Knowledge, Attitudes, and the Practice of Health Promotion among Physiotherapists in Nigeria

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ABSTRACT

Purpose: In spite of the growing epidemic of non-communicable diseases in Nigeria and the compelling need for the active participation of physiotherapists in health promotion activities around the world, there is no evidence that physiotherapists in Nigeria are engaged in health promotion activities. This study aimed to investigate the knowledge of, attitudes toward, and practice of health promotion among physiotherapists practising in Nigeria. **Method:** This was a cross-sectional study. We contacted members of the Nigeria Society of Physiotherapy ($n = 368$) by email; the message contained a link to an online questionnaire. **Results:** A total of 229 (62%) physiotherapists responded. Most demonstrated a good knowledge of health promotion (approximately 70%) and indicated that they often incorporated aspects of health promotion into their patients' treatment (63%). However, fewer than one-fifth strongly agreed that health promotion was taught in their entry-level programme and had equipped them with the necessary health promotion skills. **Conclusions:** The majority of the physiotherapists surveyed demonstrated good knowledge and often incorporated health promotion into their routine daily practice. Nevertheless, the respondents stated that their entry-level physiotherapy education had not sufficiently equipped them for health promotion practice. These findings provide a baseline reference that can be used to track capacity building for health promotion practices. The results also highlight important gaps in the physiotherapy entry-level curriculum and the health promotion training needs of physiotherapists in Nigeria.

Keywords: health promotion; health knowledge, attitudes, practice; Nigeria; survey.

RÉSUMÉ

Objectif : malgré l'épidémie croissante de maladies non transmissibles au Nigeria et le besoin pressant de compter sur la participation active de physiothérapeutes aux activités de promotion de la santé dans le monde, rien n'indique que les physiothérapeutes du Nigeria s'investissent dans la promotion de la santé. La présente étude visait à examiner les connaissances, les attitudes et la pratique des physiothérapeutes qui exercent au Nigeria en matière de promotion la santé. **Méthodologie :** le présent sondage transversal a été distribué aux membres de la société de physiothérapie du Nigeria ($n = 368$) dans un message courriel contenant un lien vers un questionnaire en ligne. **Résultats :** au total, 229 physiothérapeutes (62 %) ont répondu. La plupart ont démontré une bonne connaissance de la promotion de la santé (environ 70 %) et indiqué qu'ils en intégraient souvent des aspects au traitement de leurs patients (63 %). Cependant, moins du cinquième était fortement en accord avec l'affirmation selon laquelle leur programme de base leur avait inculqué les compétences nécessaires en promotion de la santé. **Conclusions :** la majorité des physiothérapeutes sondés ont démontré de bonnes connaissances en promotion de la santé, qu'ils intégraient souvent à leur pratique quotidienne. Les répondants ont tout de même indiqué que leur formation de base en physiothérapie ne les outillait pas suffisamment pour qu'ils exercent des activités de promotion de la santé. Ces constatations serviront de référence à des mesures de renforcement des capacités dans les pratiques de promotion de la santé. Elles démontrent également des lacunes importantes dans le programme de base et la formation en promotion de la santé des physiothérapeutes du Nigeria.

The rising prevalence of non-communicable diseases (NCDs) in developing countries has placed a great burden on health care systems, and this has negative implications for the quality of life of the populations in these countries.^{1–3} According to a recent World Health Organization (WHO) report, approximately 85% of the more than 14 million deaths among people aged 30–70 years in Africa are attributed to NCDs,⁴ as are 24% of all deaths in

Nigeria.⁵ In particular, the prevalence of cardiovascular disease and its risk factors in Nigeria has a significant implication for the field of physiotherapy. For instance, 25% of adult Nigerians are living with hypertension,⁶ a major risk factor for stroke. The impact of this disease burden on Nigerian society is huge because of a lack of adequate health promotion strategies.^{7–9} In addition, the case fatality rate for stroke in Nigeria is as high as 40%.⁸

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Contributors: All authors designed the study; or collected, analyzed, or interpreted the data; and drafted or critically revised the article and approved the final draft.

