

Clinical specialization in Physiotherapy practice in Nigeria: perception of Nigerian physiotherapists and recommendations for adequate implementation

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Abstract

Background: Nigeria needs more physiotherapists to be able to meet Nigeria's growing demand. However, as much as there is a need to increase the number of practicing physiotherapists in Nigeria, more important issue to be tackled is the quality of care offered by these professionals. The ripple effect of these deficiencies and misconceptions about physiotherapy specialization in Nigeria is expected to have a negative impact on professional development, clinical and academic practice, as well as patient care and satisfaction.

Aims: This study aimed to evaluate the perception of Nigerian physiotherapists on the physiotherapy specialization process and practice, as well as their recommendations for adequate implementation.

Material and methods: Using a modified Dillman Approach, a cross-sectional survey was conducted with 235 physiotherapists. The questionnaires were tailored to the specific issues addressed in

the study. Data were collected and summarized using descriptive statistics such as mean, standard deviation, frequencies, and percentages.

Results: Respondents indicated that physiotherapy specialization in Nigeria will positively impact healthcare delivery (32.2%) and the general outlook of the profession (32.3%). Respondents appeared to agree on the involvement of academic institutions (13.2%) and residency programs (11.9%) in the process of becoming a clinical specialist. They believed that increased awareness

Key words

physiotherapy, specialization, perception, clinical training, Nigeria.

(7.2%), changes in healthcare laws and policies (5.5%), as well as the adoption of national standards of practice (5.1%), will promote the practice of physiotherapy specialization in Nigeria.

Conclusions: The results of the survey showed that Nigerian physiotherapists are willing to undergo clinical specialization training. However, Nigeria currently has no well-defined standards of

practice for clinical specialists, as well as a generally accepted means of attaining clinical specialization. It was recommended that awareness of specialization within the profession is increased, and that the profession's regulatory and governing bodies actively participate in setting national standards of practice within the profession.

Introduction

Globally, there has been an increasing demand for physiotherapy services at a much higher rate than was observed in the last decade. In Nigeria, the demand for physiotherapy services became high after the civil war, prompting a demand for training more people in the profession [1]. According to Balogun et al. [2], there are currently only 2,000 physiotherapists in Nigeria, which amounts to one physiotherapist for every 86,800 citizens. Mbada et al. [3], also concluded that Nigeria needs more physiotherapists to be able to meet Nigeria's growing demand. However, as much as there is a need to increase the number of practicing physiotherapists in Nigeria, more important issue to be tackled is the quality of care offered by these professionals. Given the increasing number of individuals in need of physical therapy, as well as the growing complexity and breadth of physiotherapy, there has been an expansion of specialized areas of practice to provide greater patient care with regard to recovery time, risk of occurrence, and appropriate management of the condition. [4].

Most countries around the world have adopted various academic qualifications that serve as minimum entry requirements for physiotherapy clinical practice in order to improve the quality of care delivered by physiotherapy professionals. These include a bachelor's degree in most countries, but also the Doctor of Physiotherapy (DPT) in several others, for instance, the United States of America (USA), Canada, or Nigeria. However,

the success of improved patient care may not be fully achieved by obtaining these preliminary degrees, but rather by diversifying across specialties and expertise. Donaghy and Gosling [5], observed, as early as in the 90s, growing demands and opportunities for specialization in physiotherapy.

World Physiotherapy (WPT) defined a clinical specialist in physiotherapy as a medical professional who can demonstrate advanced clinical competence in physiotherapy through meeting the requirements of relevant procedures for formal recognition of knowledge and skills by an association or its accredited representative [6]. These procedures include clinical experience in a specialized area of practice, continuing professional development activities, and evidence-based practice [6]. Standardized physiotherapy specialization practice has been ongoing in countries such as the United States, Canada, and Australia, among others, since the 1970s [7]. Specialization through clinical residency in physiotherapy helps to improve knowledge, psychomotor and clinical reasoning skills amongst physical therapists, which invariably creates room for enhanced patient care outcomes and general health care delivery [8]. Therefore, it is apparent that clinical specialization in physiotherapy is one of the necessary strategies given the demand for clinical expertise.

