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**Creating opportunities for interdisciplinary collaboration and patient-centred care:  
How nurses, doctors, pharmacists and patients use communication strategies when  
managing medications **in an acute hospital setting****

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**Creating opportunities for interdisciplinary collaboration and patient-centred care:  
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managing medications in an acute hospital setting**

**ABSTRACT**

**Aims and objectives.** This paper examines the communication strategies that nurses, doctors, pharmacists and patients use when managing medications.

**Background.** Patient-centred medication management is best accomplished through interdisciplinary practice. Effective communication about managing medications between clinicians and patients has a direct influence on patient outcomes. There is a lack of research that adopts a multidisciplinary approach and involves critical in-depth analysis of medication interactions among nurses, doctors, pharmacists and patients.

**Design.** A critical ethnographic approach with video reflexivity was adopted to capture communication strategies during medication activities in two general medical wards of an acute care hospital in Melbourne, Australia.

**Methods.** A mixed ethnographic approach combining participant observations, field interviews, video-recordings and video reflexive focus groups and interviews was employed. 76 nurses, 31 doctors, one pharmacist and 27 patients gave written consent to participate in the study. Data analysis was informed by Fairclough's critical discourse analytic framework.

**Findings.** Clinicians' use of communication strategies was demonstrated in their interpersonal, authoritative and instructive talk with patients. Doctors adopted the language discourse of normalisation to standardise patients' illness experiences. Nurses and pharmacists employed the language discourses of preparedness and scrutiny to ensure that patient safety was maintained. Patients took up the discourse of politeness to raise medication concerns and question treatment decisions made by doctors, in their attempts to challenge decision-making about their healthcare treatment. In addition, the video method revealed clinicians' extensive use of body language in communication processes for medication management.

**Conclusions.** The use of communication strategies by nurses, doctors, pharmacists and patients created opportunities for improved interdisciplinary collaboration and patient-centred medication management in an acute hospital setting. Language discourses shaped and were shaped by complex power relations between patients and clinicians and among clinicians themselves.

**Relevance to clinical practice.** Clinicians need to be encouraged to have regular conversations to talk about and challenge each other's practices. More emphasis should be placed on ensuring patients are given opportunities to voice their concerns about how their medications are managed.

**Key words:** communication strategies, ethnography, interdisciplinary, language discourse, medication interactions, video reflexivity

## SUMMARY BOX

What does this paper contribute to the wider global clinical community?

- The use of communication strategies by nurses, doctors, pharmacists and patients can greatly impact on medication management activities in acute care settings.
- Patients need to be involved in treatment discussions from the outset instead of being provoked to question medication decisions after these decisions have already been made by doctors.
- Using an ethnographic approach and video reflexive method, new knowledge is revealed demonstrating how clinicians can better appreciate and value each other's contribution to safe medication management, which opens up possibilities for improved collaborative decision-making.

## **INTRODUCTION**

In hospital settings, the key participants involved in medication management are nurses, doctors, pharmacists and patients. These individuals play an important role in medication prescribing, medication dispensing, medication administering, medication taking, medication monitoring, evaluation and medication counselling (Australian Pharmaceutical Advisory Council 2005). Patient-centred medication management is best accomplished through interdisciplinary planning and practice. Valuable insights can be achieved by combining nurses' clinical expertise and knowledge of individual patients, pharmacists' knowledge of medications and doctors' integration of clinical issues into medical management. A comprehensive treatment plan is more likely to be implemented on a consistent basis for individual patients (Sessler & Varney 2008). In addition to interdisciplinary collaboration, effective communication about managing medications between clinicians and patients can have a direct influence on patient outcomes (Howard et al. 2008). By improving communication skills, particularly listening skills, clinicians are able to construct therapeutic relationships with patients and promote positive changes in patients' medication management regimens (Lyra et al. 2007, Carter et al. 2015).

In this paper, we discuss the communication strategies that nurses, doctors, pharmacists and patients use in managing medications. In particular, we explore language discourses used by nurses, doctors and pharmacists when managing patients' medications. Communication strategies refer to specific interpersonal skills contributing to effective communication in medication management. Language discourses focus on linguistic, political and social aspects of verbal and non-verbal medication interactions.

## **BACKGROUND**

Despite the importance of interdisciplinary collaboration in medication management, difficulties in team communication have been reported because each health professional holds a different set of values about teamwork based on professional socialisation, personal experiences as well as differing beliefs and values (McKeon et al. 2006). When nurses frequently consult with doctors, pharmacists, patients and families during medication activities, patient medication safety and effective care can be maintained (Eisenhauer et al. 2007). Drawing on data from interviews, focus groups and observations, Nugus and his colleagues (2010) investigated

interdisciplinary relationships between various disciplines (medicine, nursing and allied health, including physiotherapists, social workers and occupation therapists) across acute and community healthcare settings in Australia. In acute hospital settings, doctors were reported to exercise a form of “competitive power” by leading and dominating case conference discussions among a group of multidisciplinary clinicians (p. 901). Nevertheless, allied health clinicians including physiotherapists, social workers and occupation therapists showed resistance to medical dominance by questioning medical decisions. In community-based services, a form of “collaborative power” involving interdependent participation and decision-making by multidisciplinary clinicians was prevalent in case conference discussions (p. 902). Nugus and his colleagues’ work was insightful in examining interdisciplinary relationships within specific clinical environments. It demonstrated the coexistence of competitive power and collaborative power in health care, disrupting the traditional dominance of medicine in care decision-making.

The complexity of interdisciplinary collaboration is supported by the ethnographic work of Rixon et al. (2015). This work focused on exploration of pharmacists’ interprofessional communication about medications with nurses and doctors in Australia. Four specialty hospital settings including emergency care, oncology care, intensive care and cardiothoracic care were selected due to their frequent use of high-risk medications. The results demonstrated that pharmacists, doctors and nurses largely worked independently alongside one another rather than with each other. However, there was greater interprofessional collaboration in emergency care and oncology care than in cardiothoracic care and intensive care. The researchers attributed the variations to the organisational imperative to move patients out of emergency care within 4 hours of presentation and the contextual characteristics of using highly specialised chemotherapeutic medications in oncology care, which facilitated interdisciplinary collaboration and communication in those specialty settings. Rixon et al.’s work was significant in identifying setting-specific factors influencing medication management communication patterns. However, both Nugus et al. and Rixon et al. did not examine the use of communication strategies and language discourses during interdisciplinary medication information exchanges.

