

Perceptions of Clinical Clerks and Interns of the University of the Philippines College of Medicine towards Physical and Rehabilitation Medicine as a Medical Specialty

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ABSTRACT

Objectives. Perception about Physical and Rehabilitation Medicine provides information about awareness on identifying disabilities and managing their impact on activities of daily living; however, misconceptions about the field continue to exist among both students and physicians. This study aims to describe the perceptions of clinical clerks and interns towards the practice and role of Rehabilitation Medicine in management of patients.

Methods. This is a descriptive cross-sectional study. Students from the Learning Unit 6 and 7 of UP College of Medicine answered adapted online survey forms from a previous study and participated in online focus group discussions. Qualitative data were used to infer the perception of medical students towards the specialty. The effect of the respondent's profile, background and affiliation on their knowledge, attitudes and perceptions were analyzed using One-Way ANOVA ($\alpha = 0.05$). Qualitative data were analyzed using thematic analysis.

Results. Learning Unit 6 and 7 students were found to have a perceived broad level of knowledge with regards the specialty. The students associated the specialty with focus on holistic care, quality of life, interdisciplinary collaboration, and diversity of cases managed. No statistically significant differences were found between the perception among: 1) Learning Unit 6 and 7, 2) those with or without a previous encounter with the specialty, 3) allied medical and non-allied medical undergraduate courses in terms of: a) confidence in the knowledge ($p = 0.489$), b) familiarity with conditions managed ($p = 0.93$) and c) interest towards the specialty ($p = 0.693$). The Organ System Integrated (OSI) curriculum, which promotes horizontal and vertical integration of concepts, provided a wide understanding of the basic concepts related to physiatry. The students' responses suggest a positive attitude towards Physical and Rehabilitation Medicine, as measured in their level of interest about knowing more regarding the specialty. Most common perceptions were that the specialty was multidisciplinary and holistic. However, the respondents' perceptions regarding the roles of the Rehabilitation team were limited.

Conclusion. Learning unit level 6 and 7 students had a broad understanding of the practice and scope of the Physical and Rehabilitation Medicine specialty. Future researches can include other medical students in all year levels, including Learning Units 3, 4 and 5 of UPCM, to observe the development of their perceptions about the specialty throughout medical school.

Keywords: *perception, Rehabilitation Medicine, medical students, curriculum*



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INTRODUCTION

Physical and Rehabilitation Medicine, according to the International Society of Physical and Rehabilitation Medicine, is an established medical specialty that aims to improve and restore impaired body function and structures, prevent impairments, complications, and risks, and improve function and structure. It emphasizes care at the level of the patient, immediate environment, family relatives and communities.¹ Rehabilitation is the process of helping a person reach the fullest physical, psychological, social, vocational, avocational, and educational potential that is consistent with his or her physiologic or anatomic impairment, environmental limitation, desires, and aspirations. The practice of Physical and Rehabilitation Medicine integrates inputs from the entire health care system and includes prevention, early recognition, outpatient, inpatient, and extended care programs in the management of patients. Psychiatrists, or physicians who practice the specialty, act as the leader of the rehabilitation management multidisciplinary team, composed of the psychiatrist themselves, physical therapists, occupational therapists, speech-language pathologists, psychologists, rehabilitation nurses, prosthetist-orthotists, social workers, vocational counselors, and other health care professionals that address the specific needs of each patient.^{2,3}

Because of its value in helping practitioners understand the concept of disability, function, and rehabilitation, Physical and Rehabilitation Medicine has been incorporated in medical school curricula all over the world. Such programs generally aim to: 1) provide awareness on assessment and care of individuals with disabilities with the International Classification of Functioning, Disability and Health (ICF-DH) as a model, 2) understand impact of long-term conditions in activities of daily living, 3) appreciate the need for a functional or outcomes-based approach to continuum of medical care, 4) consider impact of chronic disease in over-all function, 5) correlate anatomy and pathology with disease manifestation, 6) provide exposure to interdisciplinary team approach, 7) provide fundamental core of knowledge in diagnosis and treatment of disabling diseases and complications, and 8) develop empathy toward people with disabilities.⁴

Physical and Rehabilitation Medicine was first introduced in 1960 in the curriculum of UP College of Medicine (UPCM). It was originally taught during clinical rotations in the Department of Rehabilitation Medicine in the Philippine General Hospital (PGH), the teaching hospital of UPCM as a separate specialty under the traditional curriculum. By 1977, a two-week rotation under the department was included in the curriculum of the medical interns. By the year 2000, the department became actively involved in planning and creating a new curriculum for medical students, named the Organ Systems Integrated (OSI) curriculum.

