



Original article

The clinical reasoning processes of extended scope physiotherapists assessing patients with low back pain



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ABSTRACT

Introduction: Employing allied health professionals in extended scope roles has developed relatively recently in health-care. Within physiotherapy, the extended role has provided clinicians with autonomy to use knowledge and clinical acumen to request investigations such as Magnetic Resonance Imaging (MRI) and X-ray as part of the diagnostic process, a practice beyond the traditional scope of physiotherapy. In these advancing roles, little is written about the clinical reasoning processes that clinicians use in managing patients with musculoskeletal pain and knowledge of these processes would advance training for new recruits to this arena.

Study: This qualitative study has explored the processes by which extended scope physiotherapists (ESPs) clinically reason their decisions regarding patients reporting low back pain in a musculoskeletal outpatient setting. The study used a multiple case study design informed by grounded theory methodology, using focus groups (involving ESPs and non-ESPs/musculoskeletal physiotherapists) and semi-structured interviews with a think-aloud method (ESPs only) to investigate these processes.

Conclusions: The themes identified include: prior thinking; patient interaction; formal testing; time; safety and accountability; external and internal factors; and gut-feeling (which challenges current physiotherapy models of reasoning). Extended scope physiotherapists reported experiencing greater stress due to higher levels of perceived accountability, safety requirements and internal drivers for competence than non-ESPs. Further research is indicated to explore the role of gut-feeling in musculoskeletal physiotherapy clinical reasoning.

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1. Introduction

Clinical reasoning refers to the thinking and decision-making processes that are used in clinical practice (Edwards et al., 2004). It is regarded an integral, vital component to being a clinician (Norman, 2005), and is a skill that begins in training and is refined with experience (Doody and McAteer, 2002; Curran et al., 2006; May et al., 2008).

Forde (1998) describes clinical reasoning as a continuum; at one end of the continuum is the strongly-embedded scientific, analytical approach that entails hypothesis-testing or systematic sorting of clinical data (Jefford et al., 2010), while at the opposite end lies a more intuitive process that does not resemble these ‘scientific’ methods.

This paper explores clinical reasoning by drawing on an empirical study of physiotherapists to understand which models of reasoning best explain practice. The study reported here explored whether extended scope practitioners draw on different reasoning skills in the assessment of low back pain, and it sought to inform future training and current practice.

1.1. Clinical reasoning models in physiotherapy

Within musculoskeletal practice, four commonly cited models of reasoning are hypothetico-deductive, pattern recognition, narrative and clinical prediction (Flynn et al., 2002; Edwards et al., 2004). These models are also established and accepted within other healthcare professions (Higgs and Jones, 2008).

The hypothetico-deductive model remains the most enduring clinical reasoning approach in medicine, and early studies involving physiotherapists also suggested that reasoning progresses from a “diagnosis” or hypothesis proposing ‘the problem’ followed by

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testing to rule out different answers (Payton, 1985). Pattern recognition requires the clinician to make quick assumptions based on memory and experience (Patel et al., 1997). This model has developed from cognitive psychology and proposes that clinicians use “illness scripts”, which are clusters of presentations that are supported by previous experience (Arocha et al., 1993). Narrative reasoning aims to establish insight into the patients’ perspective and story, rather than testing for “cause and effect” (Edwards et al., 2004; Banning, 2008). The final model, clinical prediction, describes a reasoning process that identifies common variables within a patient presentation that linked together suggest a successful treatment programme (Flynn et al., 2002).

1.2. Study context

Since 1986, the role of physiotherapists has been extended in response to the need to reduce costs and waiting times for patients (Daker-White et al., 1999). Extended scope physiotherapists (ESPs) work within a range of services crossing established boundaries of practice between medicine, nursing and allied health professionals (Gardiner and Turner, 2002; McPherson et al 2006). Enhancing pathways to appropriate management has been a key UK government directive (DOH, 2006; 2013) and in response many services have looked at innovative ways to deliver care, such as providing extended roles, which in turn has fuelled the growth of ESP practice.

