

Why do physiotherapists do what they do? A study of Kuwaiti physiotherapists

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ABSTRACT

Background and Purpose. Physiotherapy has an important role in the management of numerous musculoskeletal (MSK) problems. In terms of evidence-based physiotherapy practice, little is known about the reasons for selection of treatment techniques by MSK physiotherapists or whether their treatments are evidence-based. This survey aimed to explore the reasons for the choice of treatment techniques by Kuwaiti MSK physiotherapists and to identify the extent of using the evidence-base from research findings as a basis for physiotherapy practice. **Methods.** A self-reported questionnaire accompanied with participant information sheet was distributed to 139 MSK physiotherapists in seven hospitals in Kuwait. The questionnaire was modified from that used in a previous study for use with Kuwaiti MSK physiotherapists to include modalities that were known to be used there by the lead author. It was piloted prior to distribution on three Kuwaiti MSc students for content and face validity. **Results.** 106 of 139 therapists responded, of who 22% were male and 78% were female. The study showed that undergraduate education was the main influence for all treatment techniques used by Kuwaiti MSK physiotherapists. The use of research findings as a basis for choice of treatment techniques was very limited. The use of research was not related to post-qualification education or years of professional experience. **Conclusion.** The findings of this study demonstrate that current physiotherapy practice in Kuwait is more reliant on undergraduate education and less on research evidence for the choice of treatment techniques. This has implications for undergraduate physiotherapy curricula, suggesting that evidence-based practice must be keenly espoused.

Key words: musculoskeletal, types of intervention, research, physiotherapy, Kuwait

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INTRODUCTION

Musculoskeletal (MSK) disorders are considered a major public health problem, potentially leading to a serious socioeconomic impact worldwide (Hoy *et al.*, 2012; Storheim *et al.*, 2014). In the state of Kuwait, the point prevalence of MSK pain ranged from 36% in females, 20% in males (Al-Awadhi *et al.*, 2004), and 48% amongst physiotherapists (Al-Rowayeh *et al.*, 2010). Thus it is that musculoskeletal disorders are a major health problem amongst Kuwaitis (Al-Awadhi *et al.*, 2004). The treatment of patients with musculoskeletal disorders frequently involves physiotherapy, which can involve exercises, manual therapy, electrical modalities or any combination of these (Dagenais *et al.*, 2010).

Physiotherapy requires the utilisation of treatment techniques based on current research and scientific evidence (Desmeules *et al.*, 2012). The importance of research-based physiotherapy practice has been recognised for several decades (Campbell, 1970), with the emphasis placed on the best research evidence, clinical experience and patient preferences (Turner and Whitfield, 1999; Bohannon and LeVeau, 1986; Newham, 1994). The practice of the majority of physiotherapists is highly reliant on experiences, and undergraduate education; therefore, it has been suggested that physiotherapy practice had a limited base in research (Turner and Whitfield, 1997). In order to alter this approach physiotherapists must also be encouraged to use research findings in their clinical practice, as well as clinical experience (Upton and Upton, 2006b). However the challenges of using evidence to inform clinical practice has been recognised (Ostelo *et al.*, 2010; Fourney *et al.*, 2011).

In spite of the recommendations made to direct the physiotherapy profession to become evidence-based practice (EBP), there has been the continuation of avoiding the utilisation of research-based treatment techniques due to many barriers facing healthcare providers, including workforce attitude, a lack of time, and a lack of appropriate skills (Schreiber and Stern, 2005; Upton and Upton, 2006a). Although there has been some recognition in the literature concerning the necessity of research-based practice (Dagenais *et al.*, 2010; Koes *et al.*, 2010) no study has been conducted in the Middle East that investigates hospital-based physiotherapists' clinical practice. There is no literature that reports the reasons why physiotherapists select certain treatment techniques in Middle Eastern countries.

Kuwait is a small Middle Eastern country with an estimated population in 2014 of 4,044,500 (CIA World Factbook 2014). The majority of the population live in the capital, Kuwait City. The population of Kuwait is made up of both Kuwaiti and non-Kuwaiti citizens; with the latter coming from a wide range of Asian countries, but the proportion of non-Kuwaiti citizens is unknown.

There are eight hospitals that each employs some 20-30 physiotherapists (personal communication); about 180 physiotherapists in total. However one hospital is a neurological speciality hospital, so physiotherapists were recruited only from the seven hospitals where MSK patients were seen. Kuwait University trains only Kuwaiti citizens as physiotherapists. The undergraduate curriculum includes a module on research that includes an introduction to research methodology, and their application in clinical practice. There is no Master or Doctorate programme in Kuwait. There were 165 non-Kuwaiti physiotherapists working in Kuwait in 2012 (<http://www.moh.gov.kw>; accessed 01/01/2014) in active clinical posts predominantly employing physiotherapists from Asia, such as Pakistan, India, or the Philippines; or from the Arabic world, such as, Jordan, Lebanon, Saudi Arabia, Egypt and Syria. Exact data on all this information is not available. These non-Kuwaiti physiotherapists received their training in their home countries.

