



Perception of Filipino Physicians on the Roles and Scope of Practice of Physical Therapy in the Philippines: A Multi-method Quantitative Study

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To cite this article: Callejo-Tiuseco, A.J., Rimando, C.R., Nava, J.B., Rueda, E.M., Carbonell, K.M., Sadiasa, A.N., Chiong, A., Wee, A.D., Lotho, M.K., Lapid, C.A., Soriano, M.J., Casis, J.A. (2022) Perception of Filipino physicians on the roles and scope of practice of physical therapy in the Philippines: A multi-method quantitative study. *Philippine Journal of Physical Therapy*, 1(1), 1-15. <https://doi.org/10.46409/002..JBQR2261>

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Abstract

Introduction: Physical therapists (PTs) are licensed practitioners who can assess, diagnose, and provide treatment interventions that restore patients to optimal function. While PTs can deliver complete management plans, the practice of physical therapy (PT) in the Philippines follows a referral system where physicians are the first contact of the patient, emphasizing the importance of physician's perception towards the role of PTs and scope of PT service. This study aimed to determine the internal consistency of the Perception on Physical Therapists Questionnaire (PoPTQ), and to use this tool to report the existing perceptions of Filipino physicians on the practice of PT.

Method: This study was divided into two phases and utilized a multi-method quantitative research design. For Phase 1 (psychometric), 18 questionnaires administered to Filipino physicians were used to compute Cronbach's α of PoPTQ. A total of 134 questionnaires of the same population were analyzed for Phase 2 (cross-sectional), in which descriptive statistics and cross tab analysis were used to report the respondents' perceptions. Both phases utilized online means of data gathering done via convenience sampling.

Results: Phase 1 revealed a Cronbach's α value of 0.528 for all items of PoPTQ. Phase 2 showed that physicians who have attended lectures discussing the roles of PTs or have experience with working with them have a higher referral rate than those with no prior exposure to PTs.

Discussion: Filipino physicians believe that PTs can establish strong patient-therapist relationships, treat different patients, and acknowledge the roles of PTs in clinical and research settings. Data suggest that adequate foundational knowledge, positive perceptions, and high awareness of PTs' roles and scope of practice are observed among Filipino physicians. However, there remains a need to increase collaboration opportunities between PTs and physicians in their academic years and programs that focus on the promotion of PT roles and scope of practice.

Keywords: Perception Questionnaire, Physical Therapy Roles, Physician Perception

Received: November 15, 2021. **Revised:** December 9, 2021. **Accepted:** January 14, 2022. **Published:** February 15, 2022.

Published by University of St. Augustine for Health Sciences Library on behalf of the Philippine Physical Therapy Association.

Introduction

Physical therapy (PT) is the “services provided by physical therapists (PTs) to individuals and populations to develop, maintain and restore maximum movement and functional ability throughout the lifespan,” provided when movement and function are hindered by aging, injury, pain, diseases, conditions, and the environment (Policy Statement: Description of Physical Therapy | World Physiotherapy, 2019). Local organizations in the Philippines have also adopted this definition and further support that the PT profession is committed to providing quality care, demonstrating competence in patient and client care, education, leadership, and research (Standards of Practice of PPTA, 2000). The role of PTs is characterized as autonomous practitioners who underwent and completed “professional, entry-level physical therapy education,” providing appropriate diagnoses, physical therapy management, and rehabilitation to patients, clients, and populations (Policy Statement: Description of Physical Therapy World Physiotherapy, 2019). PTs devise strategies that include treatment, rehabilitation, prevention, and health promotion to maximize function with the knowledge and skills unique to the profession (Policy Statement: Description of Physical Therapy World Physiotherapy, 2019).

In the Philippines, the practice of PT is regulated by the RA 5680, otherwise known as the Philippine Physical and Occupational Therapy Law. Enacted on June 21, 1969, the law requires physician referrals before patients or clients seek PT consultation and management. This legislation emphasizes the importance of physicians’ perception as they are the patient’s first contact (Rajan & Bellare, 2013). In contrast, World Physiotherapy states that the practice of PT in countries such as the United States of America (US), Australia, Costa Rica, Nepal, Finland, Sweden, Sri Lanka, Thailand, Singapore, South Africa, India, and Canada can provide evaluation and treatment services without the need for an order or referral from any other healthcare professional in both private practice and public system. Moreover, cost effectiveness and greater functional outcomes were observed in countries like the USA which has direct access to PT, as compared to physician-first access (Hon et al., 2020).

