



PROFILE OF PHYSIOTHERAPIST EDUCATORS IN ANGLOPHONE WEST AFRICAN COUNTRIES: A CROSS-SECTIONAL STUDY

Joseph Balogun[†] --- Chidozie Mbada² --- Adetutu Balogun³ --- Ajediran Bello⁴ --- Udoka Okafor⁵

¹Department of Health Studies, Chicago State University, Chicago, USA

²Department of Medical Rehabilitation, Obafemi Awolowo University, Ile-Ife, Nigeria

³Doctoral Program in Occupational Therapy, Rocky Mountain University of Health Professions, Provo, Utah, USA

⁴Department of Physiotherapy, University of Ghana, Ghana

⁵Department of Physiotherapy, University of Lagos, Nigeria

ABSTRACT

Background: In the last two decades, physiotherapy profession in many countries has transitioned their entry-level education to a Master's or doctoral degree levels. Given these changes, there is a new need to discern the profile of physiotherapist educators in different countries. **Objectives:** This cross-sectional study was designed to investigate the profile of the physiotherapist lecturers from Anglophone West African countries and to compare the data with their USA counterparts. **Methods:** The Head of Department of all the physiotherapy programs in West African universities (N = 14) completed a questionnaire that sought information on the University's debut date and ownership, faculty gender, educational qualification and academic rank. **Results:** The vast majority (93%) of the physiotherapy programs surveyed are located in public universities. There were 126 lecturers employed in the programs surveyed (average of 9 lecturers per program). In Nigeria, 72% of the lecturers were men, but in Ghana there was an equal (50:50) split between men and women. Fifty-nine percent (59%) of the lecturers in Nigeria had a Ph.D. and 32% were with MS degree. Thirty-four percent (34%) were a Senior lecturer, 19% Lecturer I, 10% Associate Professor/Reader and 10% Professor. More Nigerian lecturers attained higher ($p < .05$) educational qualification and academic rank than their Ghanaian peers. **Conclusions:** In Nigeria, the physiotherapy faculty workforce is dominated by men. The educational qualification and academic rank of the faculty in Nigeria is at par with their counterparts from the USA. The findings in this study have implication for faculty exchange/employment, and program development in West Africa.

Keywords: Professionalism, Faculty survey, Manpower capacity building, Program evaluation, Faculty exchange, Higher education.

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Contribution/ Originality

This comparative study is the first empirically-based investigation of the physiotherapist lecturers from Anglophone West African countries.

1. INTRODUCTION

Africa is the second-largest and second-most-populous continent in the world; with a population of 1.1 billion people which accounts for about 15% of the world's population [1]. Of the 600 million individuals with disabilities globally, 400 million are from developing countries and 80 million are from Africa [2, 3]. Sub-Sahara Africa, which is yet to achieve the improvement in the health milestones attained by most Western countries over the past few decades [4] is predicted to witness the greatest increases in the prevalence of disability in the current decade [3].

It is well established that rehabilitation services are generally in greater demands where there are limited financial and manpower resources. West Africa is currently deluged with epidemics (including HIV/AIDS, Ebola), endemic poverty, scarce infrastructure and poor communication networks, widespread social disruption through terrorism and civil unrest, governance upheavals, lack of health facilities, and a brain drain of skilled medical and rehabilitation personnel to developed countries, and is one of the regions of the world with the greatest demand for rehabilitation services but have the least resources to meet the need [4]. The region has one of the lowest physiotherapists per resident ratio in the world [5]. For example, there are currently only four physiotherapists in the entire country of Sierra Leone; a country with over 450,000 people living with disabilities [6].

In the last two decades, physiotherapy profession in many countries have transitioned their baccalaureate (BS) degree program to a Master's (MS) or entry-level doctor of physiotherapy (DPT) degree education. Specifically, countries such as USA, Pakistan, Egypt, Australia and India have upgraded their entry-level BS degree curriculum to a DPT degree program. As a result of the global shift in physiotherapy education towards entry-level DPT, there has been a trend for physiotherapist educators to upgrade their education and research capability to meet changing institutional and external accreditation standards. Unfortunately, there is limited published empirical data on the demographic and academic characteristics of the physiotherapist educators from different parts of the world.

