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Abstract: Background: Although the history of the physiotherapy profession in Nigeria is well documented, the evolutionary path of physiotherapy education has not been systematically studied. This qualitative study examined the positive aspects and pitfalls of the first two decades of university-based physiotherapy education in Nigeria. Methods: Seven purposively selected alumni from the three pioneering physiotherapy education programs in Nigeria completed a semi-structured interview. Data were analyzed using a selective approach to uncover the thematic aspects of the alumni experience. The results were organized into seven themes. Results: Participants in the study reported several positive recurring themes, such as student activism; interdisciplinary education curriculum; strong basic medical sciences content; availability of up-to-date journals; unique clinical experience in community settings; and oversight of examination by external assessors. Equally, the participants overwhelmingly reported the following disconcerting issues: physiotherapy content of the baccalaureate curriculum was limited in scope; lack of basic infrastructures, such as classroom/laboratory space and residential

ABOUT THE AUTHORS
The authors of this paper were born in Nigeria but they are now naturalized citizen of the United States of America. They have collaborated on several research projects relating to the professionalization milestones of medicine and eleven other professional disciplines in Nigeria. They have also compared the developmental journeys of physiotherapy education in Nigeria with the milestones of Australia, UK and USA.

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PUBLIC INTEREST STATEMENT
Nigeria came into being in 1914 following the amalgamation of the Northern and Southern “Protectorates,” along with the Colony of Lagos, each before that date held and operated separately by British colonizers. Before the arrival of Europeans, the numerous ethnic groups that make up modern-day Nigeria organized themselves in political systems that matched their lifestyles. Compared to developed countries, the origins of professional occupations in Nigeria is of more recent vintage. The evolution of physiotherapy profession in Nigeria is well known but the history of physiotherapy education is less known. This investigation examined the positive aspects and pitfalls of the first two decades of university-based physiotherapy education in Nigeria. Seven male alumni from the three pioneering physiotherapy education programs in Nigeria were interviewed to uncover their shared experience during their university education. The historical insights provided will be of interest to administrators starting a new physiotherapy education program in Nigeria.
accommodation; inequities and disparities in the allocation of university-wide resources; lack of a bona fide academic department; lecturers lacking postgraduate credentials; and perceived negative program image. Conclusion: Study participants enunciated more challenges and negative experiences than strengths and positive experiences. The challenges took decades to address.

Subjects: Allied Health; Physiotherapy and Sports Medicine; Medicine, Dentistry, Nursing & Allied Health; Rehabilitation Medicine; Physiotherapy

Keywords: professionalism; professionalization milestones; physiotherapy education; program evaluation; qualitative study

1. Introduction
A vibrant literature abounds in developed countries on the evolution of many occupations as academic discipline and professions, including physiotherapy (Baxter, 2013; Echternach, 2003; Hale, 2013; Haugland, Scient, Vågstøl, & Wilhelmsen, 2012; Jones & Bartlett Publisher, 2015; Kumar, 2010; McMeeken & Kinesitherapie, 2008; Moffat, 2012; Nicholls, 2013; Ploch, 2015; Struber, 2003). Unfortunately, that is not the case with Nigeria where, compared to many developed countries, the origin of professional occupations in the country is of more recent vintage. Medicine and dentistry, 511 years ago were the first two occupations to achieve professional status in the land, followed by law 153 years, surveying 152 years, pharmacy 128 years, engineering 119 years, veterinary medicine 83 years, physiotherapy under examination here 70 years, accountancy 65 years, and library science 67 years (Balogun & Aka, 2015).

Scholars like Oshin (2011) and Oyeyemi (2009) have documented the history of the physiotherapy profession in Nigeria. According to Oshin (2011), the profession of physiotherapy was introduced to Nigeria in 1945 by two British chartered physiotherapists—Miss Manfield and Mr Williams. These two individuals were employed by the Nigerian national government and charged with the responsibilities for treating wounded and disabled Nigerians soldiers who returned home from Burma and other countries during World War II, and to start a training program in physiotherapy (Oshin, 2011). They started a three-year diploma program at the Royal (now National) Orthopaedic Hospital, Igbobi, in Western Nigeria to train assistant physiotherapists. Several of the program graduates proceeded to the United Kingdom (UK) for further studies to become chartered physiotherapist.

The three-year diploma program at Igbobi was later discontinued and a three-year university-based degree program for students with Ordinary and Advanced General Certificate of Education credentials was initiated at the University of Ibadan (UI) in 1966. In 1971, the College of Medicine at the University of Lagos (CMUL) initiated a diploma program which later transitioned to a three-year degree program in 1977. Subsequently, a Bachelor of Medical Rehabilitation-Physiotherapy (BMR-PT) degree program was launched in 1977 at the University of Ile-Ife, now Obafemi Awolowo University (OAU) (Oshin, 2011).

During the first two decades of the debut of university-based physiotherapy education in Nigeria, a Bachelor of Science (BSc) degree program was only offered at three universities—UI, CMUL and OAU. The curriculum of the physiotherapy education in Nigeria was fashioned after the British model, but today several of the universities have adopted the United States’ model of education and practice (Oyeyemi, 2009). The physiotherapy profession in the first three decades of entranced in Nigeria was perceived “as a sub-profession with limited advancement opportunities in the civil service” (Oyeyemi, 2009). Currently, physiotherapy is recognized by the Nigerian national government and the profession is still striving to attain true-professional status (Balogun, 2015; Balogun & Aka, 2015; Balogun, Mbada, Balogun, & Okafor, in press).
Although the history of the physiotherapy profession in Nigeria is well documented in the existing literature, little systematic study exists on the history of the first two decades of university-based physiotherapy education (Balogun et al., in press). This study attempts to fill the gap in the literature with a systematic evaluation of the first two decades of physiotherapy education in Nigeria. A notable exception to the paucity of systematic study, which our own study builds upon, is Professor Godwin Eni’s commentary which appeared in 2015 (Eni, 2015).

