Awareness of physical therapy among Grade 10 students under the K-12 Program

Jo-anne Paula A. Rimando, Edeline S. Bañez, Geryce Gael M. Bolito, Justine Marie P. Palermo, Jerica Kathlyn Khrystle V. Arellano, Miguel Manjo I. Yap, Gerald Lester A. Caoili, PTRP, MSPT

Abstract

Introduction This study determined the level of awareness of Grade 10 junior high school students on physical therapy education, scope of practice, their source of information, and aimed to identify factors resulting in non-familiarity of the students on physical therapy.

Methods Grade 10 junior high school students were recruited from three private schools in the National Capital Region through non-probability sampling techniques. The students completed a self-administered survey questionnaire. Descriptive statistics focused on frequency distribution.

Results Most of the 387 respondents were aware of the discipline (physical therapy), with 31% of them answering that their family was their primary source of information. Many thought Bachelor of Science in Physical Therapy was a four-year course, with human anatomy being one of the major subjects. The respondents also knew that a licensure examination was essential to practice physical therapy. They also expected physical therapists to offer different treatment modalities, such as exercises, massage therapy, hot and cold packs for various musculoskeletal disorders. Respondents also viewed the work of physical therapists to be hospital-based, with average monthly income ranging from PhP 12,000.00 to PhP 20,000.00. On the other hand, students who were unaware of physical therapy did not have relatives who were health professionals and appeared to be uninterested in pursuing any health or science-related degree program in college.

Conclusion Even though most of the students were aware of physical therapy as a profession, majority of them lacked knowledge as to physical therapy education and scope of practice.

Key words: Physical therapy education, awareness, Grade 10 junior high school students

Physical therapists play essential roles in today's healthcare system and are recognized as vital providers of rehabilitation and habilitation, and prevention and risk-reduction services.[1] Since its introduction in the Philippines in the early 1960s, physical therapy has progressively evolved as a specialty discipline, expanding its scope of functions, treatments, and settings, while the responsibilities of licensed physical therapists have been appropriately modified to adapt to changes in the holistic management of patients.[2] Despite the pivotal function of physical therapists in the healthcare system, they

Correspondence:
Miguel Manjo I. Yap, College of Allied Rehabilitation Sciences, University of East Ramon Magsaysay Memorial Medical Center, 64 Aurora Boulevard, Barangay Doña Imelda, Quezon City 1113; E-mail: manjoyap@gmail.com

are still erroneously viewed as mere masseurs by the general population, and are often unrecognized as legitimate healthcare professionals. Adding to the dilemma is the paucity of published literature on the public's perception on the clinical value of physical therapy and rehabilitation medicine.[3]

The Philippines has a new educational system called the K to 12 (K-12) Program, duly recognized and implemented in 2016 by the Department of Education. The K-12 Program requires kindergarten and 12 years of basic education, covering six years of elementary school, four years of junior high school, and two years of senior high school (SHS). Senior high school students are given the prerogative to pursue any academic track of their interest, i.e., General Academic Strand (GAS); Humanities and Social Sciences (HUMS); Science, Technology, Engineering, and Mathematics (STEM); and Arts and Designs (AD). This revised curriculum aims to provide SHS students adequate time and preparation for their chosen field, by giving more opportunities to master basic concepts and develop pertinent skills that will prepare them for either tertiary education or middle-level skills enhancement, employment, and entrepreneurship, as they continue to be life-long learners in their preferred career paths.[4] The new K-12 curriculum is viewed to be beneficial for the Filipino students, especially for those who will seek employment immediately after their SHS graduation.

Given the new K-12 curriculum program, will this impact on the practice of physical therapy in the Philippines? How do students now perceive physical therapy as a potential future career path, and how attractive is the Bachelor of Science in Physical Therapy degree program to the SHS graduate? Are there gaps in the K-12 program that need to be addressed to prepare the SHS students, especially those in the STEM track, for pursuing physical therapy as a degree program in college? This study aimed to determine the level of awareness of grade 10 junior high school students on physical therapy as a collegiate course and potential future career undertaking.

Methods

This was a descriptive cross-sectional survey conducted in three selected private high schools in the National Capital Region. Grade 10 junior high school students were recruited using non-probability convenience sampling. In coordination with the school administration officials, informed consent/ assent were obtained from the prospective respondents during regular class hours within school premises. Participation in the study was purely voluntary, and the data gathering procedure was executed following an exam-type of protocol in answering the questionnaire. Data were collected using a self-administered questionnaire. The survey tool asked about awareness of physical therapy, sources of information, aspects on physical therapy education and practice, what a physical therapist does and uses, where they work and plans after graduation from senior high school. Descriptive statistics were performed to determine frequencies and proportions.