The most recent profile of physiotherapist educators from 18 physiotherapy education programs in Canada, USA, Australia, Britain, Ireland, New Zealand, South Africa, and Nigeria was published in 1983 [7]. As a result of the recent changes in physiotherapy education around the world, there is a new need to discern the demographic and academic characteristics of physiotherapist educators to facilitate our understanding of regional equivalency in educational manpower, program development and faculty employment needs from different nations.

This study was designed to investigate the demographic and academic characteristics of the physiotherapist educators in English-speaking West African countries and to compare the data with their USA counterparts. In this article, the term "Lecturer", which is British in origin, is used to describe a physiotherapist educator of all academic ranks from Graduate Assistant to full Professor. The equivalent term in the USA is the word "Faculty", which is used in reference to both part-time (adjunct) and full-time university teaching personnel. Both terms are used interchangeably in this article.

2. METHODS

2.1. Study Setting

West Africa with a population of 301,587,669 million people is composed of 16 countries (Benin, Burkina Faso, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Sao Tome and Principe and Togo) with varying level of rehabilitation manpower availability [8]. Of the English-speaking West African countries, only Nigeria and Ghana currently have professional BS degree program in physiotherapy and will be the setting for this study. Nigeria and Ghana are the two most populous countries in the region. Nigeria is with a population of 174,507,573 people and a land mass of 910,768 Sq. km; she is ranked as the 21st largest economy in the world in terms of nominal GDP, and the 20th largest in terms of Purchasing Power Parity. Ghana has a land mass of 238,535 Sq. km and is inhabited by 24,304,000 people with one of the fastest growing economies in the world [8].

2.2. Research Design

The research protocol for this study was approved by the Ethical Review Board at the University of Lagos, Nigeria. This cross-sectional study sampled only the physiotherapy education programs in Anglophone West African countries that are a member of the World Confederation of Physical Therapy (WCPT) [9]. The study participants were recruited purposively. Professional physiotherapy programs in Francophone West African

countries and physiotherapy assistant programs in Anglophone countries were excluded from the study. Similarly, part-time lecturers were excluded from the study.

2.3. Procedure

First, the list of physiotherapy education programs in West Africa published on the WCPT website was obtained [9]. Second, the Head of Department of Physiotherapy in each university was identified and requested to participate in a program evaluation survey. After receiving their consent, a survey questionnaire was emailed to them. Follow-up emails and phone calls were made to ensure a 100% response rate. The development, validation and psychometric properties of the survey questionnaire utilized in this study have been reported elsewhere [10].

Third, the identified Head of Department of the physiotherapy education programs in English-speaking West Africa countries completed a questionnaire that sought information on the university debut date and ownership (Federal/State/Private), number and gender of their faculty (Male/Female), their educational qualification (BS, MS, Ph.D.), and academic rank (Graduate Assistant, Assistant Lecturer, Lecture I, Lecturer II, Senior Lecturer, Associate Professor/Reader, and Professor).

2.4. Statistical Analysis

We coded the data collected, as reflected on the study questionnaire, into SPSS version 16 software (SPSS, Chicago, IL, USA). Both descriptive (percentages) and inferential statistics were computed. Although all the established and developing entry-level BPT/BS programs in West Africa participated in this study, we deemed it necessary to test the normality of the data collected with the Shapiro-Wilk test because of the small sample size. We computed the Chi-Square (χ^2) non-parametric test to explore the association between the country of university location (Nigeria/Ghana), gender, educational qualification and academic rank. A p-value ≤ 0.05 was accepted as being statistically significant.

3. RESULTS

3.1. Normality of the Data

The result of the Shapiro-Wilk test revealed that the data collected are all normally distributed and neither skewed nor kurtotic. Consequently, we proceeded to use inferential statistics to explore the plausible association between the country of university location (Nigeria/Ghana), gender, educational qualification and academic rank.

3.2. University Year of Debut and Ownership

The names of the participating universities, their year of debut and ownership is presented in Table 1.

