Patient perspectives on physician-patient relationships in Poland – selected demographic, social, and health-related factors

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▌Abstract

Introduction and Objective. Effective physician–patient communication is a cornerstone of therapeutic relationships and a key determinant of healthcare quality. The aim of the study is to assess the quality of doctor–patient relationships in Poland, using the Human Connection Scale (THC), and to identify demographic, social, and health-related determinants.
Materials and Method. In March 2022, a cross-sectional survey was conducted among 1,912 adults who had used medical services within the previous two years. Participants completed a 16-item THC scale, self-rated their somatic and mental health, and reported pain intensity with the EQ-5D-5L. Psychometric testing confirmed excellent internal consistency (α = 0.91) and a predominantly unidimensional structure. Differences and predictors of THC scores were analyzed using non-parametric tests and a multivariable general linear model with interactions.
Results. The mean standardized THC score was 58.8/100. Respect (85.7%) and active listening (84.4%) received the highest ratings, while physician interest in family coping (25.1%) and attention to quality of life (30.4%) were lowest. Lower scores were reported by younger adults, especially those aged 36–50 years (S = −4.22; 95% CI −7.28 to −1.16), individuals with higher education, patients with poorer somatic (S = −2.99; −3.52) or mental health (S = −3.65; −4.11), and those experiencing moderate to severe pain (S = −3.23). Significant interactions between pain and mental health, age, gender, pain, and type of healthcare provision explained 5.6% of variance.
Conclusions. Findings indicate a moderate quality of perceived physician–patient communication in Poland. Strengthening communication skills training and integrating tools such as the THC scale into routine practice may enhance empathetic, patient-centred care.

▌Key words

physician–patient relationship, clinical communication, Human Connection Scale

INTRODUCTION

Effective communication between physicians and patients is a central component of the therapeutic relationship and a key determinant of healthcare quality [1]. Good communication facilitates mutual understanding, enhances patient satisfaction, and supports adherence to therapeutic recommendations [2–4]. From a clinical perspective, efficient and effective communication is one of the fundamental components of a strategy aimed at ensuring high-quality patient care [5]. It is also closely linked to trust in the physician and to patients' engagement in treatment [6, 7].

The traditional paternalistic model of the doctor–patient relationship, characterized by the physician's dominance and limited patient autonomy, has been gradually losing influence [8, 9]. Contemporary approaches emphasize partnership, patient involvement, and the humanization of medicine, which requires active listening, empathy, and attentiveness to the patient's emotional and social context [10–12]. However, empirical research indicates that patients often perceive physicians as not devoting enough time to communication or not adjusting explanations to their level of understanding, which may hinder effective interaction [13].

Communication quality is shaped by both physician and patient characteristics. Previous studies demonstrate that physicians' communication behaviours are influenced by professional experience, workload, attitudes toward the profession, and their own values [14, 15]. Patient characteristics, including gender and educational level, also influence expectations and communicative behaviour during medical encounters [10]. High-quality communication has consistently been shown to improve satisfaction and perceived quality of care in various clinical settings [16].

Standardized measures of relational aspects, such as the Human Connection Scale (THC) developed by Mack et al., allow systematic assessment of communication quality from the patient's perspective [17]. Such instruments help identify relational strengths and weaknesses, providing useful information for improving patient-centred care.

In Poland, studies indicate a persistent tension between paternalistic traditions and the emerging partnership-based

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model of care [9]. Reports on the humanization of healthcare highlight communication barriers, such as insufficient explanation, limited patient participation in decision-making, and variability in communication practices across medical settings [10, 19]. Research also points to differences between demographic groups in expectations toward physicians and in perceptions of communication quality [18]. These findings underline the need for population-based assessments that capture demographic, social, and health-related differences in relational experiences.

However, a deeper understanding of the quality of the doctor–patient relationship requires more research: both qualitative and quantitative studies conducted in varied therapeutic contexts. Standardized tools for assessing the communication process from the patient's perspective – often used as part of evaluations of satisfaction with medical services – can be particularly valuable in this regard.

The aim of the present study, therefore, is to identify the positive and negative aspects of the doctor–patient relationship using the Polish version of The Human Connection (THC), which, to the best of our knowledge, has not previously been analyzed in such a large sample of individuals using medical services. The study also seeks to identify the demographic, social, and health-related factors that most strongly influence variability in the THC indices. The results may be informative for future communication-strengthening strategies in medical education and clinical practice, although the present study does not implement specific training interventions.