To the best of the researchers' knowledge, the practice of physiotherapy specialization in Nige-

ria has been far from being standardized with no standard practice guidelines for becoming a clinical specialist as well as an unclear career path for the few available specialists. It is not an overstatement to say that the need for clinical physiotherapy specialization in Nigeria is long overdue, given our yearning concerns for improved patient care and satisfaction. It is common practice among Nigerian physiotherapists to award clinical specialist titles to individuals who have spent a significant number of years in the specialty, based on their years of experience, without any formal evaluation process. On the other hand, some others consider their postgraduate academic qualifications in physiotherapy (master's and doctoral degrees) as their qualifiers for physiotherapy specialization. For most of these "presuming" specialists and other general practitioners, who have not assumed any specialization, the absence of a clear definition of roles results in an attempt to treat all conditions, which more or less creates no room for specialization. As a result, there is a shortage of specialists in some areas of physiotherapy and no clear guidelines for physiotherapists interested in specializing in these areas.

Besides the lack of standard guidelines and procedures for physiotherapy specialization in Nigeria, there is also an ongoing failure to recognize therapists who have received specialized training by other means and/or in other countries. Anecdotally, we have observed that this nonrecognition of expert therapists has further resulted in a lack of interest in pursuing specialization among many therapists. Most, therefore, consider specialization to be a waste of time and resources, which further contributes to the shortage of specialists. The ripple effect of these deficiencies and misconceptions about physiotherapy specialization in Nigeria is expected to have a negative impact on professional development, clinical and academic practice, as well as patient care and satisfaction. To tackle this predicament, the development of processes leading toward creation of guidelines and implementation of physiotherapy specialization in Nigeria is necessary. Drawing on experi-

ence from other countries will be instrumental in achieving this objective. However, this may not be the only suitable solution, as the perceptions of Nigerian physiotherapists on the implementation of physiotherapy specialization in the Nigerian context will be of additional importance. Therefore, this study was designed to determine perceptions of physiotherapy specialization among Nigerian physiotherapists, their perceived barriers to the process, and recommendations for the development and implementation of standard specialization guidelines.

Materials and methods

This cross-sectional study was designed in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist [9]. The study was conducted at the University of Southampton, Nigeria, between March and August 2021.

Participants

Using the sample size calculation formula for a finite population [10], a sample size of 375 was obtained for this study at the 95% confidence level, and the total number of Nigerian physiotherapists was 6,071 (Data was obtained from the Medical Rehabilitation Therapists Board of Nigeria, MRT-BN). However, 235 conveniently selected physiotherapists from different geographical locations in Nigeria completed this cross-sectional study (see the respondents' flow chart, Figure 1). All participants were qualified physiotherapists. We only selected registered physiotherapists working in accredited healthcare and academic institutions in Nigeria. Physiotherapists who had obtained formal physiotherapy specialization in countries outside Nigeria were excluded to avoid biased responses based on their knowledge and experiences from abroad. Participants were conveniently selected from different states in Nigeria, based on their availability and willingness to participate in the study. Informed consent was obtained from participants after providing clear information and

an explanation of the procedure and purpose of the study. Ethical approval was obtained from the College of Medicine Research Ethics Committee (COMREC), University of Southampton. We ensured confidentiality and the right to withdraw throughout the duration of the study.

Research instruments

Yardley's et al., questionnaire [11] consisting of open- and closed-ended questions, was adopted. The questionnaire was modified to suit the objectives of our study, thus increasing the number of sections to five (sections A through E), as compared to the four sections included in the original version. Section A focused on respondents' sociodemographic and professional characteristics; section B sought their perspectives on clinical specialization; sections C and D assessed their perceptions of the impact of clinical specialization on patient care and opinions on the processes of becoming a physiotherapy specialist, respectively. Furthermore, section E explored their perception of the barriers to attaining a psychotherapy specialization in Nigeria.

