Title: Changing the prescription status of physiotherapists to supplementary prescribing:

Perception of Nigerian physiotherapists

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ABSTRACT

Background: There appears to be a global change in the role of physiotherapists in serving as supplementary prescribers of relevant drugs.

Objectives: This study aimed to determine the opinion of physiotherapists on enlistment as supplementary prescribers of drugs and the classes of drugs they would like to prescribe.

Methods: 102 licensed physiotherapists from 5 purposively selected hospitals participated in the study. A self-administered questionnaire was used to collect the data. Data were analyzed using descriptive statistics and Kruskal–Wallis test.

Results: Eighty-three physiotherapists (83.8%) wanted to be enlisted as supplementary prescribers and most would like to be able to prescribe analgesics (73.8%), non-steroidal anti-inflammatory drugs (NSAIDs) (73.8%) and muscle relaxants (59.2%). Eighty-nine respondents (86.4%) supported the enactment of a law that will protect physiotherapists in case of professional litigation. A number of reasons were adduced for desiring to have a change in prescription status; these include effectiveness of clinical practice (77.7%), image improvement (67.0%), and an increased benefit for patients (82.5%). The number of respondents who would like to prescribe analgesics, NSAIDs, and muscle relaxants were significantly higher than for other classes of drugs ($P = 0.001$).

Conclusions: The majority of physiotherapists want their status to change to that of supplementary prescribers. Most prescribers would like to prescribe analgesics and NSAIDs while a moderate number would like to prescribe muscle relaxants under the protection of an enabling law.

Keywords: Supplementary Prescription; Physiotherapists; Drugs; Analgesics; NSAIDs
Introduction

A landmark was made in the profession of physiotherapy (PT) when British physiotherapists and podiatrists became the first in the world to be allowed to prescribe medication to their patients. Under the new legislation, they will be able to prescribe medicines for chronic pain and respiratory diseases such as asthma (Daily Mail, 2012). Supplementary prescribing is “a voluntary partnership between an independent prescriber (a physician or dentist) and a supplementary prescriber to implement an agreed patient-specific clinical management plan with the patient’s agreement” (Chartered Society of Physiotherapy, 2013). The supplementary prescribers are also known as dependent prescribers, and their responsibilities are to continue with the care of patients who have been clinically assessed by an independent prescriber (Crown Report, 1999; 2000).

Although there is an expanded role for PT practice, the profession has traditionally administered pharmacological agents such as bronchodilators salbutamol and normal saline in respiratory care, and analgesics via iontophoresis in a few countries (Daily Mail, 2012; Onigbinde et al., 2013). Supplementary prescribing is expected to reduce the workload of the doctor and give them the opportunity to concentrate on acute, critically ill patients with more complicated conditions and who may require surgery and more complex treatments. The follow-up review of patients with chronic illness will be transferred to the supplementary prescriber rather than the physician (Chartered Society of Physiotherapy, 2013). This will promote primary contact services with physiotherapists and also encourage self-referral schemes (Durrell, 1996).

PT training programs in Africa are dynamic and the curriculum has changed to accommodate pharmacology education (Onigbinde, Olaogun, and Iroghue, 2012). However, some countries
such as South Africa, Nigeria and Zimbabwe tend to follow the global trend of including pharmacology as a course in the PT training curriculum. Other African countries such as Kenya, Uganda, Malawi, Rwanda and some French-speaking countries are still faced with serious challenges in roles of the health professionals, educational curriculum, and professional development, making it difficult for them to include these supplementary roles in clinical practice.

In Australia, physiotherapists often work as primary contact practitioners and treat a range of musculoskeletal conditions, including acute sprains, strains and chronic inflammatory conditions, where non-steroidal anti-inflammatory drugs (NSAIDs) are the most common pharmaceutics used as adjunct therapy in the PT management of musculoskeletal conditions (Moore, et al., 1998; Grimmer, et al, 2002).

In the UK in 2005, prescribing rights were extended to physiotherapists by the Department of Health (DoH) and the Medicines and Healthcare Products Regulatory Agency (MHPRA), in addition to the implementation of training courses for Allied Health Professionals (Courtenay and Griffiths, 2010). Supplementary prescribing classes involve at least 26 days in the classroom and 12 days in practice with a designated medical practitioner (Courtenay and Griffiths, 2010; MHPRA, 2013). This development may make it imperative for other countries to review the prescription status of physiotherapists (Daily Mail, 2012).