MATERIALS AND METHOD

Study design and sample. Data were collected as part of the Poland-wide project 'Humanization of the treatment process and clinical communication between patients and medical staff during the COVID-19 pandemic.' The study was cross-sectional in design and was conducted via a professional nationwide online research panel of adult residents of Poland. The panel was maintained by an external research agency and consisted of individuals who had provided prior consent to be invited to voluntary survey-based studies.

Participants were invited electronically through individual notifications sent by the agency. Recruitment continued until the planned number of completed questionnaires was obtained. To improve the representativeness of the sample, demographic quotas were applied for gender, age, and place of residence, reflecting the structure of adult population in Poland. The inclusion criteria were: age $\geq$ 18 years, residence in Poland, and the use of medical services within the previous 24 months. Exclusion criteria were employment in a healthcare facility, or having visits that were limited to obtaining a prescription, vaccination, or other administrative purposes. In total, responses were obtained from 2,050 individuals, of these, 1,912 respondents with complete data for all variables were included in the final analysis.

All responses were collected using the CAWI (Computer-Assisted Web Interviewing) method. Participants completed the questionnaire independently via the Internet between 2 March – 20 March 2022, outside of medical facilities, thus minimising potential response bias associated with the clinical setting. The panel applied verification procedures to prevent multiple participation by the same individual (unique user ID assignment, device fingerprinting, and system-level IP checks). Participation was anonymous, and no directly identifying data were collected.

The questionnaire was developed by the research team implementing the above nationwide project. It consisted of closed-ended questions on the humanization of the treatment process, communication with healthcare workers, self-assessment of health, relationship quality, and the impact of the pandemic on the above factors. The survey was anonymous, and respondents could withdraw from participation at any time without providing a reason.

The survey content, research procedure, and informed consent process were approved by the Ethics and Research Committee of the Faculty of Education, University of Warsaw (Decision No. 2021/8).

Questionnaire and research instruments. The main variable was the THC scale, a 16-item questionnaire developed by a team led by Jennifer Mack, to assess human connection, specifically in the context of patient–physician communication [17]. Prior to data collection, permission to use the scale was obtained from the author via e-mail. Since the original version was in English, the scale underwent linguistic adaptation, followed the International Test Commission (ITC) including translation, expert synthesis, back-translation, expert review and pilot cognitive testing to secure semantic and conceptual equivalence. In one item (No. 14), the wording was modified so that the results would refer to any illness, rather than exclusively to cancer.

Responses were measured on a 4-point scale with varying categories reflecting the frequency or intensity of experiences. The overall crude THC index ranged from 16–64 points, with higher scores indicating a better relationship with the physician. For further analyses, a standardized index was calculated on a 0–100-point scale, interpretable as the percentage of the maximum possible score.

Scale reliability was assessed using Cronbach's alpha, and the structure was examined using principal component analysis (PCA). The full wording of the items is presented later in Figure 1, with question numbers corresponding to the original order in the questionnaire.

In addition, the survey gathered data on pain intensity, self-rated health, and household economic status. Pain was assessed using the pain/discomfort dimension of the EQ-5D-5L instrument, a generic measure of self-perceived health status developed by the EuroQol Group and implemented internationally. The EQ-5D-5L comprises five dimensions (mobility; self-care; usual activities; pain/discomfort; anxiety/depression), each with five ordered response levels: 'no problems', 'slight problems', 'moderate problems', 'severe problems', and 'extreme problems'. In this study, only the pain/discomfort dimension was analyzed, with respondents selecting from the above levels. For statistical analysis, the first two response levels were merged into one category, and the three highest-severity levels were combined into another category [19].

Self-rated health was measured in both somatic and psychological dimensions using the questions: 'How would you rate your overall health?' and 'How would you rate your mental well-being or state of mind?' In both cases, five response categories were provided, ranging from 'definitely good' to 'definitely poor'. These were recoded into three levels corresponding to poor, average, and good ratings in each dimension.