Information relating to Kuwaiti physiotherapy practice is limited in the literature. With this in mind, the aim of this study was as follows:

- To explore the influences that make Kuwaiti physiotherapists select the treatment techniques that they use for patients with musculoskeletal problems.

METHOD

The current study used a self-report questionnaire survey of Kuwaiti MSK physiotherapists who all worked in government hospitals. It is a means of gathering data relating to people's awareness, attitudes, beliefs and behaviours (Rattray and Jones, 2007). It is also considered to be a simple and effective method of collecting information from a large population (Oppenheim, 1992).

Before data collection the study was approved by the Health and Wellbeing Ethics Committee of Sheffield Hallam University, the Scientific Research Committee of Kuwait Ministry of Health, and from the Research Departments of the seven government hospitals involved. Potential participants, identified through the physiotherapy departments, received an information sheet to read about the study. Participation was voluntary and anonymous, with consent being assumed by return of the questionnaire. The data were thus anonymous, confidential, and also stored securely on an encrypted computer.

Purposive sampling of Kuwait physiotherapists, who had trained in Kuwait and practised in musculoskeletal physiotherapy, was used to recruit physiotherapists from the seven government hospitals in Kuwait. These hospitals were chosen with the aim of trying to widen the sample size, as they cover the whole state of Kuwait, and reduce selection bias. The inclusion criteria were as follows: Kuwaiti MSK physiotherapists of either gender, who had graduated from Kuwait University, and worked in a government hospital of the Kuwait Ministry of Health. According to the governing body of physiotherapy in Kuwait, the Administration of Physical Therapy Affairs (APTA), the number of Kuwaiti physiotherapists in different specialties in 2011

was 286. A large number, though unknown how many, of non-Kuwaiti physiotherapists work in Kuwait. These therapists are chiefly from the Indian sub-continent and trained in India or Pakistan, and were not included, as the study aimed to determine the treatment options favoured by Kuwaiti-trained therapists.

The questionnaire was based on one used previously for a similar study (Turner and Whitfield, 1999), but adapted to include a wider variety of MSK treatment techniques that were considered 'normal practice' in Kuwait, so that the questionnaire was relevant to the target population. But the modified questionnaire was not tested for cross-cultural validity. The questionnaire was delivered in the original English language.

To test the content and face validity of the adapted questionnaire, the modified version was piloted prior to distribution amongst three Kuwaiti MSc students at Sheffield Hallam University who had trained in Kuwait and therefore understood the context (Streiner et al. 1991). The postgraduate students were asked to provide their comments on the format of the questionnaire, its content, wording, instructions, and its overall ease of completion. No changes were made as they judged it to be well formatted, with clear questions, and with clear instructions for completion.

The questionnaire was divided into two sections: the first section included questions about the demographic and background characteristics of participating physiotherapists. The second section asked the physiotherapists to report, according to a priority of reasons, with a *maximum* of three reasons per technique, *their* reasons for the selection of a treatment technique during the last six months for musculoskeletal problems in general. Respondents were asked to choose a *maximum* of three reasons for each of the 17 techniques, but they did not need to choose three. For each treatment technique, there were potentially nine reasons provided (Table 1). According to Turner and Whitfield (1999), the list of reasons provided was based on the finding of previous studies (Hightower, 1973; Bohannon, 1991). The category 'other technique' allowed the participant to specify any technique that was not

listed that the therapists considered important. The list of reasons provided in the original questionnaire remained the same.

Table 1: The second section of the questionnaire

List of treatment techniques	List of reasons for selection of treatment technique
<ol style="list-style-type: none"> 1. Passive mobilization 2. Passive manipulation 3. General exercise 4. Stabilization exercise 5. McKenzie 6. PNF 7. Ultrasound 8. Interferential 9. Ice therapy 10. Local heat (e.g., hot packs) 11. Infra-red radiation 12. TENS 13. Electrical stimulation 14. Hydrotherapy 15. Strapping/splints 16. Friction massage 17. Other technique (please specify). 	<ol style="list-style-type: none"> 1. Taught in initial training 2. Suggested by colleague 3. Prior experience 4. Following practice-related course 5. Following reading journal or research article 6. Always use for specific condition 7. Part of research project 8. Following group presentation/discussion 9. Other (please specify).