The overwhelming majority of the physiotherapy education programs in Nigeria are located in public universities—83.3% are funded by the Federal government, 8.3% by the State government and 8.3% by a private organization. The two established physiotherapy education programs in Ghana are located in public (Government) universities.

Table-1. Undergraduate Physiotherapy Degree Program Debut Date, Program Age (Years) and Ownership of West African Universities

Country/University	BS Program Debut	Program Age (year)	University Ownership
Nigeria			
1. University of Ibadan	1966	50	Federal
2. University of Lagos	1970	45	Federal
3. Obafemi Awolowo Univ. (OAU), Ile-Ife	1977	39	Federal
4. University of Nigeria	1985	31	Federal
5. Bayero University	1990	26	Federal
6. University of Maiduguri	2003	13	Federal

7. Nnamdi Azikiwe University	2004	12	Federal
8. University of Benin	2015	2	Federal
9. Bowen University	2015	1	Private
10. University of Ilorin*	2015	1	Federal
11. Federal University, Dutse*	2015	1	Federal
12. Ondo State Univ. of Medical Sciences*	2016	0.5	State
Ghana			
1. University of Ghana	2002	14	Public^
2. Univ. Health & Allied Sciences, Ho	2014	2	Public^

*The program was approved by the University Governing Council but the pioneering students are yet to enroll

^Ghana runs parliamentary type of government which is different from Federal system where we have State and Federal governments. So we can either refer to government establishment as public or state. None of the two universities is owned by private organization

3.3. Faculty Gender Ratio

The gender of the physiotherapist lecturers employed in the West African universities is presented in Table 2.

Table-2. Gender Distribution of Physiotherapy Lecturers in West African Universities

Country/ University	Male	Gender Female	Total	%
Nigeria				
1. University of Ibadan	7	8	15	13
2. University of Lagos	8	5	13	11
3. OAU, Ile-Ife	7	2	9	8
4. University of Nigeria	6	2	8	7
5. Bayero University	17	6	23	20
6. University of Maiduguri	13	3	16	14
7. Nnamdi Azikiwe University	7	1	8	7
8. University of Benin	4	1	5	4
9. Bowen University	6	2	8	7
10. University of Ilorin	4	2	6	5
11. Federal University, Dutse*	2	0	2	2
12. Ondo State Univ. of Med Sc*	1	0	1	1
Total	82	32	114	100
Percentage	72	28		
Ghana				
13. University of Ghana	5	4	9	77
14. Univ. Health & Allied Sci, Ho	1	2	3	33
Total	6	6	12	100
Percentage	50	50		

*The program was approved by the University Governing Council but the pioneering students are yet to enroll

One hundred and fourteen (114) lecturers were employed in the 12 universities in Nigeria offering undergraduate and postgraduate degree programs in physiotherapy. Seventy-two (72%) of the physiotherapist lecturers in Nigeria were men and only 28% women. In Ghana, only 12 lecturers were employed in the two universities offering physiotherapy program, and 50% of them were men and 50% women. The result of the Chi-Square test for gender (Table 3) revealed no significant difference ($p > .05$) in the proportion of men and women lecturers employed in Nigeria and Ghana universities ($\chi^2 = 1.547$; $p = 0.2136$).

Table-3. The Chi-Square Test Contingency Table (Percentage) for Gender, Educational Qualification and Academic Rank

Country/ University	Nigeria	Ghana	χ^2	p-level
Gender				
Male	72	50	1.547	0.2136
Female	28	50		
Educational Qualification				
BS	9	9	13.103	0.0014
MS	32	84		
PhD	59	8		
Academic Rank				
Graduate Assistant	13	8	9.133	0.0493
Assistant Lecturer	3	5		
Lecture I	11	0		
Lecturer II	19	33		
Senior Lecturer	34	8		
Associate Professor/Reader	10	0		
Professor	10	0		

3.4. Faculty Educational Qualifications

The educational qualifications of the lecturers employed in the West African universities are presented in Table

4.

