A profile of patients accessing the physiotherapy clinic at the University of the Western Cape: A short report

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Abstract

Background: Understanding the patient conditions seen at physiotherapy clinics used as training sites can assist in ensuring that evidence-based management techniques are included in the undergraduate curriculum of the physiotherapy degree.

Aim: To profile the clinical cases seen at a physiotherapy clinic used for undergraduate training of physiotherapists.

Study Design: A retrospective cross-sectional design was employed for this study.

Methods: A document analysis of patient records was performed on all patients that accessed the University of the Western Cape physiotherapy clinic for three years. Descriptive statistics were used to present data in the form of percentages and frequencies. Cross tabulation was employed to assess the use of a particular treatment choice to the area that received treatment.

Results: A total of 785 patient records accessed between were assessed during the three year period. A large amount of areas of pain were highlighted and the three common areas of pain were; cervical spine (n=138), lumbar spine (n=-114) and the shoulder (n=97). A range of treatment techniques were used by the students and these included; soft tissue mobilization, thermotherapy, stretching exercises, patient-education, strengthening exercises, joint mobilization and cryotherapy. The most common treatment choices for highlighted areas of pain were soft tissue mobilization and heat.

Conclusion: The researcher was able to determine the common conditions seen at the on-site physiotherapy clinic and which treatments were used by undergraduate students for these conditions. The results can assist those involved in the training of these undergraduate students with ensuring evidence-based techniques are used during treatment.

Key words: physiotherapy, patients, profile, musculoskeletal injuries

Introduction

Worldwide people sustain all kinds of injuries whether sport related or not and seek medical advice. Childs et al. (2005) indicated that musculoskeletal conditions account for roughly 25% of patient complaints in the primary care setting. One of the key medical people accessed following injuries are physiotherapists. Holdsworth and Webster (2004, p65) stated “a quarter of general practitioner consultations are said to be musculoskeletal in origin with physiotherapy frequently the treatment of choice for these conditions.”

According to Gabbe, Finch, Wajswelner, and Bennell (2002) injury prevention is a public health priority, and appropriate injury prevention development relies on good quality data. In order to understand the nature of the problem and introduce prevention strategies, Van Tiggelen, Wickes, Stevens, Roosen and Witvrouw (2008) added to van Mechelen’s (1992) sequence of prevention model where van Mechelen proposes a sequence of prevention models and the steps. According to Van Tiggelen et al. (2008), before initiating an injury prevention programme, the following steps need to be completed: defining the extent of the problem; identifying the mechanism and causative factors involved in injury occurrence, establishing efficacy of the preventative measure, introducing a preventative measure and finally introduce and monitor measures likely to reduce the risk of injury.

According to Olsen, Bradley, Lomborg and Nortvedt (2013) health professionals are expected to implement evidence-based practice. The consequence of this expectation is that graduating health professionals will also need to be confident in this skill (Olsen et al., 2013). The results of the study by Olsen et al. (2013) showed that physiotherapy students in Norway attempted to apply evidence-based during clinical placements but struggled. According to Murray, Murray, MacKenzie and Coleman (2005) even though the conditions presenting to clinics are documented, the extent to which common managements are evidence-based has not been established.

Therefore, the purpose of the study was to profile of the patients seen at the physiotherapy clinic at the University of the Western Cape with the aim of ensuring that appropriate prevention strategies can be implemented for injuries sustained and evidence-based strategies are being taught in undergraduate curricula.

Methodology

Research setting

The University of the Western Cape has an onsite physiotherapy clinic which provides a physiotherapy service to the university and surrounding community. The physiotherapy clinic was started in 1995 and was originally run by one qualified physiotherapist and undergraduate physiotherapy students and primarily served as a training site for physiotherapy students. Currently, the final year undergraduate students work at the clinic servicing patients throughout their academic year.

Research design

A three year retrospective cross sectional study design using a self-designed data extraction sheet was used to determine the type of conditions that were managed at the physiotherapy clinic and physiotherapy interventions used for the identified conditions.

Population and Sampling

The study population included all the patients who were treated at the UWC physiotherapy clinic for three years. Convenient sampling of all available records was therefore employed.