The UP College of Medicine first integrated the OSI curriculum in the Academic Year 2003 – 2004 under then

Dean Cecilia V. Tomas. Organ system integration or OSI refers to identifying clinically relevant concepts or skills that involve basic and clinical sciences. Horizontal integration involves unifying disciplines traditionally learned within a year to a more comprehensive understanding of a particular subject. Vertical integration involves interweaving basic science knowledge and clinical skills from the start of medical school so that the learning of basic science concepts is continuous and reinforced. This promotes a more generalist rather than a specialist view regarding management of different conditions.⁵

Medical students from the Learning Unit program are first exposed to the field of physiatry during their first year Medicine Proper (LU3) as part of OS 201 subject, under the topic of muscle and nerve physiology. It is then introduced in their Learning Unit 4 subjects under OS 211: Integration, Coordination and Behavior, and OS 212: Locomotion and Sensation. The specialty is taught in the same module with the Section of Rheumatology and the Department of Orthopedics for another 2 weeks as Integrated Clinical Clerks (LU5) under MSK 250: Integrated Clinical Clerkship in Rheumatology, Orthopedics and Rehabilitation Medicine. By the time the students become medical clerks (LU6), they are immersed in the Rehabilitation Ward for another 2 weeks. Aside from this, the department offers a 1-month elective course which the clerks could take. By the time UPCM students become interns, they may select to take Track A, with a required 2-week rotation under the department, Track B where they can take an optional Rehabilitation Medicine elective, or Track C, where they are enrolled in a selected department for the whole school year and would not rotate in Physical and Rehabilitation Medicine. The UPCM interns are also joined by post-graduate interns from other medical schools. This group of interns are required to undergo a one-week rotation in the department.⁵

In a novel study of Le and Parziale in Brown University, lack of understanding and misconceptions about the practice of Physical and Rehabilitation Medicine stemmed from the limited exposure of the students during their training in medical school.⁶ Not all medical schools require rotation in Physical and Rehabilitation Medicine, and thus, limits further awareness towards the specialty.⁴ Improved awareness in other countries, however, may be observed after mandatory clerkships and clinical rotations in Physical and Rehabilitation Medicine, as well as lectures on disability and the function of multidisciplinary rehabilitation in managing such cases.^{7,8}

In the Philippines, particularly in the UP College of Medicine, no studies have explored the perception of medical students with the specialty since the implementation of the OSI curriculum.

This study aims to describe the perceptions of medical students with clinical exposure to the department regarding the practice and importance of Physical and Rehabilitation Medicine in the medical team. Perception will be measured as by how the students are aware of the specialty, the

condition it caters to, and the role of Physical Medicine and Rehabilitation (PM&R) in the management of patients. The significance of the study is that it may provide baseline quantitative and qualitative data on the experiences of the medical students with the curriculum. While the specialty is not taught in all medical schools, findings from this study will provide insight as how medical students perceive Physical and Rehabilitation Medicine given their current level of exposure in medical school. With the above data, the current curriculum can be improved to provide better learning opportunities to address the areas of PM&R that the students perceive to have limited knowledge on.

MATERIALS AND METHODS

Participant Recruitment

This study used a descriptive cross-sectional study. The entire study period was done in 14 months, from July 2020 to September 2021. This coincided with the academic year 2020-2021 of the UP College of Medicine, which was adjusted due to the COVID-19 pandemic. From face-to-face clinical rotations pre-pandemic, the specialty was taught virtually through pre-recorded lectures, teleconsultations, and virtual small group discussions. The study involved the medical students at UP College of Medicine with clinical exposure. These are the students currently enrolled in Learning Units 6 and 7 under the Organ System Integration (OSI) curriculum, equivalent to the fourth academic year of medical education and medical internship, respectively. Learning Unit 6 students are exposed to patients admitted at the Rehabilitation Ward of Philippine General Hospital, while medical interns are exposed to patients seen at the out-patient clinic. They are also given small group discussions and examinations, as well as exposure to the services given by the sections of Physical Therapy, Occupational Therapy, Speech Therapy, Psychology and Rehabilitation Ward nurses.