The objectives of this qualitative study are to examine the positive aspects and pitfalls of the early years of physiotherapy education in Nigeria. For the purpose of this study, the clause early years of physiotherapy education in Nigeria was defined to comprise the 20 year time span between 1966, when the first degree program debut at the University of Ibadan, and 1986 when the first postgraduate (Master’s) degree program in physiotherapy was initiated at the OAU (Balogun et al., in press).

2. Methods

2.1. Participants in the study
Consistent with the qualitative nature of this research, participants used in the study were selected purposively, rather than randomly. To be included in the study, the individual must be a student at one of the three pioneering physiotherapy education program in Nigeria (UI, CMUL or OAU) between 1966 and 1986. Eleven male and three female alumni who met the criteria for inclusion in the study were initially contacted, but only seven males consented to participate. Four of the study participants graduated from UI, two graduated from CMUL and one from OAU. All seven participants subsequently earned a doctorate degree (PhD or DPT) and currently live in the United States of America. Their ages range from 55 to 66 years; Mean = 58 with a standard deviation of 3.5 years.

2.2. Research design and procedures
This study used a phenomenological research approach, embedded in perceptions, perspectives, and understandings of a given situation or phenomenon, to explore the shared experiences of the seven physiotherapists. Patton (1990) defined a phenomenological inquiry as “what people experience and how they interpret the world.” He elaborated that people who have comparable experiences will share an “essential essence” of that experience.

This qualitative investigation was implemented in three stages (Figure 1).
Stage 1 comprised development of the research ideas and plans, as well as the development and pre-testing of the interview questions for clarity and face validity by an experienced physiotherapist educator. The following primary and follow-up questions were developed jointly by all the investigators (JAB, AOB, PA, and VAO). What are the enduring and remarkable experiences that you had as an undergraduate physiotherapist student? What are the negative or regrettable experiences you had as well? How satisfied were you with the education that you received in your physiotherapy program? Based on the responses, the investigator asked follow-up questions to clarify comments and elicit in-depth explanations.

The following follow-up questions were utilized to probe further any perceived limited response to the primary question: What was your experience with the basic medical sciences and professional (physiotherapy) courses that were taught in your curriculum? Can you comment on the physical (classroom, laboratory or office, library, and equipment) resources available to you as a student? What was your opinion concerning the image of physiotherapy profession within the university and in your larger community? How would you describe the credibility of your lecturers, compared to other lecturers within the university? Discuss the research roles played by your lecturers in advancing the physiotherapy profession? What was your experience with the external examiners? What is your opinion about the entry-level doctor of physical therapy (DPT) program? Is the time ripe for transition of the existing entry-level baccalaureate (BS) education to DPT degree? The participants were encouraged to share any other information they felt would clarify or shed further light on their overall university experience.

Stage 2 involved a semi-structured interview of the alumnus by one of the investigators (JAB) to ascertain program strengths (positive experience) and weaknesses (negative experience). Prior to the interview, the subjects were reassured that their names and identities will not be divulged in any publications that may emerge from this investigation. The purpose of the study and risks were explained and the subjects completed the consent forms. Subsequently, the physiotherapist participated in a semi-structured telephone interview which lasted between 45 min and one hour. Following the completion of each interview, one of the investigators (AOB) transcribed the recordings.

Stage 3 comprised the coding and analysis of the information from the semi-structured interviews to identify patterns and themes.

2.3. Data analysis
Data analysis was undertaken by two of the investigators (JAB and AOB), using the selective method described by Lin (2013), with the purpose to uncover the thematic aspects of the alumni experience. Prior to data analysis, the written transcripts were read several times while listening to the corresponding recording to ensure the accuracy of the transcription and to come to a better overall understanding of each participant’s experience. During data analysis, two of the investigators (JAB and AOB) read the written transcripts several times, and the statements that appear to be revealing about a phenomenon were highlighted. Themes were identified by highlighting material in the interview text that spoke to each respondent’s experience. The highlighted phrases or sentences were selected to capture as fully as possible what meaning the highlighted material conveyed (Patton, 1990). The quotes in this article represent typical points-of-view expressed by participants of the study.

3. Results
The following seven themes emerged from the data analysis: (1) student activism; (2) interdisciplinary education experience; (3) institutional resources, bifurcated into physical resource, such as library holdings, equipment, classroom/laboratory/office space and residential accommodation and human resources, such as lecturers’ professional development; (4) curriculum-based issues; (5) program planning and administrative support; (6) departmental status; and (7) departmental leadership. The findings under each theme are presented below:
3.1. Student activism

When asked about their memorable or remarkable experience, student activism was a recurring theme during the semi-structured interview. One study participant observed that:

... in 1974, our student association was renamed the Association of Undergraduate Physiotherapy Students to emphasize the point that we are being educated in a university setting and our education will culminate into a degree and not a diploma credential. We used the student organization deftly to promote our profession in private homes, churches, and markets within Ibadan metropolis and in advocating for improvement in the conditions of service for physiotherapists nationally. (UI alumnus #1)

Another study participant proudly opined that:

... we formed the National Association of Physiotherapy Students (NAPS) in 1979 and the chapters of the association were later launched in other Nigerian universities. We played a critical role in educating the society about physiotherapy. (UI Alumnus #2)

3.2. Interdisciplinary education experience

Taking their core medical science courses with medical, nursing and basic science students during the pre-clinical year of the physiotherapy education was another remarkable experience participants in the study touted. The quotes below are typical:

