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Research Paper

The management of patients with acute abdominal pain in the emergency department: A qualitative study of nurse perceptions

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ABSTRACT

Background: Acute abdominal pain is a common reason for presentation to the emergency department. Understanding the role of nurses involved in management of acute abdominal pain is important for improving patient care and outcomes. The aim of this study was to understand the perceptions of emergency nurses in the management of acute abdominal pain.
Methods: Using a qualitative design, a purposeful sample ($n = 9$) of experienced registered nurses was recruited from the emergency department of a large tertiary public hospital in South Australia. Semi-structured interviews, informed by literature describing the management of acute abdominal pain, were used to identify the perceptions of emergency nurses when caring for patients with acute abdominal pain.
Results: Thematic analysis of interviews identified four themes: Centrality of Diagnosis; Busyness and Patient Management; Systems Issues; and Communication Challenges. Of the four themes, the Centrality of Diagnosis was especially important to the nurses' sense of contribution to patient care. Care was also affected by the busyness of the environment, the systems and processes in place to manage patients and communication in the emergency department.
Conclusions: The management of patients with acute abdominal pain is influenced by how nurses participate in the diagnostic process. Nurses identified their role in this process and described how this role impacted their delivery of fundamental care. Further studies of the nursing contribution to diagnosis, communication, and the systems that affect care delivery in the emergency department are required.

Introduction

The percentage of total emergency department (ED) presentations with acute abdominal pain identify this issue as one of the most common reasons for attending the emergency department [1,2]. In Australia between 2016 and 2017, abdominal and pelvic pain was the most common individual principal diagnosis reported in EDs [2]. In the US from 2001 to 2007, the percentage of ED visits for abdominal pain rose 7.6% to be over 7 million visits per year [3]. A significant amount of current literature identifies gaps between patient expectations and the delivery of standards of nursing care in all domains of practice, including in the emergency department. While the provision of life-saving interventions on admission to ED is essential, the subsequent nursing care provided to patients with acute abdominal pain is also important. Nursing care at such times is described as a complex interplay of different clinical demands in which the nurse might have to '. . .reframe and refocus on the fundamental care needs of multiple patients in a shift' [4, p. 9]. Each patient encounter should be complemented by concern for fundamental care issues such as pain management, communication, dignity, privacy and respect. Given the significant number of presentations for acute abdominal pain, the perspective of emergency

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nurses in managing fundamentals care needs such as pain relief warrants exploration.

Background

The provision of fundamental nursing care has been widely described as a priority for contemporary health care systems [5], especially in the light of recent critical failures [6]. The Fundamentals of Care Framework [5] provides a useful tool from which to consider the perspective of emergency nurses providing care as it encompasses a range of important interventions such as maintaining dignity, respect, nutrition and hydration and pain management. This framework considers not only the physical but also psychosocial and relational dimensions of a person and their care needs [4]. Given patients' often abrupt and unexpected presentation to the ED, aspects of care directed to respecting choice, dignity, communication, privacy and so on might require an even higher level of consideration from nursing staff who are typically faced with more immediate priorities, such as pain relief. This is important to consider as the early provision of pain relief may be one of the most significant interventions in the emergency nurses' opportunity to develop a therapeutic and nurturing relationship with a patient. At this challenging and complex time, where technical and medical models of care dominate patient interventions, nurses must consider how to deliver fundamentals of care in an environment that may be impacted by poor communication [7], overcrowding, busyness [8] and complex clinical management systems [9] that direct how care is provided.

With many differential causes, the provision of care is often guided by the wide range of acute abdominal pain diagnoses, from benign and relatively mild cases of constipation through to life-threatening aortic aneurysms. The relevance of this diversity is reflected in the potential for patients to be reviewed and assessed by a wide variety of not only ED staff but other medical specialists, often in the pursuit of a more definite diagnosis. Not surprisingly, the diagnosis is often the starting point from which plans to manage the person's immediate and fundamental care needs are developed.