There are 160 students enrolled in Learning Unit 6, and 110 students under the Track A internship program which includes a two-week exposure to Physical and Rehabilitation Medicine (N = 270).³ Sample size was computed through G*Power 3.1 to show that a minimum of forty-five (45) students per year level (n = 90), are required to detect significant differences among the Learning Units with standard power of 0.80 (1-β), and an α-level of 0.05. This sample size calculation takes into account the non-response rate. The population was chosen via purposive sampling through online survey forms based on the current teaching set-up due to the pandemic. Participants were asked at the end of their online surveys whether they would be willing to participate in a focused group discussion and among those that were willing, participants were chosen randomly using an online randomizer, to be included in the focused group discussions.

Online survey forms were distributed through class representatives throughout the school year. A separate online

group interview via Zoom group video chat was conducted to facilitate discussion regarding the questions and inputs from the clinical clerks and medical interns. Participants were chosen based on random sampling among those who will volunteer to participate in the discussion.

Eligible participants in the study were students currently enrolled in Learning Unit 6- and 7-year level in the UP College of Medicine. These include both regular and irregular students of the said academic years. They have taken subjects during medical school wherein Physical and Rehabilitation Medicine was integrated in their basic medical subjects on Anatomy, Physiology, Neurology, and Musculo-skeletal system. They were students enrolled in REHAB 251: Integrated Clinical Clerkship in Rehabilitation Medicine for clinical clerks and REHAB 260: Internship in Rehabilitation Medicine for medical interns.

Participants were excluded in the study if they were not currently enrolled in the UP College of Medicine in the academic year during the duration of the survey. Questionnaires were made available until minimum sample size was achieved. Elective clerkship rotators from other schools in the department were excluded from this study. Learning Unit 7 students, who are under Track B and C, and did not take Physical and Rehabilitation Medicine in their internship program through electives, were not included in this study. Participants who chose to withdraw during any part of the conduct, even though they initially consented, were excluded from the study without any penalty or loss of benefit.

Data Gathering

A questionnaire adapted from a study by Le and Parziale entitled "Pre-clinical Medical Students' Attitudes Toward Physical Medicine and Rehabilitation" was used in this study.⁶ Consent in adapting the questionnaire was obtained from the authors via e-mail exchange. This questionnaire was originally used in Brown University to determine the level of familiarity with the field among medical students. Question formats within the questionnaire were variable, including Yes or No questions, Likert scales, rating scales of levels (such as interest), and open-ended questions. Qualitative data was also yielded through focused group discussions with medical students, using a semi-structured questionnaire format (Appendix).

The questions were accommodated to the practice of Rehabilitation Medicine in the country. This included changing the term "PM&R" and "Physical and Rehabilitation Medicine," nomenclature promoted by the International Society for Physical and Rehabilitation Medicine (ISPRM) to be used in referring to the specialty, to "Rehabilitation Medicine" since it is more commonly used in the country. Additionally, an open-ended question regarding respondent's suggestion for reasons of increased interest in Physical and Rehabilitation Medicine was included in order to reinforce quantitative data with qualitative data. Links were made available for students to answer until sample size was

achieved. The semi-structured group interview was conducted after answering the questionnaires to allow further discussion regarding the topic. It was held simultaneously for the clinical clerks and medical interns based on their available time through an online platform via Zoom.

Data Analysis

Descriptive analysis was used to describe the respondent's profile and exposure to Physical and Rehabilitation Medicine. One-way Analysis of Variance (ANOVA) was used to determine the correlation between respondent's profile and factors with perception. Level of significance was set at ≤ 0.05 . Dependent variables were set as (1) perceived confidence in knowledge of what a physiatrist does, (2) level of interest in learning more about the specialty, and (3) perceived knowledge of the conditions managed by the specialty. Factors considered were (1) current Learning Unit, (2) nature of undergraduate course, and (3) previous encounters with the specialty as a patient, relative or personal encounter as previous student or allied medical professional. Qualitative data, such as answers given during the group interview and parts of the survey, specifically "*What is interesting about Physical and Rehabilitation Medicine as a medical student?*" and "*If you were to ask 1 question to a Physical and Rehabilitation Medicine physician, what would it be?*" were analyzed using Thematic Analysis using the NVivo Qualitative Data Analysis Software.