Competing Interests: None declared. Our research received no funding from any agency in the public, commercial, or not-for-profit sector.

Physiotherapy Canada 2019; 71(1):92–100; doi:10.3138/ptc.2017-79.gh

There is a strong correlation between NCDs and an unhealthy lifestyle, suggesting that lifestyle modifications could lead to an appreciable decrease in the burden of NCDs.^{10–12}

Three physiotherapy summits on global health have highlighted the need for physiotherapists to respond to the emerging epidemic of NCDs by using their skills and knowledge, guided by health promotion practices, and by initiating and supporting interventions for NCDs in various capacities and settings.^{13–15} There is also a growing call for the physiotherapy profession to make health-focused practice a priority.^{13–15} Given the rising rate of NCDs in Nigeria,^{4,5} it is important that Nigerian physiotherapists engage in approaches that promote the successful delivery of health promotion activities. The Ontario Physiotherapy Leadership Consortium described the model of health promotion in physiotherapy practice as one in which physiotherapists have input into health promotion at the level of the determinants of health; lifestyle; and disease, injury, and illness.¹⁶ According to this model, specific physiotherapy interventions should be made through a process of promotion, prevention, and rehabilitation, with the overall outcomes focused on both individual and population-wide health and wellness.¹⁶

Certainly, the physiotherapy profession promotes patients taking responsibility for their health with a practice pattern that allows frequent and relatively prolonged contact between physiotherapist and patient; such practice is conducive to effective, long-term behavioural change.^{13,17,18} For instance, playing an advocate role is one of the competencies expected of physiotherapists in some countries, and one of the descriptions of this role is promoting the basic principles of health, including providing recommendations related to diet, rest, exercise, weight control, tobacco avoidance or cessation, immunizations, avoidance of infectious and contagious diseases, personal hygiene, skin care, dental hygiene, and sanitation.^{13,19}

Nonetheless, physiotherapists in three health care systems have identified several factors, including the lack of competency and acute care orientation of hospitals, as barriers to advocating for health promotion activities with their patients.^{20–23} Similarly, despite the compelling need for physiotherapists' active participation in health promotion activities, to our knowledge there is no published evidence, in either policy documents or research, that health promotion is in the scope of physiotherapy practice in Nigeria. In addition, on the basis of our experience, there is no benchmark study of health promotion curriculum content in entry-level physiotherapy education or a nationally approved curriculum or competency document for health promotion in Nigeria. Recent reports by physiotherapists practising in Nigeria have highlighted major barriers to incorporating physical activity, healthy nutrition programming, and other NCD risk as-

sessments and interventions into daily consultations with patients.^{24–26}

With the current emphasis on health promotion²⁷ and the growing burden of NCDs in Nigeria,⁶ physiotherapists in Nigeria need to respond to the call^{13–15,17,18} for their profession to take on the responsibility of combatting the rising lifestyle disease burden by increasing the use of health promotion programmes. For this to be effective, physiotherapists in Nigeria must have good knowledge and understanding of the current concepts of health promotion. In addition, current attitude and practice patterns need to be documented to accelerate the needed interventions and evaluate their effect. However, no research has reported the level of knowledge of, attitudes toward, and practices of health promotion by physiotherapists in Nigeria. That is what we set out to investigate.

METHODS

Study design

This was a cross-sectional, descriptive study conducted between February and June 2015. It explored the knowledge of, attitudes toward, and practices of health promotion by physiotherapists in Nigeria.

Participants

The study participants were Nigerian physiotherapists practising part or full time in either the private or the public health sector. We used as our reference the 2013 bulletin of the Medical Rehabilitation Therapist Board (MRTB) of Nigeria, which listed 2,239 licensed physiotherapists.²⁸ The MRTB is a federal agency that regulates physiotherapists and allied health care professionals in Nigeria. A sample size was calculated statistically using 95% confidence intervals and a 5% margin of error for all survey questions with dichotomous responses,²⁹ and it was based on the 2,239 physiotherapists listed in the MRTB register. Although many questions had more than two possible answers, a sample of 329 participants was deemed adequate for the study's purpose as well as feasible to achieve from a population of 2,239.

