

Original Article

Evaluation of the Physicians' Empathy by their Patients: A Study among the Population of Evia Island, Greece

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Abstract

Background: The appropriate communication among the doctor and the patient is a highly necessary element of the treatment procedure. This is the reason doctors should develop some essential communication skills. Empathy is one of them, which is the ability to express true interest that can be perceived. Empathy may be inherent or can be taught. Empathy has been scientifically proved that it provides both patient and doctor numerous benefits. Researchers have created various measuring tools to evaluate empathy.

Aim: The present study was conducted to evaluate doctor's empathy in the region of Evia. Evia is an island with rural and semi-urban population, facing lack of medical personnel.

Methodology: An anonymous questionnaire used to collect data. The questionnaire included various questions related to population statistics and the Jefferson Scale of Patients' Perceptions of Physician Empathy (JSPPPE). The adults participated in the research were 201, all of them living permanently in the Island of Evia.

Results: The statistical analysis of the association between the population statistics and the results of the Jefferson Scale, indicated that the doctor's employment status ($p < 0.001$), patient's profession ($p = 0.0017$), income ($p = 0.001$) and type of health insurance ($p = 0.004$) are related to the way doctor's empathy is perceived by the patient.

Conclusions: The statistical analysis that resulted from the association of the population statistics with the Jefferson Scale scores, indicates that doctors in Evia show relatively satisfying levels of empathy. It is proved that patients' occupation, income and health insurance effect the way empathy is perceived. Empathy perception is also effected by doctors' professional status. The high scores achieved by doctors working in the private sector should provoke some concerns regarding the quality of the public health services and lead to further research.

Keywords: empathy, evaluation tools, Perceptions of Physician Empathy, doctor – patient communication, data analysis

Introduction

Proper communication between doctor and patient is a very important part of the treatment process, as it relates to patient satisfaction, a better acceptance of a particular treatment, and optimal therapeutic outcome (Eveleigh et al., 2012). An essential element for this to happen is that the physician has at least basic communication skills that enable him or her to collect as much information as possible to make an accurate diagnosis and to properly guide his or her patient, achieved through adherence of medical guidelines (Ha & Longnecker, 2010).

Empathy is communication skills and is the ability of healthcare professionals to understand the feelings and concerns of his patient and to show them in practice how they have been understood (Tsounis and Sarafis, 2014). The benefits of demonstrating empathy are numerous for both patients and physicians, so it has been studied and is still being studied by multitude scientists while developing several tools for measuring it, such as the Jefferson scale of patient perceptions of physicians' empathy (Kane, Gotto, Mangione, West, & Hojat, 2007).

This study provides a detailed reference to the characteristics of physician-patient communication and empathy. It also investigates patients' «perceptions of their physicians» empathy in the Evia prefecture using a Jefferson-scale questionnaire. This study investigates patients' perceptions of physicians' empathy in the prefecture of Euboea. Similar surveys have been conducted worldwide, such as those of Borracci (2017), who studied the effect of demographic characteristics of Argentinean residents on the perception of empathy and Tyritidou (2018), who studied something similar and even used the Jefferson scale for the first time in Greece. The reason that this subject and this region were selected is the importance of patients' perceptions for their doctors' empathy in an area of the Greek region - given the prevailing socio-economic conditions and the relatively inadequate medical staff of public health units (Economou, et. al., 2017). In addition to that this subject so far has not been sufficiently researched, despite the proven benefits of empathy.

Research Questions and Hypothesis

The research questions that emerge from

Borracci et al., (2017) and Tyritidou (2018), and referring to the correlation of demographic characteristics with Jefferson-scale results, are:

Q1 Doctor's empathy as patients perceives can be influenced by gender.

Q.2. Doctor's empathy as patients perceives can be affected by age.

Q.3 Does the doctor's empathy as patients perceive can be influenced by the family situation?

Q.4 Does the doctor's empathy as patients perceive can be affected by living conditions?

Q5 Does the doctor's empathy as patients understand can be influenced by the level of education?

Q.6 Does the doctor's empathy as patients perceive can be influenced by the professional situation?

Q.7 Does the doctor's empathy as patients understand can be affected by the type of insurance coverage?

Q.8 Does the physician's empathy as patients perceive can be influenced by income?

Q9 Does the physician's empathy as patients perceive can be influenced by the physician's working relationship?