Data collection and analysis

A data extraction sheet was designed by the researcher and was used to extract the necessary patient information from the patient clinical records. The data sheet extracted the following information: year the patient was treated, the patient's age, the patient's gender, occupation, sport involved in, diagnosis or patient's condition, the date of the first assessment, the date of the last assessment, the management the patient received on the first treatment and then the management received on the last treatment. The patient clinical records used were of patients who attended the clinic for the period January 2009 to December 2011. A pilot study was done to ensure that the data captured during this stage was reliable. During the pilot study two reviewers (EP and DH) captured the same data on a data capture sheet and the results were compared to assess whether the information was the same. The pilot study showed that two reviewers could extract the same information from the same clinical records. However, after consultation with an expert (JF) in the area it was decided to change the data extraction sheet to extract more information from the clinical records. The following changes were suggested: the payment type (how the patient had paid for the session), the area of pain, the symptoms the patient presents with, cause of or mechanism of injury, nature of the injury, discharge date, differences from the first treatment and the number of treatments the patient received for the particular condition and lastly, the choice of treatment. Following the pilot study, the data extraction sheet was then used to extract the information from the patient folders. Face and content validity of the data extraction sheet was achieved by asking experts in the area of document analysis and extraction as well as in the area of musculoskeletal injuries to comment on the sheet. The researcher (DH) and 2 other individuals (EP and MC) also assessed five patient clinic records independently and compared the information retrieved from the folders. This process helped to identify if the information extracted was clear and if the

information recorded under the headings were the same. Inter-rater reliability was employed to ensure reliability of the data extraction sheet. The researcher and the research assistant independently used the data extraction sheet to extract data from the patient folders and compared findings to ensure that the information retrieved was similar.

Data analysis

Data was entered into an excel sheet and then exported into SPSS (Statistical Product and Service Solutions) version 21. Descriptive statistics were used to present data in the form of percentages and frequencies. There were many areas of pain identified in the profile. The areas that were identified as the common areas treated at the clinic were the cervical spine, lumbar spine and shoulder. Cross tabulation was employed to assess the use of a particular treatment choice to the area that received treatment.

Results

Over the three year period of data collection, a total of 785 patient clinic records were accessed. Table 1 highlights the demographic profile of the patients. The majority of the patients seen at the clinic were male (53%), and 48% of the patients frequenting the clinic were students. The mean age of the patients seen at the clinic was 30 years (SD= ±12.3 years).

Although a wide variety of areas were treated at the clinic, the three commonly treated areas that were seen at the clinic were the cervical spine (n=138), lumbar spine (n=114) and the shoulder (n=97). This can be seen in Table 2. The lumbar and cervical spine (included pain located in the identified area, as well as referred pain). The shoulder included an injury sustained to muscles, ligaments as well as the joint, while the upper limb referred to all injuries sustained in the elbow, wrist and hand. For the lower extremity, the hip and groin were grouped under the hip. The category “other,” included injuries to the feet and toes, ribs, chest and shin area. This category also included; patients who sustained more than one injury and patients whose injuries were not adequately recorded. Soft tissue injuries referred to all the muscular injuries that were seen. Headaches and pain in the area of the head were referred to as head injuries. In the knee and ankle areas all injuries to both the ligaments and the joint itself was grouped separately.

The most common treatment choices were soft tissue mobilisation (n=577), thermotherapy (n=447), stretching (n=390), patient-education (n=298), electrotherapy (n=283), strengthening exercises (n=249), joint mobilisation (n=241) and cryotherapy (n=96). Treatments seldom used included strapping (n=32), home exercise programmes (n=22), treatment not recorded (n=16), dry needling (n=15), range of motion exercises (n=14), referral to another health professional (n=14), neural mobilisation (n=10), balance and proprioception exercises (n=6), breathing exercises (n=2), issued crutches (n=1) and crutch mobilisation (n=1). Treatment choices specifically used in the management of patients with pain in the lumbar area, cervical spine and shoulder area are reflected in Figures 1, 2 and 3. When comparing the preferred treatment choices for each area, soft tissue mobilisation (n = 92 in the lumbar spine, n = 130 in the cervical spine and n = 66 for the

shoulder) was the preferred choice of treatment for all three highlighted areas of pain. This was followed by the use of thermotherapy (n = 99 in the cervical spine, n = 85 in the lumbar spine and n = 58 in the shoulder area).

