Physician Empathy in Public and Private Internal Medicine Residency Training Programs in Pasig City

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ABSTRACT

Research Question: What are the levels of patient-perceived and self-assessed physician empathy among internal medicine (IM) residents in two tertiary hospitals in Pasig City? Is there a significant difference in patient-perceived and self-assessed physician empathy levels between public and private tertiary hospitals?

Background: Empathy is important because it has been speculated to have a positive effect on patient outcomes; it is a skill that can be learned and developed.

Objectives: This study obtained quantitative measurements of patient-perceived and self-assessed physician empathy. Empathy levels between public and private tertiary hospitals were compared.

General Study Design: This study utilized a quantitative cross-sectional design, with surveys as the strategy for data collection.

Participants: 162 out-patient department patients aged 19-75, and 69 IM residents were sampled from one private and one public tertiary hospital.

Outcome Measures: The Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) and the Jefferson Scale of Physician Empathy (JSE) were used to measure the empathy levels.

Analysis: Sample size calculation was done using *OpenEpi*. An alpha level of 0.05 was used for computing the independent samples t-test.

Results: Internal Medicine patients from the private hospital rated the physicians with higher empathy scores (mean=31.23) compared to their public hospital counterparts (mean=29.01), which is statistically significant (*p=.0134*). Residents from the private hospital also scored a higher self-assessed empathy score (mean=110.46) compared to physicians from the public hospital (mean=102.13), which is also statistically significant (*p=.0147*).

Conclusion: This study provided preliminary information on the empathy levels of physicians in the Philippine setting between private and public hospitals, showing that physician empathy levels are consistently higher in the private hospital facility. The results can help hospitals incorporate or improve training in empathy in internal medicine residency programs, as empathy is known to affect patient health outcomes.

Keywords: *physician empathy, residency training, patient care*

INTRODUCTION

Empathy is the ability to understand the experiences, feelings, and perspectives of another person from an objective stance.[1-3] In the clinical setting, studies have shown that patients with empathetic doctors are significantly more satisfied and more compliant to treatment regimens than their non-empathetic counterparts.[4] Thus, physician empathy can lead to improved clinical outcomes. Several studies have shown that empathy can lower levels of patient stress and anxiety, improve blood sugar control, and eventually reduce future complications.[4-6] This may be explained by factors such as the information exchanged, perceived expertise of the doctor, and interpersonal trust and partnership formed between the doctor and patient in a consult.[4]

Studies have shown that culture leads to differences in empathic responding.[7] Culture helps in defining a reality shaped by its beliefs, values, behaviors, and norms, consequently influencing how one perceives and responds to other people.[8,9] Empathy, then, can be differentiated per country, affected by multicultural, multilinguistic settings wherein healthcare professionals and patients interact.[10] One study has shown that the mean score for Korean physicians was lower than for American and Italian physicians.[11] This may be brought about by the disparity in the culture of medical education and practice in each country.[12]

Culture can also be seen in terms of subcultures, as seen in different types of hospitals. Several studies have also shown that empathy levels may differ depending on the hospital setting[13,14,15].Bernardo et al.[16] showed that physicians in the private sector have higher empathy scores in comparison to those in the public sector in Brazil.

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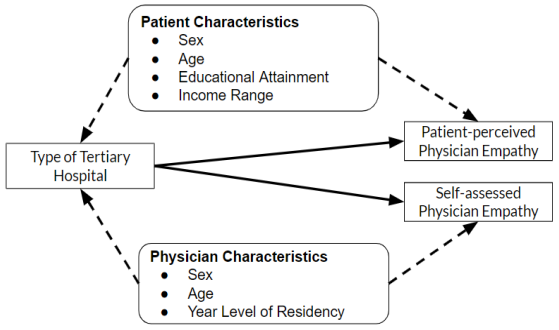

Figure 1. Conceptual Framework. Arrows with solid lines indicate the study's main research question seeking to establish a relationship between the independent variable (type of tertiary hospital) and its relation to the dependent variables (patient-perceived and self-assessed physician empathy). Arrows with broken lines indicate potential confounding variables affecting both independent and dependent variables.

However, in Australia[17], the scores between public and private hospitals did not significantly differ. Therefore, the current study aims to determine and compare the empathy levels of physicians in public and private tertiary hospitals in the Philippines.

Subcultures may also form within the different departments. In a study by Hojat, et al., "people-oriented" specialties, which include internal medicine, emergency medicine, psychiatry, and family medicine, scored significantly higher average empathy ratings than those in "technology-oriented" specialties.[3] Among the people-oriented specialties, internal medicine has the greatest number of specialists in the country.[18] Moreover, the added layer of long-term comprehensive care in internal medicine further makes empathy an important aspect of the specialty.[19] Thus, this study aims to investigate physicians undergoing residency training in internal medicine.