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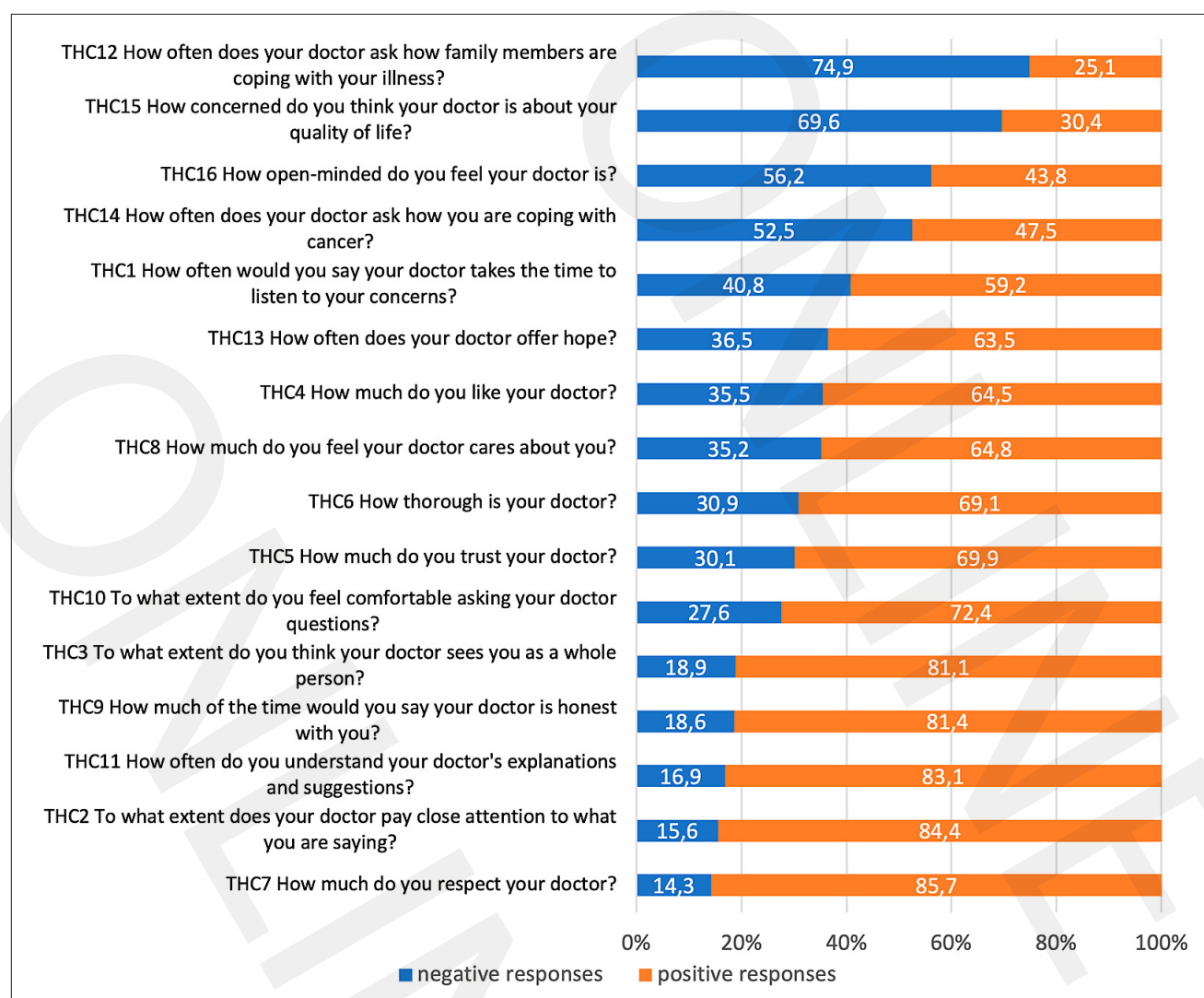
Figure 1. Components of The Human Connection (THC) scale ranked by strengths and weaknesses in communication

Family economic status was also assessed using the question: 'Which of the following statements best describes the material situation of your household?' The six response categories were reduced to three. A poor material situation included the answers 'there is not enough even for the most urgent need' and 'I have to forego many things, but it is enough to get by'. An average level of wealth included 'there is enough for everyday needs, but not for larger expenses' and 'there is enough for larger expense'. The highest level of wealth included 'there is enough for everything' and 'we save/invest part of our income'.

Lastly, the following demographic and social characteristics were also included in the survey information: Demographic and social characteristics included gender (men, women), age (18–29, 30–49, 50–65, 66+), place of residence (rural or urban), occupational activity (yes/no), education (below secondary, secondary, above secondary), and type of medical care (public only or both public and private). A detailed description of the sample by the characteristics analyzed is presented in Table 1.

Statistical analyses. At the preliminary stage, a psychometric analysis of the Polish version of the THC scale – as described above – was carried out. Scale reliability was assessed using Cronbach's alpha coefficient. The latent structure of the scale was examined using Exploratory Factor Analysis (EFA) with Principal Axis Factoring as the extraction method and Direct Oblimin rotation. Sampling adequacy and factorability of the correlation matrix were verified using the Kaiser–Meyer–Olkin (KMO) coefficient and Bartlett's test of sphericity. Factors were retained based on eigenvalues, scree plot inspection, and minimum factor loadings ≥ 0.40.