Previous studies have identified communication strategies used by nurses (Latter et al. 2007, Sibley et al. 2011), doctors (Street et al. 2005, Robertson et al. 2011) and pharmacists (Pilnick, 2003, Greenhill et al. 2011) when interacting with patients about medication management and

treatment decision-making. To promote effective medication consultations with patients with diabetes, nurse prescribers in the UK adopted a wide range of communication strategies such as informing patients' necessity for taking medications, instigating patients' attitudes toward medication taking, and listening to patients' concerns about medication treatment regimens (Sibley et al. 2011). Also in the UK, Latter and colleagues (2007) reported that nurse prescribers in primary care settings developed trusting relationships with patients and worked in partnership with them in medication consultations. In another UK study, Courtenay and colleagues (2011) demonstrated patients' high level of trust and confidence in nurse prescribers. Patients believed that nurse prescribers' specialist knowledge, together with their thoroughness during the consultation and good listening skills contributed to patient involvement in treatment decision-making processes. The UK studies demonstrated nurse prescribers' use of communication strategies in practice (Latter et al. 2007, Sibley et al. 2011) and patient's positive view of nurse prescribing (Courtenay et al. 2011). However, the researchers only presented a descriptive overview of nurses' prescribing consultations and patients' view of nursing prescribing. The actual language discourses used by nurses and patients during prescribing consultations remained unexplored. Additionally, the findings might not be able to be applied to nurse-patient medication discussions more broadly as nurse prescribers might have focused more specifically on their distinctive role in medication prescribing. It has also been reported that medication administration discussions between nurses and patients in acute care hospital settings tended to be initiated and dominated by nurses, with few opportunities for patients to establish relationships with individual nurses (Bolster & Manias 2010).

Patients' trust in doctors is essential to open information exchange during medication consultations (Simos 2012). In order to engage patients freely in conversations, doctors were reported to employ partnership-building strategies (e.g. asking for patient's opinions, using open-ended questions) and supportive talk (e.g. reassurance, encouragement) in medical consultations (Street et al. 2005). Robertson and her colleagues (2011) analysed audio-recorded doctor-patient consultations in primary care settings to explore communication strategies used by doctors and patients in shared treatment decision-making. The researchers noted that patients became actively involved in medication consultations by making direct requests to doctors. Doctors, on the other hand, adopted a partnership discourse by frequently using first person pronouns (e.g. 'we', 'us'). Nevertheless, the researchers argued that doctors' use of partnership talk was aimed

at inviting consensus from patients rather than truly involving them in shared treatment decision-making. Robertson et al.'s work presented a useful insight into doctor's and patient's use of language discourses in real practice. However, the researchers' analysis lacked a critical perspective. It was unknown how complex power struggles operated between doctors and patients in shared treatment decision-making. Moreover, the researchers did not explore how the social relationship between doctors and patients might have influenced their language discourses during treatment consultations.

Existing literature on pharmacist-patient interactions has reported pharmacists' use of communication strategies such as reinforcing knowledge about medications, politeness and humour to facilitate rapport building with patients in community settings (Hargie et al. 2000). Compared with hospital pharmacists, community pharmacists were known to be better able to draw upon their prior knowledge of patients and make use of appropriate jokes to engage patients in consultations (Greenhill et al. 2011). In a hospital pediatric outpatient clinic, Pilnick (2003) examined audio-recorded consultation data and revealed that pharmacists' unilateral delivery of information was the most common approach to patient counselling. In a few instances, pharmacists took a "stepwise approach" by explicitly inviting opinions from patients and family members (p. 844). The stepwise approach facilitated active involvement of patients and family members in the counselling process. Pilnick's study focused on pharmacists' counselling practices in the pediatric context, and the findings might not be applicable to hospital pharmacy consultations in general.

Previous studies reporting clinicians' use of communication strategies for medication management have mainly focused on two-way interactions between patients and nurses (Latter et al. 2007, Sibley et al. 2011), between patients and doctors (Street et al. 2005, Robertson et al. 2011) or between patients and pharmacists (Pilnick 2003, Greenhill et al. 2011). A multidisciplinary and patient-focused analytic approach involving a multi-way analysis of interactions with nurses, doctors, pharmacists and patients allows for an exploration of the dynamics and complexities of communication about medication management. Additionally, past work has not provided a critical in-depth analysis of individuals' use of language discourses in communication strategies for medication management. From our perspective, a critical in-depth analysis focuses on linguistic, political and social aspects of verbal and non-verbal medication

interactions. The use of a critical ethnographic approach with video reflexivity can provide enormous opportunities in unpicking these aspects of verbal and non-verbal medication interactions, as described previously (Liu et al. 2015).

The purpose of this paper is to examine communication strategies used by nurses, doctors and pharmacists in communicating with patients and with each other during medication management in general medical acute hospital settings. Specifically, we aim to explore how clinicians use language discourses to construct their professional identities and to reinforce or challenge existing social relations, and of how patients use language discourses to lead to possibilities for patient-centred care.

## **METHODS**

### **Design**

A critical ethnographic approach was selected for this study to capture communication processes during medication activities in hospital environments. The central concern of critical ethnography is to reveal power relations that mark the terrain of social formation (Simon & Dippo 1986). Critical ethnographers consider everyday events and examine these events in a way that exposes social relations and power imbalances (Thomas 1993). In the study, we strived to find out how social relations intertwined with language discourses influencing clinicians' communication with patients and with each other about managing medications.

