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Original Research Article

A comparison of the Nigerian bachelor of physical therapy and American doctor of physical therapy educational curricula

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Efforts are in place to transition 5-year Baccalaureate Physical Therapy (BPT), to 6-year Doctor of Physical Therapy (DPT) degree in Nigeria. University of Michigan-Flint (UMFlint), United States of America (USA), is engaged in an educational model which encourages transition to DPT for Nigerians. Data on comparison of Nigeria and USA entry-levels physical therapist curricula are however non-existent. This descriptive observational study compared entry-levels BPT of Nigeria with DPT of USA, using UMFlint, USA as a representative model. The DPT program at UMFlint was under-studied during 2013/14 academic session, and its curriculum was compared with harmonized Nigerian BPT curriculum. Course content, modules, teaching hours and teaching methods were compared. Results were transcribed qualitatively as differences, overlaps and needs.Differences were in terms of omission/narrow scope of courses, including PT knowledge, professional roles, responsibilities, values, and practice expectations. Courses not included in the BPT curriculum, and/or with broader scope in the DPT curriculum included, evidence based practice, clinical reasoning, advanced technology, and cultural competence. There was considerable overlap in foundational sciences, with more clinical hours attached to BPT than DPT. It was therefore concluded that to transition BPT to DPT in Nigeria, improvement in curricula, and clinical education approaches are warranted.

Key words: Physical therapy, Nigeria, education, DPT, curriculum

INTRODUCTION

The practice of physical therapy (PT) is quickly advancing and moving into new realms (Mathur, 2011), and the role of physical therapists has changed (Mbambo, 2005). Physical therapy education is at the brink of a paradigm shift in Nigeria. The World Confederation of Physical Therapists (WCPT) has established standards and guidelines for physical therapists entry-level education that are globally relevant (Moffat, 2012; WCPT-A, 2014). The WCPT recommends that education for entry level physical therapists be based on University or University-level studies for a minimum of four years in programs which are independently validated and accredited to afford graduates full statutory and professional recognition (WCPT, 2014). The Nigerian PT education programs underwent curricula upgrades in 1998, leading to the development of a 5-year professional entry-level baccalaureate program (John et al., 2012).

Physical therapy education is however evolving, and the entry-level Doctor of Physical Therapy (DPT) degree is being viewed as the acceptable minimum level for entry-level training (Johanson, 2005). The DPT degree is one of six elements that the American Physical Therapy Association (APTA) recognizes as essential to transition of physical therapists to a greater level of professionalism (Johanson, 2005). Entry-level DPT education equips physical therapists to practice as independent practitioners (WCPT, 2011) and addresses other elements of professionalism. DPT education therefore

prepares a graduate to enter the practice of physical therapy in a better professional capacity.

Changes in the health care environment have had an impact on the roles and responsibilities of all health care professionals (Blau et al., 2002). In Africa, PT is still institution based with little community based practice and for a large part of the population, access to physical therapy is lacking (Frantz, 2007; Gona et al., 2013). In 2000 it was estimated that the physical therapist to patient ratio in Africa was 1:550,000 as opposed to 1:1,400 in developed countries (Twible and Henley, 2000). In 2006, the ratio was about 1:200,000 in Africa's most populous country, Nigeria, and 1: 20,000 in Kenya in 2001 (WHO, 2001).

Physiotherapists in Nigeria PT community, are advocating advancing physical therapy education to DPT level (John et al., 2012; Johnson et al., 2012). For example, Oyeyemi (2009) purported that the American model of education and practice represents the dominant trend in physical therapy practice today and is therefore being advocated in Nigeria. Inadequate man power and lack of infrastructure, funding procedures, processes to get statutory approval from the National Universities Commission (NUC) of Nigeria, and procedures for implementation are some of the challenges to be surmounted to implement the change to DPT level education. Going abroad to study requires significant funding and many Nigeria based physical therapists cannot afford DPT training abroad. Additionally physical therapy licensure in the USA is a prerequisite for many US based transitional DPT programs, making the DPT degree unattainable for many. Hitherto an online transitional DPT training was established for Nigerians by the University of Michigan-Flint.