During the first year, we had high-caliber and world-class Lecturers like Professor Desalu and Professor Rao, in Anatomy, Professor Amure in Physiology and also Professor Basir in Biochemistry. We also had from the University of Southern California, a professor who came on sabbatical leave, he taught us neuroanatomy. I enjoyed having our lectures with the Medics (medical students) nursing and students majoring in anatomy, physiology, and biochemistry. The pre-clinical year education provided me with a strong footing in the basic medical sciences of human anatomy, human physiology, and biochemistry. Our anatomy course included cadaver dissection of the entire body except for the abdomen. We also took a course in Electro-physics that was taught by a lecturer from the Department of Physics. (UI Alumni #3)

Taking our anatomy, physiology and biochemistry classes with the medical students foster our personal relationship outside the classroom and gave us credibility and respect because the Medics realized “physios” are just as capable as they are. In the clinical year, my Medic friends were very inquisitive and always asking me what do you “physios” do? Almost 40 years later, some of my Medic friends and I still maintain a cordial relationship; they value my clinical opinion and see physiotherapists as a valuable member of the healthcare team and a professional. (UI alumnus #4)

Regarding their memorable experience in the clinical year, one participant had this to say:

... The overwhelming majority of the physiotherapists practicing in Nigeria at the time were diploma-credentialed (MCSP) graduates trained in the UK. There was resentment and envy from the UK trained physiotherapists as they often openly questioned the need for a university degree in physiotherapy. Unfortunately, the UK trained physiotherapists were our clinical instructors. It was a tense learning environment for us. For decades, there was the palpable rivalry between the UK trained physiotherapists and those of us with a university degree. (CMUL alumnus #2)

... My education provided intensive clinical experience in the hospital and community settings. In the final year, we were posted to Igboora for a week community health experience [Igboora is a rural community located approximately 80 km west of Ibadan with a population of about 60,000 people by 2013 estimate. The main occupations of the residents are farming and trading]. During our one-week immersion experience, we lived in the rural community and provided physiotherapy services at resident’s home, and also participated in preventative health care in the village clinic. (UI alumnus #1)
Another participant reported that:

... in addition to the Igboora experience, we spend another week of community posting experience in Lagos. This unique interdisciplinary experience allowed us to acquire valuable clinical experience in another urban setting and to interact in the classroom and clinical settings with our counterparts from the University of Lagos program. We received lectures in basic biostatistics and community physiotherapy practice under the aegis of Mr. Odia. We also received lectures on surgical management of fractures and participated in ward rounds led by Professor Jaja, an orthopedic surgeon. In addition, we were allowed in the orthopedic theater to observe, at close up, several surgical procedures. (UI alumnus #4)

3.3. Institutional resources
When asked about the infrastructures that contributed positively to learning, a participant in the study responded as follows:

... our educational system in the ‘80s was poorly funded during the draconic SAP [Structural Adjustment Program] that was foisted on the nation by General Babangida’s administration. There were no relevant physiotherapy books and journal subscription was irregular and limited in scope. Students depended on Lecturers to borrow their books and journals. We opened up our personal library to students. I lost the majority of my books in the process. (UI Alumni #3)

Students who graduated in the 1970s had a different experience. The quote below is a typical point of view shared by the participants:

The journals in our library were current ... the journals enabled us to read with excitement the opportunities for postgraduate education in Canada and the USA. Through the journals, my colleagues and I were able to observe the stark differences in the standard of physiotherapy practice and research in developed countries. The popular physiotherapy journals in our library at the time were: Physical Therapy (Official Journal of the American Physical Therapy Association), Physiotherapy Canada, Physiotherapy (Official Journal of the Chartered Society of Physiotherapy in the UK), and Australian Journal of Physiotherapy. (CMUL alumnus #1)

When the participants were asked about the instructional resources available in their library and classroom, the observations presented below captures their shared experience:

Our library journal holdings were very strong, but the physiotherapy books in our library were few and archaic. I enjoyed reading the available physiotherapy journals because it allowed me to evaluate the depth of the science of physiotherapy and clinical practice as it existed in the different countries around the world. I observed that as far back as the 1960 and 1970s, the Physical Therapy journal was publishing a broad range of empirically-based clinical and educational research studies. On the other hand, the Australian Journal of Physiotherapy, Physiotherapy Canada, and the UK Physiotherapy journals published primarily case studies and clinical opinions. This revealed to me then that physiotherapy education was more advanced in the USA than in any other country around the world. (UI alumnus #4)

As a student, we had to fight for everything ... needlessly and constantly we had to struggle (Aluta Continua, Victoria Acerta) for our basic right to a quality education ... it was a period of instability. Nothing was in place for the program ... classroom instructions took place in the physiotherapy Department of the hospital and were scheduled in the afternoons when treatment of patients has ended for the day. (UI Alumni #3)

When asked to discuss their negative or regrettable experience, the recurring theme from participants in the study was the perennial residential accommodation problem during their clinical year. A UI alumnus gave this detailed response:
We had no one to fight our battles. In 1977, we the final year students went to a professor of Obstetrics and Gynecology who also served as the Hall Master for Alexander Brown Hall to complain about our housing situation. The diminutive professor, his name will remain infamy, abruptly quipped that we should consider ourselves lucky because we should under normal circumstance not be housed in the same residence hall occupied by medical students. He basically dismissed us on that day, but we fought back later. We wrote letters, protested, demonstrated and had sitting sessions before the powers of the day finally listened to our complaints and took action. Several years later, this pompous professor suffered a stroke and had to be treated by the late physiotherapist icon, Pa Joshua Obiri. He was the most skillful neuro-physiotherapist in Nigeria at the time having received a one-year specialty training in stroke management from Canada. Following physiotherapy intervention, the professor’s recovery was a “miracle cure.” The erudite professor lived long enough after his recovery and he became a strong advocate for the physiotherapy profession. (UI alumnus #4)

Another UI alumnus shared his frustration pertaining to the inequities in the allocation of infrastructure at their university:

The disparities and inequities in the allocation of resources to the nursing, pharmacy, dentistry and physiotherapy academic programs are unconscionable and inexcusable.