However, the MRTB's²⁸ list did not indicate whether the licensed physiotherapists were currently practising. In addition, recent literature has indicated that about half the licensed physiotherapists in Nigeria are likely to emigrate to another country.³⁰ As a result, we could not completely rely on the MRTB list to determine how many physiotherapists were currently practising in the country. The list also did not specify the state or region in which physiotherapists were practising, nor did it specify whether a physiotherapist was employed in the private or public health care sector.

Consequently, we sought the permission of the Nigeria Society of Physiotherapy (NSP) to use its database of members currently practising in private, public, commu-

nity, and tertiary hospitals and clinics or employed by academic institutions in Nigeria. As the professional association for physiotherapists in Nigeria, the NSP maintains data related to members' current place of work, including state and region of practice. Although the number of physiotherapists in the NSP's records (368) was significantly lower than that on the MRTB's list²⁸ (2,239), we considered the NSP records to be more reliable. In addition, only the NSP's records included email addresses for physiotherapists across Nigerian states. Records from the NSP database were cross-checked with the MRTB's 2013 list to ensure that all NSP members held a current license to practise, which was required to be eligible to participate in the survey. The institutional ethics review board of the University of Nigeria Teaching Hospital approved this study.

Questionnaire

An existing tool³¹ with established validity was adapted as the instrument for data collection in this study. This questionnaire was piloted, modified, and used by McMahon and Connolly³² to assess the health promotion knowledge, attitudes, and practice of chartered physiotherapists in Ireland, and the authors granted us permission to modify and use that version.³² To establish content validity, the McMahon and Connolly³² items were selected, appraised, and further refined by three Nigerian academics and physiotherapists with an interest and expertise in health promotion.

The questionnaire was piloted among four experienced physiotherapists involved in health promotion practices. The testers found it acceptable and easy to use, and they provided comments that helped refine it. Specifically, they suggested that certain sections of the questionnaire not relevant to physiotherapy in Nigeria be removed and that some questions be reworded to be more applicable to the Nigerian context. The test-retest reliability of the questionnaire at 2-week intervals among 18 Nigerian physiotherapists chosen to represent different genders, practice orientations, and years of practice indicated a range of moderate to excellent scores. The κ coefficient ranged between 0.6 and 1.0 for sub-domains and 0.71 for the whole instrument.

The final questionnaire (see the online Appendix) had 19 questions in four sections: Demographics (7 questions), Knowledge (three groups of statements, with levels of agreement measured using Likert scales); Attitudes (two groups of statements, with levels of agreement measured using Likert scales); and Practice (7 questions that used Likert scales, comment boxes, and open-ended questions). The questionnaire took 10–15 minutes to complete.

Distribution

We used SurveyMonkey (SurveyMonkey, San Mateo, CA) to construct the questionnaire. The survey was also

distributed electronically through SurveyMonkey. To reduce the risk of non-response, we adopted the survey method used by Dillman and colleagues.³³ This method involved sending a "pre-notice" email, informing respondents that a cover letter email with the study details and survey Web link would arrive within 7 days. The Web link directed respondents to the consent form and survey. Respondents were allowed 2 weeks to respond. Non-respondents received two email reminders (that included the survey Web link) at 2-week intervals. The return of completed survey constituted consent to participate in the study.

We sent messages to the email addresses of all active members ($n = 368$) in the NSP database, representing all 36 states of Nigeria. On accessing the questionnaire, respondents first went through the participant information sheet and the informed consent pages before proceeding to the main part. The survey software ensured their anonymity.

