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Exploring patient preferences for involvement in medication management in hospitals

Running Head: Patient preferences in medication management

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- 2) drafting the article or revising it critically for important intellectual content.

Criteria	Author Initials
Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;	TB, RD, MF, AH, JC, TD, LH, JW-P, EM
Involved in drafting the manuscript or revising it critically for important intellectual content;	TB, RD, MF, AH, JC, TD, LH, JW-P, EM
Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content;	TB, RD, MF, AH, JC, TD, LH, JW-P, EM
Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.	TB, RD, MF, AH, JC, TD, LH, JW-P, EM

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Exploring patient preferences for involvement in medication management in hospitals

Abstract

Aim:

To identify patient preferences for involvement in medication management during hospitalisation.

Design:

A qualitative descriptive study.

Methods:

A study of 20 inpatients in two medical and two surgical wards at an academic health science centre in Melbourne, Australia. Semi-structured interviews were recorded and analysed using content analysis.

Findings:

Three themes were identified: 1) 'understanding the medication' established large variation in participants' understanding of their pre-admission medication and current medication; 2) 'ownership of medication administration' showed few patients had considered an alternative to their current regimen; only some were interested in taking more control; and 3) 'supporting

discharge from hospital' showed that most patients desired written medication instructions to be explained by a health professional. Family involvement was important for many.

Conclusion:

There was significant diversity of opinion from participants about their involvement in medication management in hospital. Patient preferences for inclusion need to be identified on admission where appropriate. Education about roles and responsibilities of medication management is required for health professionals, patients and families to increase inclusion and engagement across the health continuum and support transition to discharge.

Impact statement

Little is known about patient preferences for participation in medication administration and hospital discharge planning. Individual patient understanding of and interest in participation in medication administration varies. In accordance with individual patient preferences, patients need to be included more effectively and consistently in their own medication management when in hospital.

Key words:

medication management, medication administration, patient participation, health literacy, patient interviews, clinical decision making, patient safety, nursing

INTRODUCTION

There is considerable pressure on health services to increase patient participation in their own care to improve engagement, independence and person-centeredness (Penney & Wellard, 2007). The drive for greater patient involvement in care is occurring in many countries globally (World Health Organization, 2013; NHS England, 2013; Canadian Institutes of Health Research, 2018). Significantly, it is also a requirement of the Australian Safety and Quality Health Service Standards (the Standards) to engage and empower patients according to their preferences. Medication management is specifically mentioned in Standard 4 (ACSQHC, 2017). Medications commonly cause adverse events in Australian hospitals and recent evidence suggests approximately 9% of administrations include some form of error (Roughead, Semple & Rosenfeld, 2016). There is some evidence that involving patients in their own medication management can reduce errors and adverse events (Weingart et al., 2011), however, there is limited understanding of how hospitalised patients currently participate, or wish to participate, in this aspect of their care (McTier, Botti & Duke 2015).

Patient participation has been defined as a precursor to patient-centred care which in turn is a precondition to facilitating patient empowerment (Castro, Van Regenmortel, Vanhaecht, 2016)

Background

In Australian hospitals, person-centred care is an important principle, however there is negligible literature describing the application of this principle to medication management (Bolster & Manias, 2010). Person-centred care has been variously described (Morgan & Yoder, 2012) generally incorporating specific attributes such as those proposed by McCormack (2003): “the formation of a therapeutic narrative between professional and patient that is built on mutual trust, understanding and a sharing of collective knowledge”. The central principle is respect for the right of individuals to be involved in decisions about their care, treatment and health decision making (McCormack, 2003). Kitson et al. (2012)

expanded on this principle further by describing patient-centred care as having three core themes centred around patient participation and involvement, the relationship between the patient and the healthcare professional and the context where care is delivered.

Patient safety is enhanced with better communication and engagement in the medicine management process (Manias, Rixon, Williams, Liew & Braaf, 2015). Additionally, patient dignity and autonomy were found to increase with greater involvement in care (Wetzels, Harmsen, Van Weel, Grol & Wensing, 2007). A person-centered approach to care must be present to support patient empowerment (Castro et al., 2016). It is not clear how person-centred care is currently applied to medication management in hospitals.

