

PHARMACOLOGY PRACTICE AND SOUTH AFRICAN PHYSIOTHERAPISTS - PART TWO A NEEDS ANALYSIS

ABSTRACT: A national survey of pharmaceutical practice by South African physiotherapists was conducted. In this second paper, the needs relating to administration, storage and prescription of medicines are discussed. Seventy percent of respondents reported a need to legally administer and 58% reported a need to store certain medicines. More than 60% of respondents were in favour of the expansion of the scope of physiotherapy practice to include prescription of a limited range of medications after training and within certain areas of specialization or clinical competence. It is recommended that a basic pharmacology module be part of the undergraduate curriculum with the option to expand or update knowledge and skills via CPD activities and through specialization and that legislation be revised to accommodate these suggestions.

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INTRODUCTION

Physiotherapy is a dynamic process in which change and development within the scope of practice is ongoing (Robertson et al 2003). In many countries physiotherapists are now first-line practitioners and specialization is also becoming a reality (Donato et al 2004; Robertson et al 2003). Furthermore increasing financial, as well as resource constraints result in allied health professionals having an increased responsibility to provide a cost effective service in accordance with the evidence for best practice.

Physiotherapists have recognized the importance of knowledge of pharmacology and pharmacokinetics to ensure best possible treatment outcome (Lansbury and Sullivan 1998 and 2002; Grimmer et al 2002; Unger and Lochner 2005). A descriptive survey in the United States (USA) stated that advice concerning

over-the-counter (OTC) drugs was reported to be one of the professional responsibilities of primary contact practitioners (Donato et al 2004). Although there is very little evidence to support the assumption that physiotherapists have a need for prescription rights, one study stated that front-line and rural practitioners had reported a need to prescribe, specifically non-steroidal anti-inflammatory drugs (NSAID), to complement certain manual therapy techniques (Grimmer et al 2002). Correspondence with spokespersons for physiotherapy associations in Canada, United Kingdom (UK) and Australia has also confirmed that therapists in these countries have expressed the need to expand their scope of practice to include the right to prescribe certain medicines.

According to the Chartered Society of Physiotherapy (CSP) physiotherapists in clinical specialist positions in the UK may now become supplementary prescribers (CSP 2004). This enables them to administer, monitor and alter dosages as necessary within a specific Clinical Management Plan. Although they cannot yet prescribe independently, the CSP is continuing discussions with the Department of Health and seeking exemption from the Medicines Act regarding the use of local anaesthetic for use in the treatment of acute musculoskeletal conditions.

As early as 1994 the South African Society of Physiotherapists (SASP) attempted to formulate guidelines for a course to provide physiotherapists with all the knowledge required to prescribe specific categories of drugs, notably bronchodilators, mucolytics and certain skin preparations. Stellenbosch University presented a CPD course in Pharmacology in 1995 and from the course feedback, the need for limited prescription rights was further emphasised. This group was a small representation of physiotherapists from the Western Cape and much has changed in South Africa (SA) since then, including the introduction of community service for newly qualified physiotherapists in 2003. Requirements for optimising physiotherapy service delivery in the rural areas still need to be assessed. Therapists in rural areas in Australia have highlighted the issues of non-availability of medical and other health services as reasons for their need to be able to supply, recommend and even prescribe medicines to their patients (Grimmer et al 2002).

SA legislation currently prohibits physiotherapists to administer, store or prescribe medicines. The assumption that some therapists are making themselves guilty of illegal practice and the uncertainty of the need for these rights motivated the undertaking of a nation-

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wide survey in collaboration with the Professional Board of Physiotherapy, Podiatry and Biokinetics (HPCSA) in 2004. Part one of this two part series reported on the results relating to response rate, respondent demographics, perceived knowledge of pharmacology as well as current administration-, storage- and prescription practice by SA physiotherapists (Unger and Lochner 2005). This paper focuses primarily on the results pertaining to respondents' needs regarding the administration, storage and prescription of medicines. Knowledge regarding pharmacology and how this is sought was also investigated.