Discussion

The three most common areas presented by patients to the clinic included the neck, back and shoulder. This is similar to a study by Jordan et al. (2010) who reported that patients that present with musculoskeletal problems to primary care services often report the affected areas as the back, knee or shoulder. Similarly, Bot and Bouter (2006) reported that the top three self-reported musculoskeletal pain in their study was neck pain, shoulder pain and low back pain. In managing the conditions presented at the clinic, the most common treatments reported were thermotherapy, stretching exercises, patient-education, and electrotherapy, strengthening exercises, joint mobilization and cryotherapy. For managing cervical, lumbar and shoulder pain, soft tissue mobilization and thermotherapy were the most common treatment modalities chosen. According to Aker, Gross, Goldsmith and Peloso (1996), manual treatment such as Maitland mobilization in combination with other treatments can provide short term relief for neck pain. This however was, not the common choice of treatment by the students. The reasons for this could be poor accuracy in diagnosing the condition of the patient or an indication that students were not basing their choice of treatment on the evidence available.

While managing pain in the lumbar spine area, the treatments following soft tissue mobilization and thermotherapy were stretching exercises, mobilization of the spine and joints, patient-education, strengthening exercises and electrotherapy. The literature (Dagenais, Tricco and Haldeman, 2010) does not seem to support the use of soft tissue therapy (which includes massage) and thermotherapy when managing low back pain. Following a review of clinical guidelines by Dagenais et al. (2010), out of the six guidelines for the treatment of low back pain none endorsed thermotherapy for the management of low back pain, and more especially for chronic low back pain. According to Dagenais et al. (2010), it would be ideal if those involved in the management of low back pain were guided by the best available scientific evidence to minimize the use of ineffective procedures.

Whilst managing shoulder pain, the treatment choices were in line with other studies, such as Green, Buchbinder and Hetrick (2008), which reported that strengthening exercise and electrotherapy modalities were common choices in the management of the shoulder.

Physiotherapy is an integral part of the current health-care delivery system and as first contact practitioners; referral from a medical practitioner is not required legally or ethically before services can be provided. Therefore, it becomes important to ensure that physiotherapy students make informed evidence- based decisions regarding patient management. Physiotherapy students need to be equipped to undertake a comprehensive assessment of patients, formulate a diagnosis, plan and implement a therapeutic programme, and evaluate the outcomes of the intervention.

Conclusion

By completing this retrospective document analysis the researcher was able to determine what common conditions were seen at the on-site physiotherapy clinic and which treatments were used by undergraduate students for these conditions. The results highlighted that the neck, shoulder and low back were common areas of injury seen at the on-site physiotherapy clinic. The student's common choice of treatment for patients with injury to the previously mentioned areas was soft tissue mobilisation (which included massage) and heat. These results differed from the literature (Aker et al., 1996 & Dagenais et al., 2010). According to Long et al. (2011) even though there is an agreement that there is a need for evidence-based clinical practice and evidence-based training of the health professionals at the undergraduate level, there is little rigorous research published into health professional educational processes and outcomes. Therefore, the information about the conditions seen and the treatment techniques chosen is relevant for the undergraduate physiotherapy curriculum as it will assist those involved in physiotherapy education to emphasize the need for choosing evidence-based treatment techniques. Low back pain was one of the common areas of injury that was highlighted, the researcher did not divide the low back pain into different sub-categories, and it was not clear whether the treatments used on low back pain were for acute or chronic low back pain. This was a limitation to the study as treatments vary for the different categories of low back pain.

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	Variables	**N**	**%**
Gender	Male	414	53%
	Female	344	44%
	Not indicated	27	3%
Occupation	UWC Student	380	48%
	UWC Staff (academic, admin, coach)	135	18%
	Community member	102	13%
	Not Indicated	168	21%
Payment type	Medical aid	164	21%
	Cash	386	49%
	Sports club student represents pays for treatment	192	25%
	Not indicated	43	5%

Table 1: Demographic profile of patients

Area of pain	N	%
Cervical spine	138	17.6
Lumbar spine	114	14.5
Shoulder	97	12.4
Upper limb	31	3.9
Hip	10	1.3
Soft tissue	79	10.1
Other	131	16.7
Head	24	3.1
Knee	82	10.4
Ankle	70	8.9
Missing data	9	1.1