Patient participation in various aspects of care can have many positive benefits; however, although many patients can and will contribute to their care, not all patients want the responsibility or have the capacity for decision making in hospital (Arora & McHorney, 2000; Coleman, Smith, Frank, Min, Parry & Kramer, 2004). Medication errors and “near misses” frequently occur in acute care hospitals and they have a significant impact on patient safety, outcomes and costs (Ehsani, Duckett & Jackson, 2007; Roughead et al., 2016). During hospitalisation, patients have a limited role in medication management and there is little evidence that nurses use opportunities to improve patient participation (Bolster & Manias, 2010; McTier et al., 2015). To improve patient outcomes and reduce medication errors and “near misses”, concepts such as partnering with patients, shared decision making, self-administration and patient-centred care are used to describe an important shift in healthcare services towards increasing patient involvement (Greenwald et al., 2010; Mohsin-Shaikh, Garfield, & Franklin, 2014; Wright, Emerson, Stephens & Lennan, 2006; Manias et al., 2015). Examples that have been developed and tested to reduce medication errors and improve patient outcomes, include patient self-administration of medication (Mohsin-Shaikh et al., 2014; Roughead et al., 2013) in acute and chronic diseases management (Ryan et al., 2014; Wright et al., 2006) and during transitions to and from hospital settings (Spinewine, Claeys, Foulon & Chevalier, 2013). Despite these interventions, there is an identified gap between desired and actual patient involvement in medication management (Mohsin-Shaikh et al., 2014).

A systematic review by Ryan et al. (2014) investigated identified strategies to improve the safety and effectiveness of medication used by consumers but no interventions to promote systems-level consumer participation in medication-related activities were identified. A total of 75 articles were included in the review but uncertainty still exists about the effectiveness of many interventions. Significantly, single mechanisms were ineffective at improving patient outcomes. However, if multiple mechanisms such as medication self-monitoring and self-management programmes were used, it is possible that medicine use, adherence and clinical outcomes would be improved and adverse events in hospital reduced (Ryan et al., 2014).

Increasing patient involvement in medication management in hospital has potential to improve the continuity in self-management throughout the care continuum although it can be challenging due to the significant variability in patients' values and preferences (Ekdahl andersson & Friedrichsen, 2010). Despite promising results of patient involvement in self-monitoring and self-management programmes, uncertainty about how to guide hospitals to facilitate patient engagement in medication self-management still exists.

THE STUDY

Aim

The aim of the study was to identify patient preferences for involvement in medication management during hospitalisation.

Design

This descriptive study was part of a larger project investigating the policies influencing medication administration practices (reference blinded), nurses' workflow (reference blinded) and patients' preferences for information and involvement in medication management in various settings. The study took place at one academic health science centre in Melbourne, Australia.

Participants

Patient participants were purposively selected from four different wards: a medical ward, a surgical ward, a burns and plastic surgery ward and a ward treating patients with endocrine and gastroenterology diagnoses on the basis that they were allocated to nurses being observed (reference blinded). Patients were eligible to participate if they were 18 years or over,

cognitively intact, medically stable and took medication at home. They were excluded if they did not meet the criteria or did not want to participate for any reason. After a short discussion with the nurse manager, the research assistant approached those who were eligible to determine if they wished to take part. None of the patients approached declined to participate. There was a mixture of younger and older adult patients, with acute and chronic conditions, males and females and some who had and had not experienced medication administration adverse events or near misses. The research assistant discussed the study with eligible patients and gave them written information, then returned later to see if they agreed to participate. All of the interviews were conducted at the bedside. Family were present for two of the interviews.

Data collection

Data were collected from June 2015 - November 2015. An experienced research assistant (RA) and registered nurse (LH) with extensive experience in interviewing, conducted semi-structured interviews using the questions in Table 1 to start the discussion. Follow-up questions were used to help clarify the intent of questions. The interviews were digitally audio-recorded. The interviewer and the participants were previously unknown to each other. Prior to commencing the interview, the RA ensured patients were comfortable and discussed general issues as a warm-up prior to the interview. Ensuring rapport between the interviewer and the participant is an important step in gaining participant confidence without which the results of the interview may be disappointing (Digby, Lee & Williams, 2016). The questions were open-ended and used as a starting point for the conversation. More specific questioning followed depending on the issues raised by the participant.

Ethical considerations

The ethics committees of the hospital and the university granted approval for the study. Participants were provided with plain language written and oral information about the aims of the study and their potential involvement before they agreed to take part. Each participant gave verbal and written consent to be interviewed.