Physician empathy can be measured in two ways. One way of determining the levels of physician empathy is through the patients The patient's perception of physician empathy outweighs the actual empathy exhibited, as the former is what will ultimately affect the patient.[20] Another way of establishing the levels of physician empathy is by asking the physicians themselves. Although it may be subjective and less accurate in terms of predicting patient outcomes, it is still important to determine the levels of self-assessed physician empathy to be able to strategize training programs for specific groups of people, accordingly.

For hospitals with training programs, it is important to determine empathy levels as empathy is a skill that can be taught and eventually learned.[21-23] As such, training this group of specialists to become more empathetic will influence physicians to cultivate their ability to empathize, consequently leading to improved patient outcomes.

Therefore, this study determined and compared the levels of patient-perceived and self-assessed physician empathy in internal medicine residents among public and private tertiary hospitals in Pasig City, to observe a field where empathy is a significant part of the practice and an essential component of quality care. The objectives of the study were to quantify the patients' perception of their physician's empathy and the physicians' self-assessed empathy using the Jefferson Scale of Patient Perceptions of Physician Empathy and the Jefferson Scale of Physician Empathy, respectively; and to compare physician empathy, both patient- and physician-perceived, between the selected private and public tertiary hospitals. Based on the review of related literature, the hypothesis of the study states that the levels of patient-perceived and self-assessed physician empathy in internal medicine residents are higher in private tertiary hospitals in Pasig City.

Conceptual Framework

The multidimensional model of empathy provides a framework that explains the different variables in this study (*Figure 1*).[24] Physician empathy measured by patients' and physicians' perceptions occurs in the setting of a patient-physician interaction encircled by environmental and institutional factors, such as the type of hospital. Possible confounding variables are patient characteristics including age, sex, income, and educational attainment; and physician characteristics including age, sex, and residency year level. This study seeks to know more about the perceptions of physician empathy, as reported by patients and self-assessed by physicians, in public and private hospital settings in the Philippines.

METHODOLOGY

The study utilized a quantitative cross-sectional design, using surveys for data collection and independent samples t-test for analysis. This study was approved for implementation by the Ateneo de Manila University Research Ethics Committee, and by the two tertiary hospitals involved in the study.

Participants. The study involved patients and physicians from the internal medicine (IM) department of the two tertiary hospitals with training programs in Pasig City, a public and a private institution, proximate in location to the Ateneo School of Medicine and Public Health (ASMPH), the academic institution governing this study.

Inclusion criteria. This study only included participants who were mentally and physically able to answer the questionnaire given, and who could adequately comprehend and answer the questionnaires. Only patients aged 19-75 years old and physicians who consented to participate were included in the study. Measures were taken to ensure that all eligible participants would be free from any manner of harm resulting from or related to the study. Participants considered vulnerable were not included in the study, but its long-term benefits should eventually affect them as well.

Patients. *OpenEpi* sample size calculator for mean difference was used to determine the minimum

statistically adequate sample size at a 95% confidence interval, 80% power, and a ratio of sample size of 1. The calculation was based on JSPPPE results from a previous study on the perceived physician empathy levels in private (mean=31, *SD*=5.1) and public hospitals (mean=28.2, *SD*=7.4).[16] The sample size computed was 162, 81 patients per hospital.

Patients sampled were from the internal medicine outpatient department in the public hospital and the outpatient charity clinic of the private hospital. Every third patient was selected through systematic random sampling over 3 days in the public hospital and 14 days in the private hospital.

Physicians. All IM residents from first to third year were included as all of them have duties in the outpatient department, excluding those who did not meet the aforementioned criteria.

Instruments

Patient-perceived physician empathy. Patient-perceived physician empathy was measured using the Jefferson Scale of Patient Perceptions of Physician Empathy, which consists of 5 items rated on a 7-point Likert-type scale measuring the degree of physician's understanding of the patient's emotions and concerns, concerns about the patient and his or her family, ability to view things from the patient's perspective, degree of concern with the patient's daily life, and being an understanding doctor.[13]

There currently exists no official, validated Filipino version of the JSPPPE endorsed by Thomas Jefferson University. However, the scale has been broadly used and validated across developed and developing countries. With the university's approval, the researchers created a Filipino version of the JSPPPE. The translated forms were back-translated by peers of the researchers and checked against the original English text. Further changes to the translation were made after the pre-test.