Central to the management of the patient during this time is the emergency nurse, responsible for coordinating and managing fundamental care and achieving key outcomes such as effective pain relief [10]. In different settings and locations, the opportunity for nursing intervention for care issues such as pain management, varies significantly; Danish nurses for example were not able to provide pain relief prior to a physician assessment [11], while other authors have reported that nurse-initiated analgesia, prior to review by medical staff in Sweden and Australia, resulted in better outcomes for pain management [12,13]. A recent systematic review has also identified the benefits of nurse-initiated interventions such as dispensing pain medication in the ED [14]. Studies such as these highlight to capacity of nurses to contribute in a significant way to the patient's experience. An important contribution to such work is the aim of this study, to understand the perceptions of emergency nurses in the management of acute abdominal pain.

Methods

Design

This qualitative research design used in-depth, semi-structured interviews to explore the perceptions of nurses who manage acute abdominal pain.

Setting and participants

A purposeful sample ($n = 9$) of experienced registered nurses was recruited from the ED of a large tertiary public hospital in South Australia. The definition of 'experienced' was that participants had a minimum of two years nursing practice in the ED following their initial registered nurse degree. Inclusion criteria required that nurses had recent experience in managing the care of a patient admitted with acute abdominal pain. Given the frequency of presentations to the ED, all participants were able to recount recent and numerous instances of caring for someone with acute abdominal pain.

Ethics and data collection

This study was conducted in accordance with the National Statement on Ethical Conduct in Research Involving Humans by the National Health and Medical Research Council of Australia. Following ethics approval (HREC/16/RAH/142) and confirmation of support from the study hospital (SSA/16/RAH/145), one of the researchers provided several recruitment information sessions to the ED nursing staff at staff handover. Participant information sheets and consent forms outlining the study aims and contact details of the researcher were provided.

Using a semi-structured interview template, all participants that returned a consent form were interviewed in person by a researcher (FD) in a small teaching room located within the ED. The interview questions asked participants to consider the typical pathway for the person presenting with abdominal pain, the most challenging aspects of managing acute abdominal pain, methods to improve patients' experiences, and the role that emergency nurses play in the provision of the fundamentals of care. Interview questions were developed using literature that described the fundamentals of care and the management of acute abdominal pain [1,4,5,10]. Transcripts were password protected and stored behind electronic firewalls to ensure participant confidentiality and anonymity.

Data analysis

Transcripts were located within NViVO to assist with data analysis. Using Braun and Clarke's approach [15] to thematic analysis of transcripts, reading, re-reading and coding led to several themes. Two researchers (FD, RF) independently analysed the transcripts and compared findings to arrive at an initial set of agreed themes. All authors then reviewed this analysis, and refined the initial themes, resulting in the development of four main themes, presented below. Each researcher has significant experience in the conduct of qualitative interviews and data analysis.

Results

Participant characteristics

Nurses' experience ranged from two to 30 years, seven participants hold post-graduate qualifications including graduate certificates, diplomas and one participant holding a master's qualification in emergency nursing. Further demographic data was not sought as this was beyond the scope of the study. Ten participants were interviewed initially, however one participant identified during interview that they had only been working in the ED for 20 months not the inclusion requirement of 24 months. This interview was excluded from the final analysis. Interviews were audio recorded, lasted between 21 and 45 min and were transcribed by a professional transcription service.

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Themes

Four themes were identified: Centrality of Diagnosis; Busyness and Patient Management; Systems Issues; and Communication Challenges.

Centrality of diagnosis

During the interviews, when asked about the management of patients with acute abdominal pain and the provision of fundamental nursing care, all participants consistently made references to one or more aspects of the medical diagnostic process. It became obvious during the analysis that the formation and confirmation of a medical diagnosis was central to nurses' participation and management of the person with acute abdominal pain. Often the determination of the diagnosis was considered the most challenging aspect of caring for a person with acute abdominal pain. The challenge of differential diagnosis, and the complexity of assessment, data collection and diagnostic testing, were not seen as issues separate to their role as nurses; rather the participants suggested that diagnostic investigations were a necessary part of nurses' management of the patient with acute abdominal pain:

> The fact that it can be so many differential diagnoses which I've had today. . .it can be so many different things and so many different symptoms can be different diagnoses. So it's probably trying to nut out what the most likely is, clinically anyway and obviously then move on to scans and that sort of thing. . ..Participant 8

Diagnosis was seen by nurses as crucial in that it provided a plan for how the ED staff would respond, to manage the patient's care:

> As a nurse you want to know what it is, and you want to know how you're going to treat it. And it's also that plan, what's a plan? What are you going to do for this patient? . . .Participant 10.