Advanced/ESP practitioners are expected to combine clinical reasoning and reflection (Dewar, 2010). Understanding how these clinicians formulate decisions is especially important because they represent an increasingly autonomous profession (Higgs, 1999). The skills demonstrated by ESPs are different from non-ESPs, for example, they may include a triage role, capacity to order investigations, to perform non-physiotherapy procedures such as injections, and refer on to medical and surgical services (Dawson and Ghazi, 2004).

To capture clinical reasoning practices, the research presented here adopted an interpretive approach which sought to understand the narrative, contextual and interpersonal components of clinical decision-making.

2. Methodology and methods

Ethical approval was granted by the Southampton and South West Hampshire Research Ethics Committee (10/HO504/3 phase 1, 11/SC/008 phase 2).

A case study design, informed by grounded theory, was chosen to address the research question ‘What are the clinical reasoning processes of extended scope physiotherapists assessing low back pain?’.

A case study focuses on a single entity, or a phenomenon which has boundaries that allows it to be explored in detail (Miles and Huberman, 1994). This study compared the clinical reasoning processes of ESPs to non-ESPs to develop an understanding of the reasoning processes they used, followed by further analysis of ESP reasoning, using a different method. The study had a two-stage design. Initially, three focus groups were completed, involving both ESPs and non-ESPs in each group, to identify the reasoning processes they used and the differences between the ESPs and non-ESPs. Data from these focus groups informed a second stage of data collection, whereby semi-structured interviews were conducted with ESPs directly after a patient consultation. This method used in this phase was “think-aloud”, a qualitative tool used to analyse problem-solving (MacNeela et al., 2010) which aimed to help further interpret the specific reasoning of ESPs in the assessment of patients reporting back pain.

2.1. Participants

For the focus groups, ESPs and non-ESPs were purposively selected at three NHS Trusts located in England. Primary and secondary care services were included to enhance applicability of the findings to the range of services where physiotherapists practice. Each focus group involved six participants, three ESPs and three non-ESPs. The second phase of the study was expanded to cover four further NHS Trusts, to include participants who were not known to the researcher, in an attempt to reduce potential bias in these data. Ten ESPs were recruited for phase two of the study.

2.2. Consent

Managers of musculoskeletal services were approached for the focus group study and were asked to deliver information sheets and consent forms to potential participants. For phase two, managers of ESP spinal clinics were approached in the same way. Participants contacted the lead author and the focus groups/interviews were arranged at a convenient time. Written consent was obtained prior to the focus group or interview.

Participants were included if they were members of the Chartered Society of Physiotherapy, registered with the Health and Care Professions Council and working clinically in the National Health Service (NHS). Physiotherapists undergoing ESP training, and therefore working under supervision, were excluded from both phases of this study.

2.3. Data collection

Phase 1: The focus groups were facilitated by the lead author and observed by an independent researcher (who recorded her observations). The focus groups used a topic-guide comprising of open questions covering diagnosis; physical testing and clinical reasoning. They were audio-recorded and transcribed verbatim. Each focus group lasted approximately 40 min. Participants were not given transcripts of the focus group data.

Phase 2: Interviews were scheduled immediately after a participating ESP had completed a clinical assessment with a patient in clinic (without the researcher being present). The interview involved reflection on the assessment they had just completed and occurred in the clinic room without the patient present and was audio-recorded. The clinicians had access to their clinical notes from the patient assessment and were asked to talk through their reasoning following the *think-aloud process*. These interviews lasted approximately 45 min and were transcribed verbatim. Additional field notes (taken by the lead author) were used to clarify the context of the discussion.

2.4. Analysis

Analysis of the data was guided by the principles of grounded theory (Glazer and Strauss, 1967; Strauss and Corbin, 1990; Charmaz, 2008). Three phases of coding were completed: i) line by line – transcripts were read for an initial overview and each line was then systematically coded and memos identifying the researchers’ initial thoughts were made; ii) axial coding, which involved linking and grouping codes from the different data sources; iii) selective coding, which further grouped these codes, identifying and linking to the main emerging themes (Charmaz, 2008) to produce a theoretical framework. The constant comparison method was used to compare ESP and non-ESP accounts, looking for similarities and differences and highlighting deviant cases. This work was underpinned by regular supervisory review of the emerging interpretations and a process of reflexivity that considered the impact of the researcher upon the data collection and analysis.

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