International studies reveal how physicians perceive PT practice. A study in Saudi Arabia reported that there was moderate awareness about PT among physicians (Al-Eisa et al., 2016). There was likewise significant awareness towards PT practice and its different functions among medical doctors in India (Shimpi et al., 2014). On the contrary, a study reported deficits in the perception in various areas regarding the PT profession among physicians and medical students of the Sudayr Region, Saudi Arabia (El Baky, 2014). Emergency department PTs received positive perceptions from the staff and patients, claiming that their work improved the emergency department (El Baky, 2014). Still, a lack of awareness of PTs’ roles was a concern (Ferreira et al., 2018). Effective interaction among healthcare professionals is

needed to achieve optimal health outcomes in a patient-centered healthcare delivery system (Lim et al., 2020). Inadequate knowledge of the

roles and scope of PT practice is a barrier to achieving this, especially noting that referrals to PT services will entirely come from the physicians. A context-specific questionnaire that could determine Filipino physicians’ current knowledge of the roles and scope of PT practice in the Philippines was deemed necessary, thus the Perception on Physical Therapists Questionnaire (PoPTQ) was developed by Lim et al. (2020) for this purpose. The benefits of developing the questionnaire include bridging the gap in the healthcare system and enhancing the profession in providing optimal care through better and more appropriate patient referrals. The creation and validation of PoPTQ were aligned with the international perception studies, which did not require further psychometric properties other than CVR before questionnaire administration (Al-Eisa et al., 2016; Lim et al., 2020; El Baky, 2014). However, many other studies that developed or utilized a validated quantitative questionnaire still underwent reliability testing to reduce a tool’s bias and ambiguity (Dizon et al., 2011; Manlapaz et al., 2019; Pineda et al., 2019).

Hence, the objective of Phase 1 of this study is to report the reliability of PoPTQ by determining its Cronbach’s α value. Phase 2 aims to use the tool to report the perception of physicians on the role and scope of practice of PTs in the Philippines through the four domains of the PoPTQ, which assesses Filipino physicians’ level of awareness on the PT practice in the Philippines. This study will be significant in framing the definition and notion of physicians and other health professionals towards the PT practice in the Philippines. This will raise awareness of the roles and scope of PT practice and promote a more efficient and dynamic referral system in the country. It may also serve as a future reference for researchers conducting quantitative perception studies in the Philippine setting.

Method

Ethical Considerations

This study was reviewed and approved by the University of Santo Tomas – College of Rehabilitation Sciences Ethical Review Committee with protocol number SI-2020-030 on April 4, 2021. This complied with the principles of the Declaration of Helsinki, Good Research Clinical Practice Guidelines of the Philippine Health Research Ethics Board, and Data Privacy Act of 2012 (RA 10173).

Study Design

This research utilized a multi-method quantitative study design registered under the Philippine Health Research Registry (PHRR210310-003279). Phase 1 used a psychometric study design to establish the internal consistency of PoPTQ by determining Cronbach's α value. Previous authors also used this study design to test for the content validity of the PoPTQ to establish the psychometric properties of culturally adapted questionnaires for the Filipino population (Lim et al., 2020; Morato-Espino et al., 2019; Pineda et al., 2019). Phase 2 of the study, which aimed to determine Filipino physicians' existing perceptions, utilized a cross-sectional study design. Multiple similar studies in other countries likewise used this design to measure the general perception of a specific group objectively and statistically (Al-Eisa et al., 2016; El Baky, 2014).

Participants

Phases 1 and 2 used the same recruitment criteria to represent the intended population consistently and accurately. Recruitment criteria for phase 1 include Philippine-based physicians holding Filipino citizenship with a valid license recognized by Philippine Regulation Commission (PRC), and at least one-year professional practice in the private or public setting and the clinical or academic setting. In contrast, exclusion criteria include undergraduate medical students, postgraduate medical interns, and other non-physician healthcare professionals. Phase 2 had an addition of excluding participants from Phase 1 to reduce the risk of bias. The said recruitment criteria were adapted from the study by Al-Eisa et al. (2016), which aimed to study physicians' awareness, perceptions, and beliefs about PT in Saudi Arabia.

Phase 1: Computation of Sample Size to Determine the Internal Consistency of the Questionnaire

The sample size needed to evaluate the internal consistency of the questionnaire was computed using a developed guide that reported that Cronbach's α value test was suitable for conducting pilot studies when the null was usually assumed to be zero (Bujang et al., 2018). Cronbach's α coefficient in the null hypothesis was set as 0.0 to achieve the desired effect size of 0.7. Based on the α value fixed at 0.05, the minimum sample size requirement was 18, aiming for 90.0% power.