Data collection procedure

This study employed a mixed approach to data collection. Face-to-face administration and online distribution of the questionnaire through e-mail and other social media platforms (WhatsApp and Facebook) were utilized. For the former, physiotherapists in areas accessible to the researchers were asked to fill out a questionnaire at their workplaces. They constituted a smaller percentage of the sample, as the majority of the respondents were reached via e-mail and social media platforms. An online version of the questionnaire was created, and a link was shared with 20 WhatsApp and Facebook groups that included Nigerian physiotherapists. Those physical therapists who were identified as being absent from social media platforms were sent the questionnaire individually through e-mail.

Data analysis

Descriptive statistics of frequency and percentages were used to summarize and present the obtained data. Data were analyzed using the Statistical Package for Social Sciences software version 24 (SPSS Inc. Chicago, U.S.A).

Results

Two hundred and thirty-five physiotherapists participated in this study. More than half of the respondents were men (53.6%). Most of the respondents were between 26 and 40 years old (76.2%) and held bachelor's degrees in Physiotherapy (70.6%). More than half of the respondents were full-time employees (66.8) and had an experience of more than five years (54%). Less than half (35.8%) of the respondents had their primary appointment in a tertiary health institution owned by the federal government, while 65.9% of all respondents had a secondary appointment in a private facility. Most participants were senior physiotherapists (22.1%) and with musculoskeletal physiotherapy specialties (28.1%) (**Table 1**).

When asked if they had completed formal training in their area of specialization (**Table 1**), the majority ($\approx 70\%$) had no formal training in their preferred area of specialization. Of those who completed continuing professional development programs (53.8%), the majority (88.2%) accumulated 98 hours of continuing education. Less than half of the respondents (44.7%) perceived themselves as clinical specialist, however, more than half (67.7%) of the respondents indicated an interest in specializing in physiotherapists (**Table 1**).

Most of the respondents indicated that clinical specialization would lead to the provision of a more defined scope of practice (97%), improved clinical reasoning skills (97%), greater recognition of physiotherapy within the Nigerian healthcare system (93%), and greater earning potential (87%) (**Table 2**).

Table 1. General Characteristics of the Respondents (n=235).

Variable	Options	Frequency	Percentage
Gender	Male	126	53.6
	Female	109	46.4
Age (years)	<25	26	11.1
	26-40	179	76.2
	>40	30	12.8
Highest educational qualification	Bachelors	166	20.6
	Masters	50	2.3
	Doctorate	19	8.1
Duration of practice as a physiotherapist (years)	0-5	108	46.0
	6-10	68	28.9
	11-15	37	15.7
	>15	22	9.4
Percentage of time of clinical practice (%)	None	8	3.4
	1-25%	46	19.6
	26-50%	50	21.3
	51-75%	54	23
	76-100%	77	32.8
Current employment status	Full time	157	66.8
	Part time	52	22.1
	Both full and part time at two different workplaces.	1	0.4
	Contract	1	0.4
	Corper	1	0.4
	Free lance	1	0.4
	Intern	8	3.3
	Unemployed	5	2.1
	NYSC	1	0.4
	Private practice (self-employed)	8	3.5

Primary place of employment	Federal	84	35.8
	Secondary	44	18.7
	Private	64	27.3
	Academic	38	16.2
	Institution	5	2.1
Secondary place of employment	Federal	27	11.9
	Secondary	17	7.2
	Private	157	65.9
	Academic	13	5.5
	None	22	9.3
Job rank at primary place of employment	Intern PT	30	12.7
	Corp member PT	26	11.1
	Assistant PT	22	9.4
	Senior PT	52	22.1
	Principal PT	29	12.3
	Chief PT	19	8.1
	Assistant director	1	0.4
	Deputy director	4	1.7
	Graduate assistant	2	0.9
	Assistant lecturer	1	0.4
	Lecturer II	19	5.5
	Lecturer I	9	3.8
	Senior lecturer	6	2.6
	Reader	3	1.3
	Professor	2	0.9
	Director	1	0.4
	Head physiotherapy	1	0.4
	Not applicable	14	5.7
	Specialist area in physiotherapy	Neurology/mental health	53
Paediatric		66	28.1