### **Data collection**

Field work was undertaken between January and November, 2010 in two general medical wards (Ward 1 and Ward 2) of a metropolitan acute care hospital in Melbourne, Australia. All nurses, doctors and pharmacists who worked in the wards at the time of the study were eligible for participation. Patients were eligible if they were able to communicate with clinicians about managing medications. Across the two medical wards, 108 clinicians (76 nurses, 31 doctors and one pharmacist) and 27 patients gave written consent to participate in the study. Verbal consent was obtained from all incidental individual family members and clinicians who appeared unexpectedly at the time of observation, including four family members, two pharmacists, eight doctors, two social workers and four physiotherapists.

The study was approved by the Human Research Ethics Committee of the participating hospital and the university. We strictly followed the guidelines for the conduct of research outlined in National Health and Medical Research Council (NHMRC/ARC/AVCC 2007). A mixed ethnographic approach combining participant observations, field interviews, video-recordings and video reflexive focus groups and interviews was employed to ensure rich data were obtained and to establish rigor of the data (Table 1). The first author, who also worked as an emergency department (ED) nurse of the participating hospital conducted the field work. In total, our fieldwork accumulated 290 hours of participant observations, 72 field interviews, 34 hours of video-recordings, 1 individual reflexive interview and 5 reflexive focus groups.

### **Data analysis**

Data analysis began with the first author's verbatim transcription of handwritten field notes and audio tracks of the recordings. The video portion of the recordings allowed for an assessment of nonverbal cues such as body gestures and spatial movements. All authors independently interpreted the research data. All audio, video and written data were imported into NVivo 8 (QRS International) for data management and analysis. Detailed data analysis was informed by Fairclough's (1992) three-level critical analytic framework (Table 2).

## **RESULTS**

Communication about medication management between clinicians and patients occurred opportunistically at any space and any time of the day. Clinicians' use of communication strategies was demonstrated in their interpersonal, authoritative and instructive talk with patients. Communication strategies used among clinicians involved the practices of questioning medication orders, giving medication instructions and offering medication suggestions.

### **Use of communication strategies between clinicians and patients**

#### **Interpersonal talk**

By interpersonal talk, we refer to interactions that involved clinicians listening to individual patients' medication concerns and responding to these concerns in a way that was understood by the patients. During observations, nurses, doctors and pharmacists used interpersonal talk with patients when conducting medication management activities.

Nurses engaged in interpersonal talk with patients during medication administration processes. They explained the names and indications of medications using language that could be understood by patients, as demonstrated in the following excerpt. In this scenario, a nurse was giving magnesium (a mineral supplement) tablets to a patient who had an exacerbation of chronic obstructive pulmonary disease:

Nurse: I am going to give you some magnesium tablets.

Patient: What is that?

Nurse: One of the electrolytes in your body.

Patient: I don't understand.

Nurse: Just like sodium, potassium, to help the body fluid balance. Your magnesium is low in your body. Hope we can boost that one up a bit.

Patient: Can the mag[nesium] tablets help me with stomach cramps?

Nurse: It depends on how low it is in your body.

Patient: I did get a lot of cramps in my feet.

Nurse: In your feet? So that might be because your magnesium is a bit low. Ask the doctors about it when they come in, say 'what about my magnesium?'

Patient: I will never remember [the name].

Nurse: You call it 'Mag.' for short, your 'Mag.', like 'mad.'

Patient: Okay. I'll write it down on the paper. I got things listed here [to ask the doctors].

Nurse: That's a very good idea. (Field notes #34, Ward 2)

In this scenario, the nurse began the conversation with an open statement about medication administration. The patient questioned about the medication, and she reinforced the question with a forthright statement – “I don’t understand.” The nurse tried to convince the patient of her medication needs, making a reference to the low level of magnesium in the patient’s body. The nurse asserted her medication knowledge and expectation of the patient to take the medication.

The patient directed another question to the nurse by speaking about her “stomach cramps” and “cramps in feet.” The nurse responded hesitantly to the patient (“depends,” “might,” “a bit”), and she suggested that the patient ask the doctors about the relationship between her cramps and magnesium levels. By deferring the patient’s inquiries to doctors, the nurse may be avoiding overriding doctors’ authority in investigating and diagnosing a medical condition. Seeking the doctor’s opinion was an opportunity to provide further insight on the possible link between the stomach cramps and magnesium levels. When making suggestions to the patient, the nurse spoke with a first person tone (“what about my magnesium”). This interpersonal approach potentially reduced the professional distance between the nurse and the patient.

The patient expressed another concern about being unable to remember the name of the medication. The nurse responded directly to that concern and adapted her language to the patient’s level of understanding. The nurse referred to magnesium as “Mag.,” then “mad.” The nurse replaced standard medical language with everyday social language to enhance the patient’s understanding of the conversation. The patient exercised a strategy for medical consultations by writing down questions on the paper. The nurse supported the patient’s own strategy. The language discourses of supportiveness and explanation employed by the nurse reinforced the patient’s involvement in medication management at the bedside.

Doctors and pharmacists also used interpersonal talk with patients by giving patients positive feedback and mirroring patients’ own language. During a ward round observation, a patient spoke about how he had been managing his own medications for many years at home. The medical consultant responded warmly by opening up her arms and saying, “You are multitalented, aren’t you?” Such an embracing gesture and positive feedback from a senior doctor delighted the patient and enhanced collaborative information exchange at the bedside. The patient was observed to actively engage in discussions about his treatment options. Sometimes, doctors interacted with patients using simple words from the native language of patients such as

Italian or Greek, which often made patients laugh and helped to break down communication barriers. Similarly, pharmacists were seen mirroring what patients had said in the conversation. While observing a pharmacist taking medication histories from a patient, the patient spoke about how she had been treated with “three different [types of] eye drops” for many years, but she did not understand the purposes of using those different types of eye drops. The pharmacist repeated the patient’s concern by saying, “Three different [types of] eye drops. That’s a lot. Let’s have a look of them now.” The pharmacist acknowledged the patient’s medication concern and responded to the concern immediately with her distinctive medication knowledge.