Phase 2: Computation of Sample Size for the Administration of Questionnaire

The researchers used an online calculator from Creative Research Systems (<https://www.surveysystem.com/sscalc.htm>) to compute the sample size for Phase 2. A table from the Philippines Health System Review by the World Health Organization provided the basis for the population, which showed 40,775 medical doctors as of 2017 from the 17 regions in the Philippines (Dayrit MM et al.,

2018). The confidence level set at 95% and the margin of error at 8% yielded a sample size of 150 participants.

Setting

The data collection for both Phases 1 and 2 utilized an online approach via Google forms. Online means of gathering data from participants are aligned with previously used methods for perception studies (Al-Eisa et al., 2016; Vogler et al., 2019). This ensured the feasibility of conducting research even with the physical limitations brought about by COVID-19 in the Philippines. Only physicians practicing in any of the 17 regions in the Philippines participated in the study. Researchers used social media posts and public messaging channels to recruit participants for Phase 1, which allowed maintenance of communication with the participants in the event of updates or questions regarding the study (Vogler et al., 2019). In the past studies, recruitment through social media also showed success in increased response rates for healthcare and medical research (Vogler et al., 2019). The sample population was also selected via convenience sampling by selecting participants who were immediately available to participate in the study. Reliability testing of a questionnaire in other studies also utilized the convenience sampling method (Pineda et al., 2019). The same recruitment and sampling methods were applied to Phase 2.

Instrument

PoPTQ is a self-administered, multi-dimensional measure of the physicians' perception on the scope of practice of PTs in the Philippines, was first developed by Lim et al., 2020 in their Phase 1. The tool underwent drafting and content validation via expert validation. The initial questionnaire draft was sent to 12 experts consisting of four PTs, five medical doctors, and three research experts who were invited through email and required to submit their curriculum vitae for eligibility confirmation. A total of seven out of 12 experts responded to the initial questionnaire; however, only five experts gave complete CVR grades. Computation of CVR did not include the two experts who gave incomplete CVR grades but applied the feedback for tool development. Initially a 24-item survey, only 11 items were deemed "necessary" and added to the questionnaire.

Items included in PoPTQ obtained a Content Validity Ratio (CVR) critical value of 1. It is a validated tool that can quantitatively assess physicians' perceptions on the roles and scope of PT practice in the Philippines (Lim et al., 2020). The current version of PoPTQ remained with 11 items subdivided into four domains: (A) the foundation of understanding regarding PT (three items); (B) experience in PT referral (two items); (C) the perception of the ability of PTs in treating patients (two items); and (D) the current awareness towards the role of PTs (four items), in order (See Appendix A). The first three items are nominal scales, and the last eight items are four-point Likert

scales. The questionnaire also included items regarding the respondents' demographics, such as age, sex, years of work experience, specialization, and work setting.

Procedures

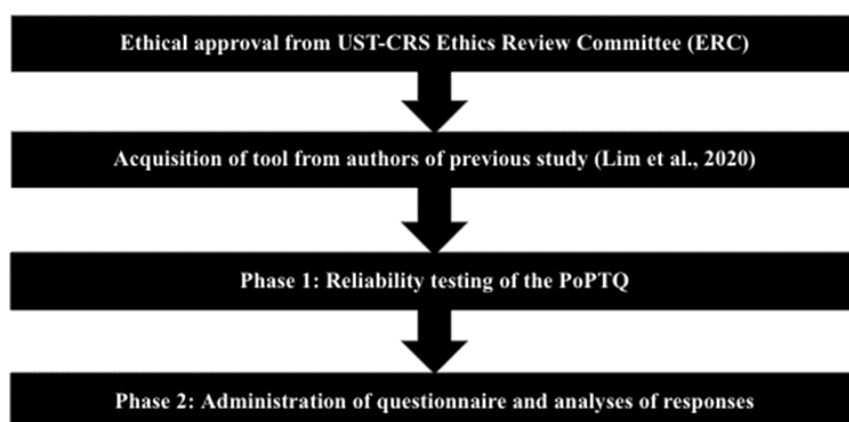
Figure 1 illustrates the procedures of this study. The participant information sheet (PIS) and informed consent form (ICF), discussing the purpose, procedure, duration, possible discomforts, benefits, and the procedure for data record-keeping during the recruitment were sent out first before the encoded questionnaire. After obtaining the completed PIS and ICF, the Google forms' link with the encoded questionnaire is displayed automatically after submission. When participants fail to access the link after submitting, they receive the same link through email as a follow-up.