Data analysis

Survey results were downloaded as raw data from SurveyMonkey to Microsoft Excel 2010 (Microsoft Corporation, Redmond, WA). Data were inspected visually, and the open-ended questions were manually entered into a Microsoft Word document. Any other data were formatted and exported to Excel for analysis. The open-ended comments were analyzed using counts and aggregated into themes. The quantitative data were evaluated using IBM SPSS Statistics, version 20.0 (IBM Corp., Armonk, NY). Descriptive statistics (frequency and percentage) were used to evaluate and summarize the quantitative data in the three categories of knowledge, attitudes, and practice.

RESULTS

Response pattern and respondents' characteristics

Of the 368 physiotherapists invited to participate, 229 responded, yielding a response rate of 62.2%. Not all respondents answered all the questions, so the number of responses may not add up to 229. Of the responses, 31.8% ($n = 73$) were returned during the first 2 weeks, and 68.1% ($n = 156$) were returned after at least one follow-up email. A majority (63.5%) of the respondents were from Southern Nigeria (Southwest, 28.0%; Southeast, 21.3%; South, 14.2%), and the Northeast (6.6%) and Northwest (10.0%) had the least respondents. The majority of respondents were male (68.5%), aged 20–39 years (67.5%), had a entry-level bachelor's degree (53.6%), worked mostly in a hospital setting (65.3%), and had 9 or fewer years of practice experience (52.1%). Slightly fewer than half (49.5%) worked mostly with clientele with musculoskeletal problems. The respondents' characteristics are presented in Table 1.

Table 1 Respondents' Characteristics ($N = 229$)

Characteristic	No. (%) of respondents
Age, y ($n = 215$)	
20–29	50 (23.3)
30–39	95 (44.2)
40–49	42 (19.5)
50–59	17 (7.9)
≥ 60	11 (5.1)
Gender ($n = 216$)	
Male	148 (68.5)
Female	68 (31.5)
Years of practice ($n = 211$)	
< 5	46 (21.8)
5–9	64 (30.3)
10–19	61 (28.9)
≥ 20	40 (19.0)
Highest qualification ($n = 211$)	
Bachelor's	113 (53.6)
MSc	74 (35.1)
PhD	24 (11.4)
Work setting ($n = 202$)	
Primary, community, or continuing care	9 (4.5)
Education	29 (14.4)
Private practice	31 (15.3)
Hospital base	132 (65.3)
Other	1 (0.5)
Population most frequently worked with ($n = 198$)	
Musculoskeletal	98 (49.5)
Neurological rehabilitation care of elderly persons	51 (25.8)
Paediatrics, intellectual disability	12 (6.1)
In-patient surgical or respiratory	11 (5.6)
Women's health and maternity services	10 (5.0)
Students	16 (8.1)
Geographical distribution ($n = 211$)	
Southeast	45 (21.3)
South	30 (14.2)
Southwest	59 (28.0)
Northeast	14 (6.6)
Northwest	21 (10.0)
North central + Federal Capital Territory	42 (19.9)

Note: Not all respondents answered all questions.

Respondents' knowledge of, attitudes toward, and practice of health promotion activities

Slightly fewer than half of the respondents (49.4%; 79 of 160) believed (used selectively in this section to subsume the response categories of *agree* and *strongly agree*) that health promotion involves changing public policies on health promotion activities; 74.1% (123 of 166) believed that they had sufficient knowledge of the concept and principles of health promotion to engage in health promo-

tion activities with clients. Details of the responses related to health promotion knowledge are provided in Table 2.

Similarly, most respondents consistently believed that health promotion is a fundamental part of physiotherapy, requiring physiotherapists to understand their clients' lifestyles. About 89.3% (133 of 149) believe that physiotherapists are well placed to respond to clients' health promotion needs. Details of the respondents' attitudes toward health promotion are presented in Table 3.

A majority, 54.9% (78 of 142) of the respondents, usually (used selectively in this section to subsume the response categories of *often* and *sometimes*) work with physiotherapists who have special health promotion responsibilities. Similarly, 66.9% (95 of 142) usually work with physiotherapy managers who see health promotion as an important aspect of physiotherapy, and 92.2% (130 of 141) usually actively incorporate aspects of health promotion into delivery of care to clients. Table 4 presents details of respondents' practice of health promotion.