Table-4. Educational Qualification of Physiotherapy Lecturers in West African Universities

Country/ University	BS	MS	Academic Degree Ph.D.	Total	%
Nigeria					
1. University of Ibadan	3	1	11	15	13
2. University of Lagos	0	3	10	13	11
3. OAU, Ile-Ife	0	1	8	9	8
4. University of Nigeria	0	4	4	8	7
5. Bayero University	3	13	7	23	20
6. University of Maiduguri	4	5	7	16	14
7. Nnamdi Azikiwe University	0	3	5	8	7
8. University of Benin	0	2	3	5	4
9. Bowen University	0	2	6	8	7
10. University of Ilorin	1	1	4	6	5
11. Federal University, Dutse*	0	1	1	2	2
12. Ondo State Univ. of Med Sc*	0	0	1	1	1
Total	11	36	67	114	100
Percentage	9	32	59		
Ghana					
13. University of Ghana	0	8	1	9	77
14. Univ. Health & Allied Sci, Ho	1	2	0	3	33
Total	1	10	1	12	100
Percentage	9	84	8		

*The program was approved by the University Governing Council but the pioneering students are yet to enroll

Fifty-nine (59%) percent of the lecturers in Nigeria have obtained their Ph.D. degree; 32%, and 9% had earned their MS and BS degrees, respectively. Only 8% of the lecturers in Ghana have earned their doctorate degree; the majority (84%) has MS degree and 8% with BS degree. The result of the Chi-Square test (Table 3) revealed statistically ($p < .05$) significant difference in the educational qualification of the physiotherapist lecturers in the

West African universities ($\chi^2 = 13.103$; $p = 0.00142$). More Nigerian lecturers earned higher academic degrees than their Ghanaian counterparts.

3.5. Faculty Rank

Table 5 contained the academic rank of the physiotherapist lecturers employed in the West African universities.

Table-5. Academic Rank of Physiotherapy Lecturers in West African Universities

Country/ University	Academic Rank					AP ⁶	PF ⁷	Total	%
	GA ¹	AL ²	L2 ³	L1 ⁴	SL ⁵				
Nigeria									
1. University of Ibadan	3	0	1	2	6	1	2	15	13
2. University of Lagos	2	0	0	4	4	1	2	13	11
3. OAU, Ile-Ife	0	0	0	1	6	0	2	9	8
4. University of Nigeria	0	0	0	2	5	0	1	8	7
5. Bayero University	0	3	8	8	3	1	0	23	20
6. University of Maiduguri	7	0	0	2	3	3	1	16	14
7. Nnamdi Azikiwe University	0	0	3	0	5	0	0	8	7
8. University of Benin	2	0	0	0	1	1	1	5	4
9. Bowen University	0	0	0	2	3	2	1	8	7
10. University of Ilorin	1	0	0	1	2	1	1	6	5
11. Federal University, Dutse*	0	0	1	0	1	0	0	2	
12. Ondo State Univ. of Med Sc*	0	0	0	0	0	1	0	1	1
Total	15	3	13	22	39	11	11	114	100
Percentage	13	3	11	19	34	10	10		
Ghana									
1. University of Ghana	0	6	0	2	1	0	0	9	77
2. Univ. Health & Allied Sci, Ho	1	0	0	2	0	0	0	3	33
Total	1	6	0	4	1	0	0	12	100
Percentage	8	5	0	33	8	0	0		

¹Graduate Assistant; ²Assistant Lecturer; ³Lecturer II; ⁴Lecturer I; ⁵Senior Lecturer; ⁶Associate Professor/Reader; ⁷Professor

*The program was approved by the University Governing Council but the pioneering students are yet to enroll

Thirty-four percent of the physiotherapist educators in Nigeria were Senior Lecturers; 19% were Lecturer I, 10% Associate Professor/Reader and 10% Professor. None of the lecturers from Ghana attained the academic status of Associate Professor/Reader or Professor. The academic rank of the majority (50%) of the physiotherapist educators from Ghana is Assistant Lecturer; 33% were Lecturer I and 8% Senior Lecturer. The result of the Chi-Square test (Table 3) also revealed statistically ($p < .05$) significant difference in the academic rank of the lecturers from West Africa ($\chi^2 = 9.133$; $p = 0.0493$). More Nigerian lecturers attained higher academic rank than their Ghanaian peers.