Background

Analysis of theoretical concepts: The importance of doctor-patient communication has led many researchers to study and formulate classification models. However, the well known as the purely biomedical model was the predominant approach until recently. In this model, physicians appear to be "authoritative" and are the one making all the decisions. This model tends to be replaced by the biopsychosocial one, where the physician and patient interact on an almost equal basis in the decision-making process (Alonso, 2004).

Some factors make communication difficult. These factors are differences in age, gender, social class, educational level, ethnicity, language, and cultural heritage (Roter & Hall, 2006), the physical and mental fatigue experienced by physicians due to increased burden work (Ha & Longnecker, 2010), the limited time availability (Roter & Hall, 2006) and the lack of sensitivity due to inadequate knowledge and poor training in communicative skills development (Ranjan, Kumari, And, &

2015, 2015). Overcoming these obstacles is the acquisition of verbal and extra-verbal communication skills, which may be innate or acquired.

One of these skills is empathy, which is the subject of extensive study and has been characterized as a primarily cognitive property. Empathy includes understanding the patient's experiences, concerns and vision, combined with his or her ability to perceive the patient along to help him or her (Hojat, DeSantis, & Gonnella, 2017). Demonstration of empathy has been associated with greater patient satisfaction, better psychological adjustment, less psychological pain, and less need for information (Lelorain, Brédart, Dolbeault, & Sultan, 2012). Also, it has been shown that physicians who treat their patients with empathy are more effective overall, protected from occupational burnout, and derive more pleasure and satisfaction from their work (Robieux, Karsenti, Pocard, & Flahault, 2018). Finally, it has been associated with less recourse to legal remedies in the event of a medical error (Halpern, 2007) and leads to a reduction in the cost of care (Epstein et al., 2005).

Demonstration of empathy, however, is mainly weakened by difficulties in the medical profession, workload and lack of time (Lelorain et al., 2012), physicians' beliefs (Halpern, 2003) and lack of basic communication skills. It is necessary to train medical staff to cultivate empathy in a variety of ways, as well as continuous study and evaluation, which has led to the development of numerous measurement tools, such as the Jefferson Scale for patients' opinion on the empathy of doctors (Kane et al., 2007).

Methodology

To investigate the research questions, quantitative research was chosen as the preferred method. The aim was to depict the views and perceptions of the population on this subject. The research carried out mainly by residents of the municipality of Istiaia-Edipsos, the municipality of Mantoudi-Lake-Agia Anna and the municipality of Chalkida. The sample consisted of 201 permanent residents of the county, adults and Greek language native speaker. Their participation in the research was a prerequisite for attending any speciality doctor regularly regarding any health problem they were experiencing. The questionnaire consisted

of a combination of demographic questions as well as the Jefferson scale, which is a short 5-question tool answered on a 5-point Likert scale, where "1" = strongly disagree and "5" = strongly agree. Jefferson questionnaire aims to depict the physician's interest and understanding (Kane et al., 2007). It is considered as an easy and reliable tool for measuring empathy and has been used in many studies (Hojat et al., 2017). The translation in Greek was done by Dr Domager Philippe-Richardo in the context of the thesis of Tyrididou (2018). The responsible council of the regional public health authority and the General Hospital of Chalkis provided an authorisation for the implementation of the study. In addition to that Dr Doomager gave his approve to use the questionnaire. All research participants were informed both in writing and orally about the purpose of the research, the voluntary nature, the anonymity and the protection of personal data. The software for statistical analysis was SPSS 24.0. Continuous variables were described by mean and standard deviation constants. The categorical variables were given by their absolute values and the corresponding percentages. Kolmogorov Smirnov test used for testing the regularity of continuous variables. U Mann Whitney test used for continuous variables having non-normal distribution, independent populations with 2 categorization levels. Kruskal Wallis test used for more than 2 categories. The Spearman parametric test used for the correlation of 2 continuous variables. Linear regression analysis with the backward stepwise procedure used to find independent predictors related to the empathy scales. Dependence coefficients (b) and standard errors were derived from this analysis. Cross tabulation tables and Pearson chi-square test performed for the analysis of categorical variables. Interclass correlation coefficients (ICCs) used to investigate the agreement of responses. The agreement is considered low when the coefficient is up to 0.4, moderate when the correlation coefficient ranges from 0.41 to 0.6, high when the correlation coefficient ranges from 0.61 to 0.80, and very high when the correlation coefficient is greater than 0.8. Pearson or Spearman's correlation coefficient (r) used to test the relationship between two quantitative variables. The correlation considered low when the correlation coefficient (r) ranges from 0.1 to 0.3, moderate when the correlation coefficient ranges from 0.31 to 0.5 and high when the coefficient is greater than 0.5.