Respondents' views on health promotion training in physiotherapy

Table 5 presents respondents' views on how their physiotherapy training has equipped them to fulfill the health promotion role as well as on how health promotion training can best be incorporated into physiotherapy education. Approximately one-third of the respondents (33.6%; 47 of 140) strongly agreed that their training offered lots of opportunity to explore health promotion. Only 15.0% strongly agreed that health promotion was well embedded in their course structure. A full 82.7% of the respondents (110 of 133) agreed or strongly agreed that health promotion should be incorporated into students' physiotherapy courses as a part of their undergraduate programme's third or fourth year, and the majority (76.5%; 101 of 132) agreed or strongly agreed that health promotion should be offered as a clearly defined theme. Approximately 75.9% (101 of 133) thought that careful consideration of policy implementation and guidelines for health promotion should be included in physiotherapy training programmes.

DISCUSSION

This article presents a descriptive study of health promotion knowledge, attitudes, and practice among physiotherapists in Nigeria. In general, the majority of physiotherapists had good knowledge of and positive attitudes toward health promotion in Nigeria and incorporated health promotion into their routine clinical practice. We first consider the extent to which our sample is representative of physiotherapists in Nigeria, and we then compare our findings with the relevant literature.

The predominance of male physiotherapists in our sample is consistent with other reports on the Nigerian

Table 2 Respondents' Knowledge of Health Promotion

Question and comment	n	No. (%) of respondents				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
What is health promotion?						
HP enables people to cope with health problems and attain the best possible quality of life.	160	83 (51.9)	64 (40.0)	9 (5.6)	3 (1.9)	1 (0.6)
HP is about preventing disease.	160	77 (48.1)	66 (41.3)	11 (6.9)	5 (3.1)	1 (0.6)
HP seeks to create a more equitable society.	158	39 (24.7)	50 (31.6)	44 (27.8)	20 (12.7)	5 (3.1)
The role of HP is to alleviate the economic strain on the health service.	159	40 (25.2)	74 (46.5)	26 (16.4)	14 (8.8)	5 (3.1)
HP is predominately concerned with changing people's behaviour.	159	46 (28.9)	70 (44.0)	18 (11.3)	20 (12.6)	5 (3.1)
HP is about changing public policy.	160	35 (21.9)	44 (27.5)	49 (30.6)	29 (18.1)	3 (1.9)
HP is about empowering individuals.	162	54 (33.3)	66 (40.7)	29 (17.9)	9 (5.6)	4 (2.5)
HP aims to reduce health inequalities.	160	46 (28.8)	65 (40.6)	29 (18.1)	19 (11.9)	1 (0.6)
All health professionals should promote a healthy lifestyle.	167	84 (50.3)	60 (35.9)	23 (13.8)	0 (0.0)	1 (0.1)
How often do you encounter the following publications in your practices?		Often	Sometimes	Rarely	Never	
Any National Health Promotion Strategy document	165	16 (9.7)	49 (29.7)	71 (43.0)	29 (17.6)	
Changing Cardiovascular Health: National Cardiovascular Health Policy	162	10 (6.2)	49 (30.2)	52 (32.1)	51 (31.5)	
Ottawa Charter for HP	162	8 (4.9)	28 (17.3)	56 (34.6)	70 (43.2)	
Survey of Lifestyles, Attitudes and Nutrition	164	31 (18.9)	49 (29.9)	47 (28.7)	37 (22.6)	
Do you believe you have sufficient knowledge of the following to engage in HP with clients?		No	Yes			
Concept and principles of HP	166	43 (25.9)	123 (74.1)			
Biological determinants of health	164	37 (22.6)	127 (77.4)			
Psychological determinants of health	162	57 (35.2)	105 (64.8)			
Socio-economic determinants of health	162	59 (36.4)	103 (63.6)			
Behaviour change theory	162	69 (42.6)	93 (57.4)			
Key action areas of HP	162	58 (35.8)	104 (64.2)			

Note: *n* varies from item to item because not all respondents answered all questions.
HP = health promotion.

physiotherapy workforce.^{34–36} One possible reason for this could be the history of physiotherapy training in Nigeria, whereby the first Nigerian-trained physiotherapists were men.³⁷ Even though our sample is fairly representative of the physiotherapist population, given its similarity to previous reports of the characteristics of physiotherapists in Nigeria, we suggest using caution in interpreting the results because they are not equally representative of physiotherapists from around the country; for instance, the majority of our respondents were from the southern part of Nigeria; fewer were from the northeast.