4. DISCUSSION

This exploratory study set out to investigate the demographic and academic characteristics of the physiotherapist lecturers from Anglophone West African countries and to compare our data with the Faculty Aggregate Program Data published in September 2016 by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association [11]. We selected the USA as the "gold standard" nation to compare our findings because she attained the major milestones in physical therapy education and clinical practice at a faster pace than any other country in the world. In our recent investigation of the evolutionary path of physiotherapy education in four countries, we found that USA was the first nation to transition

their diploma and certificate programs which were based in the hospital environment to a BS degree program in the university setting. USA was also the first nation to develop an MS, Ph.D., and both entry-level and post-professional DPT degree programs in physiotherapy [12]. To date, UK and Nigeria are yet to transition their BS degree education to the entry-level DPT degree. UK has 35 accredited entry-level BS and MS degree programs in physiotherapy, but no DPT and Ph.D. degree program in physiotherapy is being offered nationwide.

There are currently over 190 universities in the Anglophone West African countries. Nigeria accounted for over 70% (141) of the universities in the region [13]. Forty of the 141 universities in Nigeria are owned by the Federal government, another 40 are State government-owned and 61 are private institutions. To date, only 8.5% of the 141 universities in Nigeria offer physiotherapy education program. There are over 50 universities in Ghana - nine are State public universities, nine are professional institutions accorded public university status, one regional university, three institutions in the Chartered private tertiary institutions category, 26 university colleges and private universities and several national and international affiliated universities [14]. Less than 4% of the universities in Ghana offer physiotherapy education program.

Overall, 93% of the physiotherapy education programs in West Africa are located in Federal or State government (public) universities and only 7% in private institution. The distribution of the public and private ownership of universities offering physiotherapy education programs in West Africa is somewhat different when compared to the USA, where 47% of the physical therapy programs are located in public universities and 53% in private universities [11]. The finding on private university ownership in this study when compared to the USA attests to the entrepreneurial ingenuity and zeal of the American people for higher education.

Throughout the entire West African region, there are only 126 lecturers employed in the 14 universities with physiotherapy programs, compared to the USA with 2,437 faculty members employed in the 255 established entry-level DPT programs. The average faculty per program ratio in the West African universities (9 lecturers per program) is comparable but slightly lower when compared to the USA universities (10 faculty members per program). The faculty per program ratio is used in this article as a proxy for program quality. The higher the faculty per program ratio outcome the better the level of supervision provided by the program; that is, more faculty members are available to provide closer supervision of the students [15].

The gender ratio of the physiotherapy faculty workforce in Ghana is equally split 50% men and 50% women. In Nigeria, the faculty workforce is dominated by men; 72% of the physiotherapist lecturers are men. This finding is discordant with the situation in the USA where physiotherapy, both in the clinical (68.1%) and academic (84%) settings are women dominated [7, 16]. Our findings suggest the need for specific affirmative action plans [17] designed for women to address the disparities and inequities in educational opportunities in Nigeria [18]. In several countries around the world, physiotherapy profession is female-dominated with concomitant sexist prejudice; an added burden to overcome in attaining true professional status. One of the barriers confronted by semi-professions transitioning to true professional status is the perception that semi-professions are dominated by women and therefore they engage primarily in "women's work." This sexist perception elevates the prejudices against semi-professions regardless of the amount of skill involved in the profession [10].

The majority (59%) of the physiotherapy lecturers in Nigeria is doctoral-prepared (Ph.D.); 32% had earned their Master's (MS) and only 9% had baccalaureate (BS) degrees. In the USA, 45.9% of the faculty had a Ph.D. degree, 13.9% had professional doctorates (Ed.D. DrPH, DHSc, etc), 14.8% had MS degree, 23.3% are Board certified and 2% with "other" degrees. In Ghana, only 8% of the lecturers have earned their doctorate; the majority (84%) had MS degree and 8% had BS degree. Our findings revealed that the overall educational qualification of the lecturers in Nigeria is at par with their counterparts in the USA. This finding is not particularly surprising because most of the pioneer and the elite physiotherapist educators in Nigeria received their professional or postgraduate education from the USA and Canada, and have been able to use their influence to shape the culture and paradigm of physiotherapy education in the country.