#### Authoritative talk

Authoritative talk occurred through doctors and nurses. Doctors’ talk with patients about medications tended to be authoritative. By using authoritative talk, power was exercised by doctors when discussing treatment plans with patients, as demonstrated in the following video excerpt. In this scenario, the patient was admitted to the ward due to intermittent chest pain. Doctors had just finished their ward round case discussion in the corridor and moved to the bedside to inform the patient about the decision to start enoxaparin (an anti-coagulant) treatment. It was the medical consultant who delivered the treatment decision to the patient. Although two medical residents were also present at the bedside, they did not participate in the conversation. There was no nurse or pharmacist present in the discussion.

Medical consultant: It seems that some of the [chest] pain you have been getting is almost certainly angina type of pain. You’ve had a little bit damage done to the heart because of that. It’s not huge, but it’s certainly something significant. So we need to treat you as if you sustained a little bit of heart damage.

Patient: I beg your pardon?

Medical consultant: We need to treat you as if you sustained a little bit of heart damage.

Patient: Alright.

Medical consultant: What that means is we are going to give you an injection [indicating enoxaparin] under your skin to thin your blood down, to make it flow a little bit better.

Patient: But I do take aspirin [an anti-coagulant] every morning.

Medical consultant: Yeah, this [indicating enoxaparin] is a little bit more powerful, and the risk is obviously we are thinning you down, there can be bleeding. I don't think that risk is particularly high in you. We are only going to do it [give enoxaparin injection] for two days. I think it's something we probably should do. Okay? (Video observation #60, Ward 2)

The medical consultant's delivery of information was clearly structured. The diagnosis was "certain," as was the treatment decision. By speaking about "a little bit of heart damage," the medical consultant perceived that the patient had sustained mild cardiac dysfunction that required enoxaparin treatment. In the meantime, the medical consultant considered the patient's personal feelings of anxiety by normalising his condition as something "a little bit" and "not huge." The patient did not fully understand the information about his diagnosis. He used formal and polite language in asking for the information to be repeated ("I beg your pardon"). This polite language demonstrated the patient's respect for the medical consultant's status and authority. The medical consultant explained further about how to treat the patient's condition with enoxaparin injections. He presented the treatment plan as a statement, not for negotiation. However, the medical consultant hesitated "a little bit" about the treatment effect given its uncertain nature. The interaction highlighted the use of normalisation and authoritativeness discourses by the medical consultant and politeness discourse by the patient. The normalisation discourse adopted by the medical consultant aimed to minimise the patient's anxiety over his illness. The authoritativeness discourse demonstrated the medical consultant's professional and experiential knowledge in treatment decision-making.

The patient questioned the treatment plan with his medication knowledge. The patient might have thought that receiving enoxaparin while taking aspirin might cause adverse reactions. The

patient's use of the words "do take aspirin" showed his attempt to negotiate with the medical consultant about the recommended treatment plan. The patient positioned himself as an active agent in treatment decision-making, attempting to challenge the traditional model of care where doctors made treatment decisions and patients complied with the decisions. The medical consultant had to defend the treatment decision with the patient. He explained about the side effects of enoxaparin while negotiating with the patient about his treatment plan. The medical consultant's language strategy was to convince the patient that the treatment plan was weighed carefully between benefit and risk. The medical consultant used explicit subjectivity terms such as "I don't think" and "I think," when explaining the possible side effects associated with enoxaparin treatment. By doing so, the medical consultant projected the treatment decision as just his opinion. However, the medical consultant used high-modality characters such as "probably should," claiming his legitimate knowledge in treatment decision-making and providing little room for further negotiation.

This video excerpt also demonstrated little spatial control by patients during the ward round practice. While the doctors moved between the corridor and bedside spaces in discussing treatment options, the patient was only included in the discussions when the doctors moved to the bedside area. The patient's lack of spatial control through body movements limited opportunities for information exchanges between the doctors and the patient.

Nurses' authoritative talk with patients was manifested in a covert manner. During medication administration processes, nurses requested patients to take medications in a way that sounded like they were asking patients for help, by saying, "Can you have the tablets for me?" or "It will be great if you can take the tablets now." Patients often took medications with no hesitation upon nurses' polite requests. By using the language discourse of making direct requests, nurses achieved treatment goals and maintained their authority in medication administration processes.

#### Instructive talk

Pharmacists provided patients with clear instructions about how to use specific medications. Pharmacists' instructive talk had direct effects on medication safety, particularly following patient discharge. In the following video excerpt, a pharmacist was explaining new medications to a patient and the patient's son prior to the patient's discharge. Before the patient's son arrived on the ward, a brief exchange of information occurred between the pharmacist and the patient

about being discharged with a few new medications. As the patient spoke English as a second language, the pharmacist wanted to explain the new medications when the patient's family was present. The following conversation mainly involved the pharmacist and the patient's son:

Pharmacist: Ventolin [salbutamol, a bronchodilator], I spoke to him [indicating the patient] about the spacer [equipment to facilitate salbutamol administration].

Patient: What?

Pharmacist: The big plastic machine [demonstrating the shape of a spacer] . . . And GTN [glyceryl trinitrate, a vasodilator] patches.

Son: Those are the patches you have been placing here [on the ward]?

Pharmacist: Yeah. You need to put it [GTN patch] on at 8 o'clock in the morning. You need to remember to take it off at 10 o'clock at night. You need to have a free period. You have to carry on all the time until the doctor says stop.

Son: Yeah, we'll work that out.

Pharmacist: It [GTN patch] can bring down his [indicating the patient] blood pressure a bit, so keep an eye on his blood pressure . . . The Temtab [temazepam, a tranquiliser], he hasn't used [it] a lot when he's in hospital.

Son: Is this the tablet they have been adding on top of his Zenax [alprazolam, an anti-anxiety medication]? He reckons he's been sleeping better here. Can we run the Zenax lower? Do you think?

Pharmacist: You can do that. Maybe you don't need Zenax anymore. Zenax is very short-acting. It's good for anxiety. He told me that he's been on Zenax for four years. I don't want to actually stop it.

Son: But it's addictive.