The researchers utilized a self-administered questionnaire, patterned from a previous similar study. The tool was pilot-tested and underwent face validation. In addition, some faculty members from the UERMMMCI College of Allied Rehabilitation Sciences performed content validation. After several revisions, the questionnaire was finalized and used in this study. The study was approved the Ethics Review Committee of the UERMMMCI Research Institute for Health Sciences.

Results

Out of 378 Grade 10 junior high school students from three private schools, majority were males, 16 to 17 years old, and coming from urban centers, as seen in Table 1. Seven out of 10 students knew of physical therapy and 90% got their information from parents, media, friends and teachers (Table 1). Media sources included television and radio commercials, print ads and news articles, online sources, and social media networks.

As seen in Table 2, more than half of respondents thought that BS Physical Therapy was a 4-year course and had fair knowledge of what physical therapy students studied. Almost 70% correctly answered that physical therapists need to pass the licensure examination given by the Professional Regulations Commission to practice. Three-fourths of those surveyed thought there was average difficulty in finding work within a year of graduation; perceptions regarding income earned if they practiced

in the country were almost evenly distributed from a low to moderate range.

More than half of the respondents said that physical therapists treat patients with exercise, massage and other modalities and that they treat sports injuries. More than 10% thought that physical therapists give massages in spas or as home service. Respondents thought that physical therapists treated patients with muscle pains, sprains, fractures or stroke using heat or cold, x-rays, bandages or used parallel bars, as seen in Table 3. Majority thought that physical therapists worked in hospitals, sports clinics and public health departments (Table 4).

Table 1. Characteristics of 378 Grade 10 respondents from three private schools.

Variable	Number (%)
Age (yr)	
15	68 (18.0)
16	174 (46.0)
17	81 (21.4)
18	42 (11.1)
> 18	13 (3.4)
Sex	
Male	207 (54.8)
Female	171 (45.2)
Place respondent grew up	
City/urban	337 (89.2)
Province/rural	41 (10.8)
Heard of physical therapy	
Yes	265 (70.1)
No	113 (29.9)
Source of ideas about physical therapy	
Family	83 (31.3)
Media	60 (22.6)
Friends	52 (19.6)
Teachers	40 (15.1)
School advertisements	23 (8.7)
Others	7 (2.6)

More than 90% said they wanted to pursue a college course after senior high school but only 3% were interested in a health-related course (Table 5).

Discussion

Age had been identified as an important factor in determining level of knowledge and awareness of

Table 2. Perception of 265 respondents about physical therapy education and practice.

Variable	Number (%)
Course duration (yr)	
≤ 1	22 (8.3)
2	28 (10.6)
4	146 (55.1)
5	60 (22.6)
> 5	9 (3.4)
Subject area	
Human body	158 (32.6)
Exercises	132 (27.2)
Sports injuries	119 (24.5)
Diseases	38 (7.8)
Others	38 (7.8)
Qualification to practice	
After graduation	53 (20.0)
Passing PRC examination	183 (69.1)
Passing civil service examination	18 (6.8)
Others	11 (4.1)
Difficulty in getting employed	
Easy	28 (10.6)
Average	198 (74.7)
Difficult	39 (14.7)
Monthly income in local practice (PHP)	
4,000-10,000	36 (13.6)
8,000-15,000	43 (16.2)
12,000-20,000	76 (28.7)
16,000-20,000	47 (17.7)
> 20,000	63 (23.8)

different concepts, but studies on the relationship of age and knowledge of physiotherapy have been contradictory. In a previous study done on Japanese high school students, majority of the subjects appeared to have heard of physical therapy. The knowledge of physiotherapy was found to be significantly greater among the science and healthcare aspiring students. Hence, over half of the teen respondents were believed to have some knowledge of physiotherapy.[5] In contrast, this study suggested that majority of respondents were unaware of the clinical significance of physiotherapy and of the role of physical therapy in patient management. This finding was consistent with a similar study on Sri Lankan high school students.[6]

Area of residence also impacted on the level of awareness of people on physiotherapy.[7,8,9] In this

Table 3. Perceived work of a physical therapist.

Work aspect	Number (%)
Scope of work	
Treating patients with exercise, massage and/or modalities	94 (28.4)
Treating athletic injuries	83 (25.1)
Massaging people in their homes or spas	38 (11.5)
Treating patients with acupuncture	35 (10.6)
Treating patients through surgery	29 (8.8)
Working as gym instructor	26 (7.8)
Teaching in school	14 (4.2)
Teaching zumba lessons	12 (3.6)
Conditions treated	
Muscle / body pain	103 (29.3)
Sprain	97 (27.6)
Fractures	70 (19.9)
Stroke	38 (10.8)
Hypertension	22 (6.3)
Mental problems	10 (2.8)
Others	11 (3.1)
Equipment/methods used	
Hot / cold pack / compress	95 (31.1)
X-ray machine	67 (22.0)
Bandages	60 (19.7)
Parallel bars	40 (13.1)
Ultrasound	20 (6.6)
Injection	18 (5.9)
Microscope	5 (1.6)

Table 4. Perceived places where physical therapists work.