Normality of the standardized THC score was examined using the Shapiro–Wilk test, skewness and kurtosis values, and visual inspection of the Q–Q plot. Although the Shapiro–Wilk test indicated a deviation from normality ($W = 0.992$; $p < 0.001$), the skewness (−0.008) and kurtosis (−0.540) values, together with the Q–Q plot, showed only minor departures, mainly at lower score values. Given the ordinal response format of the THC items and minimal distributional deviations, both parametric and non-parametric methods were applied, while multivariable General Linear Models (GLM) were used as the primary inferential approach.

In the first step, the distribution of responses to each THC item was presented. Next, mean THC indices were compared between groups distinguished by demographic, social, and health characteristics. The Mann–Whitney test was used for comparisons between two groups, and the Kruskal–Wallis test for comparisons involving more than two groups.

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Table 1. Mean Human Connection Index (THC) by patients' demographic, social, and health characteristics – univariate analysis

	N (%)	Mean (SD)	p*
Total	**1912**	**58.78 (19.51)**	
Gender			
Male	971 (50.8)	59.67 (18.72)	**p=0.025**
Female	941 (49.2)	57.45 (20.21)	
Age in years			
18–35	447 (23.4)	58.65 (17.93)	
36–50	517 (27.0)	56.48 (18.55)	**p=0.002**
51–65	558 (29.2)	59.36 (29.77)	
66+	390 (20.4)	60.96 (20.39)	
Place of living			
Rural areas	678 (35.5)	59.07 (19.59)	p=0.878
Urban areas	1234 (64.5)	58.62 (19.48)	
Working			
No	936 (49.0)	57.88 (19.18)	**p=0.019**
Yes	976 (51.0)	59.72 (19.81)	
Education			
Below secondary	496 (25.9)	58.27 (20.79)	
Secondary	725 (37.9)	60.88 (19.07)	**p<0.001**
Higher	691 (36.1)	56.78 (19.51)	
Health care payment			
Only public (NFZ)	843 (44.1)	59.35 (19.77)	p=0.198
Public or private	1069 (55.9)	58.33 (19.30)	
Family material status			
Poor	249 (13.0)	56.37 (20.58)	
Average	1383 (72.3)	58.88 (19.28)	**p=0.036**
Good	280 (14.6)	60.92 (19.32)	
Self-rated somatic health			
Poor	421 (22.0)	56.20 (19.79)	
Average	599 (31.3)	56.51 (18.75)	**p<0.001**
Good	892 (46.7)	61.52 (19.54)	
Self-rated mental health			
Poor	334 (17.5)	53.55 (19.63)	
Average	435 (22.8)	55.67 (17.73)	**p<0.001**
Good	1143 (59.8)	61.20 (19.76)	
Pain / discomfort EQ-5D-5L			
Moderate to extreme pain	657 (34.4)	56.55 (20.39)	
Slight pain	726 (38.0)	59.01 (18.84)	**p<0.001**
No pain	529 (27.7)	61.22 (19.01)	

*Mann–Whitney for 2 groups or Kruskal–Wallis for more groups

In the third step, as part of a multivariable analysis, two general linear models (GLM) were estimated, with the standardized THC index as the dependent variable. The first model included main effects, and the second one examined which two-way and three-way interactions were statistically significant. Regression parameters B with 95% confidence intervals (CIs) were reported (model 1), and selected interactions were presented graphically as marginal means (model 2).

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 29.0 (IBM Corp., released 2023. IBM SPSS Statistics for Windows, Version 29.0. IBM Corp., Armonk, NY, USA). Significance level was set at $p < 0.05$.

RESULTS

The THC scale used in this study showed excellent internal consistency (Cronbach's α = 0.91). The Shapiro–Wilk test indicated a deviation from normality for the standardized THC score (W = 0.992; p <.001), which is common in large samples; however, skewness (−0.008) and kurtosis (−0.540) values and visual inspection of the Q–Q plot, suggested only minor departures that were acceptable for further modelling.

The latent structure of the tool was examined using Exploratory Factor Analysis (EFA) with Principal Axis Factoring and Direct Oblimin rotation. Sampling adequacy was confirmed by the Kaiser–Meyer–Olkin coefficient (KMO = 0.962), and Bartlett's test of sphericity indicated that the correlation matrix was suitable for factor extraction ($\chi^2(120) = 20275.54$; p <.001).