Data analysis

The digital recordings were professionally transcribed verbatim. Two researchers (MF and RD) read and re-read the transcripts several times while listening to the audio recordings and making notes, to become immersed in the data (Elo & Kyngas, 2008). The data were coded using Nvivo 11 software (QSR International Pty Ltd, 2016). Themes and sub-themes were developed using the content analysis method where 'meaning units' were abstracted or condensed into groups (Graneheim & Lundman, 2004). The meaning units chosen were the words, sentences or paragraphs that were related to each other through their content.

This method was chosen because it deals with both the manifest content of the text which is the visible, obvious components, while also considering the latent content or the relationship aspect and the underlying meaning of the text (Graneheim & Lundman, 2004). These issues were important because the nurse-patient relationship was a central aspect of the study. Confirmation of the themes and sub-themes was reached by the researchers who met to compare their independent analyses.

Rigour

Rigour was integrated by checking the plausibility and credibility of the data and its interpretation as prescribed by Hammersley (1990). The investigators independently read interview transcripts and identified similar themes, confirming that the data were convincing and credible. Conformability or neutrality, which establishes researcher neutrality and absence of bias (Prion & Adamson, 2014), was established by ensuring that interviews were reflexive and participants were given the opportunity to expand on their views while minimising the influence of the researcher. Questions were funnelled to obtain deeper insights into patients' perceptions and experiences. The researchers discussed and clarified their thoughts and reflections about the interviews with other members of the research team to enhance reflexivity.

FINDINGS

Twenty patients who were allocated to nurses being observed as part of the larger study (reference blinded), participated in the research, five each from a medical ward, surgical ward and two specialist wards. This sample was chosen to provide a variety of patient experiences.

As can be seen in Table 2, of the 20 patients identified by the nurse managers as fitting the criteria, 15 patients were male. The mean age of the patients was 66.6 years. Interviews ranged from 7-15 minutes.

The analysis revealed three main themes:

1. patients' understanding of medication
2. ownership of medication administration
3. discharge from hospital

The themes and sub-themes are outlined in Table 3. Each of the three themes had three sub-themes. A more detailed analysis follows in the following section. Short extracts of the interviews are included to illustrate each theme.

Table 3: Table of themes and sub-themes

Patient understanding of medication

Patients' understanding of their medication varied substantially from patient to patient. Knowledge and interest depended on the personal characteristics of the individual such as self-confidence, curiosity and the state of their health at the time. Patients' attitudes to medication management were also diverse; some were used to being in control of their own medication and wanted to understand the details of what they were taking, whereas others had little or no interest.

Preadmission knowledge of medication

Most patients had a regimen of medication administration at home ranging from independent self-management to medication administration by family members. Three patients reported using medication dispensing aids. There was a variable level of understanding about what they had been taking at home, ranging from a detailed understanding to no understanding:

...They just say you need these or they get through to the chemist I always go to and then they turn up in my pack....I have about 20 odd of a morning. I know I am taking a lot but I *couldn't* honestly say that I know *what I'm taking*.

(Participant 2)

Other patients could remember the names of the medications and their purpose. The following participant was able to name the medications he was taking and why he was taking them:

Q: Do you know what *medications you're on at home normally?*

A: Lipitor, Allopurinal, Amiodarone and the - and did I say Lipitor, oh Caltrate.

Q: *And you know why you're on all four of those medications?*

A: *One's for gout, one's for a heart murmur I had, the other one is the – Lipitor is cholesterol and the Amiodarone is for –wait a minute what did I say – Amiodarone oh no Caltrate is for bones.*

(Participant 3)

Understanding of current medication

There was considerable variation in participants' understanding of the medication they were receiving in hospital. Some patients were not interested in knowing. A common explanation from patients was that they were more comfortable leaving it to health professionals who they considered to be experts. They trusted them to know what was right:

A: But they are lovely these nurses – they are marvellous.

Q: So when they bring in all the medicines to you do any of the nurses talk to you about *what's in the pill* cup before they give them to you?

A: *No they say c'mon get these down.*

Q: *And you're happy to just take them?*

A: Oh yeah...as long as it keeps me going that's all that matters.

(Participant 2)

Opportunities for accessing information about medication were limited and the paper charts, previously kept at the bedside, were stored elsewhere. Having the paper charts on hand gave patients the opportunity to oversee their medication and could potentially encourage a future conversation with health professionals:

Remember in the old days they used to always have the clipboard in front of your bed and everything you've had? You don't see those anymore...you could always refer to that ... now it's not visual in terms of where you are and what your status is... I think that was a good system.