Patient: Do I need approval for the Temtab? [The patient understood that alprazolam was a special prescription medication that required an authorisation from the government.]

Pharmacist: No, no approval. So maybe it might be easier to stick to Temtab. Okay?  
(Video observation #8, Ward 1)

[Figure 1 about here]

In this example, the patient was a 76 year old man from a non-English speaking background, which might have affected the ways in which the pharmacist communicated about medication information. During the conversation, the pharmacist referred to all medications using their brand names, tailoring information to the knowledge level of the patient and his son. When the pharmacist introduced a new medication, Ventolin, and the administration equipment to the patient, she used hand gestures showing the shape of a Ventolin spacer (Figure 1).

During the conversation, the patient's son frequently initiated interactions with the pharmacist rather than only accepting information provided by the pharmacist. Although the patient's son initiated many interactions throughout the conversation, it did not mean the pharmacist had surrendered the interactional control to him, which was manifested by the pharmacist's directive instructions about how to use certain medications. When explaining the GTN patches, the pharmacist reiteratively used high-modality words ("need to," "have to"), highlighting the patient's responsibility in medication management. Instead of addressing the patient in the third person as "him" as she did in the first line of the conversation, the pharmacist changed to the second person "you" to give clear directives to the patient about how to use the GTN patches. The pharmacist changed to low-modality words ("a bit") when providing information about the side effects associated with the use of GTN patches, perhaps because the pharmacist did not want to intimidate the patient, which might have affected the patient's adherence to medications following hospital discharge.

The patient's son took control of the conversation after the pharmacist introduced another new medication, Temtab. The patient's son brought up a question about the patient's use of Zenax, which led to a collaborative exchange of information between the patient, the patient's son and the pharmacist. Although the pharmacist did not respond to the patient's son's query about the addictive nature of Zenax, she instructed the patient to "stick to Temtab." This excerpt showed the patient and family voicing their medication concerns through the language discourse of questioning, and the pharmacist trying to address the patient's and family's concerns through the language discourse of instruction at the same time.

Nurses also used instructive talk with patients during medication administration processes. While observing a nurse giving salbutamol nebuliser to a patient with asthma, the nurse provided clearly instructions to the patient by saying, "I want you to breathe through your mouth, so the medication goes right into your lungs." The nurse also demonstrated a few deep breaths through her mouth to the patient, making sure the patient understood what she had said. The nurse's instructive talk and body demonstration of deep breathing practices facilitated the patient's understanding about how to use the medication. The nonverbal gesture taken up by the nurse offered insightful meanings to patient medication education. Compared with pharmacists and nurses who offered patients direct instructions about medication use, doctors provided few specific medication instructions to patients.

### **Use of communication strategies among clinicians**

#### Nurses questioning medication orders

Nurses were observed questioning doctors' medication orders to ensure patient safety. They applied their medication knowledge and clinical skills to validate medication orders. In the following field note extract, a nurse was questioning a medical resident about a cardiac medication at the bedside. The nurse paged the medical resident to come to the ward after detecting a slow heart rate of a patient:

Staff nurse: His [indicating the patient] heart rate dropped down to 48[beats per minute]. Here is the ECG [electrocardiogram]. He had 20mg of metoprolol

[a  $\beta$ -blocker] this morning. His heart rate was 62[beats per minute] pre-medication.

Medical resident: [Examining the patient] Yeah. He [indicating the patient] said it also made him drowsy . . . So drop metoprolol to 12.5[mg]. If his heart ever goes below 45[beats per minute], please do an ECG and call us. (Field observation #4, Ward 1)

In this episode, the nurse overtly demonstrated her assessment skills and medication knowledge. She took proactive action by paging the medical resident and highlighting a slow heart rate as a significant clinical issue. The nurse applied the language discourse of preparation into her practice by performing an ECG before the medical resident arrived on the ward. Linking the patient's current ECG data with his earlier observational parameters, the nurse indicated that the patient's slow heart rate was possibly medication-related. The nurse presented objective findings about the patient's ECG and observational results in her discourses, signifying certain degree of power. However, her request for a medication alteration was expressed in a covert manner. The nurse's indication of the possible cause for the patient's slow heart rate was an implied request for medication changes.

The nurse's implied request was recognised by the medical resident who gleaned more data from the patient through clinical examinations. The medication change was made at the bedside. The medical resident used a polite word "please" to instruct the nurse's actions for future reference. The language discourse of instruction taken up by the medical resident consolidated her status and authority. Taking this one step further, the language discourse of instruction was an implicit acknowledgement of the nurse's knowledge and experience in dealing with similar clinical situations.

For medical residents, they perceived nurses questioning as a way of filling gaps in patient care delivery by saying, "Nurses normally ask questions about changing things like medication time or route to make it more pleasant for the patient," or "We consider getting the drug into the person. Nurses normally feed practical information back to us." Although acknowledging nurses' roles in medication management, medical residents focused on nurses' involvement in

medication administration and evaluation processes. The medical residents used the language discourse of normalisation to define nurses' roles in medication management. The medical resident normalised nurses' traditional roles in managing medications as medication administration and evaluation without recognising nurses' participation in collaborative decision-making.

Although nurses often questioned medical residents about medication orders to maintain patient safety, they did not like to be questioned by their nursing colleagues, particularly by the nurse unit manager. The nurse unit manager of Ward 2 recalled her experience of questioning a graduate nurse while performing medication double-checking in the medication room, saying that, "I asked her to explain the risks associated with warfarin for this particular patient. She nearly biffed me because a simple [medication double-] check took 20 minutes to finish." The nurse unit manager used the words "nearly biffed me" to describe the graduate nurse's expression of annoyance when asked to explain the use of warfarin for the patient. In this scenario, the graduate nurse was probably annoyed by the time wasted in double-checking warfarin with the nurse unit manager.