The data collection tool administered to patients was a two-page questionnaire. The first page contained questions pertaining to the patient's demographic information, including: age, sex, educational attainment, and annual household income level.[25] The second page contains the Filipino version of JSPPPE.

Self-assessed physician empathy. Self-assessed physician empathy was measured using the Jefferson Scale of Physician Empathy. This form consists of 20 items rated on a 7-point Likert-type scale. The data collection tool administered to physicians was a two-page questionnaire containing questions about the physician's demographic information, including age, sex, and year level of residency. Thomas Jefferson University is the sole copyright holder of JSE and JSPPPE.

Procedure

Pre-Test. In March 2019, a pretest was employed to evaluate the Filipino version of the JSPPPE assessment tool before data collection. The researchers asked 21 individuals having similar characteristics with the patient sample to answer the Filipino version of the JSPPPE questionnaire. Participants were also asked for comments on intelligibility and suggestions for improvement. Based on the pretest, only a few items necessitated revision because of ambiguities in wording.

Patients. Using systematic random sampling, the researchers approached every third patient post-consultation with an internal medicine outpatient resident. In cases of patient refusal or ineligibility, the succeeding eligible patient was asked to answer the questionnaire, after which the next patient would once again be taken based on the set interval. To uphold privacy and confidentiality, the study did not identify the name of the doctor who saw the patient. The researchers obtained written informed consent; those who agreed were asked to answer the Filipino-translated JSPPPE questionnaire. Data collection was done in June and July 2019.

Physicians. The residents were tested after the researchers collected all patient data. The physicians were not made aware that the patients had been asked to take the JSPPPE, thus eliminating the possibility of the residents modifying their usual empathy levels in a clinical consult. Hawthorne bias was thus avoided. The researchers obtained the written informed consent from the residents. The residents were then asked to answer the JSE questionnaire.

Data Analysis

Preliminary analyses. Demographic characteristics of patients (sex, age, educational attainment, and income level) and physicians (sex, age, and residency year level) were compared between facility types (private or public) using *chi-square test* for homogeneity to assess differences that may influence physician empathy[26].

Primary analyses. To determine the general perceptions of physician empathy, JSPPPE and JSE mean scores were obtained. An independent samples t-test was performed to determine whether there was a statistically significant difference in JSPPPE scores between private and public hospitals. The same test was performed to verify whether there was a significant difference in JSE scores between private and public tertiary hospitals in Pasig City. Statistical significance is defined in this study as a two-tailed p-value under 0.05, using an alpha level of 0.05 for all statistical tests. All statistical analyses for this study were performed with *Stata 13*.

RESULTS

A total of 162 patients participated in the study, with 81 patients each from the private and public hospital (*Table 1*). Female respondents outnumbered the male in both hospitals, and a *chi-square test* of homogeneity confirmed a significant difference between the distribution of sexes of the public and private hospital, X^2 *(1, N=159)* 4.34, *p=0.037*. The overall mean age of patients was 53.92 years old. College-level (partial or complete) education was the most frequent level of educational attainment among the private hospital charity patients, while a majority of public hospital patients attained high school (partial or complete) education. There was, however, no

Table 1. Descriptive and Comparative Statistics of Patient Measurements

Characteristic	Private	Public	*p*
Sex			
Female	60 (74.07%)	47 (58.02%)	
Male	20 (24.69%)	32 (39.51%)	0.037*
Missing	1 (1.23%)	2 (2.47%)	
Total	81	81	
Age (Mean)	55.98	51.85	0.0796
Educational Attainment			
Elementary	11 (13.58%)	14 (17.28%)	
High school	26 (32.10%)	39 (48.15%)	0.054
Vocational	4 (4.94%)	5 (6.17%)	
College	40 (49.38%)	23 (28.40%)	
Total	81	81	
Income Range			
<40,000	36 (44.44%)	22 (27.16%)	
40,000-99,999	18 (22.22%)	16 (19.75%)	
100,000-249,000	20 (24.69%)	23 (28.40%)	0.017*
>250,000	5 (6.17%)	17 (20.99%)	
Missing	2 (2.47%)	3 (3.70%)	
Total	81	81	
JSPPPE Score	31.23457	29.01235	0.0134*

Table 2. Descriptive and Comparative Statistics of Physician Measurements

Characteristics	Private	Public	*p*
Sex			
Female	32 (65.31%)	8 (40%)	0.053
Male	17 (34.69%)	12 (60%)	
Total	49	20	
Age			
21-30	45 (91.84%)	16 (80%)	
31-40	3 (6.12%)	4 (20%)	0.089
Missing	1 (2.04%)	0	
Total	49	20	
Residency Year-Level			
1st year	17 (34.69%)	10 (50%)	
2nd year	17 (34.69%)	4 (20%)	0.395
3rd year	15 (30.61%)	6 (30%)	
Total	49	20	
JSE Score	110.4573	102.1263	0.0147*