Whilst a definitive diagnosis was typically seen as central to determining a plan of action, when a specific diagnosis was yet to be confirmed, nurses called on their experience to propose changes to treatment or to hasten further assessment and diagnostic tests:

> If they're vomiting bile or they're vomiting, you know – as sometimes they do, faecal matter, then you sort of go, something's really not right here . . . So you sort of hasten things and being an older nurse, a bit more experienced, a bit more forthright, I'll go up and say, 'Look, this isn't right. Something's wrong with this person'. . ...Participant 10

Busyness and patient management

Participants identified that their capacity to manage patients' pain relief and fundamental care needs was at times affected by the busyness of the unit.

> Definitely the busyness can sometimes delay the timing of an assessment, time of administering pain relief. That all comes into play. . . ..Participant 4

Delays in patient care due to busyness required some nurses to argue for further diagnosis and a better medical or administrative response to the patient's care needs.

> I've had arguments with people that try and put them into our short stay, and they've gone, 'Oh, we don't know what it is but we're going to sit on it and we're going to give them pain relief.' And you're going, 'but what happens if they've got an ischemic gut? They're going to die in there'. . ..Participant 10

Other descriptions provided by participants on the influence of busyness and specifically pain management, considered the flow of patients through the ED and the significant volume of presentations. Each issue was noted as a potential barrier to the delivery of effective pain management.

> I don't know that we're fully engaged in being able to do that [pain relief] in such a busy department. I think sometimes our pain relief is not adequate. . .. . ..Participant 5

Despite the busyness of the unit there were some positive attitudes and descriptions of nurses' involvement in providing pain relief.

> We have to get a doctor to sign to give it but then it's nurse-initiated after that. We can give as much as we feel that they need. . ...Participant 5

Communication challenges

Given the nature of acute abdominal pain presentations, high-quality communication and interprofessional practice is key to effective and timely management of acute pain and fundamental care. Despite the importance of communication, participants described times when it was absent or when it was challenging to maintain the lines of communication to address needs such as abdominal pain.

> Bit hard to do here in the emergency just to keep those lines of communication open between the patient and the nurses and the doctors. I think if we open up those lines it will be so much better for everyone, so communication possibly could fall by the wayside. . ..Participant 4

> So that leaves the nurses as the conduit, the communicator, the information-giver as far as what happens next and so I guess it leads back to how the disciplines work together. Probably not very well. . .Participant 5

In contrast, one participant saw themselves needing to be more of a communicator ironically because of the structures and demands of the busy environment, where a more determined approach to making communication work, was required:

> In ED we're more of a communicator-communicators, because that's the nature of ED. . ..Participant 10

Systems issues

Participants described that, at times, issues such as the physical ED environment, policies, procedures and staffing mix impacted their provision of fundamental care. Reflecting the day-to-day working environment of the ED, each issue had the potential to impact the efficient and reliable delivery of fundamental care. These concerns have been brought together under the theme of Systems Issues. When describing the nature of the ED environment one participant noted:

> EDs not a very good environment for keeping people calm and it's not a good environment for implementation of treatment either. . ..Participant 2

Participants noted that inconsistent policies and procedures around issues of admission, processing of patients' information and obtaining pathology results, all had the potential to impact the movement and allocation of care to patients with acute abdominal pain. One participant noted that patients can:

> Bounce backwards and forwards, the same patient several times, with people not agreeing this person needs admission

under them. Meanwhile the patient has still got abdominal pain, it's still not solved and they wait in the emergency department for a decision to be made. . . I still think that that system needs to be sorted. . .Participant 5

Discussion

Understanding the perspective of emergency nurses in the management of acute abdominal pain offers insights to the provision of fundamental care for a significant population of patients attending hospital. In the management of patients in typical acute care settings, a diagnosis is often considered as being either a 'medical diagnosis' or a 'nursing diagnosis', with each type having different implications not only for respective management plans and goals but for items such as funding, admission, prescribing and legal and professional identity. A nursing diagnosis, requiring careful planning and critical thinking, is developed as a sophisticated statement with clear and consistent language to guide nursing care [16]. While no less skilled in development, a medical diagnosis differs by placing emphasis on the biological and pathological presentation of the person. Given the prominence of the nurses' reflections on their role in contributing to the medical diagnosis it is important to consider other published discussions of nurses' roles in diagnosis.