3.4. Curriculum-related issues
When the participants were asked to comment on their experiences with the physiotherapy courses taught in the professional curriculum, two described their experience as follows:

The BS degree curriculum was completely inappropriate and not standardized. Although it was meant to be a degree program, the curriculum was redux of the MCSP from the UK. Our pre-clinical year was academically very tough. But my experience in the clinical year was like coming from a height and descending to a valley. The curriculum did not include contents in liberal arts, sociology, psychology or pharmacology. Mrs. Ajao showed us a movie on the “Eye of the Beholder” and that was all we had for the psychology content of the curriculum. (UI Alumni #3)

My experience with the professional courses in the curriculum was mediocre. In our clinical year, the standard primer textbooks were Electrotherapy and Actinotherapy and Tidy’s Massage. Unfortunately, Tidy Massage textbook recommended massage as a solution to almost every clinical problem. The prevailing conditions seen by physiotherapists were: poliomyelitis, cerebral palsy, stroke, lower-back pain, osteoarthritis, frozen shoulder, facial palsy, foot drop, talipes equinovarus, Erb’s paralysis, femoral, tibia and fibula fractures, and decubitus ulcers. (CMUL alumnus #2)

3.5. Program planning and administration
The quote below was a recurring theme when participants in the study were asked about their regrettable or negative experience:

Physiotherapy program was not fully developed, it was in its infancy ... many students were frustrated and wondered why they choose the profession. The general perception among us then was that the program was an afterthought. The human and physical resources available were meager and inadequate. The professional books were few and old. There were no formal advising sessions for students. There was no concerted effort for program review and evaluation to improve courses. (CMUL alumnus #1)

I was not adequately mentored and was not provided sabbatical leave opportunity to develop myself. As a junior lecturer who just completed a Master’s degree in exercise physiology, I was saddled with heavy teaching workload with the expectation to engage in scholarship and service activities. My HOD [Head of Department] never recommended me for further training to obtain my doctorate. I was very frustrated and I left for the USA in 1990. Today, I thank God that I have earned my post-professional DPT. (UI Alumnus #2)
Having an external examiner from North America was regarded as a positive experience. The quotes below are typical response from the participants:

I found this experience highly stressful and vexing at the time. We were shocked to have an examiner who is from the land yonder. In retrospect, I think it is a positive experience that is worth it. (OAU alumnus)

Boy, I was afraid and tensed during the practical examination, I was assigned a patient and was watched by the external examiner as I communicated and interacted with the patient during history taking, physical examination and when administering treatment to the patient. The external examiner asked me several questions pertaining to the pathophysiology of the patient’s diagnosis and the justification for the treatment that I selected. It was a good quality control measure adopted by the Department. (CMUL alumnus #2)

Physio was the only department in the entire Medical School that had foreign “oyinbo” external examiners. The other departments within our university had local external examiners. My Medic friends were very curious about my predicament and they were looking for me on the day of the exam. When the result was released and I passed, my friends were happy for me and we celebrated it in a big way. My friends all told me that I must be very smart to have passed an exam conducted by an “oyinbo” Professor from Canada. The experience gave our program credibility in the eyes of our Medic colleagues. (UI alumnus #1)

3.6. Department status and program credibility

When the opinion of the participants was sought on the effectiveness of their lecturers, there was unanimous agreement that physiotherapy profession was not well regarded within the academy at the time. The quotes below captured their shared perception:

Physiotherapy had an image and credibility problem. Mr. Oshin was powerless and does not have much influence within the academy. We felt abandoned. (UI alumnus #4)

Our physiotherapy lecturers did not have academic credential that is comparable to what lecturers in the other Departments have. (CMUL alumnus #1)

... Physiotherapy program at Ibadan and Lagos was not a full-fledged academic Department. At UI, Nursing was accorded a full Department status, but physiotherapy was a sub-unit in the Department of Surgery. At Lagos, physiotherapy was subsumed under the Department of Pediatrics. At OAU, a full-fledged Department of Medical Rehabilitation was created from the inception of the program in 1975. (UI Alumnus #1)

My experience at OAU as an Assistant Lecturer was interesting, pleasant and more uplifting compared to my undergraduate experience at UI. In 1983, I joined Professor Nwuga and his wife ... the only two lecturers in the Department. Some of the professors in our College gave me an appellation of “omo” (son) Nwuga. Professor Nwuga and his wife treated me with respect. They gave me time to complete my Master’s and Ph.D. in exercise physiology. I earned my doctorate from Ibadan in 1985. Life in the Department became more academically exciting when Mr. Olaogun joined us in 1985 and Dr. Balogun arrived from the US in 1986. Dr. Balogun mentored me in research and I joined myself hip-to-hip to him. The perception about our Department within the university changed as we forged research collaboration with our colleagues in the Departments of Medicine, Pediatrics, Community Health and Obstetrics and Gynecology. I traveled to Saudi Arabia in 1990 on a one-year sabbatical leave. (UI Alumnus #2)

Concerning your question on the image and credibility of our profession, we had zero clouts as a profession at the time. My assertion is based on a very unfortunate memorable experience that I will never forget in my life. In my role as the Editor of the JNSP, I was a member of the NSP Executive Council delegation that went to meet with the late Professor Olukoye Ransome-Kuti, then Federal Minister for Health, to agitate for the establishment of a regulatory board for our profession. The delegation was led by the late Professor Nwuga as the President of the NSP. Olukoye is a very arrogant man who talked down to us throughout...
the meeting; he would not allow anyone to get a word in; he was lecturing and did not give us the light of the day in making our case. He talked to us like small boys. We fought back and he mellowed towards the end of the meeting. The Medical Rehabilitation Therapists Board was created during his tenure in office, but Board did not meet our aspiration because other professions were included. (UI Alumni #3)