Ethical Considerations

This is a UPM REB approved study that underwent expedited review. Permission was obtained from the Dean of the UP College of Medicine and the Deputy Director for Hospital Operations of the Philippine General Hospital.

RESULTS

Demographics

There was a total of 90 participants, composed of 45 interns and 45 clinical clerks, in the survey. No drop-outs were noted. Eight volunteers participated in the focused group discussion, with 6 clerks and 2 intern respondents. Participants were aged between 21 to 28 years old, with a mean age of 24 years old. There were slightly more female participants (47) compared to males (42). One participant opted not to declare their sex. All participants were Filipino. Only one participant was married, while the rest were single. Nineteen different pre-medical courses were identified, with the most common being BS Medical Sciences (26.7%), followed by BS Biology (15.6%) and BS Psychology (10%). Fifty-seven participants were able to identify relatives and friends that are part of the medical field. The participants mostly identified nuclear families as relatives who are medical professionals (31.1%). Only 8% of the participants were able to identify friends and relatives with allied medical professions.

Perceived Knowledge about the Specialty

Most of the participants (87.8%) claim to understand what patient population physiatrists serve, while 8% of the respondents feel that they do not understand what cases are managed. Among these cases identified, only a handful were not able to identify stroke (1.1%), cancer recovery (2.2%), pain management (2.2%) and cardiac patients (4.4%) as cases managed by a physiatrist. While given a chance to add cases managed by physiatrists, no participant added other conditions that they are aware of.

Majority of the participants (82.2%) correctly identified the number of years in the residency program, 15% incorrectly identified the number of years, while 2% incorrectly associated the program with other specialties, including Orthopedics and Neurological Sciences. The participants mostly know who to contact if they want to learn more about the specialty, while some are neutral (17.8%) or do not know anyone to contact (16.6%).

For the open-ended question in the adapted form, the students were asked to write what interests them about Physical and Rehabilitation Medicine. It was noted that the students answered how they perceive the specialty with the following themes:

1. *Interdisciplinary collaboration* – Students described the specialty as "team approach" towards management, emphasizing coordination among physicians and allied medical professionals: the different members of the rehabilitation team.
2. *Focus on quality of life and function* – Students identified improved quality of life and functionality of patients as the ultimate goals of management in rehabilitation; they emphasized that the focus on this goal made Physical and Rehabilitation Medicine different from medical and surgical specialties that they have rotated with or encountered.
3. *Long-term care* – Students emphasized the need for follow-up over a long period of time, and being able to see the improvements in the patient's quality of life and function brought about by the interventions of rehabilitation management. They described the nature of the management as going beyond the hospital and critical care they have experienced in their other rotations, which they also described as aspects of the specialty that appear to be interesting and fulfilling to them.
4. *Variety of cases and interventions* – Students were able to appreciate the involvement of rehabilitation across a multitude of different cases, often pointing to the breadth and variety of different cases that can be encountered within the specialty, as well as the multitude of interventions that can be employed for these different cases. Modalities were identified as interventions that are unique to the specialty.

For the open-ended question that asked the students what their questions were for a physiatrist or any member of the rehabilitation team, the following themes were extrapolated:

1. *Experience of practitioners* – Questions placed under this theme were asking about the practical, logistical, and emotional experience of the physiatrist in the practice. These questions could be divided into 2 sub-categories: *broad experiences* and *specific experiences*. Examples of broad experiences included questions such as: *Why did you choose Physical and Rehabilitation Medicine as a career path? What is the most difficult experience you have had as a physiatrist?* For specific experiences, questions such as: *What is private practice like for a physiatrist? How do you connect with the other members of the rehabilitation management team when you are just starting out? How is Physical and Rehabilitation Medicine practiced in the community setting?* Most of the questions asked by the students were under this category.
2. *General knowledge about Physical and Rehabilitation Medicine as a specialty* – Questions placed under this theme were more about the definition and general understanding of rehabilitation medicine. Examples include (these questions are paraphrased from the actual questions of the students): *What sets the specialty apart from other fields? How is it different from undergraduate courses such as Physical Therapy and Speech Pathology? Does rehabilitation medicine deal with a lot of concepts in Anatomy?*
3. *Specific concerns* – Questions asked within this theme were specific questions and concerns that students felt a physiatrist would be able to answer with their knowledge in the field. Examples include (these questions are paraphrased from the actual questions of the students): *How can I improve my physical examination skills through telemedicine? How do I manage a tight right shoulder? Can people with non-progressing scoliosis do yoga?*