Table 2: The areas of pain treated at the clinic

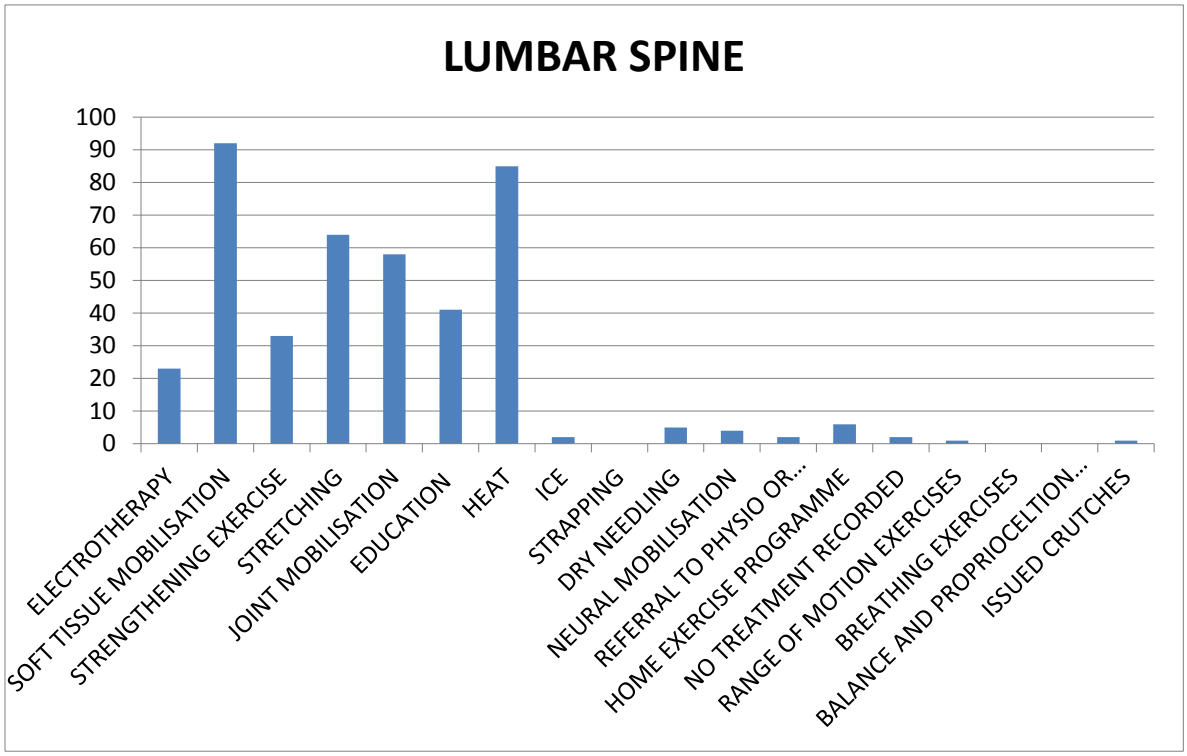

Figure 1: Treatment choices for the lumbar spine