3.7. Leadership of the academic department

When the participants were asked to comment on the administrative effectiveness of their Head of Department (HOD), the responses below are a point of view they appeared to share in common:

Mr. Oshin was the Alpha and Omega physiotherapy lecturer ... and for decades he only had a BS degree. Other support staff teaching us clinical stuff like Mrs. Ajao, Mr. Kehinde, Mrs. Osula and Mr. Obiri were Chartered Physiotherapists trained in Great Britain; they do not have a university degree. I was downcast when we move from the main campus into the clinical year at UCH. If Mr. Oshin had left the country to pursue graduate studies, our program would have probably closed, because there was no other lecturer to fall back on. The university authorities had no plan B to fall on; it was unbelievable. (UI alumnus #4)

... we always accused Mr. Oshin for not fighting our battles and for not requesting for resources from the university authorities. In retrospect, I think our frustration was misplaced because he was not the academic Head of the Department. He was not appointed HOD because he did not have the minimum qualification (Master's degree) needed for the administrative position. He basically had no influence and clout to do anything but teach. Professor Oluwasanmi and later Mr. Lawson in the Department of Surgery was our HOD. Despite the difficult and hard position in which Mr. Oshin operated, he performed an incredible job as the sole lecturer. It is an eternal credit to him that we all graduated and at the end, we all turned out well despite the odds that we faced at the time, boy. (UI alumnus #1)

Other participants expressed the following contrary opinion on the effectiveness of the program leadership:

If Mr. Odia had made a strong case requesting for one year educational leave of absence to Professor Olikoye Ransome-Kuti, who was at the time the Head of Department of Pediatrics and his boss or to the Dean of the Medical School or the Vice-Chancellor, the administration would have found a way to let him go for his postgraduate studies by hiring qualified lecturers from Canada or the USA to run the program. (CMUL alumnus #2)

When the participants were asked if the time is ripe to transition the existing entry-level BSc education to a DPT degree, they made the following observations:

DPT education is long overdue in Nigeria. For our graduates to be able to compete globally, this is the opportune time to upgrade our BS curriculum to a DPT degree that is tailored to meet our peculiar need and culture. We cannot afford to be aloof ... or else we will be left behind by the rest of the world. (CMUL alumnus #1)

Everything in Nigeria is political and at times not based on merit. We need to do everything we can to ensure that DPT becomes our entry-level education. (OAU alumnus)

In response to the question regarding their perception about the DPT, the participants unanimously agreed that DPT education provides the best pathway to accelerate the professionalization of physiotherapy in Nigeria.
4. Discussion
This study is the first attempt to systematically investigate the early years of physiotherapy education in Nigeria. Our findings revealed that physiotherapy students of that era shared some positive experiences about their education, but also noted multiple challenges, both of the experiences are presented below.

4.1. The positive aspects of the first two decades of physiotherapy education in Nigeria
Participants in the study reported some positive recurring themes: the use of student organization as a platform to promote the role of physiotherapy in healthcare; interdisciplinary education curriculum; strong basic medical sciences content; up-to-date journal subscription in the university libraries; unique clinical experience in community settings; and use of external examiners. Observations made by the first graduate of the UI physiotherapy program corroborated the recurring positive experiences reported in this study (Eni, 2015).

Participants in this study were overwhelmingly positive about their experience taking the basic medical science classes with the medical students. They believe the learning experience fostered their personal relationship with the other members of the healthcare team. They contended that their peers who trained as physicians value their clinical opinion as a healthcare professional.

The only OAU alumnus in the study was of the opinion that their educational program was conceived by visionary leaders who invested capital in human development and physical resources before the program was launched. From the get-go, he affirmed that the OAU program was accorded a full-fledged department status and provided with a spacious classroom, a gymnasium, workable electrotherapy laboratory, and adequate faculty/staff office spaces. According to Eni (2015), the founding dean of the College of Health Sciences at OAU, the late Professor T. Grillo, in 1974 hired Mr Vincent Nwuga and Eni himself as the pioneer lecturers. He recalled that he and Mr Nwuga were provided the opportunity to earn their postgraduate degrees from Canada and USA, respectively, at a time when none of the lecturers in Nigeria had a Master’s degree. Professor Grillo later mentored Mr. Nwuga and supervised his doctoral dissertation. In 1977, Mrs Peju Nwuga joined the department and was awarded a study leave in 1979 to earn her Master’s degree in physical therapy from Boston University, USA (Eni, 2015).

The physiotherapy program alumnus in the study recalled that the academic work environment at OAU was “positive and stimulating.” According to the alumnus, the founding HOD (the late Professor Vincent Nwuga) was assisted by another lecturer (Mrs Peju Nwuga) with a Master’s degree in physical therapy. A UI alumnus who was employed at OAU in 1983 maintained that Dr (at the time) Vincent Nwuga and the three lecturers in the department were highly regarded by their peers within the College of Health Sciences. He noted that Dr Joseph Balogun joined the faculty in 1986 and served as the coordinator of the first postgraduate program in physiotherapy in Nigeria. According to him, “all the OAU lecturers all had active research agenda with impressive publication track records.” The OAU alumnus also noted that their “curriculum provided courses in liberal arts, social sciences including psychology, and basic manipulation of the spine.” The BSc curriculum contents at OAU, published in the College of Health Sciences’ catalog (University of Ile-Ife, 1984–1986), was fashioned along the baccalaureate physical therapy degree programs offered in Canadian and American universities at the time.