PNF = proprioception neuromuscular facilitation; TENS = transcutaneous electrical nerve stimulation

The current study was conducted between February and June, 2012. Copies of the questionnaire and participant information sheets were posted with prepaid envelopes to the seven hospitals in Kuwait who agreed to participate in the study. In each hospital there was one research assistant who distributed the questionnaires to those consenting to participate. Within one week of distribution the research assistants collected the completed questionnaires. Completed questionnaires were posted back via mail to the principle researcher from all of the research assistants.

The data collected from the questionnaire was analysed in a similar way to that implemented in an earlier study (Turner and Whitfield, 1999). The demographic variables were presented with the use of descriptive statistics; using percentages, frequencies, and mood as a measure of central tendency. The Statistical Package for the Social Sciences (SPSS, version 19, Chicago, Illinois) was used to analyse the data. Chi-square test was used to examine the correlation between demographics and treatment choices, with p-value set at 0.05. Previous studies had adopted a similar study design, and the use of descriptive and correlation analyses (Gracey *et al.*, 2002; Adegoke *et al.*, 2008; Fidvi and May, 2010). The questionnaire is in the appendix.

RESULTS

Response Rate

Out of 139 physiotherapists who were invited to take part in this study 112 (80.5% response rate) responded. However six questionnaires were excluded because they were incomplete. The data gathered from 106 questionnaires were included in the final analysis. Physiotherapists declined participation for several reasons, such as studying abroad, being on leave, or dislike of questionnaires.

Respondents' Demographics

Information relating to physiotherapists is given in Table 2.

Table 2. Demographic characteristics of respondents

Characteristics	Respondents (n= 106)
Gender	
Male	23 (22%)
Female	83 (78%)
Years of professional experience	
Less than 2 years	22 (21%)
2-5 years	35 (33%)
5-10 years	10 (9%)
10 or more years	39 (37%)

Post-qualification education (PQE)	
None	37 (35%)
Practice-related courses (PRC)	48 (45%)
Diploma	3 (3%)
Masters	18 (17%)
Registered for PQE	
Diploma	7 (7%)
Masters	30 (28%)
None	69 (65%)

The mood number of times each reason was reported per participant and the percentage of each reason against the total number of reasons is stated in Table 3. There were a total of 3,685 responses from 106 respondents; in other words most therapists used only two reasons for each of the 17 techniques.

Table 3. Total reasons and their percentage of the total

Reason	Frequency of use (%)
1. Taught in initial training	(1151) 31%
2. Suggested by colleague	(235) 6%
3. Prior experience	(607) 16.5%
4. Following practice-related course	(485) 13%
5. Following reading journal or research article	(245) 6.5%
6. Always use for specific condition	(732) 20%
7. Part of research project	(73) 2%
8. Following group presentation/discussion	(81) 2%
9. 'Other reason' please specify	(76) 2%
Total	3685 (100%)

The influence of knowledge gained from undergraduate courses, prior experience and technique learnt on a course accounted for more than 80% of all responses (table 3). The number of participants who indicated the use of journals or research as a reason for the choice of techniques did not exceed 10% for any of the interventions. The use of research findings in clinical

practice was not more associated with either post-qualification education ($P=0.85$) or longer professional experience ($P=0.73$).

DISCUSSION

This study aimed primarily to identify the reasons that influence Kuwaiti hospital MSK physiotherapists to select certain treatment techniques in the management of various musculoskeletal conditions. The results of the current study revealed that the selection of treatment techniques by Kuwaiti MSK physiotherapists was based mainly on initial training and education. Previous experience of managing specific MSK conditions with a specific physiotherapy technique was another common reason. There was very limited use of research to inform their choice of treatment; and the selection of certain physiotherapy techniques was not associated with professional experience or educational levels.

Studies conducted in the UK and Australia recruited physiotherapists with various specialties, not only MSK physiotherapists as in the current study (Turner and Whitfield, 1999, 1997). The previous surveys focused mainly on low back pain (LBP) as opposed to MSK disorders in general as in this study (Li and Bombardier, 2001; Poitras *et al.*, 2005; Hamm *et al.*, 2003; Pensri *et al.*, 2005; Foster *et al.*, 1999; Liddle *et al.*, 2009; Byrne *et al.*, 2006). The response rate of the present study was high (76%) compared to a moderate response rate in the studies conducted in the UK (56%) and in Australia (59%). The high response rate in the current study might be due to the type of sampling adopted, which was purposive, in contrast to convenience sampling in the studies conducted in the UK and Australia. In terms of the demographic characteristics, almost all respondents in this study had 10 or more years' experience following graduation, which is similar to the original study (Turner and Whitfield, 1999).