An independent prescriber should have good knowledge of drugs and their interactions with PT modalities. Courtenay and Griffiths (2010) reported that the major difference between Supplementary Prescriber (SP) and an independent prescriber (IP) is the absence of limitation to the clinical conditions for which drugs can be prescribed by the latter, most especially in chronic medical conditions. This leads to an avoidable delay that is typically experienced when patients
are referred back to physicians for additional prescription and administration of drugs (Department of Health, 2005).

In Nigeria, there is controversy regarding changing the traditional non-drug-prescribing roles for physiotherapists. While older physiotherapists would like the status quo to remain, the younger generation, who has had undergraduate pharmacology education, appears to prefer a change from the traditional role. If members of the profession are not united, it will be difficult to lobby and garner support from physicians or dentists for the extended role of physiotherapists as supplementary prescribers. There is a dearth of data to ascertain the position of Nigerian physiotherapists on the administration of relevant medications and enlistment as SPs. We sought to examine this problem with the following major aims: (1) to investigate the opinion of physiotherapists on their enlistment as supplementary prescribers of relevant drugs and (2) to determine which classes of drugs they would like to prescribe.

Methods

Subjects and sampling technique

A convenience sample of 102 physiotherapists drawn from 5 purposively selected federal university teaching hospitals and 3 physiotherapy training schools in South-West Nigeria volunteered as participants in this cross-sectional survey study.

Inclusion criteria

The major inclusive criterion of subjects was that they must be licensed to practice in Nigeria as physiotherapists with at least one year of experience. Retired physiotherapists who were no longer actively involved in clinical physiotherapy practice were excluded.
Instrument

A structured self-administered questionnaire (see Appendix) was used in this study. To allow for respondents with differing educational backgrounds, the questions were kept as simple as possible using a Yes or No format. The questionnaire was divided into 2 sections:

a. Section A contained four questions on demographics and academic-related data, ranging from bio-data to years of experience and the working environment.

b. Section B contained 10 questions on awareness and support for physiotherapists as supplementary prescribers, the drugs they should prescribe, the knowledge level and professional interest in the study of pharmaco-physiotherapy, sources that could improve pharmacology knowledge of physiotherapists, support for enacting legislation to prescribe drugs, and the reasons for supporting or not supporting this legislation.

Prior to data collection, 10 physiotherapists who were not part of the main study previewed the content and structuring of the questions, and ensured that the questions were accurate and appropriate and sufficiently addressed the aims of the study. The revised questionnaire was returned to these same physiotherapists three times until they certified the appropriateness of the questionnaire.

Procedure

Ethical clearance was obtained from the Ethics and Research Committee of the Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, Osun State, Nigeria. Permission was sought and obtained from the heads of the PT departments of the institutions where the study was conducted. The aims of the study were explained to participants, and they were assured of confidentiality of information. The participants consented to participate through a written
informed consent. In order to maintain anonymity, participants’ names were not required in the questionnaire. One hundred and twenty copies of the questionnaire were distributed by hand and 102 copies were returned, representing a response rate of 85%. The mean age of the 102 respondents was 32.56 ± 9.44 years. The gender distribution, academic qualifications and work settings are presented in Table 1.

Data analyses

The data were analyzed using descriptive statistics of frequency, percentages and standard deviation, and non-parametric inferential statistics (Kruskal–Wallis) was used to compare the mean percentage difference in the number of respondents who supported the prescription of different types of drugs.

Results

The results showed variations in the frequency of respondents to different questions in the questionnaire since there are no responses to some questions (Table 2). The majority of respondents are aware that physiotherapists are supplementary prescribers of drugs in some foreign countries. Similarly, high frequencies were observed for respondents who supported the enlistment of physiotherapists as supplementary prescribers and those who desired a change in their prescription status to professionals who will prescribe relevant oral and injectable drugs (Table 2). Most respondents preferred to prescribe analgesics, muscle relaxants and (NSAIDs) but very few would like to prescribe antibiotics, multivitamins and over-the-counter drugs (Table 3). Results of the Kruskal–Wallis test showed that the number of respondents who preferred to prescribe analgesics, NSAIDs, and muscle relaxants was significantly higher than the number of physiotherapists who preferred to prescribe other classes of drugs.
Table 1: Mean age, clinical experience, quantifications and work setting of participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>N = 102</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, (years), (mean ± SD)</td>
<td>32.6 ± 9.4</td>
</tr>
<tr>
<td>Sex (male : female)</td>
<td>61 : 41</td>
</tr>
<tr>
<td>Qualifications (B : M : D)</td>
<td>73 : 15 : 14</td>
</tr>
<tr>
<td>Work Settings (P : T : A)</td>
<td>3 : 86 : 13</td>
</tr>
</tbody>
</table>

Key: B = Bachelor’s Degree; M = Master’s Degree; D = Doctorate Degree; P = Private; T = Teaching Hospital; A = Academic University

Few respondents (34.3%) agreed that their present knowledge of pharmacology was enough to prescribe oral and injectable drugs. However, the majority showed interest in gaining more pharmacology knowledge (Table 4). Table 5 presents the frequency of respondents on sources of gaining more knowledge on pharmacology.