Specialist area in physiotherapy	Musculoskeletal	22	9.4
	Cardiopulmonary	10	4.3
	Geriatric	3	1.3
	Community-based	1	0.4
	Ergonomics	14	6.0
	Sports and recreation	29	12.3
	Women's health	1	0.4
	HIV, oncology and palliative care	1	0.4
	Orthopaedics and sports	0	0
	All	1	0.4
	None	22	9
Formal training in specialty area completion	Yes	71	30.2
	No	164	69.8
Completed continuing education	Yes	111	47.2
	No	124	52.8
Number of hours of continuing education (n = 111)	<10	98	88.2
	>10 or =10	9	8.1
Perception of being a clinical specialist	Yes	105	44.7
	No	93	39.6
	Not sure	37	15.7
Interest in becoming a clinical specialist	Yes	157	67.7
	No	5	2.1

The majority of respondents agreed that clinical specialization would improve patient outcomes (98.3%), patient satisfaction (98.7%), timely access to coordinated quality care (94.9%), and cost-effectiveness (83.8%) (Table 3).

The majority of the respondents agreed that substantial clinical experience in the field should serve as an eligibility criterion for clinical specialization (83.0%), that clinical/practical courses

should also be part of the specialization process (98.3%), that both academic institutions (86.0%) and professional associations (75.7%) have critical roles to play in the specialization process, and that research (88.5%) and continuing professional development (92.3%) should be an integral part of the process. In contrast, most (97.0%) disagreed that specialization processes should be based on Fellowship and mentorship programs (Table 4).

Table 2. Respondent’s perception of the impact of clinical specialization on the professional development of Nigerian physiotherapists.

Variable	Disagree n (%)	Agree n (%)
Provision of a more defined scope of practice within the Nigerian healthcare system	7 (3.0)	228 (97.0)
Provision of enhanced clinical reasoning skills	7 (3.0)	228 (97.0)
Providing physiotherapists with greater recognition within the Nigerian health care system	16 (6.8)	219 (93.2)
Increased cost to the Nigerian health care system	169 (71.9)	66 (28.1)
Providing physiotherapists with greater earning potentials	30 (12.8)	205 (87.2)
Providing physiotherapists with less autonomy	207 (88.1)	28 (11.9)
Creation of hierarchy within the physiotherapy profession	69 (29.4)	166 (70.6)
Alteration of the role of the general practitioner	141 (60)	94 (40)

Table 3. Respondents’ perceptions of the impact of clinical specialization on patient care outcomes in Nigeria.

Variable	Disagree n (%)	Agree n (%)
Improvement of patient outcomes	4 (1.7)	231 (98.3)
Increase in general patient satisfaction	3 (1.3)	232 (98.7)
Allowing timely access to coordinated quality care	12 (5.1)	223 (94.9)
Offering cost effective patient care	38 (16.2)	197 (83.8)

Respondents' perceived barriers to physiotherapy specialization are presented in **Table 5**. The four most common perceived barriers to the specialization process were the lack of standard practice guidelines for each physiotherapy specialty practiced in Nigeria (85.5%), and lack of mentorship

and guidance toward becoming a physiotherapy specialist (77.9%), the lack of adequate remuneration at the end of the specialization process (74.9%) and the lack of educational curriculum outlining the training scope also for different specialties (74.5%).

Table 4. Respondents' perception of the processes for becoming clinical specialists.

