 of the regression models (14.5–15.6%) indicates that unmeasured factors, such as personality traits, communication training beyond formal specialization and workplace culture, likely explain much of the remaining variability.

5. Conclusions

Polish PCPs show, overall, a patient-oriented attitudinal style, more strongly expressed through holistic, relational concern (Caring) than through the sharing of decision-making power (Sharing). A more patient-centred orientation seems to be weakly associated with a lower risk of distress.

A high daily volume of patient contacts may result in less patient-centred attitudes, while completed family medicine specialization and younger age may be associated with a stronger PCC orientation. Participation in the Coordinated Care programme seems to be not independently associated with PCC attitudes. In a system already built on capitation, its contribution may lie more in the resources it adds for chronic-disease management than in shifting physicians' attitudes, at least at this early stage of its roll-out.

Fewer daily patient contacts, completed family medicine specialization and younger age were associated with more patient-centred attitudes, suggesting that reducing workload, expanding specialty training and sustaining patient-centred skills throughout physicians’ careers may strengthen person-centred care in Polish primary care.

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics Committee of the Jagiellonian University Medical College, Kraków, Poland (approval no. 118.0043.1.372.2025, dated 30 September 2025). Before starting the survey, all participants received information about the study and were informed that participation was voluntary and that they could withdraw at any time without giving a reason. Completion of the questionnaire was taken as consent to participate.

The study was conducted according to the guidelines of the Declaration of Helsinki. Informed consent was obtained from all patients.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

Not applicable

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Author's contributions

K.N. and K.S. conceived and designed the study. J.S., M.G., T.T., A.G., J.I. and K.K. collected the data and contributed to the preparation of the manuscript. E.W. and K.N. performed the statistical analysis. K.N. wrote the main manuscript text and prepared the tables and figures, with contributions from K.S. A.W. supervised the study. All authors reviewed and approved the final manuscript.

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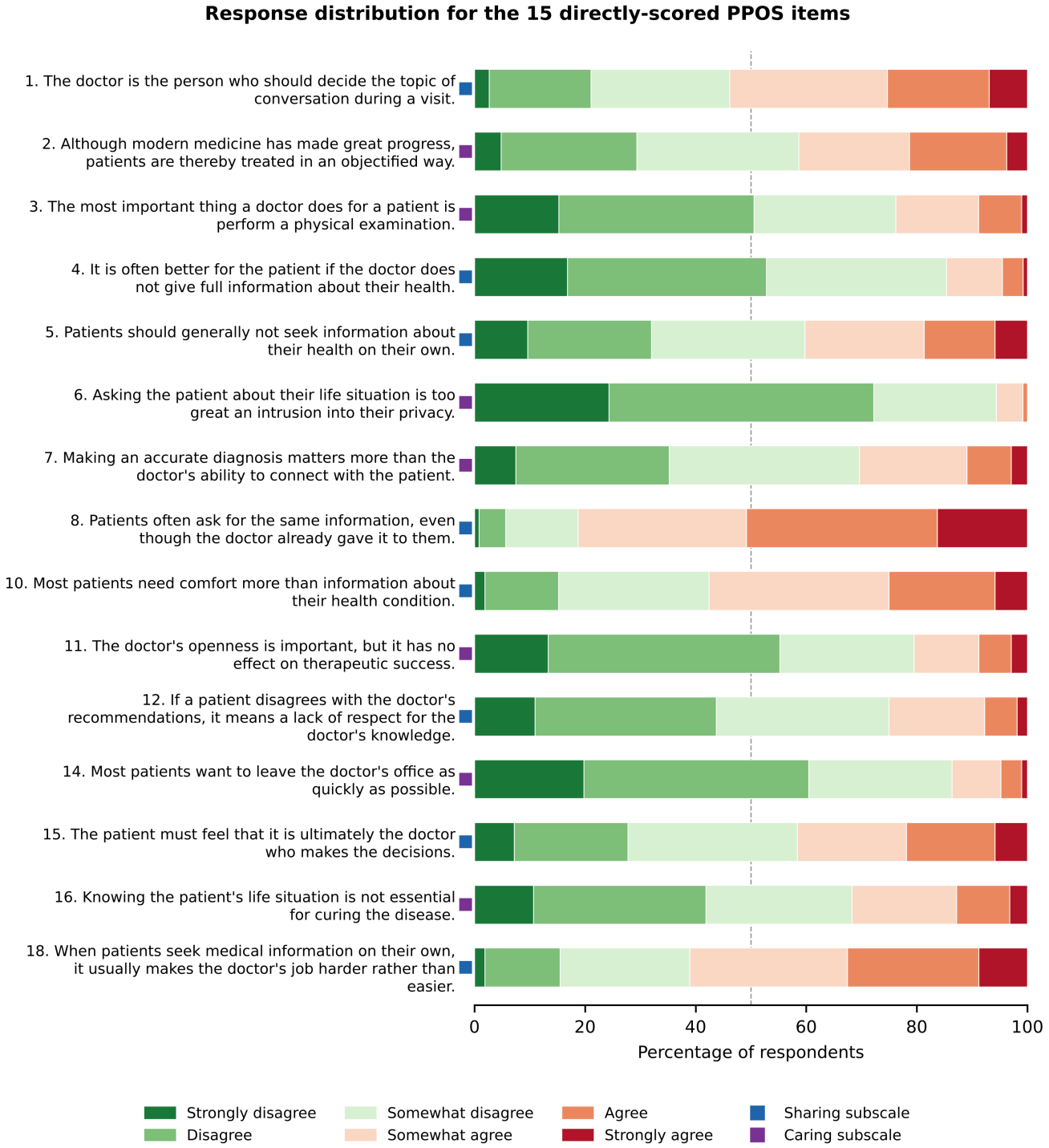
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Figures