The researchers encoded all the PoPTQ 11 items in Google Forms, which recorded and collated responses into Google Sheets once the participants completed the questionnaire. Specified in the encoded questionnaire were: (1) a header stating the study's objectives and the researchers' contact information, and (2) a required field for the collection of the participant's demographic information: initials, age, sex, specialization, practice setting, and years of experience.

Phase 1 data gathering began with PoPTQ pilot testing until the first week of May 2021, where 18 qualified physicians answered the questionnaire. Cronbach's α value of the PoPTQ pilot testing results was then computed and analyzed until the last week of May 2021. Establishing the internal consistency of the questionnaire marked the end of Phase 1. Phase 2 actual data gathering began from June 2021 to October 2021. The assigned researcher who led the compilation and safekeeping of the responses throughout data collection provided viewing access to the anonymized data sheet to co-authors during data analysis.

Figure 1

Procedures of the Study



Data Analysis

Formula used to compute CVR

Lim et al. (2020) provided the initial CVR computation through Microsoft Excel using the formula as seen in (1), wherein CVR= content validity ratio; Ne = number of experts rating the item as essential; N = the total number of experts and identified the CVR critical using the Lawshe table. Likewise, Lim et al. (2020) were able to employ the necessary questionnaire revisions.

$$CVR = \frac{Ne - \frac{N}{2}}{\frac{N}{2}} \quad (1)$$

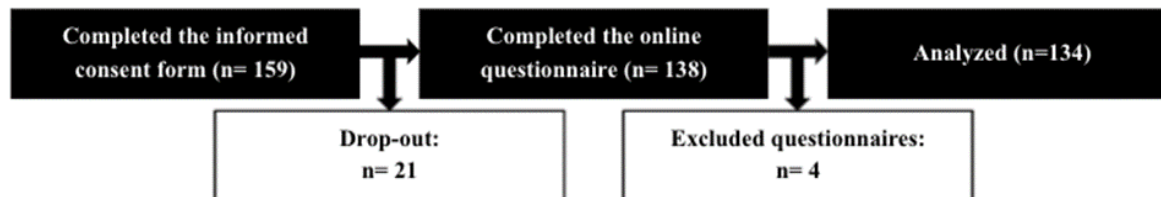
Phase 1: Data Analysis for the Evaluation of Internal Consistency

Researchers used Statistical Package for the Social Sciences (SPSS), version 26.0. software to compute Cronbach's α (Albert et al., 2013). Among the 18 respondents, one submitted a missing value in the response. The respondent left a blank answer instead of stating "not applicable (NA)" on the second domain of PoPTQ regarding the "expectations [of the physician] for patient outcome after referral to Physical Therapy, which would have been an acceptable value within the variable set in the SPSS Software.

Based on an SPSS guide in analyzing the questionnaire reliability, the appropriate cut-off points for moderate reliability range from 0.50-0.70 (Hinton et al., 2014). Another psychometric study revealed that a Cronbach's α value of 0.50 was satisfactory in cases when there were fewer than 20 items in a questionnaire (Dall'Oglio et al., 2010).

Figure 2

Flowchart showing the recruitment, number of dropouts and total number of physicians included and analyzed.



Phase 2: Data Analysis from the Administration of Questionnaire

Data were analyzed using descriptive statistical analysis. Frequencies & percentages were used to describe the participants' demographics and domain A which utilized a nominal scale. The same method of data analysis was done for physicians' perceptions on PTs' ability to treat patients and level of understanding of PTs' roles in healthcare. Median, standard error, range, minimum and maximum values were used to summarize the results of domains B, C, and D, which are the domains that utilized an ordinal scale. Crosstab analysis was used to determine the foundation of understanding on PT in relation to the level of referral, and experiences on the patient outcomes after PT referral (Al-Eisa et al., 2016). Six respondents failed to answer item 5 under domain B; thus, a row for "did not answer" was added.

Results

Phase 1

Completed questionnaires from the 18 recruited participants in phase 1 were all included in the study. The results from Phase 1 showed that the internal consistency of PoPTQ has a Cronbach's α value of 0.528 (90.0% power) for the entire questionnaire with 11 items.

Phase 2

Excluded questionnaires in Figure 2 were from physicians who have less than a year of experience as licensed doctors, postgraduate medical interns, and non-physicians.