The role of nurses in contributing to the development of diagnosis has some parallel to the work of advanced nurse practitioners (NP). A recent finding in a large RCT [17] was that alongside physicians, nurse practitioners were considered 'clinicians' for the purpose of ordering diagnostic studies. The study aim was to compare the diagnostic test ordering practices of NPs with those of physicians. Individual differences in the diagnostic ability of NPs or physicians was not described, however the place for nurse involvement in the 'medical' diagnostic process was clearly supported. As a nurse practitioner trainee Haidar [18] offers a unique personal insight to her holistic perspective when adapting different models of diagnosis to achieve the best outcomes for patients with abdominal pain. Papers such as these reinforce the willingness and capacity of nurses to take on, and extend their skills in, the determination of a diagnosis.

From an external observer's view, a fair assumption might be that the role of the emergency nurse is primarily associated with the provision of nursing care and less so with the process of medical diagnosis. The transcripts however contain several linguistic connectors [19], words such as 'I', 'we' 'move on to', 'as well as', that imply that the nurses' connection to the development of a medical diagnosis is active, dynamic and integral. This emphasis on being part of the process towards a medical diagnosis was made starker by the absence of any participant referring at any time to the development of a nursing diagnosis. This observation has been previously noted: while '. . .physicians hold the responsibility and authority for diagnostic and prognostic disclosure, nurses are active participants in the ongoing process of diagnosis' [20, p. 58]. Despite being active participants, Newman cautions that the nurses' contribution is less visible and that clarity of '. . .where the nurse's role starts and stops has not been clearly delineated' [20, p. 58].

A deeper consideration of roles in diagnosis, is a recent recommendation of the Committee on Diagnostic Error in Health Care [21, p. 145] which advocates an imperative to shift the conceptualisation of '. . .the diagnostic process as a solitary activity, taking place within an individual physicians mind', to one that engages a diagnostic team. The central finding of this study, that emergency nurses expect to contribute, actively and dynamically to the diagnostic process, is important considering such far-reaching recommendations. Despite the nurses' perception of their role in the diagnostic team, it was not clear how the medical staff regarded their contribution to the final diagnosis.

Given the findings of this study where the emergency nurses regard the diagnostic process as central to their nursing care role, and in keeping with a universal goal to reduce health-related error, there is an opportunity to expand the concept of diagnosis. While it is sensible that certain language and terminology are used to inform the medical, nursing and allied care provided to patients, the differentiation of types of diagnosis might become less relevant in contemporary health care systems. As systems of interprofessional practice mature, governments and professions broaden scopes of practice, and patients gain access to an ever-expanding bank of reliable internet data, it might be that the consumer will expect a more sophisticated and informative 'label' – a health diagnosis. A health diagnosis could reframe the emphasis from either medical or nursing perspectives and reorient the focus of intervention and care from the diagnosis to the person. A health diagnosis would subsume nursing, allied health and medical aims and possibly place emphasis not on language but on person-centred outcomes. The impact of such a change would be an important study to undertake.

The theme of Busyness and Patient Management illustrates the way in which nurses develop their response to the pressing fundamental care needs of the person with acute abdominal pain despite several challenges. While the identification of an ED as busy is not revelatory, it was clear that the participants felt at times compromised by busyness and their ability to provide pain relief. Similar concerns related to overcrowding and subsequent delays in the administration of analgesia have been reported in a comprehensive literature review [8]. With time stressors likely to continue to impact ED care, the challenge ahead will remain in how nurses will provide fundamental care such as pain relief while balancing their internal expectations of contributing to diagnostic work.

The concerns of nurses about communication in the ED highlighted its importance in care delivery with only one participant able to identify instances of satisfactory practice. This finding reflects other literature [22, p. 1] describing the ED as '. . .complex, nuanced and fragile', a place where unspoken expectations and roles, such as the development of a diagnosis, exist. Analysis of approaches to communication around topics such as acute abdominal pain requires a frankness and transparency, one that transcends role expectations. The interplay between different professions in the ED concerning diagnosis and communication has been shown to influence patient care and safety [23]. As the discussion between staff in the ED often centres on diagnosis, it is not surprising that challenges in communication were identified as a core feature of the participants' reflections and one that influenced their delivery of pain relief.