METHOD

Following project approval and registration (2003/147/N) by the Research and Ethics Committee at Stellenbosch University, a self-administered questionnaire was sent out, together with the Bulletin of the Professional Board for Physiotherapy, Podiatry and Biokinetics, to all 4408 physiotherapists registered with the HPCSA in January 2004. A more detailed description of the methodology is described in Part One (Unger and Lochner 2005). The questionnaire had three sections: Information regarding personal details and demographics; current practice and knowledge of pharmacology; and attitudes towards drug administration and prescription respectively. Quantitative data was analysed and correlated with responses relating to work setting and -area, years qualified, and conditions most commonly treated, where this was appropriate. Responses to the open-ended questions were qualitatively processed and analysed.

RESULTS

A response rate of 10.2% (N=448) was obtained (Unger and Lochner 2005). This second paper of a two-part series will report on respondents' attitudes towards pharmacology and the extension of the scope of physiotherapy practice to include administration, storage and prescription rights.

Acquisition of knowledge

Fifty three percent of the respondents received theoretical training in pharmacology as part of their undergraduate qualification (figure 1). Less than a quarter of the respondents indicated that they had either obtained or updated

Figure 1: Training in pharmacology.

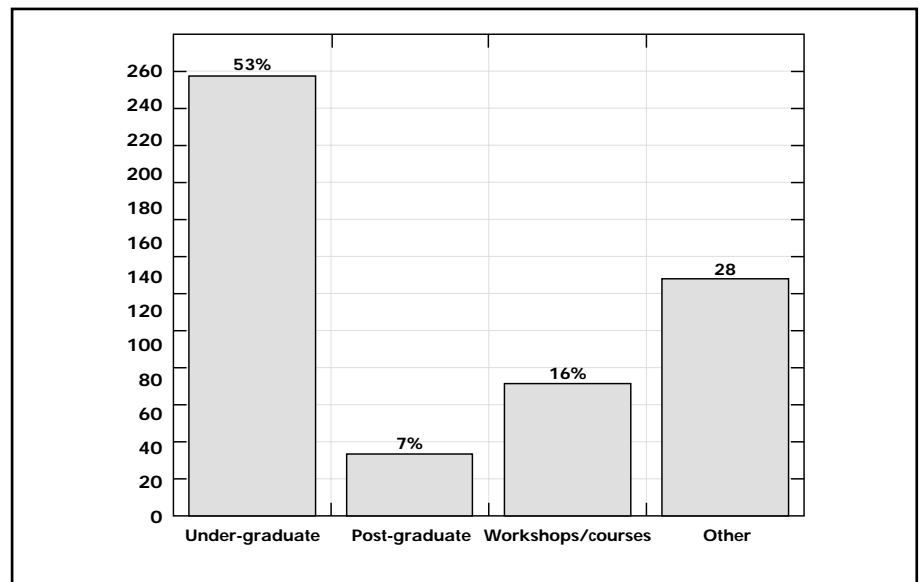


Figure 2: Importance rating for inclusion of pharmacology at undergraduate level.