Another way of analysing the nurse unit manager's accounts was to examine the tensions created by the spatial context. The nurse unit manager's work was mainly conducted behind the door in her private office in isolation from the messy clinical environment within which bedside nurses spent much of their time. Furthermore, the graduate nurse might have felt confronted when questioned by the nurse unit manager in a communal working space as mentioned by the nurse unit manager during the interview. The medication room was accessible to all ward staff members. The graduate nurse might have felt embarrassed to exhibit her lack of medication knowledge to the nurse unit manager and her colleagues who entered and left the medication room in a constant stream. For the graduate nurse, her priority was to effectuate the medication order and move onto her next task. This excerpt demonstrated a disjunction between the management discourse of safe practice and the clinical discourse of task completion.

#### Doctors giving medication instructions

Doctors were observed giving direct instructions to nurses and pharmacists regarding patients' medication management. By doing so, doctors maintained their power and authority in

medication management processes. At an interview, a medical resident spoke about how medication information exchange occurred in the ward:

After the [ward] round, we inform the nurses if there is a change in patient medication. Then, we inform the pharmacist if we're about to send the patient home because she will come up with the up-to-date medication list. (Medical resident, Interview #27, Ward 1)

The medical resident took the responsibility of imparting medication decisions to nurses and pharmacists. He recognised the communication need in order to achieve clinical goals for patient discharge. Although there were opportunities for nurses and pharmacists to review the medication order list and make suggestions about medication changes, the decision-making process about medication order changes and patient discharge remained under medical control, except for the task of medication administration and organising discharge medications.

Doctors' practice in giving instructions occurred opportunistically in terms of time and location. It sometimes arose from a clinical emergency at the patient's bedside or in the public corridor where nurses were stopped by doctors to carry out a new medication order (Figure 2). During observations, doctors normalised nurses' traditional roles in medication management as preparing and administering medications. Doctors rarely explained reasons underlying medication changes to nurses. Nurses also often accepted the traditional roles constructed by doctors by showing little resistance to these medical instructions. Upon receiving a medical instruction in the corridor, nurses rarely had the opportunity to ask further questions about the instruction. Nurses were often in the middle of carrying out other clinical activities when being stopped in the corridor by a doctor. Doctors also appeared to be in a hurry to end the corridor conversation and move onto the next task. The opportunistic nature of corridor conversations created barriers to effective medication information exchanges between nurses and doctors. Furthermore, the language discourse of normalisation taken by doctors and nurses strengthened medical dominance in treatment decision-making.

[Figure 2 about here]

Doctors, especially medical residents, often applied the language discourse of politeness when giving instructions to nurses. Medical residents used polite language such as, “Sorry to bother you, could you please help me to run an urgent blood test?” or “I know you are busy, but I would appreciate if you can give him the medication now.” To ensure prompt effectuation of a new medication order at an unusual time of the day, medical residents had to interrupt nurses’ scheduled work. Being polite showed medical residents’ consideration of impinging on nurses’ work. Furthermore, delivering a medication order to nurses who might have had more experiential knowledge than themselves, medical residents had to mitigate their language to look as if they asked nurses for help. Nurses felt respected when medical residents spoke to them politely, and they willingly endorsed medical instructions through their practice. The historical doctor-nurse relationships were reproduced through nurses’ acceptance of medical instructions without further questioning.

#### Pharmacists offering medication suggestions

A registered pharmacist was present on each ward from Monday to Friday during working hours. Compared with doctors who were unpredictable in terms of their geographic locations, the pharmacist’s clinical presence on the wards was relatively stable. Sometimes, the pharmacist needed to move between the ward and the central pharmacy department to dispense medications for patients. During this moving period of time, the pharmacist remained contactable through the hospital paging system. The pharmacist’s presence on the wards provided nurses with an easy access to immediate medication concerns, particularly when doctors were absent from the ward. It was also a common practice for the ward pharmacist to write medication administration instructions for nurses on medication charts and leave notes for doctors to consider modifying medication orders after daily review of the patients’ medication charts.

During reflexive focus groups, nurses watched a DVD showing their daily communication activities with the ward pharmacist. Nurses spoke highly of the importance of the pharmacist’s presence on the ward and the pharmacist’s medication knowledge, “I can find her when I have problems reading the drug chart,” or “The pharmacist knows so much about different

medications.” Another nurse explained the importance of the pharmacist’s presence on the ward in terms of feeling secure, saying that, “If pharmacists are around, we are also confident.” Another nurse stated the effect of positive pharmacist-nurse relationships on nursing work by saying, “You need to make friends with pharmacists if you want to be away from trouble.” Doctors, especially medical residents, also appreciated the pharmacist’s presence on the ward, centering on “correcting prescribing errors in a timely manner” and “asking for suggestion about unsure drug interactions.” By seeking suggestions from pharmacists, medical residents avoided exhibiting a lack of knowledge to their senior colleagues.

While watching video examples of a pharmacist reviewing medication charts, the pharmacist reflected on her multi-faceted roles in medication management, “I am like a second pair of eyes to check everything. I give advices [sic] to doctors and nurses. I provide information to patient.” The pharmacist positioned herself as an advisor to doctors and nurses with her expert medication knowledge. She worked as a messenger between doctors and patients to disseminate medication information before patient discharge. However, the pharmacist confined her medication knowledge to “check everything” rather than to influence medication decisions. As such the pharmacist employed the language discourse of scrutiny to ensure that patient medication safety was maintained. When being asked about her role in medication decision-making, the pharmacist acknowledged the importance of collaborative decision-making but emphasised the practical difficulty of time constraints and organisational priorities on patient discharge.

## **DISCUSSION**

This study highlights clinicians’ use of communication strategies such as interpersonal, authoritative and instructive talk with patients to explain what medications patients were taking, how the medications worked, and possible side effects associated with the medications. Also important was the identification of language discourses employed by clinicians and patients during medication interactions. Doctors tended to use the discourse of normalisation to standardise patients’ illness experiences and nurses’ as well as pharmacists’ roles in medication management. Nurses and pharmacists often employed the language discourses of preparedness and scrutiny to ensure that patient safety was maintained. Although patients’ involvement in treatment decision-making at bedside was minimal, there were occasions where patients took up the discourse of politeness to raise medication concerns and question treatment decisions.