The EFA revealed one dominant latent factor with an eigenvalue of 8.79, explaining 54.9% of the total variance, further supporting the unidimensional character of the scale. All THC items demonstrated satisfactory communalities and factor loadings exceeding 0.40. The scree plot showed a clear inflection after the first factor, supporting a one-factor solution. These results indicate that the THC scale can be treated as essentially unidimensional in the Polish sample, which is consistent with theoretical assumptions and previous validation studies. A total of 1,912 respondents (971 men, 941 women; mean age 49.55 ± 16.47 years) were included in the analyses. Residents of rural areas constituted 35.5% of the sample

Figure 1 shows the percentage of negative and positive responses to THC scale items, obtained after combining the extreme response categories. Regarding negative aspects of doctor–patient communication, the lowest-rated elements were the physician's interest in how the patient's family coped with an illness (74.9% negative responses) and attention to the patient's quality of life (69.6%). In contrast, among the most positively rated aspects were the respect patients felt for their physician (85.7% positive responses) and the physician's focus on what the patient was saying (84.4%). It is noteworthy that four out of the five questions forming the second factor ranked among the least favourable in terms of high percentages of negative ratings.

In the study sample, the mean standardized THC index was 58.8, corresponding to less than 60% of the theoretical maximum score. The maximum score was recorded for 30 respondents (1.6%), while 6.0% scored above 90%.

Table 1 compares mean standardized THC indices by selected patient characteristics. No association was found between THC distribution and place of residence or type of healthcare provision. Differences emerged in favour of men and individuals with higher economic status. Age proved to be a significant differentiating factor: older respondents (over 66 years) rated their relationships with physicians more highly than younger respondents, with the lowest THC indices recorded in the 35–50 age group. In terms of education level, a significant non-linear association was observed, with the highest mean standardized THC indices reported among those with secondary education. Ratings of doctor–patient relationships were also higher

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among the unemployed compared to those employed. A significant association was confirmed between self-rated health in both dimensions and the standardized THC index level. Respondents who rated their health worse in either the somatic or psychological dimension had lower THC scale scores. In the case of psychological well-being, the difference between the extreme groups was 7.65 points. Similarly, pain intensity according to the EQ-5D-5L was a differentiating factor – as the severity of pain increased, ratings of the doctor–patient relationship consistently declined.

Table 2 presents the results of the multivariable general linear model (GLM) estimated for the standardized THC index as the dependent variable. All 10 factors previously analyzed in the univariate analyses were included as explanatory variables. The Table presents the main effects. No significant effects were found for place of residence or type of healthcare payment. In the multivariable model – unlike in the univariate analysis – the associations between THC level and both occupational activity and family material status disappeared, as did differences related to gender. Significant differences remained for age, education level, self-rated somatic and mental health, and pain intensity. THC indices were significantly lower in the two younger age groups, especially in respondents aged 36–50 years, and among individuals with education higher than secondary. Ratings of the doctor–patient relationship were lower among those reporting poor or average self-rated health compared to those rating their health as very good. Stronger pain was also associated with lower THC values, while the association for slight pain was borderline significant ($p = 0.054$).

It is also worth noting selected interactions between potential predictors of THC variability. While the GLM including only main effects explained 4.5% of the variability in the THC index, the inclusion of significant interactions increased this percentage to 5.6%. Two significant two-way interactions were identified – between gender and age ($p = 0.003$) and between pain intensity and mental well-being ($p = 0.042$) – as well as one significant three-way interaction between gender, pain, and type of healthcare provision ($p = 0.035$). In the model including interactions, the main effects of age ($p = 0.003$), education ($p < 0.001$), self-rated somatic health ($p < 0.001$), self-rated mental health ($p = 0.003$), and pain ($p = 0.03$) remained significant, and the effect of gender was borderline ($p = 0.066$). This means that the type of healthcare provision, previously found to be non-significant, interacts with other determinants of THC. In addition, the inclusion of interactions strengthened the main effect of pain.

The interaction between gender and age reflects a stronger association between THC levels and age in men than in women. Among men, ratings of the doctor–patient relationship improved markedly with age (Fig. 2).

The interaction between mental well-being and pain shows that THC levels remain high among individuals not experiencing pain. The combination of poor mental health and more severe pain is associated with a marked decrease in THC. For both moderate and severe pain, ratings of the doctor–patient relationship increase significantly with improvements in mental health. When comparing individuals with poor versus good mental well-being, this increase was 3.7 and 7.8 points, respectively, on the standardized THC index (Fig. 3).