Most of the respondents were knowledgeable about the fundamental role of health promotion in enabling people to cope with their health challenges and attain their best possible quality of life. Moreover, the majority of respondents were aware of the role of health promotion in changing people's lifestyles and other factors that determine their health. This role is considered a traditional view of health promotion and has been described as being fundamental to addressing diseases with serious health implications for developing countries such as Nigeria.^{10,11,32} Other interesting aspects of health promo-

tion of which the physiotherapists demonstrated good awareness are individual empowerment and a reduction in health inequalities. However, only a few respondents believed that health promotion activities involved changing public policies regarding health promotion practice. This suggests a gap in their knowledge of the wider determinants of health, underscoring the need for them to learn the current concepts and objectives of health promotion promoted by the WHO.²⁷

The physiotherapists' responses regarding whether their undergraduate training had equipped them with health promotion knowledge were discouraging. Only 33.6% of the respondents strongly agreed that their training had afforded them plenty of opportunities to explore health promotion. Other research has highlighted the lack of inclusion of health promotion modules in physiotherapy training as a barrier to health promotion practice, and this research has emphasized the need to integrate health promotion into the education of health care professionals at the undergraduate and postgraduate levels.³¹ Effective undergraduate and postgraduate training is critical to health promotion practice.

Table 3 Respondents' Attitudes toward Health Promotion and Health Promotion Action

Comment	<i>n</i>	No. (%) of respondents				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
HP requires the physiotherapist to have an understanding of the clients' lives	150	95 (63.3)	49 (32.7)	2 (1.3)	4 (2.7)	0 (0.0)
HP is a fundamental part of PT	151	98 (64.9)	49 (32.5)	4 (2.6)	0 (0.0)	0 (0.0)
HP is less important than other aspects of the physiotherapist's role	151	4 (2.6)	6 (4.0)	23 (15.2)	63 (41.7)	55 (36.4)
Physiotherapists are well placed to respond to the clients' HP needs	149	64 (43.0)	69 (46.3)	7 (4.7)	7 (4.7)	2 (1.3)
Physiotherapists usually have too much else to do to be able to offer HP	148	7 (4.7)	20 (13.5)	31 (20.9)	63 (42.6)	27 (18.2)
Physiotherapists empower clients to change unhealthy aspects of their lives	149	70 (47.0)	70 (47.0)	8 (5.4)	1 (0.7)	0 (0.0)
Physiotherapists' HP practice is not supported by a strong evidence base	148	11 (7.4)	23 (15.5)	42 (28.4)	43 (29.1)	29 (19.6)
Physiotherapists should "model" good health behaviour to give HP advice	149	71 (47.7)	66 (44.3)	10 (6.7)	2 (1.3)	0 (0.0)
Physiotherapists should be required to engage in HP as part of government policy	148	81 (54.7)	49 (33.1)	10 (6.8)	3 (2.0)	5 (3.4)
All physiotherapists should promote a healthy lifestyle	147	95 (64.6)	50 (34.0)	2 (1.4)	0 (0.0)	0 (0.0)
A physiotherapist who is a smoker is just as good a health promoter as one who is not a smoker	145	6 (4.1)	10 (6.8)	31 (21.4)	46 (31.7)	53 (36.5)
PT students have a role in HP	149	68 (45.6)	68 (45.6)	10 (6.7)	1 (0.7)	2 (1.3)
Physiotherapists should enable individuals, groups, communities and organizations to build capacity for HP action to improve health and reduce health inequities	147	76 (51.7)	66 (44.9)	3 (2.0)	2 (1.4)	0 (0.0)
Physiotherapists should advocate with, and on behalf of, individuals, communities and organizations to improve health and well-being and build capacity for HP action	149	76 (51.0)	65 (43.6)	8 (5.4)	0 (0.0)	0 (0.0)
Physiotherapists should work collaboratively across disciplines, sectors and partners to enhance the impact and sustainability of HP action	152	93 (61.2)	57 (37.5)	1 (0.7)	1 (0.7)	0 (0.0)
Physiotherapists should communicate HP action effectively, using appropriate techniques and technologies for diverse audiences	152	96 (63.2)	54 (35.5)	1 (0.7)	1 (0.7)	0 (0.0)
Physiotherapists should contribute to the development of a shared vision and strategic direction for HP action	154	93 (60.4)	57 (37.0)	4 (2.6)	0 (0.0)	0 (0.0)