Place of work	Number (%)
Hospital	103 (22.9)
Sports clinic	79 (17.6)
Public health department	68 (15.1)
School	47 (10.4)
People's home	41 (9.1)
Nursing home	38 (8.4)
Doctor's office	26 (5.8)
Pediatric center	21 (4.7)
Others	27 (6.0)

Table 5. Plans of respondents after senior high school.

Plans	Number (%)
Plans after graduating from Grade 12	
Go to college	94 (83.2)
Work	10 (8.8)
Work while enrolled in college	9 (8.0)
Course to pursue (respondents going to college)	
Engineering & architecture	17 (18.1)
Tourism-related	15 (16.0)
Business-related	12 (12.8)
Computer-related	11 (11.7)
Health-related	3 (3.2)
Others	36 (38.3)

study, majority of the study subjects resided in urban areas of the National Capital Region. Given that most health services were readily available in major cities, urban dwellers might have a higher chance of being familiar with physical therapy as part of the healthcare system in the country. Nonetheless, the study subjects appeared to have very limited information on physical therapy as a potential career and profession.

Awareness of future career paths of adolescents have been known to be influenced by a myriad of factors, including significant others' perceptions and beliefs. Most of the respondents stated that their family and peers were their main sources of ideas about physical therapy, a finding also noted among Pakistani high school surdents.[10] In addition, the role of mass and social media in spreading awareness had been studied previously, and in the local setting, the influence of television and career literature was evident on the Grade 10 junior high school students.[5] This finding had been further reinforced by the Bandura Social Learning Theory which stated that children who were surrounded by influential parental figures and / or other relatives, were keen on observing and imitating their role models. If parental role models were physical therapists, or had received any form of rehabilitation physical therapy in the past, their children might be more likely to be aware of physical therapy in general.[11]

It was also apparent that majority of respondents did not know that BS Physical Therapy was a five-year course that emphasized knowledge and skills in the rehabilitation and treatment of individuals with physical disabilities, resulting from injury, illness, and ageing. They also appeared to be aware that in compliance to Philippine legislation, graduates of the degree program ought to pass the licensure examination of the Professional Regulation Commission to practice their profession.[12]

In terms of financial rewards, respondents believed that physical therapists received relatively

low monthly salaries (i.e., PhP 12,000.00 to PhP 20,000.00). Personal qualifications, such as years of clinical experience, previous work rank or appointment, degree of education and training (i.e., post-graduate courses), and geographic location and practice setting influence the monthly salary of health professionals in the Philippines.

The respondents were correct to identify human anatomy as a foundation course of physical therapy. Similarly, kinesiology and the use of exercise regimens had been properly recognized as part of the curriculum of the BS Physical Therapy program.[13] However, the misperception that physical therapists were skilled massage therapists / masseurs should be corrected. The general concept of massage therapy involved basic knowledge of gross anatomy, a competency that might be known even to the lay people. Core medical competencies of physical therapists encompassed holistic management of cardiac, stroke, burn, neurologic (i.e., cerebral palsy), and trauma (i.e., sports-related injuries) patients. Physical therapists had been trained to offer different treatment modalities, such exercise regimens (i.e., range of motion, muscle strengthening, etc.), therapeutic massage, use of other modalities (i.e., cold/heat compress/pack, electrotherapy, ultrasonography, etc.).

It was interesting also to observe that the respondents assumed the practice of physical therapists was confined to the hospital setting or sports clinics/fitness centers. Physical therapists could practice anywhere, including the community setting (i.e., home-based bedside therapy), other healthcare facilities (i.e., hospice units, home / nursing facilities, rehabilitation centers, etc.), and similar institutions (i.e., academe and research centers, industrial clinics, etc.).[14]

The study subjects correctly identified musculoskeletal disorders (i.e., muscle and body pain) as the leading medical condition addressed by physical therapists. Physical therapists have been known to engage in interventions that aimed to relieve muscle pain, involving varied forms of physical activities and training.[15] More so, physical therapists often applied of different modalities (e.g., hot moist packs / cold packs), usually utilized in sports and rehabilitation settings, during the immediate and rehabilitative phases of injury management.[16] Some study subjects also cited the x-ray machine as the equipment often requested by the physical therapist. In general, Filipino junior high school students believed exercise prescription was the most common intervention physical therapists offered to their patients. This was consistent among Pakistani pre-medical students who perceived exercise as the most common intervention used by physical therapy.[10] High-intensity resistance exercise using dumbbells was identified to play an essential role in the prevention and rehabilitation of musculoskeletal injuries and disorders.[15]

In conclusion, Filipino junior high school students appeared to have some level of knowledge on physical therapy since they had correctly identified important features of the said discipline - 1) human anatomy at the core of the curriculum; 2) requirements for passing the licensure examination prior to actual practice of physical therapy in the country; 3) musculo-skeletal disorders as the leading indication for physical therapy; and 4) use of different treatment modalities (i.e., massage, warm and cold packs) in managing various medical conditions. However, it was also obvious that BS in Physical Therapy was not a popular degree choice for the junior high school students to pursue in college, and that there were some misperceptions on the practice of physical therapy in the country.