The United States of America offers DPT training, with well-established infrastructures and man-power, and 218 (99.5%) of its 219 accredited institutions offering DPT (CAPTE, 2014[a,b]). Additionally physical therapy assistants are trained to work alongside physical therapists; presently there are 309 PTA accredited programs (CAPTE, 2014[a]). The situation is not the same in Nigeria, where the NMRTB regulates and controls the practice of physiotherapists. Obembe et al. (2008) however reported that Nigeria physical therapists are in favor of physical therapy assistants training, and involvement in rehabilitation in Nigeria.

The desire to take PT education in Nigeria to the DPT level is imminent. Professional DPT programs are non-existent in developing countries, and the few that exist in developing countries like Nigeria need to be upgraded (John et al., 2012). In order to move the Nigeria BPT to DPT level, Nigeria physical therapists will need to continually renew and remodel their educational programs to prepare a PT workforce to achieve this evolving vision. Comparing the BPT curriculum to the DPT is therefore timely as this may necessitate appropriate changes that are needed to take the BPT curriculum to this new level; and with over 200 schools offering the DPT in USA, the choice of a USA DPT curriculum for comparison with BPT was unavoidable. Additionally, educational models like that of UMFlint may likely find the outcome of this study relevant to them. The UMFlint, USA, has hitherto engaged in educational model which encourages transition to DPT for Nigerians. This study therefore compared BPT program of Nigeria with DPT program of USA.

METHOD

This was a descriptive qualitative study. The Institutional Review Board (IRB) of the University of Michigan-Flint designated 'exempt status' to this study. The study compared Nigerian BPT curriculum with the USA DPT curriculum using the UMFlint DPT curriculum as a representative model of United States of America (USA) DPT curricula. The DPT curriculum of UMFlint was studied during the 2013-14 academic year, and compared with the Nigerian BPT curriculum. The BPT curriculum was obtained by harmonising the curricula of 4 of the 7 Nigerian PT schools. These schools were Obafemi Awolowo University, University of Ibadan, University of Lagos and Nnamdi Azikwe University. All schools involved in this study were selected purposively using non-probability sampling technique.

USA Data

Data were gathered during September, 2013, to June, 2014 from course development materials, classroom observations, review of Commission on Accreditation in Physical Therapy Education Criteria (CAPTE), attendance at the APTA educational leadership conferences. CAPTE, USA grants accreditation status to qualified entry-level education programs for physical therapists and physical therapist assistants in USA. There were also interactions with UMFlint faculty members in terms of unstructured face to face interviews in addition to an online survey. The interview and online survey were done, to obtain information on teaching activities.

Nigeria Data

Additional data for the BPT programs were similarly gathered from the National Universities Commission (NUC) Nigeria, and the Nigeria Medical Rehabilitation Therapists Board (NMRTB). The NUC grants accreditation status to qualified programs in Nigeria universities, while the NMRTB controls practice and training of physical therapists in Nigeria. There were also interaction with UMFlint faculty members in terms of unstructured face to face interviews, in addition to an online survey. The interview and online survey were done, to obtain information on teaching activities.

Data Analyses

Data obtained included information on course type, course

Table 1. Summary Curriculum Findings

Differences	Overlaps
Evidence Based practice	Foundational sciences
Clinical Decision	Clinical Sciences
Service Learning	Behavioral sciences
Cultural competence	
Clinical reasoning	
Licensing Examination	

Key:

Foundational Sciences	**Behavioral Sciences**	**Clinical Sciences**
Biology	Psychology	Cardiovascular
Anatomy	Communication	Pulmonary
Histology	Cultural Competence	Musculoskeletal
Physiology	Clinical Reasoning	Gastrointestinal
Neuromuscular	Pharmacology	Evidence Based Practice
Exercise	Applied Statistics	Integumentary
Exercise Physiology	Ethics	Genitourinary
Biomechanics	Teaching and Learning	Endocrine
Kinesiology	Management	Metabolic
Pathology	Sociology	

Professional Role and Responsibility

Evidence Based Practice

Table 2. Comparison of Selected Components of Nigeria BPT and UMFllint (USA) DPT Curricula

	BPT	**DPT**
Credit Hours (Hrs.)	210	250
Interpretation of Grades	Pass Mark=50%	0 - 4; 0 = Least, 4 = Best
Clinical Education Hours (Hrs.)	1350-2000	1880
Clinical Education Assessment	Use of Clinical Booklets	Use of Clinical Performance Instrument
Clinical Educators	≥ Senior Physiotherapists	Clinical Instructors
Post Degree Assessment	Clinical Internship	Licensing Examination

content, modules, and course units/hours, teaching activities, clinical education, educational assessments, and interpretation of grades. Data were summarized by categories, qualitatively transcribed into 3 themes identified as differences, overlaps and possible needs.