(Participant 11)

Staff-patient communication during medication management

It is a nurse's role to explain to patients the specific medications and their purpose each time the medications are administered. According to the participants, this only occurred some of the time and was less likely if the medicines were intravenous or administered via a PEG tube (Percutaneous Endoscopic Gastrostomy).

Some participants who wanted more information asked questions:

A: It [what] was explained to me very clearly by the staff and by the doctors- Well by the nurses more than the doctors... And I understand why I'm on them and I do, of course, ask "what is this I'm taking?"

Q: So do you do that every time you're handed pills?

A: Yes, just to know what's in them...I know I'm taking certain things and I just want to see that they're all in there...

(Participant 1)

Patients did not always find the response satisfactory when they asked nurses questions about their medication. The speed of the nursing bedside handover was a barrier to meaningful engagement with the patient:

I think any question I asked was answered, but it was perhaps not expanded on...It would have been the *expansion I would have liked*...I suppose at the beginning of each shift, there could be a review of the current medication plan [with the patient]... *and any triggers for change ... I do try and ask questions but you sometimes, yeah it's quite quick so you might miss some things.*

(Participant 18)

Patients' intrinsic characteristics, including the state of their health, cognitive capacity and personal confidence could limit the amount of information they were interested in receiving and able to absorb; consequently, it was important that nurses were able to tailor their communication to meet the needs of patients during different stages of illness:

A: ...Basically they knew that I was in a lot of pain. *So I'd say they must have contacted the pain team. I'm only guessing this and that's when these patches started.*

Q: Did they tell you what they were giving you once they-

A: *They may have, but I was, say for instance I was in that much pain they could've given me goat's milk and I would've [taken it].*

(Participant 16)

Patients who did not query what was being administered demonstrated passive acceptance that they trusted nurses. The level of trust and confidence in the system and the staff determined the level of engagement in medication administration:

I've had some nurses 3 or 4 times and literally, they walk in, I just open my mouth, they tip them in and I have my water. I trust them.

(Participant 14)

A couple of participants asked their friends or relatives about their hospital medication rather than the health professionals. They felt more confident to go through others to get the information, which could suggest their needs were not being met by the health system:

A: Yeah if I'm sort of unclear on stuff I'll ask my partner what's this and what's that because she's a pharmacist.

(Participant 5)

Ownership of medication administration

Participants were asked about their preference for being involved in medication administration while they were in hospital. They were asked to comment on their expectations and the level of participation they would like, if they had the choice. For most patients, participation in medication management in hospital was a new concept that they had not previously considered. Satisfaction with the current regimen was high and most participants wanted no greater input into the process. The general consensus was that patients were content to leave medication management to health professionals. Hospital pharmacists were only mentioned in this context by three participants.

Some participants stated they visually checked the medication before taking it to make sure the medication they were administered were acceptable to them and said that they would speak up if they thought there was a discrepancy. Patient participation in checking the medication was initiated by patients who asked questions, not the health professionals:

Q: So you don't feel like you have to have any more control?

A: No plus it also means they've got to check on it as well.

Q: Yep so you're happy the way things are working for you?

A: Yeah.

(Participant 11)

Two participants stated they objected to the small pill cups used to administer medicines. They indicated the pill cups were unstable and opaque, which made them difficult to manage and determine the contents:

A: I don't like the shot glasses...First of all you can't see through – if you've got more than one layer of pills, they're just a shot glass three quarters full of pills... I'd like something where the patient opens it and checks that no one – like when the nurse puts the medication together and closes it, puts a little sticker on it...that wraps around it and the patient rips open the sticker knowing that no one else's medication has got in there...

(Patient 14)

The pill cups were light and could easily be knocked over, especially by patients with limited dexterity or impaired vision. One participant suggested the cups could be made sturdier by adding a sticky surface to the base. None of the participants mentioned talking about this issue with nurses:

A: I find those little plastic cups –I take my glasses off and I knock them over all the time... You spill the pills all the time. I think they've been used since there was the ark. But I just find them amazing because they tip so easy.

Q: Yeah. So you think something a bit sturdier and a bit more obvious?

A: Yeah, or a little sticky on the bottom or something.