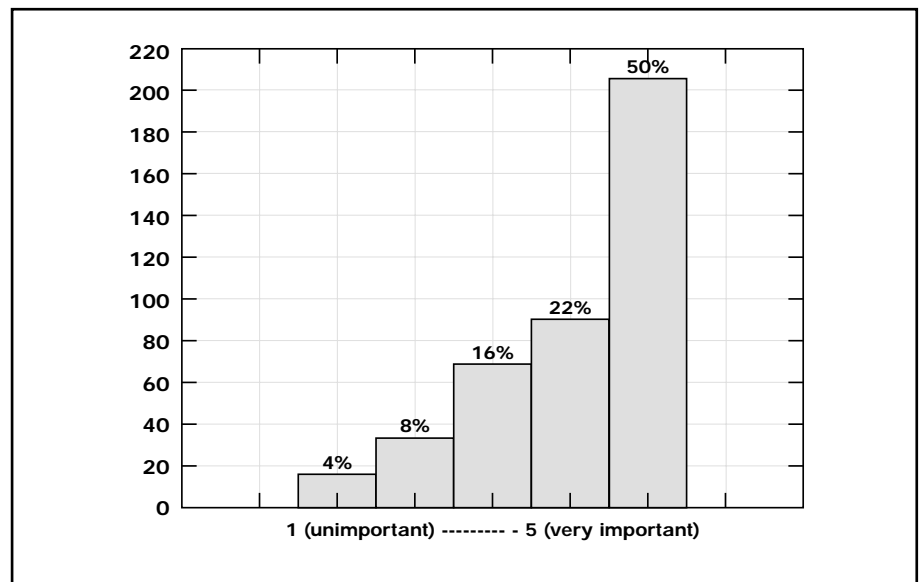
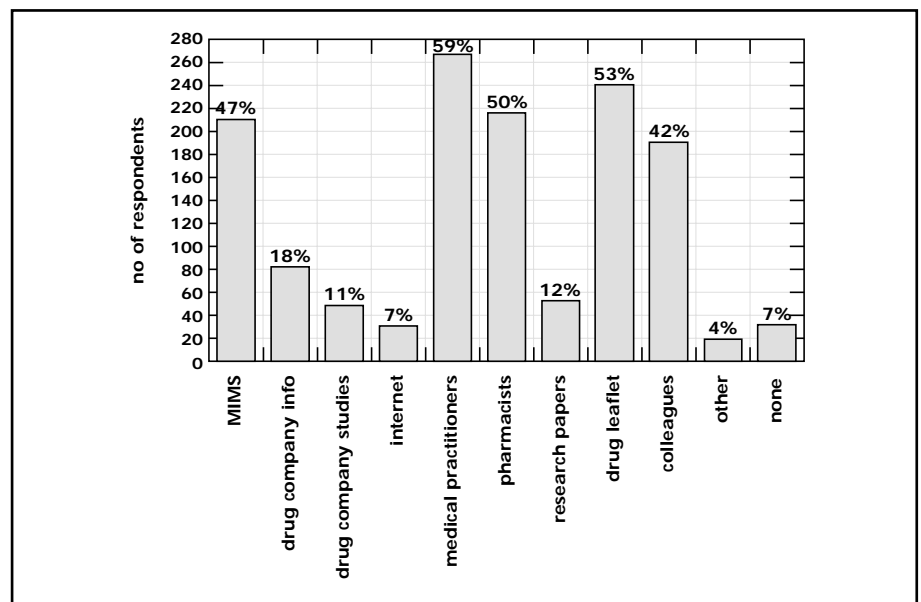


Figure 3: Sources of drug information consulted by respondents in the six months prior to completion of the questionnaire.



their knowledge in pharmacology via post-graduate courses or workshops. Knowledge acquisition through more informal means, such as attendance of ward rounds and departmental CPD activities, journal readings or even conversations with medical practitioners, was also reported. Sixty percent of the respondents indicated that they have never updated their knowledge.

No correlations were found between work setting (rural vs urban) and post-graduate workshop or course attendance, nor for conditions most commonly treated.

Seventy two percent (n=297) of the respondents rated the inclusion of a comprehensive module in pharmacology in the undergraduate curriculum as being important (Figure 2). Analysis of the final comments and suggestions indicated that knowledge of drug interactions, especially with physiotherapy modalities and techniques, would enable graduates to manage their patients more holistically and that they would be able to give informed advice regarding suitable medication, thereby facilitating best practice.

Evidence to support the recognition of the importance of pharmacology was found in the number and frequency of drug information sources utilised by the respondents (figure 3). Regardless of training background, 90% of the respondents had sourced information at least

once in the six months prior to the completion of the questionnaire.

Administration of medicines

Seventy percent (313/N) of the respondents indicated that physiotherapists should be allowed to administer drugs (Table 1). This view was supported by the qualitative analysis of the final comments with reference especially to respiratory and anti-inflammatory drugs. Analgesics, topical (NSAID, wound- and homeopathic-) preparations, antibiotics and emergency drugs were also listed. Motivation for the response relating to the respondents' experience regarding the administration of medicines are summarised in Table 2.

