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ORIGINAL ARTICLE

Patient-rated physician empathy and patient satisfaction during pain clinic consultations

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Abstract

Background Little is known about the influence of patient-perceived healthcare provider empathy on patient satisfaction in the setting of a hospital pain clinic consultation. The objective of this research was to examine the relationship between patient-rated physician empathy and patient satisfaction after a single new pain clinic consultation.

Methods After institutional ethics committee approval, a sample of 140 adult patients completed a two-page questionnaire, directly after a pain clinic consultation. This included a brief sociodemographic questionnaire, the Consultation and Relational Empathy (CARE) measure and an overall satisfaction rating.

Results The sample, $N = 140$ patients, was balanced for gender and 80% of participants ranged in age from 30 to 70. Of these patients, 80.7% had been living with chronic pain between 1 and 5 years. The data were deemed to be non-parametric and a Spearman's ranked order correlation analysis yielded a strong positive correlation between patient-rated physician empathy and patient consultation satisfaction.

Conclusion Patient-rated physician empathy was strongly correlated with patient satisfaction in a pain clinic consultation. Patient satisfaction plays a significant role in adherence to treatment and contributes to a positive working patient-physician therapeutic relationship. This research supports the growing body of research citing the importance of investing in, promoting and developing educational programs for physicians and medical trainees to enhance empathic communication skills within the clinical setting.

Keywords Communication · Empathy · Pain clinic · Patient satisfaction

Introduction

Empathy is a multifaceted construct, which incorporates the ability to understand and share the feelings, thoughts or attitudes of another, and is an essential component of the patient-physician relationship [1–5]. Empathy in the context of the clinical consultation has been examined through various channels including academia, empirical research, opinion pieces and the broader media [6–8]. It has been found that empathy is associated with patient satisfaction, treatment compliance and indeed the perception of a good interpersonal patient-physician relationship [9]. In addition the patients of empathic physicians not only had better therapeutic relationships with their doctors but also had improved treatment outcomes [10, 11]. The benefits of empathy for doctors have also been described, with greater levels of physician empathy associated with decreased levels of medical malpractice and physician burnout [12–14].

Chronic pain can affect patients in innumerable ways, ranging from compromised self-esteem, fraught personal relationships, lowered affect, hampered physical integrity and skewed personal insight [15, 16]. Chronic pain is estimated to affect over 35% of Irish adults. Of these, 12% were unable to work as a result of their pain and 15% met the criteria for clinical depression. The mean cost to the Irish state per chronic pain patient is estimated at €5665 per year [17]. Chronic pain services in Ireland are far under-resourced [17]. It has been proposed that providing empathic care may positively impact on the patient's ability to explore their own experiences and

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psychological construction of their pain, as well as their mental resources, strengths and coping mechanisms [15].

Unsurprisingly, patient satisfaction has been increasingly promoted and incentivised in hospital and health care service-based initiatives [18–21]. With research in other fields demonstrating the correlation between empathic physicians and patient satisfaction, the last decade has seen an institutional move towards identifying the need for increased empathy amongst clinicians and indeed towards improved teaching of empathic communication amongst medical trainees [22, 23].

A systematic review of patients with lower back pain and sciatica identified personalised care as one of the key factors contributing to patient satisfaction [3]. Specifically, this study noted that personalised care was closely aligned with the health care practitioner's interpersonal skills. Attributes such as effective communication, a close patient-physician relationship and indeed empathy were valued most highly by patients with chronic sciatica and lower back pain [24]. These studies highlighted the importance of patients feeling respected, and that their experience of chronic pain is recognised, acknowledged, affirmed and validated by their physician [24].

Empathy is a key element in patient-physician relationship. Effective communication is essential to developing a positive interpersonal relationship, building trust, encouraging treatment compliance and fostering an environment that can facilitate optimal medical decision making [25, 26]. To date, little is known about the exact influence of patient-perceived healthcare provider empathy on patient satisfaction in the setting of a pain clinic consultation.

This study aimed to examine the relationship between patient-rated physician empathy and patient satisfaction after single new pain clinic outpatient consultation. It is hoped that results from this study will add to the body of research that highlights the importance of empathy and its relationship to patient satisfaction in the context of a pain clinic consultation. This information may be used to improve the consultation experience for these and future patients.