Thirty-four percent (34%) of the physiotherapist educators in Nigeria are Senior Lecturers; 19% are Lecturer I, 10% Associate Professors/Readers and 10% Professors. In the USA, 5.4% of the faculty workforce is Instructors, 1.9% Lecturers, 48.1% Assistant Professors, 28.8% Associate Professors, 14.1% Professors and 1.5% "other." None of the lecturers in Ghana attained the status of Associate Professor/Reader or Professor; the majority (50%) is Assistant Lecturer, 33% Lecturer I and 8% Senior Lecturer. Senior lecturer and Assistant Professor are the most popular academic rank held by physiotherapist educators in Nigeria and the USA, respectively. Clearly, the distribution of the academic rank of the physiotherapist educators in Nigeria and the USA are comparable.

There is a clear difference in the educational qualification and academic rank data of the lecturers in this study when compared to a previous similar study conducted 33 years ago from entry-level physiotherapy programs in Canada, USA, Australia, Britain, Ireland, New Zealand, South Africa, and Nigeria [7]. In that study, only 1.9% of the participants surveyed (N=154) had a doctoral degree, 10.4% had a Master's degree, 38.3% had a baccalaureate degree, 32.5% had diploma teacher's certificate. Only Australian and Nigerian physiotherapist educators had educational credentials (MS and Ph.D.) that were similar to USA educators; New Zealand and South Africa educators only had MS degree; Britain and Ireland's educators had only diploma teacher's certificate credentials. Our findings suggests that physiotherapy education in Nigeria has come of age, and it has grown in leaps and bounds since the profession was imported into the country in 1945 by two British Chartered Physiotherapists [12]. The first professional degree program in Nigeria was launched at the University of Ibadan about 50 years ago. The early years of physiotherapy education in Nigeria witnessed several tumultuous challenges among which were the lack of a postgraduate degree by the Heads of Department and lecturers [10]. The highest educational qualification held by the Heads of Department and lecturers then was a BS degree or Diploma in physiotherapy. The good news is that today, 67 of the 114 (59%) physiotherapist lecturers in Nigeria have obtained their Ph.D. degree and 11 of them have attained the status of full Professor.

Between 1966 and 1982, physiotherapy education in Nigeria had no authentic presence within the ivory tower as the programs were administered in other academic departments within the Medical School under a defacto administrator who is a surgeon or physician [10]. During that era, physiotherapy lecturers in Nigeria had an image and credibility problem because they do not have similar academic credentials as their colleagues within the professoriate. In the early years of physiotherapy education in Nigeria, the highest academic rank attained by most physiotherapist educators was a Lecturer II; compared to full Professor by their peers in the other cognate academic departments. Because of their limited educational preparation, the physiotherapist lecturers of that era were incapable of publishing their work in peer-reviewed journals. Physiotherapy was then generally perceived by other lecturers as a "mediocre" profession [10].

The significant differences observed in the educational qualification and academic rank of the lecturers in Nigeria and Ghana should be interpreted with caution. Nigeria enjoyed an advantage by establishing her first professional degree program in 1966 and Ghana's professional program was not initiated until 2002. Our findings can be attributed, in part, to the disparate unequal differences in sample size between the two groups, and the year of importation of the profession into the two countries.

The findings in our study have several implications for faculty exchange/employment, and program development in West Africa. The acute shortage of physiotherapists in West Africa is a genuine concern and an existential threat to the region because the number of physiotherapists currently produced by the local universities is inadequate to meet the regional physiotherapist needs [19]. This conundrum can only be realistically addressed by establishing new educational programs or aggressively increase admission in the existing universities with dismally low enrollment. In April of 2016, the Africa Region of the WCPT pledged to establish a physiotherapy degree program in Sierra Leone by October 2016 [6]. Sierra Leone is in desperate need of physiotherapist educators to establish the new program. Fortunately, Nigeria has a pool of physiotherapists with Master's and

doctoral degrees gainfully employed in the major University Teaching Hospitals [20] and they can be enticed by the university in Sierra Leone to develop the new program.