4.2. The pitfalls of the first two decades of physiotherapy education in Nigeria
The findings from this study revealed that the early years of physiotherapy education in Nigeria witnessed several tempestuous streaks. Participants in the study overwhelmingly reported a set of disconcerting experiences, including: lack of adequate strategic planning before launching the programs, an occurrence which resulted in students having to agitate for basic infrastructure, such as classroom/laboratory space and residential accommodation; inequities and disparities in the allocation of university-wide resources; lack of a bona fide academic department; faculty-related issues like lack of postgraduate degree credential by the presumptive HOD, lack of educational leave
opportunities to pursue postgraduate degrees, lack of research agenda by the lecturers, and perceived negative program image; curriculum issues like the limited scope of professional (clinical) contents, and lack of ongoing program assessment. The major pitfalls noted in this study are consistent with the participant-observer account provided by the first graduate of the UI physiotherapy program (Eni, 2015).

Several of the participants from UI and CMUL affirmed that the physiotherapy department had “no authentic presence” within their university. Unlike OAU, the UI and CMUL physiotherapy programs were administered by a de facto administrator from another academic department within the Medical School. The UI and CMUL alumni conveyed that their university administrators did not consider it necessary to provide educational leave opportunity to the physiotherapy lecturers to enable them seek postgraduate education, like their colleagues in the other departments within the university. The UI and CMUL alumni stated that their respective universities hired only one lecturer to teach all the physiotherapy courses. The lecturers in both universities were assisted by diploma-credentialed physiotherapists to teach specialty courses such as massage, kinesiology, and exercise therapy.

According to Dr Abayomi Oshin (1986), both the Bachelor of Science degree programs in nursing and physiotherapy were approved, in 1964, at the same meeting by the UI Senate. Nursing program commenced in 1965 and in 1966 the University of Ibadan constructed a building to create faculty offices, classrooms, and laboratories for the nursing program on the main campus. Conversely, the physiotherapy program had no building of its own until several decades later. Dr Oshin (1986) reported that the Polio Research Fund in England, through the Permanent Secretary of the Federal Ministry of Health in Lagos, pledged £20,000 for the establishment of a “School of Physiotherapy” at the University of Ibadan, which he indicated, was “earmarked for building and equipment.” The first cohort of two students was admitted into the program in 1966, but it is unclear what happened to the £20,000 since the proposed building at the University never materialized. Between 1966 and 1974, admission into the physiotherapy program at the University of Ibadan was limited to two or three students each year. This situation changed in 1974 when 12 students were admitted. The following year, in 1975, 20 students were admitted.

Unlike OAU, both UI and CMUL had limited physical and human resources. As a result, between 1966 and 1973, instructions in physiotherapy at UI were held in the private office of the lecturer (Eni, 2015). With increased enrollment in 1974, instructions in physiotherapy were held in available makeshift space (demarcated areas with chalk board) within the Physiotherapy Department of the University College Hospital (Adegoke, 2015; Oshin, 1986). According to Adegoke (Adegoke, 2015), nothing was done by the university authorities to address the space issue until 1982 when an abandoned dilapidated space, an old College Administration facility that had fallen out of use, was allocated to the physiotherapy program. Still, it was not until 2005, 39 long years later, that the facility was refurbished to create faculty/staff offices and a decent learning environment for the physiotherapist students. And it was not until 2008, 42 long years after the program was initiated, that a befitting building for the department was commissioned (Adegoke, 2015). A CMUL alumnus also asserted that they received instructions in makeshift space (demarcated by hospital screens) within the Physiotherapy Department of the University of Lagos Teaching Hospital.

According to published reports, the nursing program at the University of Ibadan which started in 1965 was immediately accorded a full-fledged department status (Adegoke, 2015; Oshin, 1986). Conversely, the physiotherapy program which started in 1966 was not accorded a department status until 1981. Similarly, the dentistry and pharmacy programs, which started two decades after the physiotherapy program, were accorded a “School” status from the inception, with several breathtaking buildings to boot within the university campus (Adegoke, 2015; Oshin, 1986).

Other shortcomings of the UI and CMUL programs that participants in the study recounted were the limitations in the scope of the professional curriculum and the educational qualification of their lecturers. A CMUL alumnus noted that their curriculum had “no contents in liberal arts and social
A UI alumnus asserted that “the didactic content of our physiotherapy courses were primarily in: bandaging, massage, exercise therapy, pulley systems, splint fabrication with Plaster of Paris, Electrotherapy, Actinotherapy, and physical agents, diathermies, ultrasound and whirlpool.”

According to the participants, the lecturers at UI and CMUL had an image and credibility problem because they do not have similar educational qualifications as their colleagues within the professoriate. A UI alumnus noted that the “BS degree was the highest academic qualification that our sole lecturer had, compared to the doctorate (PhD, MD and fellowships) degrees held by the lecturers in the other departments within the university.” Another UI alumnus stated that the highest academic rank attained by their sole lecturer was “Lecturer II.”

A UI physiotherapy alumnus observed that their lecturer was incapable of publishing his work in peer-reviewed journals and physiotherapy “was generally perceived by other lecturers in our Medical School as a mediocre profession.” He added that certain academicians at UI also exploited their unfortunate situation to oppress them (students) and their lecturer. Another UI physiotherapy alumnus noted that the tension and rivalry between the physiotherapy lecturer (Mr Oshin) and the defacto program administrator (Mr Lawson) “was unfairly used to marginalize us students, especially in the allocation of single rooms in the residential halls by Professor Vincent Aimaku.”