RESULTS

Considerable overlap was observed in foundational science courses (Table 1). The majority of differences were in terms of omission and/or narrow scope of courses in the BPT curriculum. These were in strategic areas of physical therapy practice: evidence based practice, clinical reasoning, advanced technology and cultural competence (Table 1).

The DPT programme was observed to have more credit units than the BPT programmes. The Nigeria NUC recommends 210 credit hours from entry level to physical therapy graduation in the 5- year BPT program. The University of Ibadan requires their students to complete about 200 units in order to graduate from the 5-year BPT. Obafemi Awolowo University and Nnamdi Azikwe University require 205 and 207 total units respectively. Other requirements for all the BPT schools are units from elective courses. The total number of credit hours required by CAPTE for the award of DPT degree is about 120; following completion of a bachelor degree (typically 120-130 credit hours), for a total of approximately 240-250 credit hours (Table 2).

The BPT program has more clinical education hours for students than the DPT program. BPT programs have between 1350 to 2000 hours of clinical rotation, while UMFlint DPT students engage in a total of 1880 hours of clinical education. 1200 hours of these are in the terminal clinical courses (Table 2).

There were differences in approaches to clinical education and interpretation of students' grades. Differences were also observed with respect to educational assessment at the completion of PT program with a one year assessed internship training for BPT graduates and licensing examination for DPT graduates (Table 2).

Teaching methods mostly used by PT educators in both programmes were classroom teaching, clinical and

Table 3. Curricula Needs for Nigerian DPT

Topic	Sub-Topics
Evidence Based Practice	Outcomes assessments in practice/ Interpretation of outcomes Case based literature review Evidence based patient management
Clinical Decision Making/Reasoning	Systems reviews and screening Case based reviews Examination and plan of care in different specialties; treatment guidelines
Service Learning	Community project
Cultural Competence	Therapeutic relationships Cultural competency
Curriculum Integration	Course integration, examination practice, national examinations

laboratory. Students in BPT programs are involved in research that leads to submission of dissertations to the university as part of fulfilment for the award of BPT degree. Contrarily, research and critical inquiry requirements vary for DPT programs. At the UMFlint, DPT students must complete a case report based on one of their clinical cases, and complete an outcome study based on clinical data sets made available by the program.

DISCUSSION

The Nigeria physical therapy programme is at the brink of a paradigm shift, and a DPT programme is being considered in earnest. This study therefore compared the Nigerian BPT curriculum with the American DPT curriculum.

Physical Therapy Curriculum

The DPT and BPT curricula were examined and the following themes emerged: differences, overlaps, and possible needs for upgrade of BPT to DPT. The Nigerian BPT curriculum was deficient in content, and sometimes in scope, when compared with the DPT curriculum. The content in the DPT curriculum included description of courses and modules that reflect the depth expected to be covered in each course. The BPT on the other hand had only description of courses and aims. This gap is expected because the DPT curriculum is an improvement on USA entry-level BPT and Master of Science physical therapy programs. The DPT degree was described as one of the six elements recognized as essential to transition of physical therapists to a greater level of professionalism (John et al., 2012). The DPT degree equips physical therapists to practice as independent professionals (WCPT, 2011) and also addresses other elements of professionalism. DPT courses that prepare students for an autonomous level of practice include Evidence Based Practice, Clinical Reasoning, Clinical Decision Making, Assistive Technology, Therapeutic Relations and Cultural Competence. These course/topic areas were noted as areas that either need to be introduced or improved for content and/or scope of teaching in the Nigerian curriculum (Table 2 and 3). Other areas like professional service learning may be dimensions that Nigerian physical therapists want to consider introducing into their established structure of clinical rotations.

A report by CAPTE 2014 indicated that programs converting to DPT are making important substantial changes, including increased content in areas such as diagnostics, imaging, pharmacology, advanced practice skills in manual therapy, pediatrics and geriatrics, basic sciences including histology and pathology, business practices, and health promotion. Changes have also been effected in educational processes like evidence-based practice, case-based activities, with emphasis on clinical decision-making. Changes in clinical education component include increased hours, longer rotations, and more roles in professional practice (CAPTE, 2014[c], Domholt et al., 2004).