Thematic analysis was used in understanding the level of perceived knowledge among the eight clinical clerks and medical interns who participated in the focused group discussion. The following themes were extrapolated from the students' discussion:

1. *Initial impressions with the specialty* – The participants noted that they saw Physical and Rehabilitation Medicine as a field that utilizes a holistic approach to care – where they can integrate the biopsychosocial approach taught to them during their early years in medical school. It maximizes the concept of multidisciplinary approach and interdisciplinary collaboration. However, they noted that the 2-week rotation provided them limited experience with the field.
2. *Familiarity with members of the rehabilitation team* – the students were most familiar with the roles of the physiatrist and physical therapists. They were familiar but were less oriented to the roles of the occupational

therapist, speech and language therapist, and psychologist. However, they were not familiar with the roles of the rehabilitation nurse, and prosthetist and orthotist.

3. *Patient management by Physical and Rehabilitation Medicine* – The students were able to identify burn injuries, musculoskeletal complaints, neurological diseases such as stroke, bladder and bowel issues, and post-surgical patients as cases managed by physiatrists. They identified the role of Physical and Rehabilitation Medicine in complementing management by focusing on return to function and quality of life. They were also aware that the specialty was present in all phases of management.
4. *OSI curriculum* – The students found that the current curriculum provided progressive increase in understanding the field in terms of depth. They gained more perspective with more exposure to the different fields such as Physiatry. They were also given a general idea of the field and clinical concepts during their rotation. However, they identified the lack of experience as a limiting factor, particularly during the COVID-19 pandemic where online lectures and paper cases were utilized. They noted that further understanding in the field would have been gained with more face-to-face experiences with patients.

Perceived Confidence in Knowledge of the Specialty

In the adapted survey form, all participants evaluated themselves as familiar to what a physiatrist does, ranging from very knowledgeable (22.2%), knowledgeable (61.1%) to somewhat knowledgeable (16%). No participant answered that they were not knowledgeable. Most of the participants (87.8%) had experience working with a physiatrist and/or paramedical professional, majority as medical students (72%) rotating in the department. Around 12% of the participants have never had any encounter with any member of the Rehabilitation team.

Level of Interest about the Specialty

Majority of the participants gave a score of 7-8/10 on the level of interest towards Physical and Rehabilitation Medicine. Mean level of interest was 7.23 out of 10 (Figure 1). Majority of the participants answered 8 out of 10 (35.6%), with a mean level of 7.23 out of 10.

Participants identified their level of exposure in the current curriculum as the highest factor in affecting the level of interest in Physical and Rehabilitation Medicine (87.8%), and the number of known practitioners as lowest (37.8%). Participants were asked of other factors that they felt affected their interest level, but no additional answer was noted.

Confidence, Familiarity and Interest among Clerks and Interns

With the data obtained from the study, no significant differences were found between LU 6 and LU 7 students in terms of confidence in the knowledge about the practice

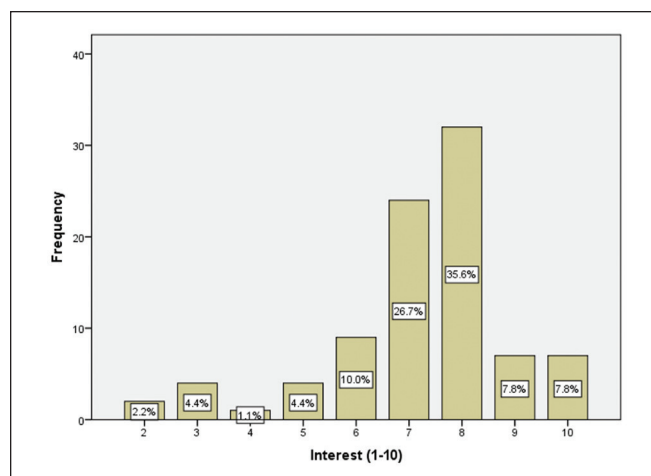


Figure 1. Interest score among participants.