Table 2. General linear model (GLM) for ratings of communication with physicians (THC) – main effects

	B	SE	P	95% CI Lower bound	95% CI Upper bound
Constant	**61.60**	**2.03**	**< 0.001**	**57.63**	**65.58**
Gender					
Male	1.74	0.92	0.057	-0.05	3.54
Female (ref.)					
Age					
18–35	-3.17	1.59	**0.047**	-6.30	-0.05
36–50	-4.22	1.56	**0.007**	-7.28	-1.16
51–65	-1.09	1.38	0.430	-3.80	1.62
66+ (ref.)					
Place of living					
Rural	1.32	0.94	0.161	-0.53	3.17
Urban (ref.)					
Working					
No	-1.56	1.05	0.138	-3.62	0.50
Yes (ref.)					
Level of education					
Lower than secondary	2.79	1.23	**0.023**	0.39	5.20
Secondary	4.37	1.04	**< 0.001**	2.33	6.41
Higher education (ref.)					
Health care payment					
Public	0.37	0.91	0.687	-1.42	2.16
Private (ref.)					
Family material status					
Poor	2.43	1.78	0.173	-1.06	5.92
Average	1.64	1.31	0.212	-0.93	4.21
Good (ref.)					
Self-rated somatic health					
Poor	-2.99	1.41	**0.034**	-5.75	-0.22
Average	-3.52	1.11	**0.001**	-5.69	-1.35
Good (ref.)					
Self-rated mental health					
Poor	-4.11	1.36	**0.002**	-6.78	-1.45
Average	-3.65	1.14	**0.001**	-5.89	-1.41
Good (ref.)					
Pain / discomfort					
Moderate to extreme pain	-3.23	1.31	**0.014**	-5.79	-0.67
Slight pain	-2.22	1.15	0.054	-4.48	0.04
No pain (ref.)					

B – Estimate; SE – Standard Error; P – p-value; 95% CI – 95% Confidence Interval
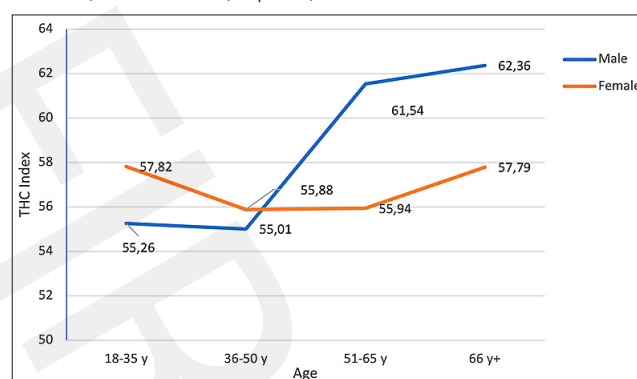
Figure 2. Mean standardized THC index values estimated in the GLM by gender and age of respondents

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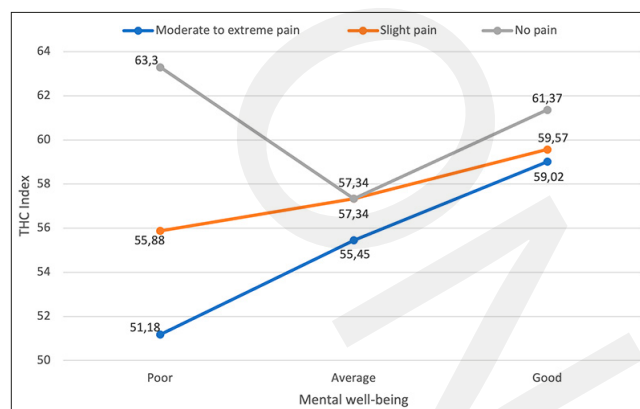
Figure 3. Mean standardized THC index values estimated in the GLM by respondents' pain intensity and mental well-being

The interaction between gender, type of healthcare provision, and pain intensity shows that, among those treated exclusively in facilities contracted with the National Health Fund (NFZ), men rated their relationships with physicians markedly higher than women. However, gender-related differences increased with greater pain intensity. In contrast, among respondents who received care privately or alternated between private care and NFZ services, women achieved higher standardized THC index values than men when experiencing severe pain. Only in the absence of pain were doctor–patient relationships rated more highly by men (Fig. 4).
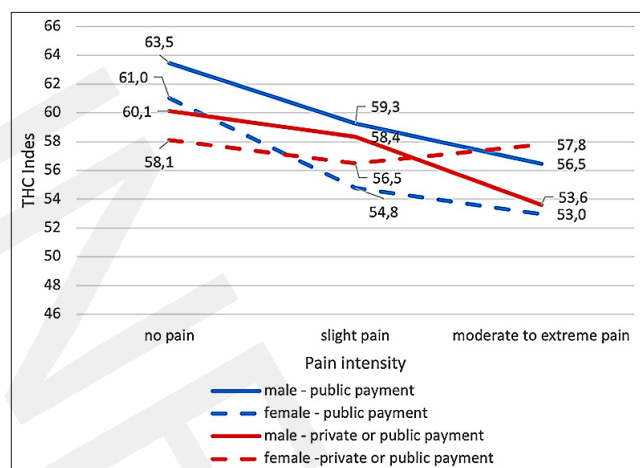