The demand in Nigeria, for DPT programs has continued with expectations of physical therapists to include evidence based treatments and practice; additionally Nigerian physical therapists want to assume their role as professionals with autonomy by 2020 (OGM, 2013). The American Physical Therapy Association vision 2020 affirmed that by 2020 physical therapy services will be provided by physical therapists who are doctors of physical therapy, recognized by consumers, and other health care professionals, as the practitioner of choice, to whom consumers have direct access for the diagnosis of, interventions for, and prevention of impairments, functional limitations, and disabilities related to movement, and function APTA, 2014[a]. The need for DPT as professional entry-level program has been continuously reiterated in the last twenty years by physical therapists in USA, and for about 5 years in Nigeria (Johnson et al., 2012). Professional DPT entry-level programs are however still non-existent in developing countries (John et al., 2012; Johnson et al., 2012), and the few professional entry-level programs that exist in Africa, like Nigeria, need to be upgraded (John et

al., 2012).

In a study on the opinion of Nigerian physiotherapists on the issue of DPT, the majority of respondents opined that inadequate manpower and lack of infrastructures may be an obstacle to smooth running of a DPT programme in Nigeria, while some believed that conflict between academicians and clinicians may be a challenge (Johnson et al., 2012). Additionally, procedures with NUC take time and involve a lot of bureaucracy. The University of Michigan-Flint is currently engaged in an educational model and international collaboration that can serve as models for other USA PT programs and educators to form similar international partnerships and to develop new models (John et al., 2012). This document will therefore serve as reference point for such programs to build upon.

Foundational Sciences

Considerable overlap was observed in foundational science courses. The DPT curriculum however does not have biochemistry as a prerequisite course. Biochemistry is however a compulsory foundational course in the BPT curriculum. The authors recommend maintaining biochemistry in the curriculum as a necessary prerequisite for pharmacology. Pharmacology is an integral aspect of the DPT curriculum and is one of the new courses added to physical therapy curricula to better prepare physical therapists for independent practice.

Credit Hours/Clinical education

The DPT programme requires more credit units than the BPT programme. This is because CAPTE's requirement for the award of DPT degree includes credit hours obtained from completion of a bachelor degree. This 40 units' gap in the Nigerian BPT credits hours could be taken care of by addition of a didactic year of professional education. The BPT programmes however have more clinical education hours for students than the DPT program.

Clinical Education

Clinical education of Nigerian BPT students is achieved through designated teaching hospitals, which serve the different universities training physical therapists. Students in a physical therapy program are automatically enrolled as clinical students in the designated hospital if they passed prerequisite courses. The BPT programs in Nigeria therefore have adequate clinical opportunities for students. This type of clinical education arrangement is consistent with the British model of medical training (Oyeyemi, 2009). Nigerian clinicians who instruct students are senior physical therapists who work in specialty units. Nigerian BPT students are evaluated in the clinic through a log of the type of cases they have seen and approval of their clinical work by hospital physical therapists, and clinical examination.

In UMFlint, a designated DPT faculty approach clinics to take their students for clinical education internships, as physical therapy schools are not necessarily attached to designated hospitals. Experienced physical therapists from the clinical sites serve as clinical instructors. Many of the clinical instructors have participated in a two-day workshop offered by the APTA (Basic Clinical Instructor Workshop) with instruction on evidence based practice and clinical instruction. An Advanced Clinical Instructor workshop is also available. Some clinical instructors also have advanced clinical certifications from the APTA Specialties. DPT programs have strong emphasis on evidence based practice, clinical decision making, and professionalism in clinical education as evidenced by their use of the Clinical Performance Instrument (CPI) to evaluate students' clinical performance (APTA 2014[b]).

Therefore, the BPT programs have more clinical education hours for students than many DPT programs. BPT programs have between 1350 to 2000 hours of clinical rotation which includes clinical postings outside the hospital of training and Students Industrial Work Experience Scheme (SIWES), which are clinical experiences in different institutions including hospitals, private clinics, industries, community centers, homes. The average number of clinical hours in CAPTE accredited programs was 1424 in 2012-13 (Oyeyemi, 2009; CAPTE, 2014[d]), ranging from 920-2400hours (CAPTE, 2014[d]).