Methods

After institutional ethics committee approval, a sample of 140 adult patients completed a two-page questionnaire, directly after a new pain clinic consultation. On arrival to the pain clinic, patients were given an information sheet, ensuring confidentiality and a consent form by the co-investigator collecting data. Patients were deemed eligible to participate in the study if it was their first visit to the pain clinic, were at least 18 years old, spoke fluent English and had capacity to understand and comprehend and provide informed consent. The physicians were aware of the existence of this study and were aware that all patients would be given the option to participate. All participants completed a short questionnaire booklet comprising measures of satisfaction, physician-empathy, pain rating and sociodemographic factors.

The main outcome of interest was patient satisfaction. This was measured on a single-item Likert Scale from 0 to 10, with 0 being labelled as not satisfied and 10 being very satisfied. This measure was based on that used by Menendez et al. [2] who conducted a similar study looking at patient satisfaction in hand surgery consultations. Patients were considered to be satisfied with their consultation if they scored a 9 or 10 on this Likert scale [27].

The Consultation and Relational Empathy measure (CARE) is a 10-item questionnaire that captures the patient's perception of the physician's empathic understanding and behaviour during the appointment. The Consultation and Relational Empathy Measure (CARE) is a freely available validated questionnaire. It consists of 10 items, each of which is answered on a 5-point Likert scale, with response options ranging from 1 (poor) to 5 (excellent). The consultation and relational empathy scale has good internal consistency with a Cronbach's alpha coefficient reported of 0.95 [28]. In the current study, Cronbach's alpha coefficient was .847.

Finally, an overall pain score rated between 0 and 10 was provided and the sociodemographic survey captured variables such as patient age, gender, employment status, pain diagnosis, living situation and years living with chronic pain.

Data analysis

Data were analysed using IBM SPSS Statistics (Version 25) and were revised for missing data, accuracy and errors. Descriptive statistics were initially used to explore the data. Subsequently, inferential statistics, namely correlation analysis, was then conducted to explore the relationship between variables of interest.

Results

The demographic profile of patients is presented in Table 1. Approximately 160 new patients were eligible to participate and were approached over the 8-week time period. One hundred and forty patients ($N = 140$) completed the questionnaires and 20 patients declined to participate, yielding a response rate of 87.5%. The demographic profile was balanced for gender (male = 45% and female = 55%), a majority of participants fell within the 30–50 years (31.4%) and 50–70 years (48.6) categories between 21.4%, 22.1% and 25% of participants respectively were either unemployed, employed or retired, the majority of patients (54.3%) were suffering from chronic back pain and 80.7% of patients had been living with their chronic pain between 1 and 5 years.

Table 1 Demographic questionnaire descriptive statistics

Characteristics	*n*	%
Age		
< 30 years	20	14.3
30–50 years	44	31.4
50–70 years	68	48.6
70–80 years	6	4.3
80+ years	2	1.4
Sex		
Female	77	55%
Male	63	45%
Employment status		
Unemployed	30	21.4
Volunteer position	1	.7
Student	3	4.3
Employed	31	22.1
Retired	35	25
Other	17	12.1
Missing	20	14.3
Gender		
Male	273	48.1%
Female	291	51.3%
Pain diagnosis		
Back pain	76	54.3
Neck pain	31	22.1
Limb pain	19	13.6
Abdominal pain	11	7.9
Pelvic pain	3	2.1
Living situation		
Spouse partner	94	67.1
Spouse/partner and children	3	2.1
Living alone	19	13.6
Other	19	13.6
Missing	5	3.6
Education level		
Primary	32	22.9
Secondary	83	59.3
Third level	15	10.7
Missing	10	7.1
Years of pain		
<12 months	22	15.7
1–5 years	113	80.7
> 5 years	2	1.4
Missing	3	2.2

Tests of normality

The standardised skewness coefficients for the CARE_total (− 1.334) and Consultation Satisfaction (− 1.77) scores were outside of the limits of normality. The standardised kurtosis coefficients for the CARE_total and Consultation Satisfaction Scores were 1.00 and 2.706 respectively. Therefore, both standardised skewness coefficients and standardised kurtosis coefficients were outside of the limits of normality, (± 1), and were indicative of violations of the assumptions of normality [29].