Figure 4. Mean standardized THC index values estimated in the GLM by respondents' gender, type of healthcare provision, and pain intensity

DISCUSSION

The doctor–patient relationship is a multidimensional interaction shaped by clinical communication, relational behaviours, and patient expectations. Using the Polish adaptation of the Human Connection Scale (THC), this study provides a comprehensive view of communication quality as perceived by patients in Poland. The psychometric properties of the scale confirmed its reliability and theoretical coherence in a general clinical population. The findings provide insight into the strengths and weaknesses of this relationship, highlight areas in need of improvement, and offer guidance for optimizing the training of future physicians in building partnership-based and empathetic patient interactions

The doctor–patient relationship is understood as a system of communicative interactions between physician and patient concerning medical or health-related matters [18]. The THC scale was designed to measure these interactions. When discussing the findings of the presented study, an important starting point is the usefulness of the Polish adaptation of the tool. The original version demonstrated high internal reliability among oncology patients [20], and the coefficient obtained in the current study confirms that the THC instrument is also applicable to broader clinical settings.

The overall evaluation of the relationship showed a moderate level of perceived communication quality. Patients rated core interpersonal components such as respect and attentive listening particularly highly – elements associated in the literature with improved trust, better therapeutic cooperation, and increased satisfaction with care [20, 21]. This aligns with prior evidence showing that clear communication, emotional presence, and the physician's willingness to listen are essential for good therapeutic alliance [1, 5, 16]. At the same time, relational gaps identified in the analysis mirror findings from other studies discussing shortcomings in physicians' attention to patients' psychosocial context. Bensing noted that biomedical issues often dominate consultation time, leaving little room for exploring quality of life, emotional state, or family coping [22]. International research consistently indicates that neglecting these domains may reduce patient engagement, satisfaction and perceived empathy [2–4, 23–26]. The present observations support the view that strengthening physicians' social sensitivity and exploring the broader context of illness may be beneficial for improving relational quality.

The mean level of relationship quality observed in the Polish sample corresponds with data from the original US validation study, which also indicated that relational communication leaves room for improvement [17]. Similarly, studies from other European healthcare systems have shown a comparable profile: while rapport, listening, and verbal clarity, tend to be rated positively, items reflecting deeper emotional understanding or holistic inquiry often receive lower scores [2, 20, 24].

The observed patterns indicate that relational assessments are differentiated by demographic and health-related characteristics, consistent with research showing that social position, communication preferences, symptom burden and psychological state shape expectations toward the physician and the experience of the clinical encounter [10, 23–26].

Specifically, older individuals tended to evaluate the doctor–patient relationship more positively than younger respondents. This pattern may reflect lower expectations toward clinical communication, longer experience with the healthcare system, more conventional attitudes toward medical authority, or communication preferences typical of older patients. Similar observations have been reported in the literature, indicating that older adults show greater tolerance for communication shortcomings and are less likely to express dissatisfaction [27]. Analysis of the gender–age interaction produced particularly interesting results, revealing a stronger association between THC levels and age among men than among women. In the male group, ratings of the doctor–patient relationship improved markedly with age. The literature indicates that women are more sensitive to communication deficits, more frequently report unsatisfactory physician contacts, and may be marginalized

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in the diagnostic process – factors that could explain lower THC scores in this group [28]. Educational level also differentiated perceptions of the doctor–patient relationship. Respondents with secondary education tended to assess communication more favourably than those with higher education, which may reflect lower expectations, less demand for partnership-based dialogue, and greater acceptance of the traditional physician-led decision model. Conversely, individuals with higher education were more critical of the relationship, consistent with research showing that better-educated patients are more likely to expect reciprocal information exchange, shared decision-making, and broader inquiry into their emotional and social context [21, 22, 27, 29]. In contrast, place of residence and type of healthcare provision did not appear to play a decisive role in shaping perceptions of the relationship when considered alongside the other factors included in the analysis. Similarly, occupational activity and family economic status did not maintain their associations with relational assessment once other predictors were accounted for. These observations are compatible with the notion that patient perception of communication quality is more strongly driven by individual expectations, health status and subjective experience of illness than by general socio-demographic indicators.