Table 3. Independent Samples T-Test

Facility Type	N	t	p	Std. Error	Std. Dev
JSE					
Private	49	2.5045	0.0147*	1.807711	13.12297
Public	20			2.735404	16.52355
JSPPPE					
Private	81	2.5016	0.0134*	1.458108	4.35681
Public	81			1.83595	6.70352

significant difference found in the distribution of age *t* (160) =1.76, *p=.0796* and educational attainment X^2 *(3, N=162)* =7.66, *p=0.054* between patients in the two facilities. The patients' annual household income was usually less than ₱40,000 for private hospital charity patients and ₱100,000-249,000 for public hospital patients. The difference in the distribution of income ranges between patients in public and private facilities was significant X^2*(3, N=157)* =10.25, *p=0.017*.

Congruous with the hypothesis of the study, the mean score obtained from the JSPPPE in the private hospital (n=81, mean=31.23, *SD*=4.37) was greater than the public hospital (n=81, mean=29.01, *SD*=6.70). The difference between the patient-perceived physician empathy scores was found to be significant *t* (160) =2.50, *p=0.0134*.

A total of 69 residents participated in the study, 49 and 20 residents from the private and public hospital, respectively (*Table 2*). There were more female residents in the private hospital and more males in the public hospital. The vast majority of residents in both hospitals were within the age range of 21-30 years old, with the numbers well-distributed among the different year levels. The differences in the distribution of sexes X^2 *(1, N=69)* =3.73, *p=0.053*, age X^2 *(1, N=68)* =2.89, *p=0.089*, and year level X^2*(2, N=69)* =1.86, *p=0.395* between public and private hospitals were not significant.

Out of a maximum of 140, the mean JSE score in the private hospital (n=49, mean=110.46, *SD*=12.65) was higher than in the public hospital (*n*=20, mean=102.13, *SD*=12.23), which was also consistent with the study's hypothesis. The difference in scores between private and public was significant *t* (67) =2.50, *p=0.0147* (*Table 3*).

DISCUSSION

Physician empathy can be measured through the patient's assessment of their physicians and the physicians' self-assessment. The results of our study show that both patient-perceived and self-assessed physician empathy levels of internal medicine residents were significantly higher in the charity out-patient department in a private tertiary hospital in Pasig City. Literature has shown that patient-perceived physician empathy was either higher in public hospitals or did not differ significantly from those in private hospitals.[13-15] For self-assessed physician empathy, literature has shown that private hospital physicians either have higher empathy scores or have no significant difference than public hospital physicians.[16,17] In the current study, private hospital residents scored higher in both patient-perceived and self-assessed empathy scores compared to physicians from the public hospital. Thus, physician empathy levels are consistently higher in the private hospital.

This study also explored the possibility that variables other than the type of hospital facility influenced physician empathy scores. Patient characteristics such as sex, age, educational attainment, annual family income; and physician characteristics, namely sex, age, and year level of residency, were considered. A *chi-square test* for homogeneity assessed for a significant difference in these variables between private and public hospitals, which may have confounded the perceived empathy levels. Results show that, among the patient characteristics, there are significant differences in the sex distribution X^2*(1, N=159)* =4.34, *p=0.037* and annual household income ranges X^2 *(3, N=157)* =10.25, *p=0.017* between the two facilities.

The rest of the characteristics did not differ significantly between hospitals.

Investigating further, post-hoc analyses were done namely, a *t-test* done to compare the JSPPPE scores of male and female patients, and an ANOVA test comparing the scores of patients with different incomes. Results showed no significant differences between the empathy scores of males and females $t\,(157) = 1.29$, $p=0.2005$, and among different income ranges $F\,(3,153) = 0.59$, $p=0.6201$ in private and public hospitals. Although the sample was not homogeneous in terms of sex and income, the heterogeneity might not have been significant enough to affect physician empathy ratings. Therefore, the hospital setting, whether public or private, is the study's main consideration for the difference in empathy levels of IM physicians. Without further statistical confirmation beyond the scope of this study, however, the effects of sex and income on empathy scores cannot be definitively ascertained.