A Kolmogorov-Smirnov test was also used to test for normality on the main variables CARE_Total and total satisfaction. In both instances, $p \leq .000$, in this test significance suggests violation of the assumptions of normality. The shape of the distribution for the groups can be seen in Figs. 1 and 2**.** As such, non-parametric analysis, Spearman's rank order correlation coefficient (i.e. Spearman's rho) was performed to investigate the aforementioned hypothesis.

Correlation analysis

A scatterplot presented in Fig. 3 for the two variables in question was generated to give an idea of the nature of the relationship between consultation satisfaction and CARE_total. It was also used to check for linearity and homoscedasticity. The scatterplot suggests that there may be a positive linear relationship between CARE_total and consultation satisfaction, this implies that the higher scores of patient-rated physician empathy, the higher the patients scores on overall satisfaction. The shape of the cluster however, starts off narrow and then becomes wider; this may suggest a violation of the assumption of homoscedasticity.

The relationship between consultation satisfaction and patient-rated physician empathy (as measured by the CARE measure) was investigated using Spearman's ranked order correlation. Preliminary analyses were performed, and data was found to violate the assumptions of normality and as such this non-parametric test was implemented. There was a strong positive correlation between the two variables, rho = .734, n = 140, $p < 0.000$, with high levels of patient satisfaction associated with higher levels of patient-rated physician empathy. Despite a relatively large sample size, the large strength of the correlation was determined based on Cohen's (1988, pg. 79–81) parameters (small $r = 0.1$–0.29, medium $r = 0.3$–0.49 and large $r = 0.5$–1.0).

The coefficient of determination (correlation coefficient^2 × 100) was calculated to ascertain how much variance the two variables share. After controlling for confounding effects, patient-rated physician empathy helps to explain nearly 53.9% of the variance in respondents' scores of consultation satisfaction (see Table 2).

Summary

Following a Spearman's rho analysis, the null hypothesis, "There is no correlation between patient-rated physician empathy and the degree of overall patient satisfaction with a pain clinic consultation" was rejected, allowing the alternative

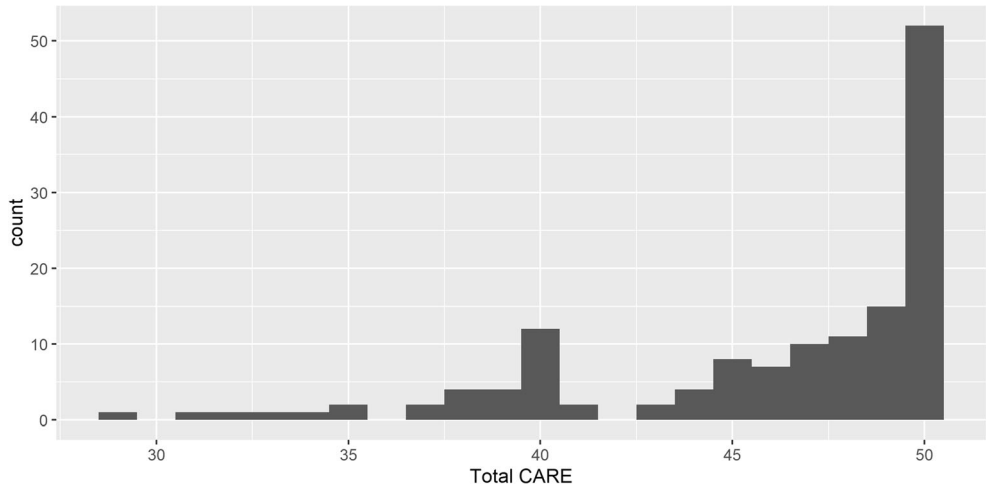

Fig. 1 Histogram of CARE_total distribution

hypothesis that "there is a positive correlation between patient-rated physician empathy and the degree of overall satisfaction with pain clinic consultation" to be accepted. In the following section, the results will be summarised and discussed in relation to previous research and the clinical implications, the study's methodological strengths and weaknesses and avenues for future research.

Discussion

There was a strong positive correlation between patient-rated physician empathy and patient consultation satisfaction after a chronic pain clinic consultation. After controlling for confounding effects, patient-rated physician empathy accounted for 53.9% of the variation in scores of consultation satisfaction.

The strong positive correlation between physician empathy and patient consultation satisfaction as demonstrated in the present study supports the existing literature citing the need for patients to feel listened to, validated and understood—all core components of empathic communication [10, 11, 15].