Health-related characteristics emerged as particularly important determinants of the quality of the doctor–patient relationship. Individuals reporting poorer somatic or psychological well-being, as well as those experiencing stronger pain, tended to evaluate communication less favourably. International evidence shows that physical discomfort, psychological strain, or chronic symptom burden, may heighten sensitivity to relational shortcomings and increase expectations of emotional support from the physician [23–26]. The overall trend identified in this study – whereby better perceived health and lower burden of symptoms coincide with more positive evaluations of the doctor–patient relationship – reflects similar patterns observed in other research on relational quality and empathy in clinical practice [30].

Although the data were collected during the COVID-19 pandemic, which temporarily altered some patterns of interaction (such as limiting face-to-face encounters and introducing remote consultations) [31, 32], the general relational profile observed in this study corresponds with findings reported outside pandemic conditions [30]. This suggests that the main determinants of relationship quality identified here reflect more stable aspects of communication practice rather than being solely consequences of crisis-related disruptions.

These findings highlight areas where communication in Poland may benefit from reinforcement. Literature shows that empathy, attentiveness to psychosocial needs, and responsiveness to patients' emotional cues contribute to higher satisfaction, greater trust, and better cooperation with treatment [1, 5, 16, 20]. An equally important aspect of improving doctor–patient relationship quality is ensuring the well-being – both mental and physical – of physicians themselves [33]. During the COVID-19 period, healthcare workers faced increased challenges related to work–family conflict, which is associated with job dissatisfaction, stress, and absenteeism, all of which may have further impacted communication with patients. Evidence from educational research indicates that simulation-based training, structured feedback, and curricula focused on relational competencies can strengthen communication skills and improve empathy among medical students and practicing physicians [33–36]. Identifying the variables influencing the quality of patient–physician interactions is key to implementing effective changes in this unique relationship. While the present study did not evaluate specific interventions, the observed patterns may inform future educational approaches, especially those aimed at enhancing communication sensitivity in areas identified by the THC assessment as weaker.

Limitations of the study and future directions for research and practice. As a strength of the study, it should be emphasized that a large sample, nationally representative for Poland, was surveyed, and that data collection took place outside of hospitals or clinics, thereby eliminating the stress factor associated with a recent or anticipated medical visit. The analyses presented here expand on the results discussed in the report [10] and in other publications from the project on the humanization of medicine and clinical communication between healthcare workers and patients. To the best of our knowledge, no previous study has presented THC data for the Polish population based on such a large sample, nor attempted to link THC scores with both subjective and objective (pain-measured) assessments of health by patients. However, the THC scale was originally developed for oncology patients, which may limit its universality. Nonetheless, the presented study did demonstrate good validity in a general patient population.

In addition, the study was conducted during the COVID-19 pandemic, which may have influenced perceptions of the relationship. The relatively low proportion of explained variance (5.6%) in the GLM suggests that other important factors – such as physician personality, communication style, or the organizational culture of the healthcare facility – should be included in future studies. It would also be valuable to expand the perspective to include physicians' views and to conduct longitudinal studies to capture changes in the relationship over time.

Improving the quality of the doctor–patient relationship requires not only systemic change but also, and perhaps most importantly, intensified educational efforts. Modern, simulation-based medical education – supported by technology and focused on the development of interpersonal skills – can play a key role in preparing physicians to engage in empathetic, effective dialogue with patients, thereby enhancing the quality of healthcare. Effective educational interventions – based on simulated scenarios within pre-graduate training at medical simulation centers (MSCs) – are crucial for developing empathy and communication skills. At the same time, these educational advances must be accompanied by systemic changes that facilitate genuine partnership in the doctor–patient relationship.

CONCLUSIONS

The doctor–patient relationship is a multidimensional phenomenon and remains a key element of the therapeutic process, with its quality determined by both individual and systemic factors. Identifying the demographic, social, and health-related factors that differentiate perceptions of the doctor–patient relationship underscores the need for

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an individualized approach to medical care. The findings confirm the usefulness of the THC scale as a tool for assessing this relationship from the patient's perspective in a large clinical population. The study's conclusions have important implications for pre-graduate medical education, highlighting the necessity of systematically developing communication skills through modern teaching methods such as medical simulations. Standardized tools such as the THC scale can support the monitoring and improvement of relationship quality in clinical practice.

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