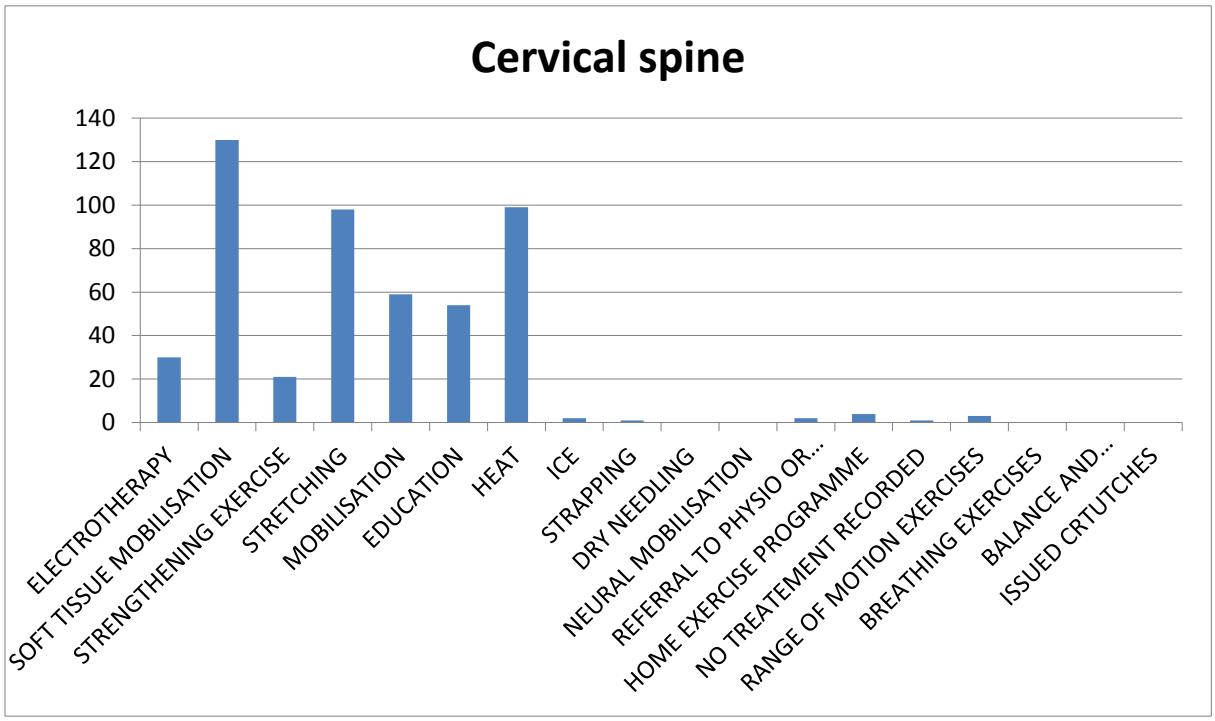

Figure 2: Treatment choices for the cervical spine

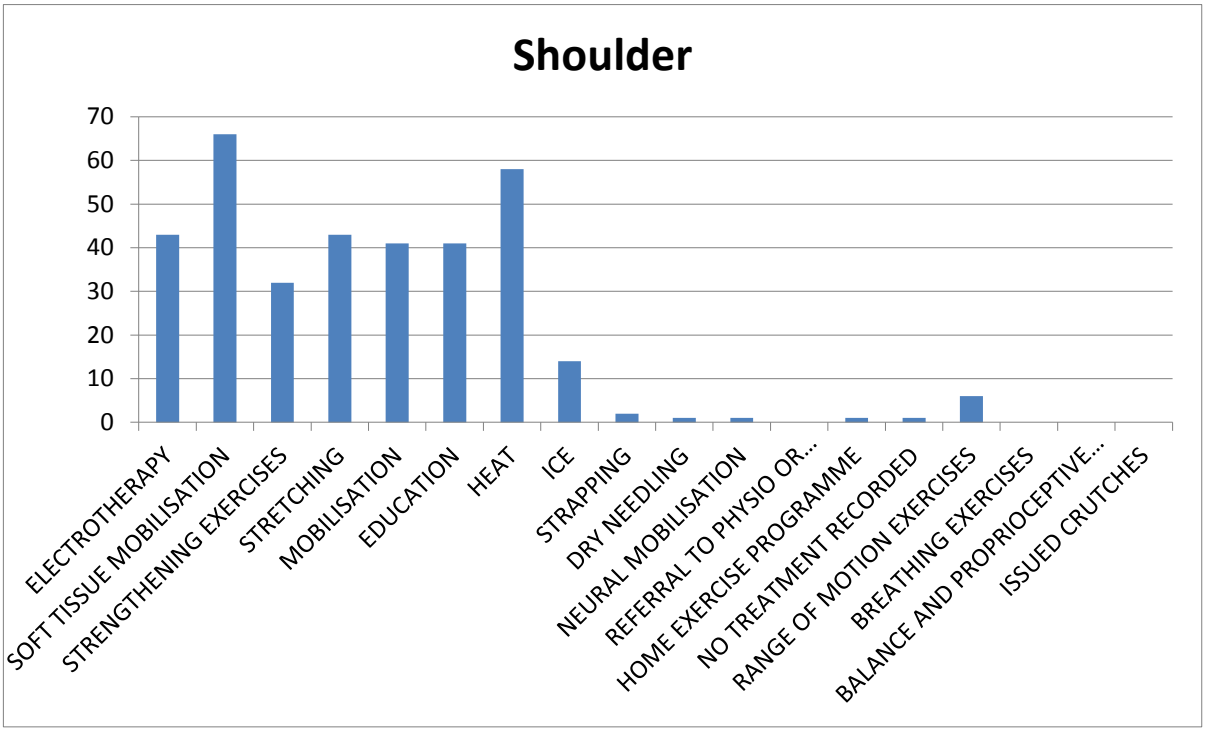

Figure 3: Treatment choices for the shoulder