Assessment

BPT grades are described in terms of weighted averages labelled as Cumulative Grade Point Average (CGPA), where 50% is the pass mark. DPT grades are typically described numerically as units of 0-4, where three and above generally describe students with good academic standing. Differences were also observed with respect to educational assessment at the completion of the physical therapy program with one year graded internship training for BPT graduates versus successful passing of clinical internships as determined by performance on the CPI for DPT students. DPT students/graduates must then go on and pass a licensing examination to gain licensure to practice.

Concurrent Issues

Educational programs in the USA and other countries, for example Nigeria, seeking to improve physical therapy education, or move to the DPT, will need to continually renew and remodel their educational programs to prepare a physical therapy workforce to achieve this evolving vision as well as the vision of their respective professional associations. The APTA continues to evolve its vision of the future of physical therapy practice. In 2013, the APTA revised its vision statement to "transforming society by optimizing movement to improve the human experience (APTA, 2014[c]). Future enhancements of physical therapist educational programs may include an expanded emphasis on prevention interventions and more sophisticated movement analysis to name a few.

Addressing the curricular needs of the professional program cannot be done in isolation. Since existing clinicians serve as clinical instructors for the professional students, the education of clinical instructors will need to be addressed. Certification could be explored for clinicians that would be involved in clinical education. Credentialing workshops to provide educational updates and instruction on clinical teaching methods should be a prerequisite for interested clinicians who will then serve as clinical instructors. Additionally, it may be time to consider a second level of physical therapy provider in Nigeria. Currently, physical therapy technicians are employed in some settings, authors are however not aware of their level of education, or criteria for registration with the Nigeria Medical Rehabilitation Therapists Board. As professional education advances to the DPT level, consideration should be given to developing an additional provider level with appropriate education to enable the physical therapy profession in Nigeria to serve more of its citizens and thus provide greater access to quality health care. Loomis et al. (1997) reported that adding supervised physical therapy support workers would help meet the increasing demand for physical therapy services in a cost effective manner. Supervision of these workers would however be essential to ensure higher quality of care. The physical therapist: patient ratio in Nigeria and the need for PTs' advancement therefore warrant involvement of physical therapy assistants as support workers. Obembe et al. (2008), reported that Nigeria physical therapists are in favor of physical therapy assistants training, and involvement in rehabilitation in Nigeria.

Conclusion and Recommendations

The BPT curricula were not as detailed in content or scope as the DPT curriculum. A considerable overlap was found between foundational sciences of the BPT and DPT curricula. Nigerian BPT programs had more clinical hours than most DPT programs though the level of expected clinical practice is higher in the DPT programs. To enable the transition from BPT education to DPT education in Nigeria, the following curricular changes are needed: 1) increasing the depth and scope of some existing BPT courses (Table 1), 2) addition of courses (Table 3), and advancement of performance expectation in clinical education. Findings of this study will be useful for schools in USA, with educational models for transitional DPT programs for Nigerian physical therapists.

Advancing curricula at a national level is a very complex task that requires input from a variety of stakeholders. A task force that will address the shift, differences, overlaps and possible needs is therefore warranted. Potential stakeholders to involve in this process include: academic leaders within universities, the NUC of Nigeria, members of regulatory boards, and physical therapy educators and researchers who represent the different levels of bureaucracy in curriculum change in Nigeria.

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REFERENCES

American Physical Therapy Association. Credentialed Clinical Instructor Program. Available at; http://www.apta.org/CCIP/. Accessed June 30, 2014.

American Physical Therapy Association. Vision Statement for the Physical Therapy Profession and Guiding Principles to Achieve the Vision. Available at; http://www.apta.org/Vision/. Accessed June 19, 2014.

APTA Vision 2020. American physical Therapy Association. Available at; http:// www.apta.org/AM/Template.cfm?Section=Vision_20201 &Template=/TaggedPage/TaggedPageDisplay.cfm&TPLI D=285&ContentID=32061. Accessed June 19, 2014.

Blau R, Bolus S, Carolan T, Kramer D, Mahoney E, Jette DU, Beal JA (2002). Daniel The Experience of Providing Physical Therapy in a Changing Health Care Environment. Phy Ther 82 (7): 648-657.