Findings of this study may prove to be beneficial in proposing marketing strategies that will improve on the popularity of the BS Physical Therapy program as a potential college degree and / or career choice for K-12 graduates. Likewise, strengthening the partnership with the Department of Education may result in better linkages that may highlight the need to produce more physical therapists in the Philippines. Qualitative studies may be undertaken to explore reasons why the BS Physical Therapy course is not popular among junior high school students. Lastly, a wider coverage of sample may be included in the future that may also consider rural-urban differences in terms of pursuing BS Physical Therapy.

Acknowledgments

The principal investigators extend their deepest gratitude to their thesis adviser, Mr. Gerald Lester A. Caoili, PTRP, MSPT for his undying passion for the profession, kind assistance, encouraging support, and diligent efforts to make this research endeavor worthwhile. The principal investigators also wish to

thank their research panel - Dr. Carmina Cortez, PTRP, MD; Ms. Honielet Santos, PTRP and Ms. Shirby Sy, PTRP for their constructive and accommodating comments and generous grades. The principal investigators also thank Mr. Warrick Siy, PTRP for serving as their second adviser and unselfishly sharing his time and expertise. Lastly, the principal investigators thank all the Grade 10 students who volunteered to participate in this study and to whom they will forever be indebted for helping them complete this research.

References

1. American Physical Therapy Association. Today's physical therapist: A comprehensive review of a 21st century healthcare profession 2011; 1: 6-8. Available from: http://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/PR_and_Marketing/Market_to_Professionals/TodaysPhysicalTherapist.pdf.
2. Prati V, Liu H. Perceptions of college students regarding the current physical therapy profession and professional education process. Int J Allied Health Sci Pract 2006; 4(4).
3. Shim K. Massage therapy vs physiotherapy. 2010. Available from: http://www.kenshim.com/2010/12/massage-therapy-vs-physiotherapy/.
4. Department of Education. K to 12 Basic Education Program. Official Gazette of the Republic of the Philippines. Philippines. Available from: http://www.deped.gov.ph/k-to-12/faq.
5. Ogiwara S, Nozoe M. Knowledge of physiotherapy: A study of Ishikawa High School students. J Phys Ther Sci 2005; 17(1): 9-16.
6. Banneheka S, Dissanayaka TD. Awareness in physiotherapy among high school students. Int J Sci Res Publ 2014; 4(7): 1-5.
7. Commission on Higher Education. Available from: http://www.ched.gov.ph/wp-content/uploads/2014/01/CMO-01-series-of-2014-CHED-Priority-Courses-for-AY-2014-2015-to-AY-2017-2018.pdf.
8. Godlewski A, Oorbeck K, Spitzley B. Knowledge of high school students concerning physical therapy, occupational therapy, and nursing. Masters Theses. 1995.
9. McLeod SA. Maslow's hierarchy of needs. 2007. Available from: http://www.simplypsychology.org/maslow.html.
10. Shafqat S, Omer S, Ayub M, Faheem A, Shahid M, Rizvi SA. S. Awareness of physical therapy as a profession among pre-medical students of private and government colleges. Pakistan J Rehab 2012; 1(2): 56-67.
11. McLeod SA. Bandura - Social Learning Theory. 2016. Available from: http://www.simplypsychology.org/bandura.html.
12. An Act Creating the Board Examiners for Physical Therapists and Occupational Therapists Act of 1969. Available from: http://www.thecorpusjuris.com/legislative/republic-acts/ra-no-5680.php.
13. Ohtake PJ. Physical therapy - key component of the rehabilitation team. International Encyclopedia of Rehabilitation 2010. Available from: http://cirrie.buffalo.edu.
14. American Physical Therapy Association. A Guide to Physical Therapist Practice, Volume I: A Description of Patient Management. Physical Therapy 1995; 75(8): 707-64.
15. Andersen LL, Andersen CH, Mortensen OS, Poulsen OM, Bjørnlund IB, Zebis MK. Muscle activation and perceived loading during rehabilitation exercises: Comparison of dumbbells and elastic resistance. Phys Ther 2010; 90(4): 538-49.
16. Herrera E, Sandoval MC, Camargo DM, Salvini TF. Motor and sensory nerve conduction are affected differently by ice pack, ice massage, and cold water immersion. Phys Ther 2010; 90(4): 581-91.