Table 2: Awareness, enlistment and change in prescription status of physiotherapists

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Respondents</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness (yes : no)</td>
<td>100</td>
<td>82 : 18</td>
<td>82 : 18</td>
</tr>
<tr>
<td>Enlistment (yes : no)</td>
<td>99</td>
<td>83 : 16</td>
<td>84 : 16</td>
</tr>
<tr>
<td>Change (yes : no)</td>
<td>100</td>
<td>84 : 16</td>
<td>84 : 16</td>
</tr>
</tbody>
</table>

A larger proportion of respondents supported legislation and enactment of law that will officially permit physiotherapists to prescribe drugs. Most respondents opined that supplementary prescribing will make clinical practice more effective and also enhance clinical benefits for patients when medications and PT are combined through supplementary prescribing by physiotherapists (Table 6). The results showed that very few respondents [3 respondents (2.9%)] objected to supplementary prescribing. The reasons given are that the profession of PT will lose its uniqueness, it will create an avenue of physicians to start practicing PT.
(1.9%) and that it is the primary responsibility of only physicians to prescribe drugs [2 physiotherapists (1.9%)].

**Table 3:** Classes of drugs respondents would like to prescribe (multiple response options)

<table>
<thead>
<tr>
<th>Variables</th>
<th># of respondents</th>
<th>Percentages</th>
<th>H</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analgesics</td>
<td>77</td>
<td>74.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSAIDs</td>
<td>77</td>
<td>74.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antibiotics</td>
<td>21</td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multivitamins</td>
<td>29</td>
<td>28.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-hypertensives</td>
<td>36</td>
<td>35.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-diabetics</td>
<td>25</td>
<td>24.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle relaxants</td>
<td>61</td>
<td>59.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the counter drugs</td>
<td>27</td>
<td>26.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All classes of drugs</td>
<td>12</td>
<td>11.7</td>
<td>344.00</td>
<td>0.001</td>
</tr>
</tbody>
</table>

**Key:** H = Kruskal-Wallis statistic value; P = level of significance (0.05)

**Table 4:** Adequacy of present knowledge, interest in pharmacology and legislation

<table>
<thead>
<tr>
<th>Variables</th>
<th># of respondents</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequacy of present knowledge</td>
<td>(yes: no: nil)</td>
<td>35: 67: 0</td>
</tr>
<tr>
<td>Interest in studying pharmacology</td>
<td>(yes: no: nil)</td>
<td>89: 12: 1</td>
</tr>
<tr>
<td>Legislation</td>
<td>(yes: no: nil)</td>
<td>88:10:4</td>
</tr>
</tbody>
</table>

**Key:** nil = Absence of response to questions
Table 5: Sources that can improve pharmacology knowledge of physiotherapists

<table>
<thead>
<tr>
<th>Variables</th>
<th># of respondents</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current schools training curricular</td>
<td>47</td>
<td>45.6</td>
</tr>
<tr>
<td>Reviewing school</td>
<td>85</td>
<td>82.5</td>
</tr>
<tr>
<td>Doctor of physiotherapy (DPT)</td>
<td>74</td>
<td>71.8</td>
</tr>
<tr>
<td>Seminars and workshops</td>
<td>65</td>
<td>63.1</td>
</tr>
<tr>
<td>Introduction of Transitional DPT</td>
<td>49</td>
<td>47.6</td>
</tr>
<tr>
<td>Continuous professional development</td>
<td>73</td>
<td>70.9</td>
</tr>
</tbody>
</table>

Table 6: Respondent’s reasons for supporting legislation that will permit drug prescription by physiotherapists