Variable	Disagree n (%)	Agree n (%)
Substantial clinical experience in respective area as an eligibility criterion for specialization process	40 (17.0)	195 (83.0)
Clinical/practical courses as an essential part of the process	4 (1.7)	231 (98.3)
Academic institution having a critical role in the process	33 (14.0)	202 (86.0)
Research as an integral part of the specialization process	27 (11.5)	208 (88.5)
Professional associations playing a key role in the process	57 (24.3)	178 (75.7)
Continuing professional development as an integral part of the process	18 (7.7)	217 (92.3)
Fellowship and mentorship programs	228 (97.0)	7 (3.0)

Table 5. Respondents' perceived barriers to clinical specialization in Nigeria.

Variable	Disagree n (%)	Agree n (%)
Insufficient awareness of specialization in the physiotherapy profession	89 (37.9)	146 (62.1)
Incorporation of training time into work schedule	79 (33.6)	156 (66.4)
Limited geographical access to university-based programs	77 (32.8)	158 (67.2)
Financial constraints (educational costs)	73 (31.1)	162 (68.9)
Lack of standard practice guidelines for each Physiotherapy specialities practiced in Nigeria	34 (14.5)	201 (85.5)
Lack of mentorship and guidance towards becoming Physiotherapy specialists	52 (22.1)	183 (77.9)
Limited or no job opportunities for specialists	79 (33.6)	156 (66.4)
Family and social commitments	142 (60.4)	93 (39.6)
Lack of self confidence	147 (62.6)	88 (37.4)
Opposition from other health care professionals	118 (50.2)	117 (49.8)
No current educational standardization for the role of a Physiotherapist specialist	60 (25.5)	175 (74.5)

Lack of defined clinical units of specialization within the workplace	104 (44.3)	131 (55.7)
No appropriate remuneration or reward upon completion of the specialization process	59 (25.1)	176 (74.9)
Lack of employer support	61 (26.0)	174 (74.0)
Fear of loss of generalist skills as specialization limits practice	165 (70.2)	70 (29.8)

Discussion

Currently, there are no known guidelines for attaining physiotherapy specialization in Nigeria, aside from implicitly granting it to members who have gained years of experience in a specialty or those who have completed postgraduate physiotherapy training in that specialty [12]. This novel study aimed to evaluate physiotherapists' perceptions of physiotherapy specialization in Nigeria and their recommendations for adequate implementation.

The main findings indicate that the greatest significance of a physiotherapy specialization in Nigeria is the positive impact it would have on healthcare delivery and the overall outlook of the profession. Agreement on the involvement of academic institutions and residency programs in the process of becoming a clinical specialist was reported. Thus, Nigerian physiotherapists support clinical specialist roles within the profession, even though there is currently an ill-defined standard for becoming a clinical specialist in Nigeria. Participants agreed that increased awareness, changes in health law and policy, as well as the adoption of National Standards of Practice, will promote the practice of physiotherapy specialization in Nigeria. More details on the main findings are discussed in the following sections.

Physiotherapists' Perceived Impact of Clinical Specialization on Patient Care in Nigeria

The physiotherapists in this study reported several ways in which clinical specialization influences patient care in the Nigerian healthcare system.

They predominantly opined that clinical specialization would provide a more defined scope of practice within the Nigerian healthcare system. Nigerian physiotherapists appear to have interrelated roles due to the lack of a defined scope of practice. While this may increase the availability of jobs for physiotherapists in general practice, it deprives the practice of professional management, which could improve patient care outcomes and overall patient satisfaction, as suggested by Kohl [13]. In addition, physiotherapists believed that clinical specialization increased patient access to coordinated and quality care and offered cost-effective patient care.

Furthermore, the majority of Nigerian physiotherapists reported that clinical specialization would promote interprofessional recognition of roles, and the resulting increase in inter- and intra-professional referrals would promote expert care, thereby improving patients' outcomes and satisfaction, as well as healthcare delivery in general. This is consistent with Busari's et al. [14], opinion stating that effective professional collaboration results in better quality of care.

However, the results from the study conducted by Engebretsen et al. [15], did not seem to support the aforementioned points. The initial stage of their study found a more significant improvement in outcomes for patients with shoulder pain treated in a community setting than in a specialized clinic. Results from the later stage of their study revealed no significant difference in patients' out-

comes between the two groups. Although further research might be warranted in other areas of care and complaint to verify the findings of Engbretsen et al. [15].