(Participant 7)

More involvement in medication administration such as self-administering some medications was an attractive option for some, although none of the patients said that they would like to completely take over the responsibility while in hospital. Participants reported they were required to surrender control of their medication management to the health professionals regardless of whether they would have preferred a more active role:

I think in the past I've certainly felt a bit disappointed that everything's away from me, that's it done outside my visual appearance...till they actually arrive, why can't I have it beside the bed and and dispense it myself? ... *obviously being in hospital is, is somewhat of a depowering experience, you have to surrender a lot of personal control to other people, it's one way maybe of getting some of that back.*

(Participant 10)

Participants were generally content with the way that medication was managed and administered by health professionals and did not seek a more active role:

Q: Do you want any responsibility for administering your regular medications while *you're in hospital, or are you happy to hand that responsibility back to the nurses and just get them to deliver it to the bedside?*

A: So long as they give them *all to me, I'm happy if they do it.*

Q: *Okay, so you don't feel a need to see the box that they've come out of?*

A: Oh, hell no.

(Participant 1)

Family involvement in medication management

Most family members had little formal involvement in medication management in hospital, despite many of them having a substantive role in medication management before the patient was admitted to hospital. One man who managed his wife's extensive medication regimen at home met with the pharmacist and nurses to satisfy himself that they understood what was required:

Jim [husband] always makes the time to come in, talk to the pharmacist, talk to the nurses on the ward, explains to them not only what I take, but when I take it.

Supporting discharge from hospital

Participants gave a range of responses when asked about their expectations of discharge medication instructions. Some patients preferred written instructions supported by a discussion with a health professional. Others who did not manage their own medication at home were not interested in knowing any details, preferring to leave this to others.

Patient expectations of discharge medication regimen

Most participants preferred discharge medication to be accompanied by a written schedule explained by a health professional. The written information increased patient confidence to administer their medicines at home.

A: I need to know 1) what they're for, 2) what they are and 3) how often I'm to take them.

Q: How would you like that information given to you? Would you like it to be given verbally or written down or both? What works for you?

A: Written down.

Family role in recovery after discharge

Involving a key family member in the discussions about medication management was very important for patients who did not manage their own medication at home. Five participants received such support at home and preferred the discussions to include that person. Reasons for reliance on family were the complex health conditions of patients and complicated medication regimes:

My partner [name]she's unbelievable, she's up earlier than I am and of a morning my medications been laid out...when I get home I may have a ton of medication, I'm hoping I'm not, but my partner [name] may as well look at it all ...

(Participant 19)

One patient, who had Parkinson's disease and was on many doses of medication per day relied exclusively on her husband to administer all her medication at home. During her inpatient stay for osteoporosis and falls, the husband met with the hospital pharmacist and nurses to satisfy himself that his wife was on the correct medication regimen for her Parkinson's disease:

So the system that he created... is that we have a series of tins...For me I have something that most people don't, I have someone that would never make a mistake.... It just wouldn't happen. [Are you talking about your husband?] Yeah. And he makes sure the people around me have enough information so to the best of his ability, he's made sure mistakes aren't going to happen while he's not around.

(Participant 14)

Use of community resources

On-going support with medication was often provided in the community by the patient's general practitioner or local pharmacist; participants reported that they would use these resources for on-going advice and management. The following patient had relied on his doctor and community pharmacist in the past and had not experienced any problems; consequently, he did not feel the need to change anything:

A: I will sort it out when I get home and I've only to ring my chemist and they will help me sort it out... all my scripts go to the chemist – I never see them...they go straight from my doctor to the chemist.

(Participant 2)

DISCUSSION

We explored patients' preferences for participating in medication management while they were in hospital. These were contingent on their desire and ability to understand their

medications, which could be influenced by the state of their health, sensory, cognitive or language issues and whether the staff enabled information sharing, shared decision-making and patient involvement in their medication management. Family became surrogate decision makers and medication administrators for some participants. The availability of such family members may have made some patients complacent and disinterested in medication management.

Our findings suggest there is substantial variability in patient expectations and desired level of involvement. Some patients entrusted their care to health professionals; they felt their input was not required and medication management could be left to the experts. Others valued and actively sought input into their medication management. Similar to Garfield et al. (2016), our findings suggest the preferred level of involvement was often context dependent and influenced by various participant characteristics, including their illness, interest and past history. There is clearly no one-size-fits-all solution to this issue.