Our findings support previous studies that demonstrate the influence of interpersonal skills and partnership talk on patient-centered medication activities between nurse-patient (Bolster & Manias 2010), doctor-patient (Robertson et al. 2011) and pharmacist-patient (Greenhill et al. 2011). During observations, nurses prided themselves for speaking to patients at an interpersonal level, and they developed personal knowledge of individual patients through ongoing working and talking with them. Nurse-patient relationships were strengthened through such interpersonal talks. These close relationships positioned nurses as patient advisors for medical consultations. Doctors and pharmacists were also observed to use interpersonal talk to establish relationships with patients. Similarly, patients took up the language discourse of politeness to maintain positive relationships with clinicians.

Most of the time, the treatment decision was made following doctors' case discussions in the corridor. The patients' opinions were not always considered or elicited at the bedside. This finding is different from Courtenay et al.'s (2011) research in which patients were highly involved in treatment decision-making and their views were thoroughly considered by nurse prescribers in outpatient clinics. A possible explanation for the different findings is that our observations were undertaken in acute care settings where patients were more ill and dependent on health care professionals for treatment decision-making compared with patients in primary or community care settings. Nevertheless, there were situations where patients tried to influence the decision by introducing additional medication concerns (i.e. in the case of the patient raising concerns about his current use of aspirin). In those situations, doctors utilised communication strategies such as normalising patients' health condition and offering authoritative advice to maintain medical dominance in treatment decision-making, a practice has been identified in the literature (Robertson et al. 2011). The pharmacist's instructive talk during discharge medication education was essential to clarify medication inquiries from the patient and family, and to achieve continuity of medication management following the transfer of patient care from hospital to home environments (Australian Pharmaceutical Advisory Council 2005). Drawing on Fairclough's (1992) notion of social connections and power relations hidden in discourses, clinicians in this study constructed their professional status and maintained social relations through the use of communication strategies. Patients, on the other hand, created the language discourse of questioning to fulfill their own intentions and to challenge conventions at the bedside space.

Using the video method, we presented extensive use of body language by clinicians in communication processes for medication management. Nurses and pharmacists used body language to demonstrate how to use certain medications correctly. Nonverbal gestures adopted by doctors such as opening arms when interacting with patients enabled partnership building. Clinicians constructed their language discourses through their talk and body disposition – the way they stood, their movements and their ways of responding physically to what was said (Fairclough 1992). Examination of verbal accounts enacted a variety of textual devices such as modalities and hesitation that helped to shape meanings (Hardy & Phillips 2004).

Doctors and pharmacists tended to use high-modality words such as “certain” and “should” to inform patients about treatment decisions and about what they should do following discharge, claiming their legitimate knowledge about medications and treating illnesses. When exchanging information about treatment outcomes, doctors selected low-modality words such as “probably” and “a bit” to protect themselves from potential complaints about care. Similarly, pharmacists, doctors and nurses often used low-modality and subjective language (i.e. “a bit”; “I think”) to explain medication side effects to patients. This finding coincides with Dyck et al.’s (2005) description of pharmacists’ use of vague, verbal descriptors (i.e. sometimes, might occur) to describe medication side effects, as opposed to citing the objective rates of side effects. Previous studies have noted that patients’ negative beliefs about a medication for fear of its side effects have led to low adherence to medications (Heiner 2007, Elliott 2008). In the current study, although medical-technical jargon and abbreviations dominated formal communication forums in the meeting room and the staff station, nurses, doctors and pharmacists often tailored their language to assist with understanding by patients and family members at the bedside, which further enhanced partnership building and communication processes.

Also important was the interdisciplinary communication between clinicians. Nurses questioned doctors about medication orders as a normalised practice. When nurses had specific questions about medication orders, they tended to ask medical residents instead of medical registrars or consultants for clarification, respecting the professional hierarchies. Questioning among nurses themselves was not always welcomed, particularly if an inexperienced graduate nurse was questioned by an experienced nurse unit manager, who had a different understanding of clinical time to bedside nurses. This different understanding of time was homologous to the

different status held by the nurse unit manager and the graduate nurse. The nurse unit manager had the privilege of regulating her own working time, whereas the graduate nurse was given little flexibility in the use of time during her shift work. Additionally, the geography of space distanced the nurse unit manager from the difficulties faced by the graduate nurse while working on the open floor. Nurses' confinement to public ward spaces contributed to the stressful environment within which nursing was practiced, a finding that was also reported in previous research (Halford & Leonard 2003).

Doctors, especially inexperienced medical residents, used the language discourse of politeness, where polite language was employed to mitigate direct instructions to nurses. Medical residents also used polite language when seeking prescribing advice from pharmacists. This finding differs from Rixon et al.'s (2015) analysis of pharmacists' greater use of greetings and appreciations than doctors when communicating about medication information, supporting Fairclough's (1992) notion of the use of language discourses being shaped by intentions and subject positions of the individual. It appeared that inexperienced doctors in the current study honoured the discourse of safety and appreciated interdisciplinary collaboration. A possible explanation for the different findings is that Rixon et al.'s study was undertaken in specialty settings where pharmacists only worked in the setting for a couple of weeks compared with pharmacists in the current study who worked on the medical ward for three months consecutively. The different findings highlighted the influence of experience level and interdisciplinary relationship on clinicians' discursive practices.

Although acknowledging nurses' and pharmacists' important role in medication management, doctors were largely silent about nurses' and pharmacists' contribution to treatment decision-making. Doctors employed the language discourse of normalisation to stereotype nurses' and pharmacists' roles in medication management. On the other hand, nurses often willingly accepted medical instructions with little questioning. Similarly, pharmacists were content about their roles in problem-solving and identifying prescribing errors. It was a greater concern for nurses and pharmacists to be informed of medication changes or resourced upon for medication knowledge rather than being involved in influencing those changes. The dominance of medicine was perpetuated through traditional ideologies that supported doctors' control in medication decision-making (Fairclough 1992). As nurses viewed their daily communication practice with

pharmacists on the reflexive DVD, they were better able to acknowledge interdisciplinary collaboration and communication in contributing to medication safety. The pharmacist was also able to confront the way in which her contributions were rendered as indivisible by scrutinising medication orders after they were written.