An emerging trend around the world is that entry-level BS and MS degree programs are being replaced with the DPT degree education. In order for Nigeria and Ghana to join the league of progressive nations with high quality physiotherapy education, the existing BS curricula in both countries must be upgraded to a DPT curriculum. Based on the findings in this study, we conclude that Nigeria, and not Ghana, currently has the manpower resource to implement a DPT curriculum because the educational qualification and academic rank of the Nigerian lecturers is overall at par with their counterparts in the USA where entry-level DPT program is the norm. It is encouraging that the Nigerian Society of Physiotherapy has submitted a proposal to the National University Commission to implement an entry-level DPT program in Nigerian universities [10]. Besides the entry-level DPT program, the Nigerian universities need to develop the transitional (post-professional) doctor of physical therapy degree (t-DPT) degree program for physiotherapists with BS and MS degrees.

Physiotherapy education in Francophone West Africa is generally still at the basic educational level when compared to the Anglophone countries in West Africa. Diploma education are offered in *Paramedic Training in Togo* [21]; *State Diploma of Physiotherapists* [22] and Diploma education programs in *Diploma Physiotherapy Program in Burkina Faso* [23]. The School of Physiotherapy at the University of Abomey-Calavi, Cotonou, in the Benin Republic has the only degree program in physiotherapy throughout the French-speaking sub-Saharan Africa [24]. A professional association for physiotherapist - Beninese Association of Physiotherapists and Réadaptateurs - was formed in the Benin Republic in August 1999, and currently, has only 80 members [25].

Finally, the limitation of our exploratory survey study should be recognized. The external validity of our findings is limited because the research design is cross-sectional in nature with no manipulation of any independent variable and no random assignment of the study participants. Therefore, no cause-and-effect inference can be drawn from our findings.

5. CONCLUSIONS

There are 126 lecturers employed in the 14 West African universities with physiotherapy program (an average of 9 lecturers per program). The preponderance of the physiotherapy education programs in West Africa is located in public universities. In Nigeria, physiotherapy profession in the academy is male dominated and there is the need for specific affirmative action plans designed for women to address the well known disparities and inequities in educational opportunities. The educational qualification and academic rank of the lecturers in Nigeria is at par with their counterparts in the USA. Senior lecturer and Assistant Professor are the most popular academic rank amongst the physiotherapist educators in Nigeria and the USA, respectively. The findings in this study have implication for physiotherapy faculty exchange/employment, and program development in West Africa.

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REFERENCES

- [1] K. S. Abdul, "Physical disabilities rehabilitation in Africa." Retrieved from: http://www.physio-pedia.com/Physical_Disabilities_Rehabilitation_in_Africa, 2016.
- [2] C. Igwesi-Chidobe, "Obstacles to obtaining optimal physiotherapy services in a rural community in South-Eastern Nigeria," *Rehabilitation Research and Practice*, vol. 2012, p. 8, 2012.