Note: *n* varies from item to item because not all respondents answered all questions.

HP = health promotion; PT = physiotherapy.

Physiotherapy training should be designed to give students an excellent opportunity to acquire knowledge about health promotion, thereby ensuring that they effectively integrate health promotion into future clinical practice.^{38,39} Training may also be necessary to build students' confidence in applying health promotion knowledge and skills to future practice.⁴⁰ Equally important, physiotherapists should engage in continuing education programmes to enhance their knowledge of health promotion practice.⁴¹ Another way of enhancing physiotherapists' knowledge, skill, and confidence in undertaking health promotion activities is through entry-level curriculum reviews incorporating modules specific to health promotion.⁴²

Most respondents strongly agreed that health promotion is a fundamental aspect of physiotherapy, and they believed that physiotherapists should have health promotion roles, such as enabling individuals and communities and building capacity for health promotion activities, to improve health and reduce inequalities. Similarly, a majority believed that they are well placed to respond to their clients' health promotion needs and that they should actively engage in health promotion activities

such as encouraging physical activity, moderate alcohol consumption, healthy nutrition, and smoking cessation. These findings are consistent with those of previous studies, in which physiotherapists considered their roles to be paramount in various health promotion activities.^{22,43}

Physiotherapists' responses in this study have several implications for the professional practice and performance of physiotherapists in Nigeria. Their positive attitudes appear to be reflected in their practice pattern in that the majority responded that they actively incorporated health promotion into their delivery of care. However, we could not explore the specific inputs, processes, or outcome targets for the health promotion interventions being delivered by the respondents because this fell outside the scope of the survey. The Ontario Physiotherapy Leadership Consortium model indicates that physiotherapists should have health promotion inputs at the level of the determinants of health; lifestyle; and disease, injury, and illness through promotion, prevention, and rehabilitation to see outcomes at both the individual and the population level of health and wellness.⁴⁴ However, our respondents' lack of awareness of health promotion concepts as they relate to the social determinants of

Table 4 Respondents' Practice of Health Promotion

Question	<i>n</i>	No. (%) of respondents			
		Often	Sometimes	Rarely	Never
How often have you worked with physiotherapists who have a specific HP responsibility?	142	27 (19.0)	51 (35.9)	43 (30.3)	21 (14.8)
How often have you worked with health professionals who are responsible for HP?	143	30 (21.0)	62 (43.4)	41 (28.7)	10 (7.0)
How often have you worked with PT managers who see HP as an important aspect of PT?	142	36 (25.4)	59 (41.5)	28 (19.7)	19 (13.4)
Do you actively incorporate aspects of HP into the delivery of care to clients?	141	89 (63.1)	41 (29.1)	7 (5.0)	4 (2.8)
When do you promote the health of clients?					
On admission	229	53 (23.1)			
On discharge	229	63 (27.5)			
When providing PT treatment	229	114 (49.8)			
When clients seek advice	229	66 (28.8)			
When relatives seek advice	229	54 (23.6)			
Never	228	2 (0.9)			

Note: *n* varies from item to item because not all respondents answered all questions.

HP = health promotion; PT = physiotherapy.