Participant's Demographics

Of the 134 participants recruited, 50.75% were females, while 49.25% were males. The majority were middle-aged adults (21-55 y/o) with 47.01%, followed by young adults (18-35 y/o) with 47.01%, and older adults (>55) with 11.19%. As for the work experience as physicians, 46.27% reported having 5-20 years of work experience, followed by 35.07% who reported to have >5 years, and 18.66% who reported to have >20 years. The work setting and specialties listed by the physicians are shown in Table 1 and Table 2, respectively.

Table 3 shows the cross-tab analysis between domain A: foundation of understanding and domain B: experience in PT referral. Analysis for Item 1 reveals that respondents who attended lectures/workshops/seminars have a higher rate of referring patients to PT, making up the 38.81% of those who regularly refer patients to PT. On the other hand, those who have no experience attending any lecture/workshop/training showed a lower rate of PT referrals. Among them, only 9.70% have referred patients to PT for a regular basis. However, three respondents reported no experience in PT referral despite having the foundational knowledge of the practice. Similarly, those who had exposure or experience collaborating with a PT student in the academic setting (Item 2) or with a PT graduate in the clinical setting (Item 3) showed a higher rate of PT referrals than those who have no experience. Responses under practicing regularly PT referral have the highest percentage with 32.09%, and 46.27% of those have an experience working with PT students in academic settings and with PT graduates in the clinical setting, respectively. This table also shows that out of the total 134 respondents, 16 have no experience in PT referral.

Table 1*Demographic Characteristics of the Participants: Work Setting*

Work Setting	Frequency (n)	Percentage (%)
Private Hospital	78	58.21%
Government Hospital	30	22.39%
Primary Care	12	8.96%
Others	6	4.48%
Diagnostic/Therapeutic facility	3	2.24%
Specialized outpatient facility	5	3.73%
Custodial care	0	0%

For Table 4, the 16 respondents who do not refer patients to PT were excluded from the total number of respondents. Data show that the respondents who strongly agree that post-PT referral met their expected patient outcomes have the highest rate of regularly referring patients to PT, with 32.2%. The majority of the respondents who did not answer the question rarely refer patients to PT. Still, 94.9% of the physicians reported expectations were met after PT referral.

Table 5 shows that only one respondent disagrees that PTs establish rapport and develop strong relationships with patients on perceptions. All but one respondent express positive perception on the PTs' ability to treat different types of patients, with 70.1% of respondents who strongly agree, and the remaining 25.37% only agree, while only 0.75% who disagree. Furthermore, all 134 respondents have an understanding of PTs' role in patient management. Although 74.63% strongly agree that PTs play a role in health literacy through patient and family education, and 58.21% believe in the PTs' ability to select and interpret research for patient assessment and evidence-based management, there is one participant who disagrees in such domains. All respondents likewise agree that PTs can set achievable and adequate goals for patients.

Descriptive Statistics

Table 6 & 7 shows the results obtained from the physicians after descriptive analysis. Values allocated for responses in item 4 under domain B were 1, 2, 3, 4 representing the answers: "I do not refer," "I rarely refer," "I occasionally refer," and "I regularly refer", in order. The values for the item 5 under domain B, and all

items in domains C and D used the same set of representations where 1 is "strongly disagree," 2 is "disagree," 3 is "agree," and 4 is "strongly agree." A value of "0" was added for the six unanswered questions on domain B.

Table 2*Demographic Characteristics of the Participants: Speciality*

Specialty	Frequency (n)	Percentage (%)
Orthopedics	34	25.37%
General Medicine	17	12.69%
Physical Medicine & Rehabilitation	14	10.45%
Internal Medicine	10	7.46%
OBGYN	10	7.46%
Radiology (Diagnostic & Interventional)	7	5.22%
General Surgery	6	4.48%
Pediatrics	6	4.48%
Pathology	5	3.73%
Family Medicine	4	2.99%
Neurology	5	3.73%
Emergency Medicine	3	2.24%
ENT-HNS	3	2.24%
Ophthalmology	3	2.24%
Dermatology	2	1.49%
Anesthesiology	1	0.75%
Oncology	1	0.75%
Pulmonology	1	0.75%
Occupational Medicine	1	0.75%
Sports Medicine	1	0.75%

Discussion

This study was conducted to establish the reliability of the PoPTQ and use this to assess physicians' perceptions on the role and scope of PT practice in the Philippines. The Cronbach's α of PoPTQ falls in the range of moderate reliability based on the guide written by Hinton et al. (2014). This indicates an acceptable

