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Research Brief

Pharmacists thought processes in making a differential diagnosis using a gastro-intestinal case vignette

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Abstract

Background: Community pharmacists facilitate patient self-care and, in effect, provide a triage service to primary care medical services. Their ability to perform this role has been questioned, yet research has not explored how pharmacists make these decisions. Better understanding of the processes that shape pharmacists' clinical decisions will allow strategies to be developed to improve "diagnostic" performance.
Objective: This study aimed to explore community pharmacists thought processes when making a differential diagnosis during referral and triage.
Methods: Using a case vignette, community pharmacists were asked to establish the cause of a simulated patient's signs and symptoms. After each question asked by the pharmacist they were asked to 'think aloud' their thoughts. Pharmacists from the West Midlands, England were recruited through convenience and snowball sampling. The simulated consultations were recorded and transcribed verbatim. Questions asked were coded into pre-determined categories that captured the context of why the question was being asked, which was gained from the 'think aloud' process.
Results: Ten pharmacists were interviewed. Seven used an acronym approach to information gathering, and those who used it exclusively did not reach the expected outcome. Three pharmacists exhibited questioning that aligned to medical clinical decision-making and asked more questions that informed the diagnosis than those pharmacists relying on using an acronym; all three arrived at the expected outcome. All pharmacists asked 'safety net' type question/s early on in the consultation. This study was exploratory and the findings must be viewed with caution until larger studies are conducted.
Conclusions: Pharmacists rarely exhibited clinical decision-making and relied heavily on protocol-led questioning strategies.

Keywords: Community pharmacy; Differential diagnosis; Decision-making

Introduction

Western health care systems are in, or have gone through, major reform to maximize existing resources, both financial and staffing, to deliver effective and efficient health care.[1–4] As part of these reforms, health care policies of many countries encourage the concept of self-care, whereby patients take on greater control of their own health. Widening access to medicines has been an important mechanism to support the self-care concept, with

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Australia, Germany, UK, and the US seen as leaders in deregulating medicines from prescription-only control to non-prescription status.[5]

Community pharmacists can therefore manage a wider range of signs and symptoms than ever before and will increasingly need to appropriately assess patients before being able to provide care. Historically, the ability of pharmacists to gain information from patients has been called in to question by both researchers[6–9] and consumer organizations,[10–12] thus casting doubt on their ability to perform a diagnostic role in response to patient signs and symptoms. This criticism continues today,[13] yet limited research has assessed community pharmacists' ability to diagnose. Work by Rutter et al has shown that a lack of mastery of knowledge and the way in which data were collected and synthesized affected performance, with few pharmacists exhibiting clinical decision-making which is associated with diagnostic process of medical practitioners.[14,15]

The aim of this study was to further understand how pharmacists make a diagnosis, or triage decision when presented with a simulated patient scenario. To meet the aim of the study the 'think aloud' technique was used. This technique has been widely used across many disciplines to give insight into how people approach a task. In the field of health care it has been used to understand how practitioners make clinical decisions regarding patient care, including a diagnosis, as it enables the capture of sequential thought processes.[16–18]

Methods

Community pharmacists working from pharmacies in the West Midlands, England were recruited using a mixture of convenience and snowball sampling.

Each pharmacist was asked to work through the case vignette to arrive at a diagnosis with one of the authors (SA) acting as the patient. The vignette was constructed to lead to a diagnosis of dyspepsia that could be managed by the pharmacist without referral to the doctor (Appendix 1). Standardized replies were developed with reference to UK guidelines and standard pharmacy reference sources.[19–21] Three academic pharmacists reviewed the vignette to ensure replies to potential questions were relevant. Prior to data collection, the case vignette was practiced between SA and academic pharmacist staff and then piloted with two community pharmacists. 'Interviews' were conducted at each pharmacist's place of work and took place in February/March 2012.

The conversation between pharmacist and SA were audio-recorded and transcribed verbatim. Questions asked by the pharmacist were assigned in to pre-defined categories (Panel 1). These categories were developed by the authors through a series of iterative rounds applying them to previously recorded pharmacist–researcher interactions. The intention of the categories was to capture the purpose of why the pharmacist asked each question and how this informed subsequent questions. This process involved using the rationale given by the pharmacist for each question through the talk aloud technique to allow categorization. Each author categorized questions for all transcripts individually and if differences existed then these were discussed to reach agreement. At the end of the consultation, each pharmacist was asked to describe the general process used when they make a diagnosis. Ethical approval was granted by the University of Wolverhampton.

Panel 1
Classification of questions

Question type	Example
Confirmation	Restating fact, e.g. repeating their age or length of time had the problem
Risk minimization	Typically a question asked to define scope of practice, e.g. 'identification of referral points to a doctor
Diagnostic, discriminatory	Those questions that narrow down the list of possible causes to the presenting signs/symptoms
Diagnostic, confirmatory	Those questions that enable a decision to be made as to the cause of the signs and symptoms
Non-diagnostic, information gathering	Questions that provide information but do not shape or influence the diagnostic process
Treatment planning	Questions unrelated to establishing the cause but which shape decision-making on therapy