Ethical considerations: A research ethical responsibility entails loyalty and honesty. This responsibility is realized in the selection of the object of study and methodology and during the handling of the data. General ethical principles and rules according to the World Medical Association Declaration of Helsinki (WMA) from 2013, ICN (2012) and Etene (2001) are considered throughout.

Results

The survey participants were married at 55.7% with the other categories to follow, although the overwhelming majority said they did not live alone (n = 148/73.6%). On the level of education, the majority were high school graduates (22.4%), followed by those who declared elementary graduates (15.9%) and only 4% said he hasn't been to school. Graduates of higher and tertiary schools covered 11.9% respectively. As far as their professional situation is concerned, 22.4% were pensioners and 18.4% civil servants. A figure of 12.4% said they were dealing with manual or agricultural work, while the unemployed were at 9%. Most of them had a type of public health insurance (77.1%), while 25 respondents said they did not have any kind of insurance coverage (12.4%). 24.4% said that their income varies between 501 – 1000 euros, while 10% do not receive any income and only 11.4% that their net earnings exceed 1500 euros. Almost half of the respondents reported that they were being monitored by a doctor working on some public structure (51.7%), although also a large proportion of those targeted at a private doctor (39.8). Only 17 people (8.5%) said they were monitored by a private doctor contracted by insurance funds. The sample ages ranged from 18 to 87 years with an average age of 51, 3 years (Std deviation: 16,272).

On the Jefferson scale the questions were as follows:

Question 1: Can he see things the way I see them?

Question 2: Is he asking about what happens in my daily life?

Question 3: Does he seem to care about me and my family?

4th question: Does he understand my feelings, feelings and concerns?

Question 5: Is an understanding Doctor?

On the parameter of sex, the statistical analysis with the method U Mann Whitney did not

display a statistically significant difference between the sex and one of the five questions since all p values are greater than 0.05. Similarly, the analysis made does not observe any statistically significant difference between the overall score of empathy in relation to sex (**Error! Reference source not found.**). Regarding the marital status (**Error! Reference source not found.**), applying the statistical method Kruskal Wallis, there is a statistically significant difference only in the 5th question (p= 0.049). As far as the accommodation with a roommate or not, the results of the U Mann Whitney (**Error! Reference source not found.**) method indicates that no statistically significant difference is observed in the overall score (p= 0.252).

Table 1 Statistical Significance to sex

Sex	p
1 st question	0.163
2 nd question	0,206
3 ^o question	0.344
4 ^o question	0.421
5 ^o question	0.493
empathy	0.202

Table 2 Statistical Significance to Marital Status

Marital Status	p
1 st question	0.728
2 nd question	0.976
3 rd question	0.685
4 th question	0.804
5 th question	0.049
empathy	p=0.662

Table 3 Statistical Significance to Accommodation

Accommodation (alone or with a roommate)	p
1 st question	0.485
2 nd question	0.277
3 rd question	0.073
4 th question	0.899
5 th question	0.93

empathy	0.252
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Table 4 Statistical Significance to Education Level

Education Level	p
1 st question	0.142
2 nd question	0.235
3 rd question	0.372
4 th question	0.472
5 th question	0.125
empathy	0.175

The level of education level (statistical method Kruskal Wallis) does not seem to have any deviations affecting the way of perception of empathy (**Error! Reference source not found.**). While there is no statistically significant difference in any of the parameters with each p-value greater than 0.05. The same is also demonstrated through the analysis of the overall score, as there is no statistically significant difference ($p = 0.175$).