($p = 0.402$), familiarity with the conditions managed ($p = 1.00$), and interest in learning more about the specialty ($p = 0.162$). Examination of the absolute mean differences showed that medical interns were only slightly more confident in their knowledge compared to their clerk counterparts ($p = 0.402$). Clerks, on the other hand, had a slightly higher absolute mean level of interest (mean = 7.49) in learning more about the field compared to medical interns (mean = 6.98). These slight mean differences, however, were not found to be statistically significant.

No significant difference was found between students who had relatives in the medical field as compared to those without in terms of confidence in the knowledge about the practice ($p = 0.489$), familiarity with the conditions ($p = 0.93$), and interest in learning more ($p = 0.693$). No significant difference in terms of knowledge, familiarity and interest was also found in those with previous encounters with members of the Physical and Rehabilitation Medicine team compared to those without.

Those that had previous encounters as a patient or caregiver had the most confidence in their knowledge and highest level in learning more about the specialty. Students who were previously allied medical professionals were most familiar with conditions managed by psychiatrists. However, the differences between those with different encounters with the specialty prior to medical school, as well as those with and without previous work as allied medical professionals, were not statistically significant.

No significant difference in confidence ($p = 0.884$), familiarity ($p = 0.535$) and interest ($p = 0.805$) were also found between students with allied medical and non-allied medical undergraduate courses.

DISCUSSION

There was no statistically significant difference in the perception between the clinical clerks and medical interns.

Moreover, there was no statistically significant difference in terms of familiarity and interest noted among the participants with and without previous exposure to the specialty, either as a student, as a patient who underwent rehabilitation care, or as a caregiver of a patient who underwent rehabilitation. A possible explanation may be related to the knowledge gained in the various learning modules which included Physical and Rehabilitation Medicine in their curriculum. The experience in medical school may level out the initial experiences that students had before entering medical school, either from their undergraduate courses or exposure from family members or friends. The horizontal and vertical integration promoted by the curriculum provided equal opportunities for the students to understand concepts of rehabilitation across different modules in different year levels. Their view that the specialty emphasizes holistic care and interdisciplinary collaboration is further emphasized during their exposure to the allied medical services during their clinical rotations. The similarities in these students' perceptions are likely rooted in the spiral design and implementation of the OSI curriculum. The said curriculum aims to integrate what was taught during the students' earlier years in medical school and use them in their exposure to clinical practice during clerkship and internship. Concepts introduced during medical school were revisited every year in the form of clinical exposure, and thus, expected to have a wider but somewhat still similar as they progress in learning. Students perceived increase in knowledge and skills, but confidence in application of knowledge in patient encounters and execution of skills learned were low.

The OSI curriculum was first implemented with the goals of (1) focusing on learning objectives, (2) highlighting the must-knows, (3) creation of competency- and outcome-based curriculum, (4) interactive learning such as small group discussions versus traditional lectures, (5) teaching patients to see cases as complaint-based than disease-based, and (6) emphasis on critical thinking and problem-solving. While it was met with challenges during its earlier implementation, it has shown that graduates have performed at par comparably in the Physician Licensure Examinations. Furthermore, it has promoted a diversity in the career choices among its graduates – from hospitalists to health policy, research, academe, and community-based practice.⁹ Physical and Rehabilitation Medicine, along with other medical specialties, were taught in various subjects in an integrated approach as early as first year medical school. The students were able to identify the specialty as a field that applies the biopsychosocial model of medicine that was taught to them in their earlier years of medical education.

While the curriculum provides equal opportunity for specialties to discuss their approach to different medical conditions, it has limited discussion of topics unique to each field. In previous evaluations of approaches in organ system-based curriculum, it has always been noted that while students are able to understand concepts in a holistic manner, depth of discussion of highly specific topics are

compromised.^{10,11} As in this study, the OSI curriculum provided a broad understanding and general introduction to the field of Physical and Rehabilitation Medicine among the participants. The goals of the curriculum were met, specifically on learning objectives including being competent in assessing patients with pain and disability. They, however, were noted to be not comfortable in recognizing the roles of the other members of the health professional team in managing such conditions. Lack of awareness on specific concepts such as theoretical knowledge on diseases and interventions such as musculoskeletal ultrasound and electromyography was reported by the clerks and interns during the focus group discussion. Therefore, in re-evaluating the current approach in teaching the specialty among medical students, it would be important to consider whether the homogeneity of the students' responses meets the goal of the curriculum of producing generalists than specialists, or are there specific concepts missed out which may be essential in their future practice. Furthermore, it is important to identify which topics are essential for the practice of a general medical professional.