The opinions of the alumni on the effectiveness of program leadership were mixed. Three UI and one CMUL alumni opined that their lecturers did their outmost best to keep the physiotherapy program opened. They considered the lecturers at UI (Mr Oshin) and CMUL (Mr Odia) as “heroes” because they put the interest of the profession above their own personal development. The other three UI and CMUL alumni disagree, contending that their lecturers did not put adequate pressure on the university authorities to drive home their demand for educational training leave. Their lack of advanced degree, the CMUL alumni indicated, “negatively impacted our image and credibility and slowed the development of our profession in Nigeria.”

A pertinent question here would be: who are the administrators in charge of the three pioneering universities—UI, CMUL and OAU—during this era? According to published information on the UI webpage (College of Medicine, University of Ibadan, 2017), the Vice-Chancellors (equivalence of a President in American universities), during the early years of physiotherapy education at UI were: Professor T. Adeoye Lambo (1967–1971), Professor Horatio Orisegolomi Thomas (1972–1975), Professor Tekena N. Tamuno (1975–1979), Professor Samuel O. Olayide (1979–1983), and Professor L. Ayo Banjo (1984–1991). The deans of the Medical School at UI were: Professor Odeku, Professor Kayode Oshuntokun (1970–1979), and Professor Oluwole Akande (1980–1984). Between 1966 and 1986, the defacto Head of Department (HOD) of Physiotherapy were orthopedic surgeons in the persons of Mr. Richard Professor Oluwasanmi and Mr Lawson. Eni (2015) described Mr Richard as a “hands-on and caring administrator.” A UI alumnus described Mr Lawson as “an aloof administrator who considered us a burden and only met with us when there was a crisis.”

Archival information on the CMUL webpage (College of Medicine, University of Lagos, 2017) did not contain any useful historical information on the university’s past administrators at the College level. One of the CMUL alumni in the study noted that the late Professor Ransome Kuti, a pediatrician, was the appointed defacto HOD of Physiotherapy when he was still a student in the 1970s. The webpage of the University of Lagos (Past & Present Vice Chancellors, of Unilag, 2015) identified the Vice-Chancellors at the institution during that era as: Professor Akinpelu Oludele Adesola, 1981–1988; Professor Babatunde Kwaku Adaodevoh, 1978–1980; Professor Jacob F. Adeniyi Ajoyi, 1972–1978; Professor Saburi Biobaku, 1965–1971.

Information on the OAU webpage (Omale, 2007) identified the following individuals as Vice-Chancellors at the university: pioneer Vice-Chancellor, Professor Oladele Ajose, 1966; Professor H.A. Oluwasanmi; Professor Ojetunji Aboyade; Professor Onwumechili; and Professor Wande Abimbola, 1990.
4.3. The state of physiotherapy education in Nigeria today

Nigeria is the most populous country in Africa with a population of 174,507,573 people within a landmass of 910,768 km², about two times the size of California in the United States. The country is ranked the 21st largest economy in the world in gross domestic product (West Africa, 2016). As of 2015, Nigeria has a total of 141 universities, 40 of which are owned by the Nigerian national government, 40 by the states, and 61 privately-owned. Of these 141 universities in Nigeria, only 12, representing 8.5% of the total number, have physiotherapy among their offerings (Fapohunda, 2016).

The shortcomings observed during the early years of physiotherapy education in Nigeria no longer exist today in the three pioneer universities. The positive development may be partly due to the change in the program leadership in the three universities. Following the retirement of Dr Oshin at UI in 1990, he served for 24 years as the pioneer lecturer and later became the substantive HOD after he obtained his doctorate; he was succeeded by Dr Arinola Sanya, a 1976 alumnus of the program (Adegoke, 2015). Dr Sanya rose through the academic ranks and became a full professor in 2000. In 2012, she was appointed Deputy Vice-Chancellor and served in that position for one year (Nigeria Physiotherapy Network, 2017a). At CMUL, Professor Odia also retired in December 2000 and was appointed as the pioneer Chairman of the Medical Rehabilitation Therapist Board. He served in that role for 9 years; and later served on the Board until his death in 2015 (Nigeria Physiotherapy Network, 2017b). Professor Odia was succeeded by Dr Isaac Owode, an alumnus of the UI physiotherapy program (Nigeria Physiotherapy Network, 2017b). At OAU, the late Professor Vincent Nwuga (Nigeria Physiotherapy Network, 2017c) was succeeded by Professor Mathew Olaogun, another alumnus of the UI physiotherapy program (Nigeria Physiotherapy Network, 2017a).

Fortunately, the three “first generation” physiotherapy programs at UI, CMUL and OAU have flourished and have developed postgraduate (MS and PhD) programs (Balogun, Mbada, Balogun, & Okafor, 2016b). Today, physiotherapy is accorded full-fledged academic department status in all the universities that offer this program. A recent comparative study by Balogun and associates (Balogun, Mbada, Balogun, & Okafor, 2016b) revealed that the majority (59%) of the physiotherapy lecturers in Nigeria hold PhD degrees, 32% Master’s (MS), and only 9% baccalaureate (BS) degrees. The study compared the academic profiles of Nigeria’s faculty to their USA counterparts where approximately 46% of the faculty holds PhD degrees, 14% held professional doctorates (EdD DrPH, DSc, etc.), 15% had MS degree, 23% were Board certified, and 2% had “other” degrees. The study concluded that “overall, the educational qualification of the lecturers in Nigeria is at par with their counterparts in the USA.” This finding is surprisingly optimistic, given the pitfalls in the first two decades of physiotherapy education in Nigeria.

Another area where reckonable progress occurred is the increased number of student enrollment in the 12 universities currently offering physiotherapy education programs in Nigeria (Balogun et al., 2016a). Over the 50 years since the inception of physiotherapy education in Nigeria, universities in the country with programs in the field have produced 5,050 graduates, of which 4,748 received entry-level Bachelor’s degrees, 325 post-professional Master’s, and 50 PhD Currently, 2,038 undergraduate, 160 MS, and 42 PhD students are enrolled in the various universities (Balogun et al., 2016a). These developments have no doubt improved the overall image of the profession in the academy and in the society at large, as well as bode well for the future of physiotherapy profession in Nigeria.