Table 5 Respondents' Views on Physiotherapy Training

Question	<i>n</i>	No. (%) of respondents				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
What are your views on how PT training has equipped you to fulfill an HP role?						
My training offered lots of opportunities to explore HP	140	47 (33.6)	54 (38.6)	27 (19.3)	9 (6.4)	3 (2.1)
HP was well embedded in the course structure	140	21 (15.0)	52 (37.1)	38 (27.1)	25 (17.9)	4 (2.9)
HP was predominantly taught in one module	140	15 (10.7)	31 (22.1)	45 (32.1)	40 (28.6)	9 (6.4)
How do you think HP could be best incorporated into PT training?						
Specific HP module in first year	128	20 (15.6)	33 (25.8)	28 (21.9)	42 (32.8)	5 (3.9)
Specific HP module in third or fourth year	133	47 (35.3)	63 (47.4)	16 (12.0)	5 (3.8)	2 (1.5)
HP offered as a clearly defined theme within key modules on the course	132	38 (28.8)	63 (47.7)	24 (18.2)	7 (5.3)	0 (0.0)
Specific HP placements	134	43 (32.1)	49 (36.6)	34 (25.4)	7 (5.2)	1 (0.7)
Careful consideration of policy implementation/guidelines	133	50 (37.6)	51 (38.3)	28 (21.1)	4 (3.0)	0 (0.0)
Exploration of how policy relates to practice	133	49 (36.8)	56 (42.1)	25 (18.8)	3 (2.3)	0 (0.0)

Note: *n* varies from item to item because not all respondents answered all questions.

HP = health promotion; PT = physiotherapy.

health highlights the need for training, an important area of practice reorientation.

Our study had several limitations. First, the tool we used was developed for the nursing profession, and its health promotion focus was primarily on changing individual behaviour; its consideration of the wider social determinants of health was limited. Therefore, our findings may not be a comprehensive overview of what could be considered health promotion practice in physiotherapy in light of this narrow consideration of the wider social determinants of health.

Second, given the absence of national reference data with which to compare physiotherapists' characteristics, we did not perform further analysis to examine the factors influencing the respondents' health promotion orientation, nor did we explore the associations among

knowledge of, attitudes toward, and practice of health promotion. We also consider as an important limitation our inability to explore the specific inputs, processes, or outcome targets for the health promotion interventions being delivered by our respondents. This made it impossible for us to examine the possible predictors of health promotion practice. We appreciate that these are important for enhancing health promotion competence and practice among the Nigerian physiotherapy workforce, and we are therefore developing research in this area.

Last, despite using an online survey and despite sampling physiotherapists from all regions in Nigeria and across several practice domains and responsibilities, we may not have reached all physiotherapists practising in Nigeria because some of them may not be members of the NSP. However, this seems unlikely because it is the

MRTB's policy to renew the licenses of all therapists who are active members of their professional association. Future study is needed to develop a comprehensive national database of physiotherapists in Nigeria.

CONCLUSIONS

This study showed that physiotherapists in Nigeria have good knowledge of and a positive attitude toward health promotion. However, many of them do not incorporate health promotion into their daily clinical practice. The physiotherapists surveyed also indicated that their undergraduate and postgraduate training (not specific to a health promotion stream) was not adequately designed to give them the proper knowledge and understanding of health promotion in Nigeria.

KEY MESSAGES

What is already known on this topic

The rising prevalence of non-communicable diseases (NCDs) in Africa has negative consequences for the population's health. Several physiotherapy summits on global health have highlighted the need for physiotherapists to use their health promotion knowledge and skills to initiate and support interventions against NCDs. Health promotion activities of physiotherapists have important implications for the health of the general population.

What this study adds

Physiotherapists practising in Nigeria often incorporate health promotion into their routine daily practice, but they feel that their entry-level physiotherapy education did not sufficiently equip them for health promotion practice. Although they understand the principle of health promotion to change individual lifestyles, they struggle with concepts related to wider determinants of health and health promotion influencing government policies.

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