The final theme of this study was identified as System Issues. Participants reported a range of experiences when caring for patients with acute abdominal pain within the ED, where they interacted with various human, logistic and management practices within the hospital. The 'system' largely incorporates the participants' descriptions of the processes, policies and pathways that determine the movement of a patient within and out of the ED. At times the system provides movement that is smooth and seamless with effective communication between clinics and treatment. At other times delays in discharge or admission accompanied by instances of miscommunication compromise the ability of nursing staff to provide fundamental care. When a participant describes other nurses and medical staff referring to a person with acute abdominal pain as an 'it' (Participant 5), this illustrates how the ED system might create a lack of person-centredness, especially when patients are seen to be 'bounced' from one medical clinic to another. It might also be that poor patient experiences encourage

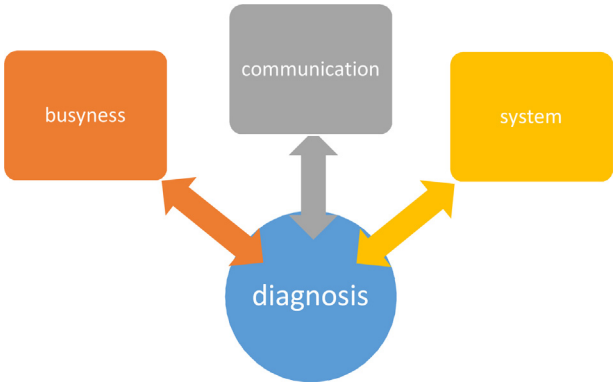

Fig. 1. The centrality of diagnosis.

nurses to place even greater emphasis on their participation in the medical diagnostic process. Essentially nurses implicitly and explicitly understand how important the diagnosis is in providing a way for the patient to move through the ED and onto the acute care system. This insight highlights the sophistication with which nurses consider the care of the patient through the ED and beyond. The importance of considering care, beyond the diagnosis, has been previously noted [24], with Boykin suggesting that transforming care in the ED will require '. . . commitment to *intentionally* focus' on forming a value system based on caring [7, p. 333]. A deeper understanding of how the fundamentals of care are delivered [25] for the management of acute abdominal pain and the factors that influence that delivery will be important in any such transformation.

As the analysis developed and themes became clearer, the place of diagnosis became increasingly interwoven and integral to the other themes of busyness, communication and system.

This relationship can be illustrated (Fig. 1) where the core theme, Centrality of Diagnosis, is a connector sitting between other dimensions of the acute care pathway for abdominal pain. Each dimension relies on or is influenced by the diagnosis; it is the role of the registered nurse to bring together each aspect in the management of patient care. Clearly articulating the role of the nurse in the diagnosis highlights the connected nature of their work. The advantage to ED managers and staff of this representation is to challenge how their institution might reflect on the role that diagnosis plays in the management of a patient with acute abdominal pain.

Conclusion

The consideration of fundamental care for those with acute abdominal pain is a complex discussion, particularly when considering the many differential diagnoses implied by acute abdominal pain. This study explored the perceptions of nurses working in the ED when managing care for patients with acute abdominal pain. Through detailed, reflective interviews, experienced nurses described a range of considerations such as busyness, communication challenges and system issues. Underpinning each of these, and arguably central to the conduct of each consideration, sits the diagnostic process. As nurses participated in the development of a medical diagnosis, they were are also aware that the provision of fundamental care, such as pain relief, requires an even broader awareness of the systems that influence the function of the ED. A detailed examination of the extent to which nurses' involvement in the conduct and formulation of a diagnosis influences patient outcomes, will be an important goal for further study.

Provenance and Conflict of Interest

The authors declared no conflict of interest and this paper was not commissioned.

Authorship statement

FD, RF EJ and AMA conceived and designed the study. FD, RF, EJ and AMA designed and tested the study instruments. FD and RF supervised data collection. FD, RF, EJ and AMA analysed the data. FD, RF, EJ and AMA prepared and approved the manuscript.

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