In line with current events, participants also highlighted that the present set-up of rotations, brought about by the COVID-19 pandemic, greatly limited their exposure and opportunities to learn more about the field. During the time of conduction of the study, the Department, as mandated by Philippine General Hospital (PGH) and Association of Philippine Medical Colleges (APMC), enforced a two-week online rotation consisting of teleconsultation sessions and online rounds.¹² The students cited that the lack of physical interaction hindered them in practicing what were taught to them through videos, specifically history taking and physical examination. They noted that it was detrimental for a specialty that emphasizes physical examination to be taught virtually. It would be interesting to note if the same level of knowledge and interest would be present should the rotation be taught in a face-to-face clinical rotation.

The study was not able to distinguish any difference in perceived knowledge among clerks and interns, among those students who had previous exposure to the specialty as a patient, or as a caregiver to a family member who needed rehabilitation care. The clinical rotations provided sufficient knowledge on Physical and Rehabilitation Medicine topics expected in a general practitioner; with noted high level of theoretical knowledge about the cases managed by the specialty, but low confidence when asked of specific roles of the allied medical professionals as well as specific interventions done by physiatrists. The discussion of these topics is essential in discussing disability as part of the holistic and biopsychosocial approach in medicine. This is more evident in recent times as there is a need to integrate rehabilitation services in all health systems, across all health levels, in both hospitals and communities.¹³ Early exposure to the field of Physical and Rehabilitation Medicine would greatly help future physicians in recognizing disabilities and identify appropriate management and referral to allied medical professionals.¹⁴

This is a preliminary study that showed the perceptions of students of Physical and Rehabilitation Medicine as a specialty. Although topics in Physical and Rehabilitation Medicine are incorporated in the OSI curriculum throughout their medical training, there is still perceived lack of experience and confidence by the students as they reach their clinical rotation during clerkship and internship. As such, there is a need to revisit the curriculum if it meets the perceived needs of medical students. By improving how the specialty is taught, the curriculum may be able to improve perceptions among students in the field that emphasizes prevention of disability in the practice of medicine. The study was greatly limited by the current online set-up, as students surveyed and interviewed were exposed to virtual method of teaching the specialty due to the pandemic. Therefore, a comparative study with the same parameters would be very useful in the event that the students could be fully immersed in the services offered by the specialty without limitations caused by the pandemic.

CONCLUSION AND RECOMMENDATIONS

The study showed that the medical clerks and interns view Physical and Rehabilitation Medicine as a field that emphasizes 1) holistic care, 2) interdisciplinary collaboration, 3) quality of life, and 4) importance of function. The field manages a variety of cases using various approaches and intervention. However, the students perceived their level of knowledge with regards the specialty as broad. No significant differences in the perceptions were noted between clinical clerks and medical interns. Likewise, the confidence in the level of knowledge was not significantly higher among students who already had exposure to the specialty prior to their medical training. The students in this study emphasized the need for increased exposure and opportunities in order to learn more about the specialty, particularly that of specific interventions and roles of the allied medical team.

It is recommended that future studies also include the pre-clinical medical students in the Learning Units 3, 4 and 5 to observe how the perception on Physical and Rehabilitation Medicine develop throughout medical school. Moreover, there may be a need to also look into the specific learning experiences of each batch of students as a result of the changing health and safety protocols brought about by the COVID-19 pandemic. Such questions could be based on the department's specific learning objectives in medical school. It would be interesting to compare the level of perception and interest between UPCM interns and post-graduate interns who previously had face to face exposure in medical school. Lastly, the study could also be replicated after the pandemic and results could be compared in order to assess if the pandemic significantly changed the perception of students towards the specialty.

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Statement of Authorship

JAAG contributed in the conceptualization of work, acquisition and analysis of data, drafting and revising of manuscript, and final approval of the version to be published. MLLD, JAPM and SDI contributed in the conceptualization of work, drafting and revising of manuscript, and final approval of the version to be published.