- [3] World Health Organization (WHO), "Scientific group on the burden of musculoskeletal conditions of the start of the new Millennium: The burden of musculoskeletal conditions at the start of the new millennium," World Health Organization Technical Report Series 2003, 919: i-x, 1-218, Back Cover 2003.
- [4] C. Campbell, "Power, politics and rehabilitation in Sub-Saharan Africa: From the personal to the political," *Disability and Rehabilitation*, vol. 33, pp. 1699-1701, 2011.
- [5] J. A. Balogun, "The path to our destiny: The transitioning of physiotherapy from a semi-profession to a true profession," presented at the A Key Note Speech Delivered at the Third Christopher Agboola Ajao's Lecture on the Occasion of the 55th Annual Conference of the Nigeria Society of Physiotherapy Held at Lokoja, Kogi State, Nigeria. Oct 28, 2015.
- [6] World Confederation for Physical Therapy, "WCPT news: Africa region supports Sierra Leone physical therapists in move towards a degree." Retrieved from: <http://www.wcpt.org/news/Support-for-Sierra-Leone-Apr16>, 2016.
- [7] J. M. Walker, L. E. Everett, and P. R. Evans, "Profile of physical therapy educators in five countries: Australia, Britain and Ireland, New Zealand, Nigeria, and South Africa," *Physical Therapy*, vol. 63, pp. 1127-1133, 1983.
- [8] West Africa, "West Africa: The 16 West African countries." Retrieved from: <http://www.africanranking.com/west-african-countries/>, 2016.
- [9] Physical Therapy Education Programs in Africa, Retrieved: <http://www.wcptafrica.org/en/About-WCPTA/Physiotherapy-Education/Physiotherapy-Education-Programs-in-Africa>, 2016.
- [10] J. Balogun, A. Balogun, and V. Obajuluwa, "A phenomenological investigation of the early years of physiotherapy education in Nigeria," *European Journal of Physiotherapy*, in press, 2017.
- [11] Commission on Accreditation in Physical Therapy Education, "Aggregate program data. American physical therapy association." Retrieved from: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPPrograms.pdf, 2016.
- [12] J. Balogun, A. Balogun, C. Mbada, and U. A. C. Okafor, "A comparative study of the evolutionary path of physiotherapy education in four countries," *Journal of Physical Therapy*, in press, 2017.
- [13] O. Fapohunda, "List of accredited universities in Nigeria with websites, others." Retrieved from: <http://www.myschoolgist.com.ng/ng/list-of-accredited-universities-in-nigeria-with-contact-websites/>, 2015.
- [14] List of Universities in Ghana, Retrieved from: https://en.wikipedia.org/wiki/List_of_universities_in_Ghana, 2016.
- [15] A. Henshaw, "Student-to-faculty ratio: What does it mean?" Retrieved from: <http://www.campusexplorer.com/college-advice-tips/0DC5BEEs/Student-to-Faculty-Ratio-What-Does-it-Mean/>, 2014.
- [16] American Physical Therapy Association, "Today's physical therapist: A comprehensive review of a 21st-century health care profession." Retrieved from: https://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/PR_and_Marketing/Market_to_Professionals/TodaysPhysicalTherapist.pdf, p. 4, 2011.
- [17] What is An Affirmative Action Plan, Retrieved from: <http://hrweb.mit.edu/diversity/affirmative-action-plan-admins/what-is-an-aaplan>, 2016.
- [18] N. Clark, "Education in Nigeria." Retrieved from: <http://wenr.wes.org/2013/07/an-overview-of-education-in-nigeria/>, p. 7, 2013.
- [19] J. A. Balogun, C. E. Mbada, A. O. Balogun, A. I. Bello, and U. A. C. Okafor, "The spectrum of student enrollment-related outcomes in physiotherapy education programmes in West Africa," *International Journal of Physiotherapy*, in press, 2016.
- [20] A. O. Sanya, "Nwugarian ideals for physiotherapy in Nigeria: A mentee's review one year after," presented at the Paper Presented at the 2nd Nwuga Physiotherapy Foundation Annual Lecture; June 23, 2016.

- [21] Paramedic Training in Togo, Retrieved from: <http://obrhs-togo.org/index.php/formations/formations-paramedicale>, 2016.
- [22] State Diploma of Physiotherapists, "Senegal". Retrieved from <http://www.onisep.fr/Ressources/Univers-Formation/Formations/Post-bac/Diplome-d-Etat-de-masseur-kinesitherapeute>, 2016.
- [23] Diploma Physiotherapy Program in Burkina Faso, Retrieved from: <https://www.google.com/search?q=Burkina+Faso+physiotherapy&oq=Burkina+Faso+physiotherapy&aqs=chrome..69i57j0j4&sourceid=chrome&ie=UTF-8#q=Burkina+Faso+physiotherapy+education+training>, 2008.
- [24] Degree Physiotherapy Program in Benin Republic, Retrieved from: <http://www.4icu.org/reviews/8254.htm#>, 2016.
- [25] Elsa, "Elsa MEHISSOU - physiotherapists and information secretary for ABEKIR in Cotonou Benin." Retrieved from: <https://www.apefe.org/component/content/article/48-actualites/446-elsa-mehissou-kinesitherapeute-et-secretaire-a-l-information-pour-l-abekir-a-cotonou-benin.html>, 2016.

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