The results indicated that Kuwaiti physiotherapists depend a lot on their undergraduate education and training as a primary factor that influences their

treatment selection, which is in agreement with previous studies (Turner and Whitfield, 1999, 1997).

The lack of use of research findings in the process of decision making in the clinical setting in Kuwait is low in this study and previous surveys from different countries: Kuwait 6.6%, Australia 6.2%, UK 5.8% (Turner and Whitfield, 1997, 1999), USA (Jette *et al.*, 2003), Australia (Grimmer-Somers *et al.*, 2007; Iles and Davidson, 2006), Canada (Barnard and Wiles, 2001), and Sweden (Kamwendo, 2002).

There were a number of limitations to be considered. Participants were asked to remember the reasons behind treatment choices during the past six months, which might introduce the risk of recall bias (Bowling 2009). Sampling used was purposive to only include MSK physiotherapists and limited to Kuwait, which clearly affects the generalisability of findings. As already stated a large number of non-Kuwaiti physiotherapists work in Kuwait, but the survey was only distributed to those born and trained in Kuwait. The results might not be applicable to other countries in the Middle East, because of the possible differences between these countries in terms of physiotherapy education and treatment facilities. The questionnaire was not limited to one MSK complaint (for example low back pain or neck pain), but was for all MSK complaints, which might hinder the usability of the findings.

Despite the limitations of the study the findings provide an overview of the current physiotherapy practice in Kuwaiti state hospitals, particularly relating to musculoskeletal physiotherapy. As the majority of the respondents relied on undergraduate education, academic education should therefore incorporate more strongly scientific evidence and research findings as the bedrocks of physiotherapy education. This might ensure physiotherapists will use evidence-based practice, clinical reasoning and critical thinking in their day-to-day clinical practice. It would be valuable to explore the way in which the

findings of our study might improve physiotherapy education in undergraduate education in Kuwait.

Moreover, one of the areas of interest for future research is to explore the perceptions of individuals with MSK disorders and their opinion of the physiotherapy service in Kuwait. Whilst conducting the current study, the limitation of epidemiological studies that investigated the prevalence of MSK disorders in Kuwait has been recognised; therefore, more research is needed in this area.

CONCLUSION

The findings of this study give an overview of current physiotherapy practice in Kuwait, emphasising greater reliance in the undergraduate education and training as opposed to the utilisation of research-based evidence. As the survey was carried out amongst hospital physiotherapists, the responsibilities of the limited use evidence-based treatment techniques lies with the undergraduate physiotherapy educators, as well as the managers of physiotherapy departments. Research literature and databases must be available, and easy access by clinical physiotherapists in the clinical setting must be determined in order to enhance the utilisation of evidence-based physiotherapy treatment techniques.

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Appendix: Questionnaire

Questionnaire of Kuwaiti Physiotherapists' Reasons for Selection of Treatment Techniques for Patients with Musculoskeletal complaints

Following are a few questions regarding physiotherapists' reasons for selection of treatment techniques for patients with musculoskeletal complaints. The questionnaire is consisted of two sections, demographic information and list of treatment techniques with list of possible reasons for selecting them. Please attempt all questions according to the instructions provided.

Please tick (✓) as appropriate for questions in section1

Section 1: Physiotherapist background Characteristics

a) Gender:

Female

Male

b) Years of professional experience as physiotherapist:

less than 2 years

2-5 years

5-10 years

10 or more years

c) Post-qualification education (PQE):

None

Practice-related courses (PRC)

Diploma

Higher degree

d) Currently registered for post-qualification education (PQE):

Diploma

Higher degree

Please in the table provided in section 2, list the reasons for selection of each technique in your own priority using numerical order. Your maximum is three reasons per technique.

If you choose "other Technique" category please specify the technique and also if you choice " other" category in the reasons please specify your reason in space provided under the table.

Section 2: List of techniques and reasons for technique use

Techniques	Reasons per Technique								
	Taught in initial training	Suggested by colleague	Prior experience	Following practice-related course	Following reading-journal or research article	Always use for specific condition	Part of research Project	following group presentation/discussion	Other- please specify
Passive Mobilization									
Passive Manipulation									
General Exercise									
Stabilization Exercise									
McKenzie									
PNF									
Ultrasound									
Interferential									
Ice therapy									
Local heat (e.g. hot packs)									
Infra-red radiation									
TENS									
Electrical stimulation									
Hydrotherapy									
Strapping/splints									
Friction massage									
Other technique (please specify)									

*Other Technique please specify:.....

*Other Reason, please specify:.....