These findings can be translated into clinical practice; there is a strong case for investing in, promoting and developing educational programs for physicians and medical trainees to enhance empathic communication skills within the clinical setting [18–23]. Many universities including Harvard have already begun to offer training in empathic communication and compassion, whereby young doctors engage in peer discussions and workshops aimed at avoiding burnout and associated potential desensitisation towards their patients. Exploring and enhancing such training modules in the university and hospital setting will hopefully equip and enable healthcare practitioners to employ these skills from their

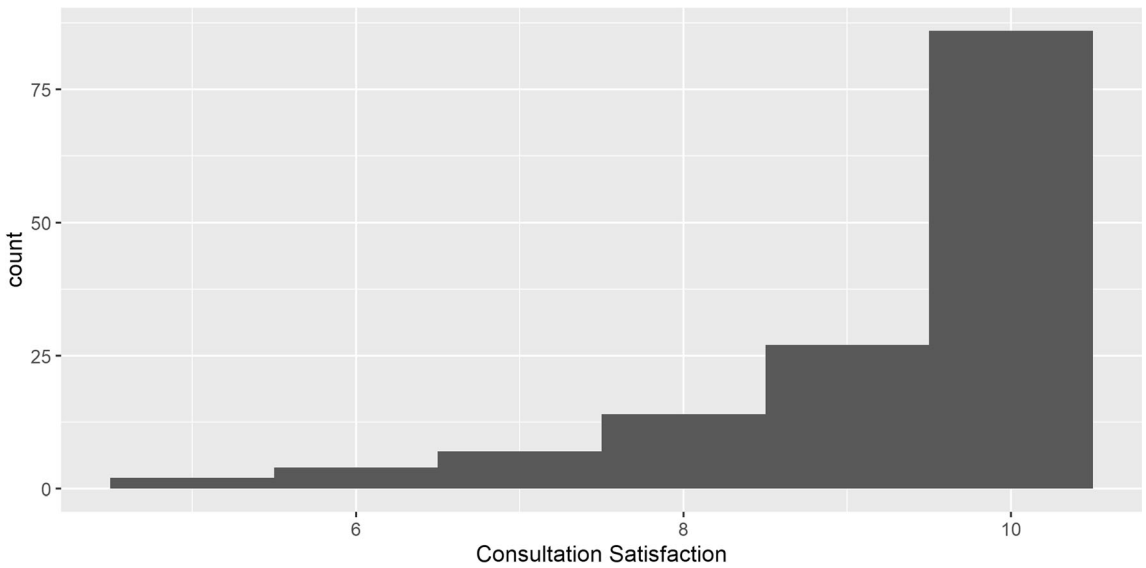

Fig. 2 Histogram of consultation satisfaction distribution

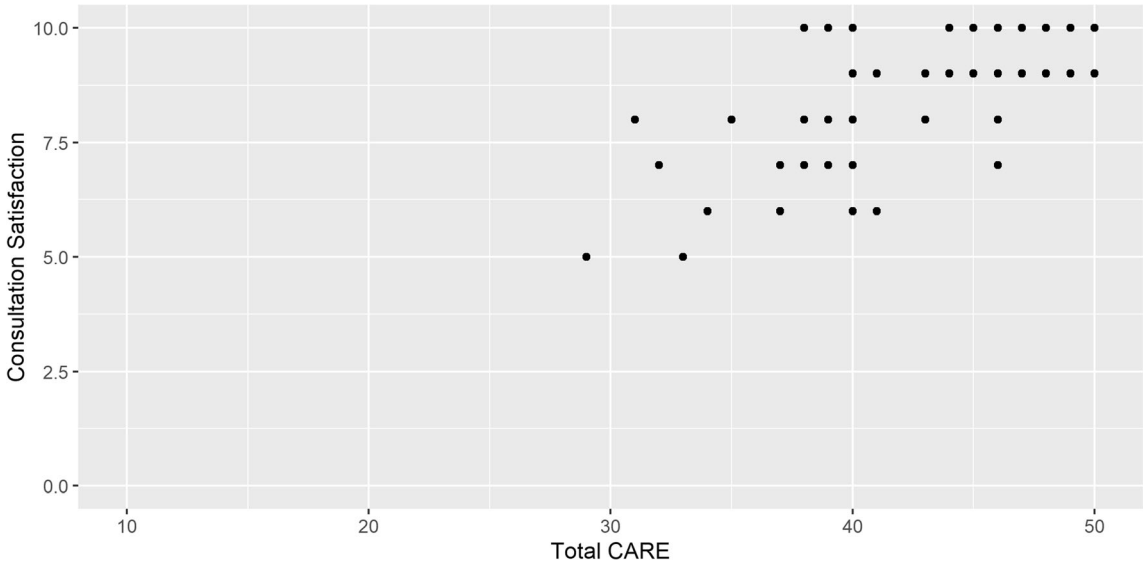

Fig. 3 Scatterplot of the relationship between consultation satisfaction and CARE_total

earliest days of practice fostering empathic communication and thus enhancing patient care [21–23].

Strengths and limitations

One the main strengths of this study is centred on its novelty. To date, there have been no studies conducted that examine the relationship between patient-rated physician empathy and overall patient consultation satisfaction in the area of pain medicine. The exploratory nature of the study may impact the direction of future research and the teaching of empathic communication to those working in the field. The large sample size $N = 140$ is also a significant strength of this study design. Based on previous studies of a similar research design, the present study has exceeded existing sample sizes to date [2].

In relation to methodology, meticulous effort was taken to avoid social desirability bias by ensuring a researcher completely independent of the patients' clinical care conducted the data collection. Patients were also ensured that their responses would be made anonymous and would have no impact on the execution of their clinical care. In addition, patients were seen in clinic by one of four available practitioners: two pain consultants, a trainee pain registrar and one specialist nurse practitioner. This allowed for results to be generalizable across the entire pain department as opposed to being confined to one physician alone.

Table 2 Spearman's rho correlation between measures of consultation satisfaction and patient rated physician empathy (CARE_total)

Scale	1	2
1. CARE_Total	–	.734
2. Consultation Satisfaction	.734	–