Moreover, in this current research, physiotherapists argued that clinical specialization would create a hierarchy within the profession, provide improved clinical reasoning skills, and increase earning potential for Nigerian physiotherapists. This means that clinical specialization will distinguish physiotherapists who have completed specialized training from those who have not. In addition, if the recommended processes that a physiotherapist must undergo to become a clinical specialist in a particular field (academic training and clinical training) are presented, it is safe to say when each physiotherapist is ahead in the ladder of expertise in this particular field. This can then be used to establish a professional hierarchy. A clinical specialist's earning potential may also be increased as a result of the greater value they provide in the healthcare delivery process due to their specialized training.

If clinical specialization is achieved through a process that requires the physiotherapist to undergo clinical training, including those aimed at improving their clinical reasoning skills (as recommended in this study), the physiotherapists will become proficient in their clinical reasoning skills [16]. Although acquiring a clinical specialist's skills and education can cost more than basic physiotherapy training, Nigerian physiotherapists opined that clinical specialization would ensure cost-effective patient care. This may be due to the expert care provided by clinical specialization, which can reduce the waiting time and treatment duration for patients, thus reducing the burden and costs in the end [13]. They also claimed that clinical specialization would provide Nigerian physiotherapists with greater recognition within the Nigerian healthcare system. Such recognition of physiotherapists' role in the management of various conditions in Nigeria's healthcare system allows for early referral of patients and, conse-

quently, better treatment outcomes, as supported by Bandong et al. [17].

Although some respondents in our research seem to agree that clinical specialization will lead to the elimination of the general practitioner's role within the profession, the majority of respondents do not believe this to be true. The general practitioner treats minor physiotherapy conditions, such as acute musculoskeletal injuries, and refers patients to physiotherapy specialists or physicians for medical care depending on the condition and its presentation, while also providing preventive care and educating patients. Therefore, it becomes clear why some respondents opined that specialization would limit the general practitioner's role, seeing that there is almost no case of physiotherapy that cannot be narrowed down to a specific specialty.

However, while it can be conceded that specialization may limit the practice of general physiotherapists, it is clear that specialization provides the patient with expert care built on long-term clinical and academic training in the specialty, especially when general physiotherapy care has not been able to treat the condition. Hence, specialized care is usually required after general care has been provided without achieving positive outcomes [18, 19].

Physiotherapists' Perceptions of the Process of Becoming a Clinical Specialist

Physiotherapy specialization processes vary in different countries. Nigerian physiotherapists' views on such processes were another issue addressed in this study. Most respondents showed interest in becoming a specialist and shared similar opinions on the processes that are required to become a clinical specialist. These processes include a significant clinical experience in the respective area, as well as clinical/practical courses. The American Physical Therapy Association (APTA) seems to agree in their published statement that applicants for specialty certification are generally required to provide evidence of

2,000 hours of direct patient care as a licensed physiotherapist in the United States (excluding a provisional license) in the specialty area within the last 10 years, 25% (500) of which must have occurred within the last three years, with the only alternative being a residency program in the area of specialization [20].

Most Nigerian physiotherapists also believed that academic institutions have a critical role to play and that research should be an integral process in the clinical specialization. Respondents additionally agreed that the active participation of professional associations such as the Nigeria Society of Physiotherapy (NSP), Association of Clinical and Academic Physiotherapists of Nigeria (ACA-PN), and Continuous Professional Development (CPD) should be maintained as having key roles to play and being an integral part of the process, respectively. Professional associations, such as the Canadian Physiotherapy Association (CPA), work with territorial branches to enable their members to learn, share knowledge, and improve practice. They achieve this by providing resources, education, ideas, and advocacy to enable the professional community to better serve Canadians [21]. Such educational programs, conferences, and workshops delivered by professional associations may go a long way in achieving a competent specialization process. Interestingly, the majority of the respondents already consider themselves to be clinical specialists, despite not having any formal training or continuing education in their specialty. A similar scenario to this was observed in the Canadian study conducted by Yardley et al. [11], where physiotherapists already considered themselves to be clinical specialists or advanced practitioners, despite the non-recognition of the titles within the profession at that time in Canada, where the role of a clinical specialist was ill-defined. Therefore, it has become reasonable for physiotherapists with extensive clinical experience in direct patient care to be considered a clinical specialist. However, this practice has long been a thing of the past, since standard guidelines for becoming a clinical specialist were developed in Canada in July 2011 [21].