This study has some limitations. The study was undertaken in a public acute care hospital. The findings therefore may not be transferable to regional and rural hospitals or primary care settings. It is possible that participants may have changed their behaviours as a result of being observed. However, as observations occurred over a prolonged period, and participants became very familiar with the observer's presence, changes in behaviour were unlikely to have occurred.

## **CONCLUSION**

Our findings demonstrated how the use of communication strategies by nurses, doctors, pharmacists and patients created opportunities for improved interdisciplinary collaboration and patient-centred medication management in an acute care hospital. Fairclough's critical discourse analysis highlighted the dialectic relationship between discursive practices and social relations. Language discourses shaped and were shaped by power relations between patients and clinicians and among clinicians themselves. In future, it would be useful to apply the critical approach into participatory research with the aim to implement practice changes to improve clinician-patient and interdisciplinary medication interactions.

## **RELEVANCE TO CLINICAL PRACTICE**

Our findings have provided an insight into how clinicians from different disciplines use language strategies to achieve their communication goals in patient medication management. This work can provide useful data for the development of hospital training programs on interdisciplinary communication. Nevertheless, the development of such a training program would call for further investigation of communication issues into other hospital care settings as well as primary care settings. The contextual environment of particular healthcare settings is known to have significant impacts on interdisciplinary communication about medications (Rixon et al. 2015).

Through the use of video method and the process of reflexivity, nurses, doctors and pharmacists were better able to challenge their daily taken-for-granted practice and understand

the complexities of communication processes for medication management. They were better able to appreciate and value each other's contribution to safe medication management, which opened up possibilities for improved collaborative decision-making. Clinicians need to be encouraged to have regular conversations during which they can talk about and challenge their practices. Given the lack of formal interdisciplinary communication forums about medication management issues, opportunities exist for multidisciplinary staff meetings where nurses, doctors and pharmacists can have dedicated time and space to conduct interactive medication conversations about their patients.

Although patients and family members were often involved in bedside medication activities such as medication administration and discharge medication education, their participation in ward round treatment decision-making was largely invisible. Patients need to be involved in ward round discussions and decision-making processes instead of being provoked to question medication decisions after being made. We suggest there should be organisational commitment to restructuring ward round practice by starting the discussion at the patient bedside with the focus on eliciting individual patient concerns instead of doctors preempting what the patient needs before meeting up with the patient. By providing patients and family members with the opportunity to be involved in treatment decision-making, we can ultimately improve patient satisfaction, patient understanding and treatment outcomes.

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**Table 1** Data collection methods

Method	Aim of method	Data collection schedules
Participant observations	To obtain a general understanding of how clinicians communicated with patients and with each other about managing medications.	The first author shadowed individual clinicians for up to 3 hours on weekday and weekend shifts over a period of 1-2 months on each ward. Activities and communication events about managing medications were documented on field notes.
Field interviews	To clarify observed activities and elicit clinicians' perspectives on communication practice.	The first author organised semi-structured field interviews with clinicians following the targeted observation. Clinicians were asked to make comments on observed activities and to identify communication strategies used in medication information exchanges. Field interviews were audio-recorded.
Video-recordings	To capture the smallest and finest particulars of clinicians' interactions while maintaining the contexts of the communication event.	The first author operated a hand-held video camera and recorded formal communication forums (e.g. nursing handovers, medical ward rounds, and multidisciplinary meetings) and informal communication activities related to medication management (e.g. nurses' medication rounds, doctors' admission of new patients, pharmacists' organisation of discharge medications). Video recordings were ceased when patterns of communication began to reoccur.

**Table 1** Data collection methods (Continued)

Type of methods	Aim of method	Data collection schedules
Video reflexive focus groups/ interviews	To enable clinicians to reflect on communication activities about managing medications.	The first author organised focus group discussions with nurses and individual reflexive interviews with doctors and pharmacists. A reflexive DVD was derived from the raw video data and used to stimulate focus group and interview discussions.

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Focus group activities were video-recorded.

Individual reflexive interviews were audio-recorded.

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**Table 2** Data analysis guide developed from Fairclough's (1992) three-level critical analytic framework

Level of analysis	Purpose of analysis	Analytic questions
Level 1	To examine the use of verbal and nonverbal expressions in the text.	What were participants saying? What nonverbal gesture <sup>a</sup> was used? Who was speaking or silent? What words (e.g. pronouns <sup>b</sup> , verbs) and language devices (e.g. modality <sup>c</sup> , hesitation) were used? Who was speaking on behalf of whom? When did this occur and under what circumstances?
Level 2	To explore the strategic use of language discourses in the text.	What language discourses were drawn upon? How these language discourses were combined to achieve communication goals? What social relationships were conducive to the construction of the conversation? What identities (roles, positions) were relevant to the conversation?
Level 3	To evaluate the broad social influences of the text.	What were the clinical consequences (effective or ineffective treatment consultations) of the discursive practices relating to the conversation? What were the social consequences (strengthening or challenging power imbalances) of the discursive practices relating to the conversation?

Note. <sup>a</sup>Nonverbal gesture analysis focuses on an exploration of the power issue disguised under those silent data such as body movements, facial expressions and spatial features. <sup>b</sup>Pronouns focus on the use of first person (e.g. I, we, my), second person (e.g. you, your, yours) and third person (his, her, him) by the participants in the conversations. <sup>c</sup>Modality manifests the extent to which the speakers commit themselves to, or distance themselves from a particular viewpoint. For example, "obvious" and "definitely" are high-modality words that show the speakers' strong commitment to their particular viewpoint. Conversely, the words, "probably" and "possibly" are low-modality words that show the speakers' distance from their particular viewpoint (Fairclough's 1992).



**Figure 1** A pharmacist demonstrating the shape of a Ventolin spacer to a patient during medication education



**Figure 2** A doctor giving medication instructions to a nurse in the corridor