Commission in Accreditation in Physical Therapy Education (CAPTE) Aggregate Program Data: PT Programs. Commission on Accreditation in Physical Therapy Education website. Available at; http://www.capteonline.org/uploadedFiles/CAPTEorg/A bout_CAPTE/Resources/Aggregate_Program_Data/Aggre gateProgram Data_PTPrograms.pdf.29. Accessed June 20, 2014.

Commission in Accreditation in Physical Therapy Education (CAPTE), Quick Facts PT Programs. Available at; www.capteonline.org/home.aspx, Accessed June 14, 2014.

Commission in Accreditation in Physical Therapy Education (CAPTE), 2012-2013 Fact Sheet Physical Therapists Education Programs. Available at; accreditation@apta.org.2013, Last updated on 03/27/2014, Accessed May 28, 2014.

Commission in Accreditation in Physical Therapy Education (CAPTE), Evaluative Criteria PT Programs. Available at; updated on 08/07/2014, Accessed November 15, 2014.

Domholt E, Emery M, Harris MJ. The DPT: What We Know, What We Don't. Presented at: PT 2004: Annual Conference and Exposition of the American Physical Therapy Association; June 2004, Chicago, Ill.

Frantz J (2007). Challenges Facing Physical Therapy Education in Africa. IJAHSP 5 (4):1-5.

Gona JK, Newton CR, Geere J-A, Hartley S (2013). Users' Experiences of Physiotherapy Treatment in a Semi-Urban Public Hospital in Kenya. Rural and Remote health. http://www.rrh.org.au, 13: 2210.

Johanson MA (2005). Association of Importance of the

Doctoral Degree with Students 'Perceptions and Anticipated Activities Reflecting Professionalism. Phy Ther 85 (8): 766-781.

John EB, Pfalzer LA, Fry D, Glickman L, Masaaki S, Sabus C, Okafor UAC, Al-Jarrah MD (2012). Establishing and Upgrading Physical Therapist Education in Developing Countries: Four Case Examples of Service by Japan and United States Physical Therapist Programs to Nigeria, Suriname, Mongolia, and Jordan. J. Phys. Ther. Educ. 26 (1): 29-39.

Johnson OE, Adedoyin RA, Ayorinde C, Ativie N (2012). Opinion of Nigerian Physiotherapists on Introduction of the Doctor of Physiotherapy Degree Program JNSP. 20: 47-51.

Loomis J, Hagler P, Forward J, Wessel J, Swinamer J, McMillan A (1997). Current Utilization of physiotherapy Support Personnel in Canada. Physiotherapy Canada, 49 (4):284-291.

Mathur S (2011). Doctorate in Physical Therapy: Is it Time for a Conversation? Guest Editorial. Physiotherapy Canada, 63(2):140-142.

Mbambo N (2005). The Changing Role of Physiotherapy in South Africa. SAJP. 61 (3): 2-6.

Moffat MA (2012). History of Physical Therapist Education around the World. J. Phys. Ther. Educ. 26(1): 13-23.

Obembe OA, Onigbinde AT, Adedoyin RA, Adetunmbi OG (2008): Opinion of a section of Nigerian physiotherapists on training and utilization of middle level workers. 16 (11): 23-30.

Ordinary General Meeting; (OGM). Communiqué Issued at the End of the First Ordinary General Meeting of the Nigeria Society of Physiotherapy (NSP) Held at the State Secretariat Conference Hall, Dutse, Jigawa State on the 28th February, 2013. National Physio News, 9, 2013, 47.

Oyeyemi A (2009). Fifty Years of Physiotherapy in Nigeria: Trends, Perspectives and Future Direction. JNSP. 17: 30-35.

Twible R, Henley E, (2000). Preparing Occupational Therapists and Physiotherapists for Community Based Rehabilitation. Asia Pacific Disability Rehabilitation Journal: Selected Readings in CBRSeries1: CBR in Transition. 15 (1): 109-126.

World Confederation for Physical Therapy, WCPT Guideline for Physical Therapist Professional Entry Level Education. London, UK: WCPT. Available at; www.wcpt.org/guidelines/entry-level-education.2011, Accessed March 31, 2014.

World Confederation of Physical Therapy Africa, (WCPT-A) History of Africa. Available at, www.wcptafrica.org, Accessed March 31, 2014.

World Health Organisation. World Report on Disability. Geneva: WHO, 2001.