Therapists treating in-patients in public hospitals expressed a greater need for the right to administer as compared to therapists practising in private hospitals (p<0.03). A significant correlation between therapists treating respiratory conditions and the need to administer was also found (p<0.02). No correlations between work setting (urban vs rural) and the need to administer drugs were found.

Although not specifically asked in the questionnaire, respondents volunteered information regarding administration routes. These included administration predominantly via inhalation therapy and topical application. Oral ingestion,

ionto- and phonophoresis and injection were also reported.

Storage of medicines

Although respondents felt a lesser need for the right to legally stock medicines (Table 1), analysis of their comments indicated that storing of medicines which therapists can administer, would further facilitate service delivery and minimize cost to the patient. Motivation for responses relating to storage practice was very similar to those listed for administration rights.

Prescription of medicines

Sixty three percent (277/N) of the respondents expressed the need to be able to prescribe medicines (Table 1). Similarly 62% of the respondents indicated that prescription of drugs should be part of the scope of physiotherapy practice, despite acknowledgement of the implication that such a policy change would increase insurance premiums and "...load an already full curriculum". Although there was a significant correlation between the need experienced and the responses relating to the inclusion of the right to prescribe (p<0.001), 40 (10%) respondents indicated that although they themselves had not had the need to prescribe as yet, the option of being able to prescribe if necessary, would allow more holistic patient management. Graduates with fewer years experience (mean:12.8 years; range:11.5 - 14) expressed a greater need for the right to prescribe than older graduates (mean: 17 years; range:15.4 - 18.6) (p<0.001). No other correlations were found.

Reasons stated by respondents in support of inclusion of pharmacology into the scope of physiotherapy (264/N), in order of frequency, were:

Table 1: Need to prescribe, administer and stock medicines.

	YES	NO
Need to prescribe	63%	37%
Should be allowed to administer	70%	30%
Should be allowed to stock medicine	58%	42%
Should stock emergency medicine	36%	64%

Table 2: Comments regarding administration needs.

Reasons in favour of	Administration of drugs		
	No of comments (%)	Reasons against	No of comments (%)
Augment Rx / rehab	34%	Lack of training	33%
Necessity for 1st contact practitioner	24%	Dr / pharmacists are better trained	21%
Cost / time effective	17%	PT has own skills	18%
Enhances holistic approach	9%	Not in PT scope of practice	11%
Manage acute conditions > effectively	5%	Increased insurance premiums	2%
Advance professional status	4%	Curriculum is full enough	2%

- inclusion would encourage more holistic and comprehensive patient management (includes being able to give better advice re medication, complimenting manual therapy techniques and improving service delivery)
- it would be more cost and time effective for the patient
- it would give increased status and an added dimension to physiotherapy which would ensure keeping up with other professions

However these respondents expressed certain reservations and stated that this right should be limited to areas of specialization only, within clearly defined guidelines and the choice to do so should be voluntary.

Reasons stated by the respondents who were against the inclusion of pharmacology into the scope of physiotherapy (164/N), in order of frequency, included:

- doctors and pharmacists are better trained and are available for referral
- increases risk, responsibility (“...little knowledge is dangerous...”)
- increase in insurance premiums
- doesn't “fit” into the scope of physiotherapy - physiotherapy relies more on manual techniques and physical rehabilitation
- current course already full and scope of physiotherapy is wide enough
- could compromise good inter professional relationships

DISCUSSION

Respondents to the survey seemed to have particular views regarding the issues of administration, supply, storage and prescription of medicines. However qualification of their responses was often ambiguous and analysis of comments used to motivate their opinion often negated or even contradicted their yes or no response. Respondents' attitudes towards these issues will be discussed.

Administration of medicines. Management of physiotherapy services differs for state and private practice. The assumption that the multi-disciplinary approach to patient care in our state hospitals is not optimal, due to a possible lack of cooperation between the disciplines may have contributed to the more significant need expressed by these practitioners for the right to be able to administer medication, especially respiratory drugs for inhalation therapy. The

need to be able to administer certain medications, however, was reported in all fields of physiotherapy practice. Although these findings were not significant, more than half of the respondents reported that inclusion of medicine administration rights would save time, and legislation of storage of these medicines would furthermore promote effective service delivery.