The use of a validated questionnaire to measure patient-rated physician empathy contributed to the methodological strength of this study. The Consultation and Relational Empathy (CARE) measure has been used before in a similar context [2, 28] and exhibited high internal reliability and validity in both the present and previous studies [28]. Having been granted undisputed ethical approval for this project by the University Hospital Limerick Board of Research Ethics, no ethical issues were encountered throughout the execution of this study; patients were for the majority happy to participate (87.5% response rate) and only cited time constraints as a reason to decline participation.

As with all research, a number of limitations associated with the study methodology have been identified. From a methodological perspective, it was undesirable that practitioners were aware that all new patients would be approached to participate in the study. This may have influenced the behaviours of the practitioners and encouraged uncharacteristic empathic behaviours. In addition, physician empathy was assessed subjectively from patients' perspective rather than relying on more objective measures of empathy from audio or video recorded visits or witnesses. The present study did not take into account if a friend or relative accompanied the patient; the impact of the presence of another person during the consultation could be examined in future study.

From a study design perspective, it must be noted that a cross-sectional study cannot seek to establish a causal relationship between patient rated-physician empathy and overall patient satisfaction. It would be advisable in future research to look at a longitudinal study of patient care, measuring pre and post measured of patient satisfaction and patient-rated physician empathy.

Conclusion

Patient care is becoming increasingly multifaceted, encompassing not only clinical therapies but the patient's lived experience of treatment in the hospital setting. As emphasis grows on the role of patient satisfaction in clinical outcomes, doctors will have an increasing duty to offer their patients not only the most efficacious medical treatments available, but a holistic consultation and a listening ear. First and foremost, as outlined in the literature above and exhibited in this project, employing empathy in clinical practice will benefit patients via better clinical outcomes and overall decreased morbidity. Physicians are afforded the benefit of happier patients who show greater adherence to treatment plans, are less likely to miss clinic appointments and are less likely to file complaints or issue legal proceedings. Finally, hospitals and healthcare systems benefit via decreased demands placed upon already limited resources.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