Table 3

Cross tab analysis between Foundation of Understanding and Experience in Physical Therapy Referral

Foundation of Understanding on Physical Therapy	Item 4. Experience in Physical Therapy Referral							
	I do not refer		I rarely refer		I occasionally refer		I regularly refer	
	n	%	n	%	n	%	n	%
Item 1. Have you attended a lecture/workshop/training that discussed “physical therapy” topics (such as the Role of PT in stroke rehabilitation, in post-op recovery, etc.)?								
Yes	3	2.24	8	5.97	13	9.70	52	38.81
No	13	9.70	12	8.96	20	14.93	13	9.70
Item 2. Did you have any experience working with a PT student (such as interdisciplinary conferences, community development programs, and/or academic projects) in school?								
Yes	3	2.24	6	4.48	15	11.19	43	32.09
No	13	9.70	14	10.45	18	13.43	22	16.42
Item 3. Did you have experience collaborating with a PT graduate to treat a patient during your clinical internship/residency?								
Yes	6	4.48	14	10.45	22	16.42	62	46.27
No	10	7.46	6	4.48	11	8.21	3	2.24

Table 4

Cross tab analysis between of Experience in Physical Therapy Referral and Expectations for Patient's Outcome

Item 5. My expectations for the patient's outcome were met after referring them to Physical Therapy.	Item 4. Experience in Physical Therapy Referral					
	I rarely refer		I occasionally refer		I regularly refer	
	n	%	n	%	n	%
Agree	13	11.02	22	18.64	26	22.03
Strongly Agree	3	2.54	10	8.47	38	32.2
Did not answer	4	3.39	1	0.85	1	0.85

inter-item correlation among the 11 items in the questionnaire. In general, a value of 0.75 is a benchmark for a questionnaire or measure to be deemed as reliable. However, a value of 0.5 would be acceptable for questionnaires with less than 20 items, as is the case for PoPTQ (Dall'Oglio et al., 2010). In the study conducted by Albert et al. (2013), the authors prioritized a threshold value of 0.75 as a measure of good reliability. The overall questionnaire used was able to maintain a Cronbach's α from 0.58 to 0.87, wherein the domains with the lowest alpha were still considered to be in the range for moderate reliability. In improving the reliability for future use of the questionnaire, additional items such as knowledge of physicians on Philippine Physical and Occupational Therapy Law and their perceptions on direct access to PT may be included so long as they maintain the same concept as the rest of the assessed items. Nonetheless, PoPTQ is an acceptable tool to obtain physicians' perceptions on the roles and scope of PT practice with its current psychometric properties.

Results of phase 2 revealed that physicians generally have a positive perception towards PTs' roles and scope of practice. This was measured based on the four domains of the PoPTQ, which involve (A) foundational knowledge, (B) experience in PT referral, (C) perception in capability to provide adequate treatment, and (D) current awareness towards the scope and roles of PTs. Majority of the physicians reported that they have attended lectures/workshops/training that tackles PT topics. Most of them also reported collaborating with PT graduates during their internship or residency. It means that they had the opportunities

to learn the different functions of PTs in patient care through the lectures, seminars, or training programs they encountered, and by observing PTs in practice performing their roles in health literacy, utilizing research for evidence-based practice, and setting appropriate goals for their patients. On the other hand, an equal number of physicians reported having and not having the experience of collaborating with PT students in school.

Data also revealed that physicians with a greater level of awareness of PT have a higher referral rate than those with no prior understanding of the field. Similar international studies support this, indicating that providing more information about PT practice and exposing physicians to collaborations with PTs can help build a trust that creates a more dynamic referral system (Al-Eisa et al., 2016; Shimpi et al., 2014). This is especially relevant in the local setting, where physician referral is required prior to PT consultation and management. In the study conducted by (Alsheri et al., 2018), the majority of physicians' attitude towards PT is slightly low, which contributed to the low rate of referrals to PT services in the region.