Contradictory to the findings of Grimmer et al (2002) respondents in rural work settings in the current survey did not report a greater need for legislation of administration or storage rights. Similarly no greater need for prescription rights, was reported by these respondents. The expansion of Primary Health Care services in SA has improved patients' accessibility to medical practitioners and pharmacists in these rural areas. However media reports have stated that delivery of medicines is slow and there are long queues while waiting for collection of medicines. This did not appear to affect physiotherapy service delivery. The low response rate especially from practitioners in rural work settings (Unger and Lochner 2005) may also have contributed to these findings.

Prescription of medicines. Almost two thirds of respondents indicated they had experienced the need to be able to prescribe medicine. Generally respondents were also in favour of the inclusion of prescription rights into the scope of physiotherapy practice. Qualitative motivation by respondents in favour of the expansion of the scope of practice related predominantly to the enhancement of the profession, whereas analysis of responses opposing the inclusion related predominantly to the increase liability risk and the lack of current training in pharmacology, suggesting perhaps that with the necessary training, inclusion may very well be appropriate.

Knowledge of pharmacology and training. The current survey shows that respondents are aware of the potential danger associated with insufficient knowledge when recommending and supplying medicines, even over-the-counter (OTC) and homeopathic drugs. Similar findings were reported by a study in Australia, investigating therapists' knowledge shortly after the recommendation and administration of non-prescription medications was legalised (Lansbury and Sullivan 2002). These authors emphasised that informa-

tion regarding drug effects, interactions with other medications and therapies, side-effects and contra-indications alone are insufficient to ensure safe practice. Thorough history taking, documentation practice, and competent administration and evaluation skills are also essential.

An internet survey revealed that there is no specification that pharmacology modules are part of undergraduate physiotherapy programs (ACOPRA 2001; APTA 2002; WCPT 2003). In SA, up to 2002, the decision about the inclusion of pharmacology in the undergraduate curriculum had not been made. There is still no consensus regarding curriculum content, nor outcomes for pharmacology training. Results from this survey indicate that many therapists have never received formal training. Despite the recognition of the importance of the role of medicines in patient management, less than a third of respondents had sought to acquire new, or update their existing, knowledge. On the other hand, many therapists are sourcing information, mostly through informal means (refer to figure 3) and yet respondents still regard their current knowledge insufficient to be able to advise patients safely about, or to administer medication (Unger and Lochner 2005). This seems to suggest that therapists have a need for formal training in pharmacology as well as ongoing CPD activities to equip them with appropriate competencies for safe and effective pharmacology practice.

CONCLUSIONS AND RECOMMENDATIONS

Analysis of responses to the survey has identified several components essential for enhancing physiotherapy practice. A comprehensive report of the findings of this survey has been submitted to the Professional Board of Physiotherapy, Podiatry and Biokinetics. The authors have made several recommendations and these include that:

1. A module in basic pharmacology should be incorporated into the undergraduate curriculum. A theory component including pharmacokinetics, side-effects and contra-indications of a selected list of drugs should be included, as well as a practical component to ensure competent administration skills via nebulisation, iontophoresis, phonophoresis, topical application and intra-muscular injection within the various domains of

applied physiotherapy. This will equip a new graduate with the necessary knowledge and skill to function as a supplementary prescriber / legal administrator (refer to PA 58 (CSP 2004)).

2. The Professional Board (HPCSA) must amend current legislation for this to become accepted practice.
3. Individual therapists specifically trained should be given "Extended Scope Practitioner" status and allowed to prescribe, administer and supply medicines relevant to the different areas of specialization or clinical competence.
4. To accommodate the current need for knowledge it is recommended that the SASP in consultation with the various academic institutions and special interest groups, develop and offer courses. Alternatively, ongoing CPD can also be offered in form of academic publications.

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