<table>
<thead>
<tr>
<th>Variables</th>
<th># of respondents</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical practice effectiveness</td>
<td>80</td>
<td>77.7</td>
</tr>
<tr>
<td>Image improvement</td>
<td>69</td>
<td>67.0</td>
</tr>
<tr>
<td>Effectiveness of combined therapy</td>
<td>85</td>
<td>82.5</td>
</tr>
<tr>
<td>Cost effective for patients</td>
<td>40</td>
<td>38.8</td>
</tr>
<tr>
<td>Inadequate physiotherapy</td>
<td>8</td>
<td>7.8</td>
</tr>
<tr>
<td>Effectiveness of drugs</td>
<td>6</td>
<td>5.8</td>
</tr>
<tr>
<td>Reduction of time wastage</td>
<td>46</td>
<td>44.7</td>
</tr>
<tr>
<td>Increased confidence</td>
<td>55</td>
<td>53.4</td>
</tr>
</tbody>
</table>

Discussion

Globally, health professionals tend to increase knowledge and scope of practice with the ultimate goals of providing quality care and reducing costs for clients. However, it appears the pace of improving clinical PT education and practice in the continent of Africa is slow and less dynamic. The main goal of Inter Professional Education (IPE), which includes learning in academic and
work-based settings before and after qualification, is to foster relationships where two or more professions learn with, from and about each other to improve collaboration and the quality of care (CAIPE, 2002).

In a health care system, it is important to consider the efficacy of intervention, timelines of delivering services, efficiency of health systems, cost-effectiveness and overall good quality care for patients, especially in rural community care settings where independent prescribers may not readily be available. This study explored the opinions of physiotherapists in South-West Nigeria on changing their non-prescription status to that of supplementary prescribers. This study also gained insight into the opinion on enlisting physiotherapists as supplementary prescribers in Nigeria.

The results showed that most physiotherapists would like to be supplementary prescribers because it is relevant to their clinical practice. This desire may be attributed to the younger age of participants who were more likely to have pharmacology education during training because of its recent inclusion in Nigeria’s educational institutions. Also, the awareness of most respondents about physiotherapists being supplementary prescribers in some foreign countries might have stimulated their quest to expand their roles to that of supplementary prescribers.

The number of respondents who opined that their practice would be more efficient if they became supplementary prescribers was significantly higher than those who opined otherwise. There are several studies that provided evidence that pharmacotherapy is an indispensable adjunct to the practice of clinical PT (Zafonte and Munun, 2001; Konitzer, Fischer, and Doering, 2003; Magos, 2006; Onigbinde, Adedoyin, and Johnson, 2006; Olszewski, Repetowski, and Kuśmierczyk, al, 2007; Onigbinde, Olaogun, and Iroghue, 2012). Extensive knowledge of pharmacotherapy is relevant and useful to clinical physiotherapy practice, has positive impacts,
and increases the quality of clinical practice (Onigbinde et al., 2013). However, there is a big challenge because in two recent studies among physiotherapists in Nigeria, despite their having formal pharmacology education during their undergraduate training, they still display inadequate knowledge of drugs (Onigbinde, Olaogun, and Iroghue, 2012; Onigbinde et al., 2013). This may be attributed to the lack of practice of the knowledge acquired during undergraduate training. However, most respondents opined that reviewing school curricula, commencing Doctor of Physiotherapy (DPT) programs, attending seminars and workshops, and continuous professional development would be relevant sources to gain extensive knowledge of pharmacology.

Further, results from the present study revealed that most respondents preferred to prescribe NSAIDs, muscle relaxants and analgesics while a few would like to prescribe antibiotics. This finding supports the results of a previous study that suggested that the most recommended medication by physiotherapists in Australia is NSAIDs (Grimmer et al., 2002). There is no specific formulary or list of medicines for supplementary prescribing, provided the patients are referred to a clinical management plan where physiotherapists are supplementary prescribers (Chartered Society of Physiotherapy, 2013). NSAIDS are by far the most common pharmaceutics used as adjunct therapy to physiotherapy management of musculoskeletal conditions (Moore et al., 1998). Their interest in prescribing muscle relaxants might be due to difficulties associated with management of spasticity in upper motor neuron lesions, which contributes to severe impairment of motor functions. However, many physiotherapists doubt they have enough knowledge of pharmacology to prescribe these but they are willing to improve their pharmacology knowledge.