Answers in Item 4 shows that most of the respondents regularly refer to PT, but the median falls to occasionally referring. This is denoted to other factors such as the physicians' existing variation of specialties. According to (Al-Eisa et al., 2016), medical specialties tend to influence the level of PT referral based on the applicability of patient need. Results also reported that physicians' expectations on the patient outcomes post-PT management are usually met. This implies that Filipino physicians

Table 5*Perception on the ability of Physical Therapists in treating patients and Roles of Physical therapist*

Perceptions	Strongly Agree		Agree		Disagree	
	n	%	n	%	n	%
Item 6. PTs establish rapport and develop strong relationships with patients by involving them in setting their goals.	90	67.16	43	32.10	1	0.75
Item 7. PTs are qualified to treat different types of patients (e.g pediatric, geriatric, neurologic, orthopedic, etc.)	95	70.1	38	25.37	1	0.75
Item 8. I understand the role of PTs in patient management.	93	69.4	41	30.6	0	0
Item 9. PTs play a role in health literacy through patient and family education.	100	74.63	33	24.63	1	0.75
Item 10. PTs are able to select and interpret research that can be used for patient assessment and perform evidence-based management.	78	58.21	55	41.04	1	0.75
Item 11. PTs are able to set achievable and adequate goals for patients.	98	73.13	36	26.87	0	0

Table 6*Summarized Results for Domain A*

Items	Response	Frequency (N)	Percentage (%)
Item 1. Have you attended a lecture/workshop/training that discussed “physical therapy” topics (such as the Role of PT in stroke rehabilitation, in post-op recovery, etc.)?	Yes	76	56.72%
	No	58	43.28%
Item 2. Did you have any experience working with a PT student (such as interdisciplinary conferences, community development programs, and/or academic projects) in school?	Yes	67	50%
	No	67	50%
Item 3. Did you have experience collaborating with a PT graduate to treat a patient during your clinical internship/residency?	Yes	104	77.61%
	No	30	22.39%

Table 7

Summarized results for all items under Domain B, C, & D

Domain	Question	Mdn	Range (max, min)	SE	Mode
B	Item 4. Experience in Physical Therapy Referral	3	3 (4,1)	0.11	4
	Item 5. My expectations for the patient's outcome were met after referring them to Physical Therapy.	3	4 (4,0)	0.14	3
C	Item 6. PTs establish rapport and develop strong relationships with patients by involving them in setting their goals.	4	2 (4,2)	0.05	4
	Item 7. PTs are qualified to treat different types of patients (e.g., pediatric, geriatric, neurologic, orthopedic, etc.)	4	2 (4,2)	0.05	4
D	Item 8. I understand the role of PTs in patient management.	4	1 (4,3)	0.05	4
	Item 9. PTs play a role in health literacy through patient and family education.	4	2 (4,2)	0.05	4
	Item 10. PTs are able to select and interpret research that can be used for patient assessment and perform evidence-based management.	4	2 (4,2)	0.06	4
	Item 11. PTs are able to set achievable and adequate goals for patients.	4	1 (4,3)	0.05	4

Note. Mdn – median; SE – standard error of the median; Max-maximum value; Min- minimum value

have positive experience regarding PT referral in the Philippines. Furthermore, the majority agreeing PTs' qualifications to treat different types of patients may suggest that there are available lectures, workshops, and training for physicians which tackle different kinds of conditions that a PT may handle across various medical specialties.

Despite having adequate foundational knowledge, positive perceptions, and awareness of PTs' roles and scope of practice locally, only 47.8% of physicians reported regular referral to PT management. This is consistent with the study of Al-Eisa et al. (2016), who reported physicians having significant awareness about PT practice but low referral rate to PTs in their region. Different factors could be attributed to this, including physicians having no experience working with PT students during their stay at medical school or having a specialty that generally does not

refer to PT. Furthermore, respondents who had training and PT awareness lectures tend to practice PT referral more than those who had no experience. This indicates the need for reinforcements of PT awareness programs in the local setting. Collaboration with PT students in medical schools could further strengthen the trust between therapists and physicians, thus improving the referral rate.

Limitations

The primary limitation of the current work was the lack of participants recruited for Phase 2. Some respondents completed the ICF forms but not the surveys, despite receiving multiple follow-ups through email. There is an 11% deficit from the target sample size that influences the study's generalizability. The type of sampling used was non-random. Additionally, the

demographics gathered from the participants did not probe into their undergraduate program which may have influenced their perceptions. Also, there is a possibility of the Hawthorne effect taking place due to the participants being aware of the study being conducted on them.

Implications and Recommendations

Future researchers may focus on establishing a higher internal consistency by increasing its Cronbach α value. It is also recommended to use a random sampling method rather than the current convenience sampling to reduce the bias in future studies. This may be done by coordinating with different national medical societies, who may also help with the recruitment of participants. Researchers may also focus the target population on those whose medical specializations are more related to PT practice such as orthopedics, pediatrics, and neurology.