Note: colours indicate the patient-centred direction of each response (green = patient-centred, red = physician/disease-centred). For these directly-scored items, disagreement is the patient-centred response, so green is assigned to "Strongly disagree" and red to "Strongly agree" — the reverse of a usual agree/disagree colour convention.

Figure 1

Response distribution for the 15 directly scored PPOS items (N = 375), with Sharing/Caring subscale

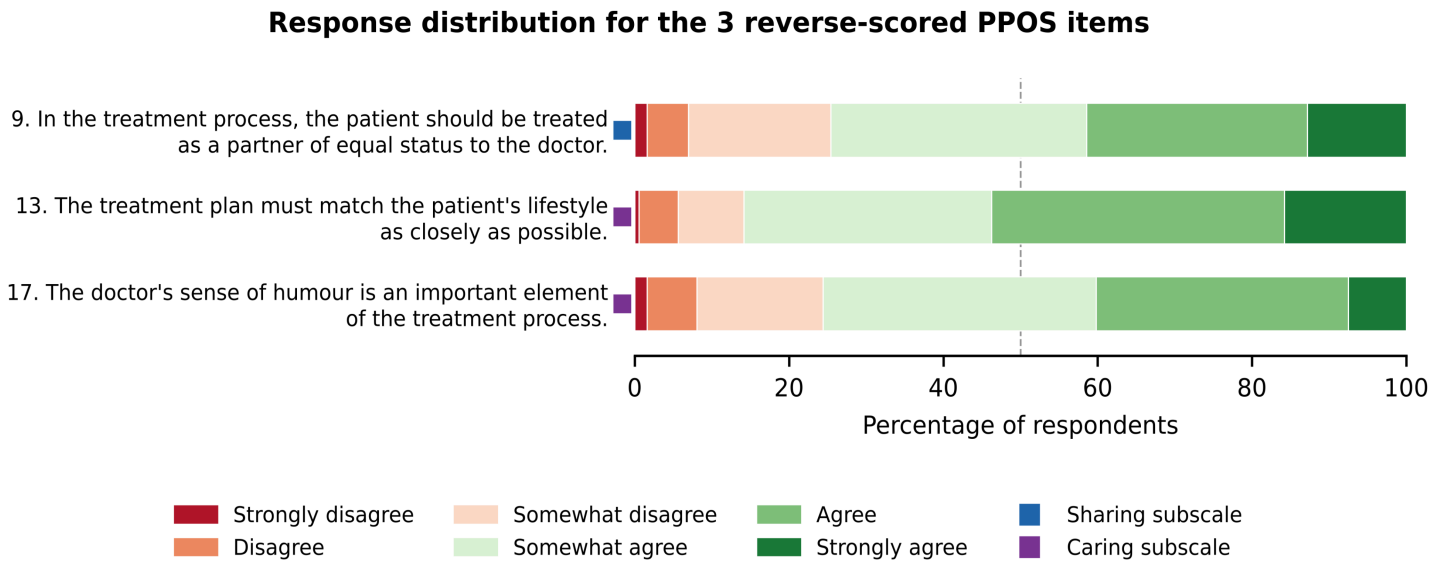


Figure 2

Response distribution for the 3 reverse-scored PPOS items (N = 375). Legend colours are reversed relative to Figure 1 so that green still indicates the patient-centred response direction.

Supplementary Files

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- SupplementaryFile1.docx
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