In addition to the problem of an ill-defined role, there is the issue of standard guideline services for qualification in becoming a clinical specialist. A framework and educational program that would ensure that a physiotherapist with advanced clinical reasoning, professional judgment, and clinical skills could use the clinical specialist designation needs to be refined and legislated. Such a designation could make it easier for both the public and referrals to access appropriate primary healthcare services [11]. The result of the current study thus shows that postgraduate studies and residency programs are the most effective means of physiotherapy specialization in Nigeria. This is in line with the ABPTS policy statement regarding minimum requirements for enrolling into specialty certification, which states that applicants must submit evidence of successful completion of an APTA (American Physical Therapy Association) accredited post-professional clinical residency in the area of specialty completed within the last 10 years as the only second alternative criterion for specialty certification [20]. This is also supported by the results of a Kenyan study conducted by Cunningham and McFelea [8] on the influence of an orthopedic manual therapy residency program on improving physiotherapists' knowledge, psychomotor skills, and clinical reasoning, in which 12 graduating residents demonstrated significantly higher scores in the examination categories and diagnosis evaluation than the 10 physiotherapists entering the residency program, in a practical examination that assessed their knowledge, clinical reasoning, and psychomotor skills related to the examination of musculoskeletal conditions. Residency-trained physiotherapists achieved an average score of 83.4% with a pass rate of 92.3%, while non-residency-trained physiotherapists achieved 38.2% with a pass rate of 0.0%. On the other hand, the results of a study conducted by Rodeghero et al. [22], which involved 363 physiotherapists categorized into three groups (non-residency or fellowship-trained, residency-trained, and fellowship-trained) and 25,843 patients with musculoskeletal conditions treated from June 2012 to June 2013, showed that there was no difference in

functional status change between the patient outcomes of the residency-trained and the non-residency or fellowship-trained physiotherapists. However, the fellowship-trained group achieved functional status change and efficiency greater than other groups did. From this, one could argue that fellowship might actually be a way to achieve this feat in addition to clinical residency. If clinical specialists are to be recognized and legislated by provincial regulations, there is a need to develop a standardized approach to program development, training, assessment, and eventual certification through a joint effort of professional associations and accredited universities [11].

Barriers to Clinical Specialization Perceived by Nigerian Physiotherapists

Understanding physiotherapists' perceived barriers to clinical specialization is an important tool for the effective development and implementation of specialization processes in Nigeria. Compiling the opinions of the physiotherapists in this study, the results revealed that they overwhelmingly perceive the lack of standard practice guidelines in the physiotherapy specialization process as a major barrier. Other countries have standardized practice guidelines that are used in physiotherapist education at the undergraduate and postgraduate levels, as well as in clinical practice within the profession [20, 21]. The absence of such guidelines could have tremendous repercussions in the future on the physiotherapists' training, as well as on ensuring uniformity of basic physiotherapy practice procedures across the country.

Physiotherapists also identified the absence of mentorship, fellowship, and guidance toward becoming a clinical specialist as another important barrier to clinical specialization in physiotherapy. The role of mentorship in professional development cannot be overemphasized [23, 24]. Mentorship allows inexperienced or less experienced physiotherapists to make a wise decision about their preferred specialties after receiving guidance from someone with extensive experience in the specialty: someone who knows the advantages and disadvantages of the specialty. This can

protect the physiotherapist from possible regret after immersing fully into practice in a particular specialty. Mentorship may also guide the physiotherapist and provide moral support and inspiration. However, during mentorship, there may be a transfer of bias from the mentor to the mentee [25]. For example, a mentor may make recommendations based on their personal experiences, which may not necessarily be a common practice.