Discussion

The results of the research reveal differences in the correlation of demographics and responses of the Jefferson scale with those found by Borracci et al., (2017) and Tyritidou (2018). This might be due to the methodology, the region the study performed and different characteristics of the research sample. The statistically significant differences revealed on occupational activity, insurance coverage, income, physician employment relationship, and perceived empathy. Those results can lead to interesting conclusions. First of all, in terms of income and occupation, it could be said that patients with stable jobs and relatively high incomes perceive their doctor's empathy quite differently from the other categories. It is also worth noting that while the majority of respondents had public health insurance, they had the highest scores on the perception of empathy when targeting private providers. This suggests that, probably because of financial distress, few are in the process of getting a private insurance policy, but many are forced to resort to private health services, possibly because of the relatively poor quality of services provided by public bodies. It is encouraging, however, that physicians in the study area show

an overall high degree of empathy (average score 15.73). It is necessary to extend the research to an even larger segment of the population to have a more detailed picture.

Work carried out: School of Social Sciences, Postgraduate Program in Health Care Management, Hellenic Open University, Patras, Greece

References

- Alonso, Y. (2004). The biopsychosocial model in medical research: The evolution of the health concept over the last two decades. *Patient Education and Counseling*, 53(2), 239–244. [https://doi.org/10.1016/S0738-3991\(03\)00146-0](https://doi.org/10.1016/S0738-3991(03)00146-0)
- Borracci, R. A., Doval, H. C., Celano, L., Ciancio, A., Manente, D., & Calderón, J. G. E. (2017). Patients' perceptions of argentine physicians' empathy based on the jefferson scale of patient's perceptions of physician empathy: Psychometric data and demographic differences. *Education for Health: Change in Learning and Practice*, 30(1), 19–25. <https://doi.org/10.4103/1357-6283.210513>
- Economou, C., Kaitelidou, D., Karanikolos, M., & Maresso, A. (2017). Greece: health system review. *Ncbi.Nlm.Nih.Gov*. Retrieved from <https://apps.who.int/iris/handle/10665/330204>
- Epstein, R. M., Franks, P., Shields, C. G., Meldrum, S. C., Miller, K. N., Campbell, T. L., & Fiscella, K. (2005). Patient-centered communication and diagnostic testing. *Annals of Family Medicine*, 3(5), 415–421. <https://doi.org/10.1370/afm.348>
- Eveleigh, R. M., Muskens, E., Van Ravesteijn, H., Van Dijk, I., Van Rijswijk, E., & Lucassen, P. (2012). An overview of 19 instruments assessing the doctor-patient relationship: Different models or concepts are used. *Journal of Clinical Epidemiology*. <https://doi.org/10.1016/j.jclinepi.2011.05.011>
- Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: a review. *Ochsner Journal*, 10(1), 38–43. <https://doi.org/10.3329/jbcps.v32i2.26036>
- Halpern, J. (2003). What is clinical empathy? *Journal of General Internal Medicine*. <https://doi.org/10.1046/j.1525-1497.2003.21017.x>
- Halpern, J. (2007, May). Empathy and patient-physician conflicts. *Journal of General Internal Medicine*. <https://doi.org/10.1007/s11606-006-0102-3>
- Hojat, M., DeSantis, J., & Gonnella, J. S. (2017). Patient Perceptions of Clinician's Empathy: Measurement and Psychometrics. *Journal of Patient Experience*, 4(2), 78–83. <https://doi.org/10.1177/2374373517699273>
- Kane, G. C., Gotto, J. L., Mangione, S., West, S., & Hojat, M. (2007). Jefferson scale of patient's perceptions of physician empathy: Preliminary psychometric data. *Croatian Medical Journal*, 48(1), 81–86.

- Lelorain, S., Brédart, A., Dolbeault, S., & Sultan, S. (2012). A systematic review of the associations between empathy measures and patient outcomes in cancer care. *Psycho-Oncology*. <https://doi.org/10.1002/pon.2115>
- Ranjan, P., Kumari, A., And, A. C.-J. of clinical, & 2015, U. (2015). How can doctors improve their communication skills? *Ncbi.Nlm.Nih.Gov*, 9.3(JE01). Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4413084/>
- Robieux, L., Karsenti, L., Pocard, M., & Flahault, C. (2018). Let's talk about empathy! *Patient Education and Counseling*. <https://doi.org/10.1016/j.pec.2017.06.024>
- Roter, D., & Hall, J. A. (2006). *Doctors talking with patients/patients talking with doctors: improving communication in medical visits*. Greenwood Publishing Group.
- Tyritidou, A. (2018). *The relationship between empathy in the doctor-patient relationship and the health-related quality of life of the patient*. Hellenic Open University.