This study showed a need for legislation that would change the prescription status of PTs from non-prescriber to that of supplementary prescribers. Appropriate legislation is a key tool that will
protect PTs against litigation in clinical practice, especially considering the perceived politics in the health sector coupled with the increasing rate of quackery in Nigeria. The changes would be cost-effective and bring demonstrable benefit in terms of patient care and make better use of the professional skills available (Chartered Society of Physiotherapy, 2013). It is pertinent for other health professionals to identify the need for physiotherapists to be given roles of supplementary prescribers because of the vastly increasing Nigerian population, increasing demand for special care from doctors for critically ill patients, emergencies and patients requiring intensive care, and poor health facilities and personnel in the rural communities. Supplementary prescribing reduces patient anxiety and the wait for medication. Langridge and Moran (1984) noted that patients attending therapist-run rheumatology clinics were better informed about their treatment (including medication) and were better able to discuss their problems and fears. The clamour for a change in role, as reported in this study, may not be supported by Nigerian physicians. Australian physicians rejected the growing trend of granting prescribing rights to non-medical health professionals, with the exception of dentists (Australian Medical Association, 2012). The Nigerian Medical Association may also oppose the granting of prescribing rights to Nigerian physiotherapists on the premise of inadequate pharmacological education as reported by Australian physicians.

Respondents generally opined that the inclusion of drug therapy is very crucial as an adjunct to effective treatment in the clinical practice. Most respondents opined that pharmacology knowledge can be improved through a review of school curricula, commencement of Doctor of Physiotherapy (DPT) programs and continuous professional development. This study identified and clarified the need for a standard, independent and up-to-date education package on the quality use of relevant medications suitable for PT practice. Similarly, it suggests the need for
continuing professional development workshops in order to improve knowledge on pharmacology. There is also need for regular curriculum review in training institutions to integrate pharmacology into PT education for undergraduate students.

Conclusion
This study concluded that the majority of PTs want their current status to change to that of supplementary prescribers with the enactment of a law that will back them in case of litigation. They would like to prescribe mostly analgesics, NSAIDs, and muscle relaxants. The limitation of this study is the sample size and sampling technique, hence limiting the generalization of the findings.

Conflict of interest: None declared.
References


Appendix

Questionnaire

This questionnaire is designed to know the opinion of physiotherapists in the need to change the prescription status of physiotherapists. Your sincere response will be appreciated. Information provided will be used for statistical purposes only and will be treated with confidentiality.

SECTION A

(Please tick the appropriate response)

1. Gender:    female    male, Age:    

2. Highest qualification attained    Degree    Master    Doctorate    

3. The total number of years of experience:    

4. Please tick where you presently work:    Private hospital    State hospital    Teaching hospital    Academics    other (please specify)    

SECTION B

1. Are you aware that physiotherapists are supplementary prescribers in some countries?    Yes    No    

2. Will you support the enlistment of physiotherapists among supplementary prescribers in Nigeria?    Yes    No    

3. Currently physiotherapist does not prescribe oral and injectable drugs but will you want your status to change to a prescribing status.    Yes    No    

4. If YES which classes of drugs should physiotherapists prescribe (tick as many as you wish)
   □ Analgesics    □ Non-steroidal Anti-inflammatory Drugs
   □ Antibiotics.    □ Multivitamins
   □ Anti-hypertensive    □ Anti-diabetics
   □ Muscle relaxants    □ Over-the-counter drugs
   □ All classes of drugs

5. Is your present knowledge enough to prescribe these drugs?    Yes    No    

6. Will you like to study physical pharmacotherapy / pharmaco-physiotherapy?    Yes    No    

7. Which sources can improve the pharmacology knowledge of physiotherapists (tick as many as you wish)
   □ Current schools training curricular
   □ Reviewing School curricular to accommodate intensive pharmacology education
   □ Introduction of Doctor of Physiotherapy curriculum (DPT)
   □ Seminars and workshops for special certification
   □ Introduction of Transitional Doctor of Physiotherapy curriculum (TDPT)
   □ Continuing professional development programmes.

8. Will you support a legislation changing the roles of physiotherapists to a prescribing status?    Yes    No    

9. Why will you like the prescribing status to change? (tick as many as you wish)
   □ It will reduce workload on doctors
   □ Patients will benefit more from the combination of medications and Physiotherapy
   □ It will be cost effective for patients
Physiotherapy alone is inadequate enough to make patient better
Drugs alone is effective
It will reduce patient’s waiting time
Patients will have more confidence in Physiotherapy

10. If ‘NO’ to question 8, give reasons (tick as many as you wish)
Physiotherapy alone is effective
Profession of Physiotherapy will lose her traditional roles
Drugs prescription is not within the scope of current undergraduate curriculum.
It will increase the workload
Doctor should be left alone to prescribe
It will encourage doctors to practice Physiotherapy