Author Disclosure

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APPENDIX

Questionnaire

-
1. I know what a Physical and Rehabilitation Medicine physician does.
 - Very knowledgeable
 - Knowledgeable
 - Somewhat knowledgeable
 - Not Knowledgeable
-
2. I have worked with a Physical and Rehabilitation Medicine physician and paramedical professional in the past.
 - Yes No
 - If yes, this was as
 - Paramedical professional (PT, OT, Speech therapist, etc.)
 - As a patient or caregiver of a patient undergoing rehabilitation medicine
 - As a student (medical or undergraduate level)
-
3. I understand what patient population Physical and Rehabilitation Medicine serves.
 - Strongly Agree
 - Agree
 - Neutral
 - Disagree
 - Strongly Disagree
-
4. Which of the following is the career path of a Physical and Rehabilitation Medicine physician?
 - 3-year residency + optional 1 year fellowship
 - 1-year preliminary year + 3-year residency + optional 1 year fellowship
 - 3-year Neurology Residency + 1 year Physical and Rehabilitation Medicine fellowship
 - 4-year Orthopedics Residency + 1 year Physical and Rehabilitation Medicine fellowship
 - 5-year Surgery residency + 1 year Physical and Rehabilitation Medicine fellowship
-
5. Physical and Rehabilitation Medicine Physicians treat the following conditions (Select all that apply):
 - Spinal Cord Injury
 - Stroke
 - Cancer Recovery
 - Cerebral palsy/ Children with developmental delay
 - Pain Management
 - Sports Medicine
 - Burns
 - Cardiac Patients
 - Amputation
 - Musculoskeletal disorders (low back pain, tendinitis/ tendinopathy, shoulder pain, arthritis)
 - Others (please specify) _____
-
6. If I wanted to learn more about Physical and Rehabilitation Medicine at UPCM and PGH, I know who to contact
 - Strongly Agree
 - Agree
 - Neutral
 - Disagree
 - Strongly Disagree
-
7. How interested would you be in learning more about Physical and Rehabilitation Medicine

<input type="checkbox"/> 1 (Not Interested at all)	<input type="checkbox"/> 6
<input type="checkbox"/> 2	<input type="checkbox"/> 7
<input type="checkbox"/> 3	<input type="checkbox"/> 8
<input type="checkbox"/> 4	<input type="checkbox"/> 9
<input type="checkbox"/> 5	<input type="checkbox"/> 10 (Very Interested)
-

-
8. Which of the following greatly affect the level of interest in Physical and Rehabilitation Medicine among Medical Students? (Check as many as applicable)
 - Level of exposure in current curriculum
 - Level of interest
 - Difference in career plans
 - Number of known practitioners of Physical and Rehabilitation Medicine
 - Others (please specify) _____
-
9. What is interesting about Physical and Rehabilitation Medicine as a medical student? (Open answer)
-
10. If you were to ask 1 question to a Physical and Rehabilitation Medicine physician, what would it be? (Open answer)
-

Questions used during the Focus Group Discussion

A. Student perceptions regarding the specialty

1. Do you have a previous experience with a patient requiring rehabilitation? What are your initial impressions toward it?
2. Among the members of the Rehabilitation team, who did you have an encounter with in the past? What was their role in the rehabilitation management team?
 - a. Psychiatrist
 - b. Physical Therapist
 - c. Occupational Therapist
 - d. Speech and Language Therapist
 - e. Psychologist
 - f. Nurse
 - g. Social Worker
 - h. Prosthetist and Orthotist

B. Perceptions regarding the role in the medical team

1. Based on your experience, what are the cases that you have seen that was managed by a Physical and Rehabilitation Medicine physician?
2. In your experience in cases managed by other specialties, how did rehabilitation complement the management?
3. At what phase during the management does rehabilitation take part of?
4. Based on your experience, what diagnostics, modalities, interventions, and services were given by the Rehabilitation team to your patient?

C. Effect of the OSI curriculum in the perception towards Physical and Rehabilitation Medicine

1. Based on your current year level, how has your clinical experience changed your perception toward Physical and Rehabilitation Medicine?

D. Additional Questions

1. What questions would you like to be answered further by the physiatrist? Member of the Rehabilitation Medicine team?
-