It is necessary to raise physician awareness of PTs and their roles within the healthcare profession. Recommendation for physicians to explore several programs that discuss PT practice in different settings and encouragement of clinical exposure of medical clerks to the existing PT practice are thereby highlighted. This could be in form of interdisciplinary conferences, community development programs, and/or collaboration in academic projects. Increased communication and interaction between physicians and PTs on patient care and evidence-based treatments can help enhance awareness and level of trust. This study adds to the available body of knowledge that serves as a reference for other studies with similar objectives.

Conclusion

The Perception on Physical Therapists Questionnaire (PoPTQ) has moderate internal consistency based on Cronbach's α of 0.528. It is a reliable tool that can be administered to determine physicians' perceptions on physical therapy practice in the Philippine setting. Furthermore, the study reveals that there is adequate foundational knowledge, positive perceptions, and high awareness of PTs' roles and scope of practice among physicians practicing in the Philippines. However, there remains a need to further extend interprofessional opportunities for collaboration and lecture, workshop, or training between physical therapists and physicians that focus on the promotion of PT roles and scope of practice.

Acknowledgments

The researchers hereby acknowledge the authors of the previous study upon which this study built its foundation on, thus contributing to the research project, namely Lemuel Lim, MSPT, PTRP, Lousse Francine Ang, Angelica Joy Cabral, Jeri Lae Camposano, Paolo Antonio Martinez, Samantha Fredrique Montano, and Cornelio Reta V. The researchers likewise extend

recognition and gratitude to Prof. Valentin C. Dones III, Ph.D., whose valuable support and guidance aided in the continuous improvement of the study.

Conflict of interest statement

The authors declare that they have no conflict of interest with regard to the research conducted in this paper.

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Appendix A. Copy of assessment tool (PoPTQ)

Perception on Physical Therapists Questionnaire

Evaluator (initials): _____

Sex: ___ Male ___ Female

Age: _____

Years of Experience: _____

General Directions: Please place a (✓) on the space provided if it is applicable.

Specialization: _____

Setting:

Government Hospital (___ General ___ Specialty [please specify]: _____)

Private Hospital (___ General ___ Specialty [please specify]: _____)

Primary care facility (eg. infirmary, birthing home, medical out-patient clinic)

Custodial care facility (eg. nursing home, substance abuse rehabilitation center, sanitarium)

Diagnostic/Therapeutic facility (eg. radiologic facility, laboratory facility, nuclear medicine)

Specialized out-patient facility (eg. dialysis clinic, physical medicine & rehabilitation center)

Others (please specify): _____

Foundation of Understanding on Physical Therapy

Questions Yes No

1. Have you attended a lecture/workshop/training that discussed “physical therapy” topics (such as Role of PT in stroke rehabilitation, in post op-recover, et cetera)?
2. Did you have any experience working with a PT student (such as interdisciplinary conferences, community development programs and/or academic projects) in school?
3. Did you have experience collaborating with a PT graduate to treat a patient during your clinical internship/residency?

Experience in Physical Therapy Referral

4. Did you have any experience of referring a patient to a Physical Therapist?
 - I regularly refer my patients for Physical Therapy
 - I occasionally refer my patients for Physical Therapy
 - I rarely refer my patients for Physical Therapy
 - I do not refer my patients for Physical Therapy

NOTE: If you do not refer your patients for Physical Therapy, kindly proceed to **Perception on the ability of physical therapists in treating patients.**

5. My expectations for the patient’s outcome were met after referring them to Physical Therapy.
 - Strongly agree
 - Agree
 - Disagree
 - Strongly Disagree

Perception on the ability of Physical Therapists in treating patients

6. Physical therapists establish rapport and develop strong relationships with patients by involving them in setting their goals.
 - Strongly agree
 - Agree
 - Disagree
 - Strongly Disagree

7. I believe that physical therapists are qualified to treat different types of patients (e.g. pediatric, geriatric, neurologic, orthopaedic cases, etc.).
 ___ Strongly agree
 ___ Agree
 ___ Disagree
 ___ Strongly Disagree

Role of Physical Therapists

Statements	Strongly agree	Agree	Disagree	Strongly disagree
8. I understand the role of a physical therapist in patient management.				
9. Physical therapists play a role in health literacy through patient and family education.				
10. Physical therapists are able to select and interpret research evidence that can be used for patient assessment and perform evidence-based management				
11. Physical therapists are able to set achievable and adequate goals for patients				