4.4. Implications of the study

The findings from this study provided a contextual framework to examine the strategies, status, and future prospects of physiotherapy education in Nigeria. Several pertinent lessons can be drawn from the outcomes of this study. One of these is the seeming abandonment of the interdisciplinary education curriculum that took roots in the three pioneer universities that formed the object of this paper in many of the newly established universities. Little wonder, therefore, that the level of inter-professional conflict among the healthcare professionals in Nigeria is at an all-time high. The health sector is currently besieged with disharmony and court cases (John, 2016). Two major factions embroiled
in the crises are the Nigerian Medical Association, and the Joint Health Sector Unions. Perceptive commentators attribute the origin of the disharmony to inferiority complex, greed, authoritarian dominance of the medical profession, as well as some physicians’ inadequate understanding and appreciation of the unique complementary roles of the other members of the healthcare team (John, 2016).

Based on the health model, interdisciplinary education is known to create a positive learning environment for students from different disciplines to learn to collaborate toward the ultimate goal of improved patient care and outcomes (Singleton, 1998). We posit that the infusion of interdisciplinary education in the curriculum of all medical and health sciences programs in Nigerian universities may be a panacea in sanitizing the health sector. It is expected that the implementation of interdisciplinary education model will decrease the age-long stereotyping while improving the quality of communication among the members of the health care team (Katz, Titiloye, & Balogun, 2001). Improved communication will modulate the disharmony among health workers; improve the overall effectiveness of healthcare services in Nigeria (Katz et al., 2001; Singleton, 1998).

The findings from this study underscore the need to develop a robust strategic plan before launching a new physiotherapy education program. Planning and implementing physiotherapy education program must include: securing a dedicated physical building with adequate space for classrooms, laboratories, and office spaces, as well as purchase of instructional devices, and research equipment to create a positive learning environment for students. The head of department must, at a minimum, be a senior lecturer in academic ranking (Balogun et al., 2016b). This will enable them have the same privilege and clout with their colleagues in the other academic departments.

The findings from this study also demonstrate the need for effective processes for instructional and professional development, signified by opportunities for study leaves and sabbaticals for junior lecturers. Implementation of these recommendations will prevent some of the negative experiences expressed by one of the UI alumnus who also held a faculty appointment at OAU during the time span of the study.

One of the shared negative experiences expressed by some participants in the study was the lack of mentoring and program evaluation. Regarding the latter, the culture of rigorous program evaluation and assessment of student learning is still at its infancy in Nigeria and this practice should be promoted in all the physiotherapy programs. The feedback provided by external examiners can be used as a key performance indicator and for curriculum modification.

Participants unanimously agreed that the entry-level doctoral education that was vociferously advocated by Balogun (2015), in a 2015 keynote speech at the 55th annual conference of the Nigeria Society of Physiotherapy, provides the best pathway to accelerate the professionalization of physiotherapy in Nigeria. To actualize this recommendation, the Nigeria Society of Physiotherapy and the Medical Rehabilitation Therapist Board must continually use their organizational wherewithal and professional influence to mount political pressure on the National University Commission to approve the proposal to transition the entry-level physiotherapy education from baccalaureate degree to DPT.

In many parts of the world, there is a strong desire to elevate the entry-level education for physiotherapists to doctoral level (Balogun, 2015; Balogun et al., in press). Unfortunately, in developing countries, the desire to establish entry-level DPT education is constrained by economic realities. To make DPT education available and affordable to physiotherapists in developing countries, international collaborations and partnerships with institutions in developed countries may need to be explored to assist in establishing new programs or strengthen the existing curricula (John et al., 2012).

4.5. Limitations of this study
An attempt was made to include both genders in this study, but was unsuccessful because of the paucity of women physiotherapists who met the study criteria. Given the occurrence, the external
validity of the findings in this study necessarily is limited to men. To this date, worrisomely, the practicing physiotherapists and faculty workforce in Nigeria are dominated by men, who made up 72% of university lecturers (Balogun et al., 2016b), and 63% of practicing physiotherapists (Odebiyi & Adegoke, 2005). This result compares unfavorably with the situation in developed countries where, both in the clinical and academic settings, women dominate the physiotherapy profession (American Physical Therapy Association, 2011; Davies, 1990).

This study is not a true experimental research design. Being a qualitative research design, the sample size is small and the participants chosen for the study were selected purposively, rather than randomly. Purposive sampling has limitation that is fraught with selection bias. Given the above limitations, findings from this study should be interpreted with caution. For example, as indicated before, our results cannot be generalized to represent the opinion of women physiotherapists.

5. Conclusion
Participants in the study pinpointed more challenges and negative experiences than strengths and positive experiences. The early years of physiotherapy education in Nigeria witnessed some positive achievements tracked by tumultuous challenges that took decades to resolve at times long after the effects of the positive achievements had waned or dissipated. The findings in this study can form an important starting point as a template for planning a successful physiotherapy education program in Nigeria.

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Author contributions
Joseph A. Balogun (JAB) conception and design, conducted the interviews and participated in data analysis.
Adetutu O. Balogun (AOB), literature review, transcribed the recordings of the interviews; and participated in data analysis.
Philip Aka (PA) participated in the development of the interview questions; read and edited all the different drafts of the manuscript; and compiled the references.
Victor A. Obajuluwa (VOA) participated in the development of the interview questions; read and edited all the different drafts of the manuscript.

Competing Interests
The authors declare no competing interest.

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Cover image
Source: Author.
University of Ibadan (left), College of Medicine (middle), University of Lagos (right)

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