However, some respondents reported a lack of employer's support as a barrier to becoming a clinical specialist. According to Yardley et al. [11], this absence of support may be due to the higher earning potential that can follow the acquisition of specialized qualifications. In addition, some employers perceive enrolment in postgraduate studies or continuing education programs as means of reducing their employees' working hours. Considering that some healthcare facilities in Nigeria are deficient in the physiotherapy workforce, absence from work is a major issue in patient care delivery, as the physiotherapist-patient ratio is usually imbalanced. The development and implementation of these necessary standard practice guidelines for physiotherapy professionals will require considerable support from all levels of the physiotherapy profession, including professional bodies and academic institutions.

In Australia, for instance, the standards of practice, which were last updated in 2011 (8th edition), are approved by the APA board. Standards are developed through the input of various selected groups consisting of individuals and organizations, as follows: physiotherapists in accredited practices with a recognized commitment to quality in primary healthcare; accreditation inspectors (recognized for their invaluable knowledge and expertise in the profession); independent physiotherapists who have commented on successful projects and participated in field testing; royal college of general practitioners; board members and staff of Quality in Practice (a group of experts ensuring that quality healthcare services are delivered); certain individuals deemed suitable for inclusion based on their reputation, comprehen-

sive knowledge, and experience in physiotherapy practice. This group of individuals or organizations works hand in hand in order to set an updated standard of practice for the profession. To incorporate any new practice into the national standard of practice, it must be accredited. Accreditation processes subject such practices to scrutiny by the aforementioned professionals against already established standards of practice agreed upon by these groups of individuals or organizations. Such accreditation, according to APA standards for physiotherapy practices is the ultimate formal acknowledgment of a practice's commitment to safe, high-quality healthcare. There are two approved paths to accreditation according to these standards: entry-level accreditation and full accreditation. However, this accreditation is managed by Quality in Practice, a subsidiary of Australian General Practice Accreditation Limited. In their opinion, this means that the accreditation of physiotherapy practice is managed by a market leader with specialized expertise and granted independently of the custodian of standards [26].

Recommendations

Nigerian postgraduate physiotherapy training institutions should revise the clinical training schedule and routine of their students to ensure that significant clinical experience is acquired prior to graduation through clinical/practical courses. The regulatory and governing body (MRTBN) should develop and implement a model of standard practice guidelines (such as clinical training, as well as academic training and research) for physiotherapists in Nigeria. In addition, more emphasis should be placed on clinical specialization nationwide through awareness, to encourage more physiotherapists to acquire a clinical specialization, further improving the image of the profession. Further research should employ a qualitative research methodology using semi-structured or focused group interviews to capture physiotherapists' deeper insights on this topic.

Limitations

The main limitation of this study is its quantitative methodology in the form of a questionnaire because a qualitative interview approach would allow more in-depth findings, giving Nigerian physiotherapists the opportunity to better understand their perceptions regarding clinical specialization and its implementation processes. Another limitation is the possible ambiguity among respondents regarding the personal statements provided in the questionnaire. Having the statistical analysis calculated and presented in percentages is also a limitation of this study. It is recommended that future studies analyze the correlation of selected parameters, such as gender, age, and clinical experience.

Conclusions

Nigerian physiotherapists are greatly interested in becoming clinical specialists to improve their clinical reasoning skills, accelerate health care delivery, improve patient management outcomes, as well as patient satisfaction, and increase the general outlook of the profession and their earning potential. They agree that significant clinical experience and clinical/practical courses should serve as an eligibility criterion for clinical specialization through postgraduate courses and clinical residency programs with the active involvement of academic institutions, clinicians, and professional associations.

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