Physicians' empathy levels are vulnerable to organizational barriers that may compromise their intention to provide empathetic care to patients, such as lower availability of resources from weak organizational support.[10] Public hospitals have lower availability of resources, as seen in the physical set-up of the outpatient department. In the charity outpatient department of the private hospital, physicians use one consultation room per patient, with a separate room for triage; in the public hospital, one big consultation room was used for triage and consultation for an average of five patients. The private hospital's set-up is more conducive for both patients and physicians, which may have contributed to a higher level of physician empathy. According to a study by Bayne, physicians who perceived a lack of support from the hospital administration are prone to having lower empathy levels.[27]

Another organizational barrier is the workload of the physicians. A more demanding workload leads to higher fatigue levels and eventually decreased emotional energy to demonstrate empathy.[27] Internal medicine physicians in public hospitals generally have a more demanding workload due to the average number of patients that consult daily: per day, approximately 150 consult in the public hospital, while only 10-15 patients seek consult in the private hospital. The higher caseload in the public hospital shortened the consultation time tremendously. Studies have shown that shortened consultation times resulted in lower levels of physician empathy.[27] On the other hand, Alyazer et. al., noted that in Riyadh, the duration of the consultation did not affect the empathy rating.[26] Since results vary across cultures, it is still important to consider that these, too, might have influenced patients' perceptions of physician empathy.

The same findings were noted in a study in a tertiary hospital in São Paulo, Brazil where Bernardo et al., suggested that patients' perceptions of empathy can be influenced by cultural expectations regarding the private and public health systems.[16] A study by Borracci et al., showed contrary results, with public physicians scoring a higher empathy rating.[13] It was hypothesized that patients had lower expectations from public hospital physicians, leading them to score higher whenever they are treated well. It can also be explained by the patients' more demanding attitude in private hospitals. The varying cultural expectations may have led to the significant difference in scores. In the current study, cultural expectations may be different in that patients from public hospitals expect physicians to provide the free service they as Filipinos are entitled to, while patients in private hospitals may have a lesser sense of entitlement to a decent consultation since private hospitals normally provide service for a fee. In the Philippine setting, a concept of "utang na loob" or debt of gratitude may be present. Since they are being treated in a private hospital for free, the perceived physician empathy may have increased.[28]

In a study by Neumann et al., the financial aspect of the health sector plays a role in the differing empathy levels where private hospital physicians receive higher wages and exhibit more empathy than the government-supported public physicians.[29] In contrast, in the current study, residents practicing in public hospitals generally receive higher wages compared to residents in private hospitals, but other factors such as the corresponding increase in workload and cultural differences may have resulted in lower empathy levels.

The results of this study have various implications for current and future hospitals and Philippine health policies. It may be prudent to reevaluate the training programs in both hospitals, particularly in the public hospital where scores were generally lower, and add or improve on the empathy training component to increase physician empathy which may, in turn, contribute to increased client satisfaction and improved patient outcomes. Results of a study that conducted an intervention program on IM residents to see whether empathy can be learned showed that empathy workshops can significantly improve the physicians' non-verbal communication, listening skills, respect for dignity, and overall impression.[29,30] Aside from this, systems and processes may be implemented to reduce organizational barriers in the hospital such as reducing the number of patients in hospitals with a large daily caseload. This is to address the subculture of the hospital and improve empathy levels in public hospital physicians.

CONCLUSION

Quantitative measurements of patient-perceived and self-assessed physician empathy were obtained through the JSPPPE and the JSE, respectively. The empathy level of physicians in the private hospital is significantly higher compared to those in the public hospital. Results also showed that patient and physician characteristics did not significantly influence the levels of physician empathy in both hospital settings. This study provides preliminary information of empathy levels of physicians in a Philippine setting. The results can help improve training in empathy in internal medicine residency programs, as empathy affects health outcomes of patients. This study was largely

exploratory, sought to provide baseline descriptions and findings on physician empathy, a subject scarcely researched in the Philippines. As such, further studies are recommended to expand on the current findings and apply them to hospitals outside the Pasig area, and even outside of the region. Future studies may also incorporate qualitative findings and observe how they correlate with quantifiable empathy scores and other factors. A myriad of factors could have influenced the findings of this study, and this bias could be mitigated in future studies by controlling for confounders and considering a greater number of other potential confounding variables beyond those analyzed here.

Limitations of the Study

The limitations of the study include the relatively narrow geographic scope, sampling only two tertiary hospitals in Pasig City. Familiarity (i.e., number of previous consultations) between physicians and patients was also not accounted for. Other factors such as hospital ambience, work hours, patients' waiting time, and consultation duration were not investigated. Moreover, confounding variables and possible selection bias due to systematic sampling of participants were not controlled.

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