



ORIGINAL ARTICLE

# Osteopaths' clinical reasoning during consultation with patients experiencing acute low back pain: A qualitative case study approach



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## KEYWORDS

Acute low back pain;  
Clinical reasoning;  
Osteopathy;  
Video analysis

**Abstract** *Background:* The clinical reasoning strategies employed in healthcare have been well established in a wide range of health professions. Currently, there is little literature pertaining to the diagnostic process of osteopaths and the clinical reasoning strategies utilised in osteopathy.

*Aim:* To investigate the processes of clinical reasoning utilised by osteopaths in the diagnostic hypothesis generation for patients with acute low back pain.

*Methods:* Two methods were employed: a thematic analysis in conjunction with content analysis which involved a novel 'consultation mapping' approach. Three osteopaths were video recorded taking a case history and performing examination procedures. Following conclusion of each consultation, participants viewed a video recording of the consultation, and provided a commentary which was audio recorded. All audio and video recordings were later transcribed for analysis.

*Results:* Three themes were identified from the data which broadly represented three existing clinical reasoning strategies: Implicit cognitive evaluations not apparent to an external observer (pattern recognition); Iterative processing of cues assembled through clinical interactions (hypothetico-deductive reasoning); Collaborative interaction between patient and practitioner (collaborative reasoning). Each consultation was then 'mapped', and content analysis showed dynamic transitioning between three levels of pattern recognition ('light', 'moderate', 'heavy') of hypothetico-deductive reasoning. Collaborative reasoning occurred consistently at the commencement and conclusion of each consultation.

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*Conclusions:* The clinical reasoning strategies employed by osteopaths in this study were pattern recognition, hypothetico-deductive reasoning and collaborative reasoning. Each strategy was characterised by a theme which described its meaning.

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### Implications for clinical practice

- A method of video assisted practitioner debrief was reported that may be useful for other investigators of clinical reasoning in osteopathy.
- A novel timeline based approach 'consultation mapping' is reported.
- The practitioners in this study demonstrated the concurrent use of more than one clinical reasoning strategy.
- The reasoning processes employed by the osteopaths in the present study were similar to that of other health professions.

## Introduction

Clinical reasoning is an essential component of clinical practice that focusses on the decision making processes concerned with patient evaluation and management.<sup>1-4</sup> It is widely accepted that an individual health professional's thought processing encompasses multiple factors which collectively form the process recognised as clinical reasoning.<sup>5-7</sup> More formally, clinical reasoning has been defined as "a process in which the clinician, interacting with significant others (client, caregivers, healthcare team members), structures meaning, goals and health management strategies based on clinical data, client choices, and professional judgement and knowledge".<sup>5</sup> Elstein et al.'s patient simulation study, which investigated the diagnostic clinical decision making of doctors,<sup>8</sup> was the seminal work on clinical reasoning in healthcare, and generated substantial early interest in clinical reasoning in medicine,<sup>9-11</sup> and other allied health including nursing,<sup>12-14</sup> occupational therapy<sup>7,15-17</sup> and physiotherapy.<sup>3,18</sup> However, in comparison to other allied health, there has been little investigation of clinical reasoning in osteopathy, with only a small volume of recently emerging research on aspects such as osteopaths' conceptions of clinical practice,<sup>19-21</sup> clinical reasoning education and assessment,<sup>22-29</sup> the application of clinical

reasoning strategies,<sup>27</sup> and the role of palpation.<sup>28,29</sup>

Jensen et al.<sup>30</sup> note that decision making and clinical reasoning is both an intricate and essential dimension of expertise. A spectrum of increasing levels of expertise has been described,<sup>31</sup> ranging across 'novice', advanced beginner, competent, proficient, and expert. These levels have also been applied in allied health,<sup>12</sup> although to date, there has been sparse work to explore how these levels might be characterised in osteopathy. Research into the clinical reasoning of osteopaths might be considered necessary to improving knowledge and understanding of clinical expertise in osteopathy.

For reasons which are not clear, the main focus of the wider clinical reasoning literature has been on diagnostic reasoning,<sup>32-34</sup> and a range of clinical reasoning strategies have been described including hypothetico-deductive reasoning,<sup>8</sup> pattern recognition,<sup>10</sup> collaborative reasoning<sup>35</sup> and procedural, interactive and conditional reasoning.<sup>16</sup> One particular area of research interest is the utilisation of 'clinical reasoning strategies', a term used to refer to the methods, approaches, structures and organisations selected to guide the process of clinical reasoning.<sup>15</sup> Of these strategies, it has been recognised in both theory,<sup>36</sup> and from research,<sup>27</sup> that osteopaths utilise the clinical reasoning strategies of hypothetico-deductive reasoning and pattern recognition. However, the extent to which these strategies are used, the relationship between the two, and the presence of other processes in the clinical reasoning of osteopaths have not been extensively investigated. Therefore, the aim of this study was to investigate the processes of clinical reasoning utilised by osteopaths in the diagnostic hypothesis generation of patients with acute low back pain.

## Methods

### Study design

A multiple case study approach was employed.<sup>37</sup> Case studies provide a credible, original and creative approach to research and are a valuable

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