References

1. Han JL, Pappas TN (2018) A review of empathy, its importance, and its teaching in surgical training. J Surg Educ 75:88–94
2. Menendez ME, Chen NC, Mudgal CS, Jupiter JB, Ring D (2015) Physician empathy as driver of hand surgery patient satisfaction. J Hand Surg 40(9):1860–1865
3. Hopayian K, Notley C (2014) A systematic review of low back pain and sciatica patients' expectations and experiences of health care. Spine J 14:1769–1780
4. Mercer SW, Reynolds WJ (2002) Empathy and quality of care. Br J Gen Pract 52(suppl):S9–S12
5. Eagle M, Wolitsky DL (1997) Empathy: a psychoanalytic perspective. In: Bohart AC, Greenberg LS (eds) Empathy reconsidered: new directions in psycho-therapy. APA, Washington, DC, pp 217–244
6. Pedersen R (2009) Empirical research on empathy in medicine —a critical review. Patient Educ Couns 76(3):307–322
7. Neuwirth ZE (1997) Physician empathy—should we care? Lancet 350:606
8. Singh M (2016) Communication as a bridge to build a sound Doctor-Patient/Parent relationship. Indian J Pediatr 83:33
9. Beck RS, Daughtridge R, Sloane PD (2001) Physician-patient communication in the primary care office: a systematic review. J Am Board Fam Pract 15(1):25–38
10. Zachariae R, Pedersen CG, Jensen AB, Ehrnrooth E, Rossen PB, von der Maase H (2003) Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. Br J Cancer 88(5):658–665
11. Hojat M, Louis DZ, Markham FW, Wender R, Rabinowitz C, Gonnella JS (2011) Physicians' empathy and clinical outcomes for diabetic patients. Acad Med 86(3):359–364
12. Thirioux B, Birault F, Jaafari N (2016) Empathy is a protective factor of burnout in physicians: new neuro-phenomenological hypotheses regarding empathy and sympathy in care relationship. Front Psychol 7:763
13. Ambady N, Laplante D, Nguyen T et al (2002) Surgeons' tone of voice: a clue to malpractice history. Surgery 132(1):5–9
14. Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM (1997) Physician- patient communication: the relationship with malpractice claims among primary care physicians and surgeons. JAMA 277(7):553–559
15. Banja JD (2006) Empathy in the physicians pain practice: benefits, barriers and recommendations. Pain Med 7(3):265–275
16. Havens L (1986) Making contact: uses of language in psychotherapy. Harvard University Press, Cambridge
17. Rafferty MN, Ryan P, Normand C et al (2012) The economic cost of chronic non-cancer pain in Ireland: results from the PRIME study, part 2. J Pain 13(2):139–145
18. Kravitz R (1998) Patient satisfaction with health care: critical outcome or trivial pursuit? J Gen Intern Med 13(4):280–282
19. Kupfer JM, Bond EU (2012) Patient satisfaction and patient-centered care: necessary but not equal. JAMA 308(2):139–140
20. Szablowski KM (2014) Hospital value-based purchasing (VBP) program: measurement of quality and enforcement of quality improvement. Conn Med 78(1):49–51
21. Welty E, Yeager VA, Ouimet C, Menachemi N (2012) Patient satisfaction among Spanish-speaking patients in a public health setting. J Healthc Qual 34(5):31–38
22. The World Health Report (2008) Primary health care now more than ever. World Health Organization, Geneva
23. Arora S, Ashrafian H, Davis R, Athanasiou T, Darzi A, Sevdalis N (2010) Emotional intelligence in medicine: a systematic review through the context of the ACGME competencies. Med Educ 44(8):749–764
24. Zolnierek KB, Dimatteo MR (2009) Physician communication and patient adherence to treatment: a meta-analysis. Med Care 47:826–834
25. Ong LM, de Haes JC, Hoos AM et al (1995) Doctor-patient communication: a review of the literature. Soc Sci Med 40:903–918
26. Stewart M, Brown JB, Boon H, Galajda J, Meredith L, Sangster M (1999) Evidence on patient-doctor communication. Cancer Prev Control 3:25–30
27. Jha AK, Orav EJ, Zheng J, Epstein AM (2008) Patients' perception of hospital care in the United States. N Engl J Med 359(18):1921–1931
28. Bicker AP, Fitzpatrick B, Murphy D et al (2017) Assessing the consultation and relational empathy (CARE) measure in sexual heath nurses' consultations. BMC Nurs 16(71)
29. Onwuegbuzie AJ, Daniel LG (2002) A framework for reporting and interpreting internal consistency reliability estimates. Meas Eval Couns Dev 35(2):89–100