Previous research identified challenges to involving patients in their medication management in hospital such as health professionals' reluctance to share information with patients (Garfield et al., 2016; McLeod, Barber & Franklin 2015), consumer disempowerment and poor self-efficacy (Anderson & Funnell, 2010; Aujoulat, D'Hoore & Deccache, 2007; Hibbard, Peters, Slovic & Tusler, 2005; Mohsin-Shaikh et al., 2014; Entwistle et al., 2010), ineffective communication between staff and patients (Manias et al., 2015), being too unwell (Britten, 2009) or having 'blind faith' in the health professionals to manage their health (Garfield et al., 2016). In our study, many participants were older men, a group previously identified as difficult to engage in active self-management (Ekdahl et al., 2010) which may have been a limiting factor. Previous research found female patients and patients younger than 65 were more likely to want to be involved in medication management than male patients and those older than 65 (Mohsin-Shaikh et al., 2014; Say, Murtagh & Thomson, 2006; Deeks & Byatt, 2000). However, in our study, only three participants expressed a desire for more control of medication management in hospital and they were men aged 52-71 years. Likewise, patients with a higher education level were more likely to ask questions of health professionals (Davis, Koutantji & Vincent, 2008; Arora & McHorney, 2000). We did not record participants' education level, however limited education may have contributed to

the lack of interest in participation. Additionally, those with a history of having medication managed by someone else in the community were less interested in being involved in managing their medication in hospital.

Several the participants in this study declared that they had little interest in increasing their current level of involvement in medication management. This may be because they considered it to be out of their scope and best left to health professionals (Penney & Wellard, 2007). It is not unusual for patients to prefer not to have responsibility for making decisions about their health (Henwood, Wyatt, Hart & Smith, 2003). In this research, trust was referred to by the participants as being an important consideration. Many said that they trusted nurses and doctors to manage their medication and they felt safe doing this. Feeling safe and in good hands is an important consideration for patients, however they must also be adequately informed and consulted in their care and included in decision-making (Dinç & Gastmans, 2013). It is the right of the patient to decline to be involved in their healthcare and decision-making if that is their preference (Edwards, Davies & Edwards, 2009).

Conversely, deciding not to be involved in medication management may be a sign that patients felt disempowered in the hospital system which did not include them in their own care and health decisions (Aujoulat et al., 2007). Patients may have felt they did not have the right or the skills to contribute and therefore decided not to be involved. The busy environment of the acute hospital where health professionals controlled most processes may have been intimidating to some individuals. Patient empowerment and collaborative care does not fit well with paternalistic models where the patient is a compliant, passive recipient of care (McAllister, Dunn, Payne, Davies & Todd, 2012). An empowered patient takes an active role and shares in decision-making (Funnell & Anderson, 2003); however in practice, empowerment can take different forms and is specific to the individual and their skills, health status and desire (Aujoulat et al., 2007). Empowering patients to take an active part in medication management has been found in some studies to improve quality of life (Castro et al., 2016; Weingart et al., 2011), decrease medication errors (Mohsin-Shaikh et al., 2014; Lam, Elliott & George 2011) and support their independence (Penney & Wellard, 2007).

Participants reported that nurses explained their medication to them if they asked, but did not volunteer information and often handed medication to patients without any explanation. The nurses may have found that including patients in the process of medication administration was a deviation from their normal practice and an alteration to their respective roles of nurse and patient (McTier et al., 2015). Historically, care has followed a paternalistic model where the nurse is in control and patients are passive recipients (Longtin et al., 2010; Lever, O'Reilly & Pryor, 2008). Transitioning to sharing of information will position patients to be more actively involved should they choose to do so, but may take some adjustment by all concerned.

Participants in this study had some practical suggestions to improve medication administration, which included improving the design of the medication cups so they were sturdier and easier to manage and making them transparent and labelled with the patient name to improve recognition. The old method of keeping the paper medication chart at the end of the bed is no longer available to patients wanting to check what they are being given, however there is an alternative in electronic patient portals or 'patient-facing health information technology tools' (Collins et al., 2017, p. e10), which have been introduced in other settings to facilitate patient and family access to clinical information (Collins et al., 2017; Dalal, Bates & Collins, 2017). The information made available to patients and families via these portals can be presented in lay terms to encourage understanding and use, however more work needs to be done for further accessibility especially for users from non-English speaking backgrounds (Goldzweig et al., 2013). It is expected that the use of patient portals will go some way to increasing patient empowerment, engagement, learning and comprehension and have a positive effect on patient safety; however, this technology is not yet in widespread use (Collins et al., 2017).

Applying person-centred care principles in medication management requires an improvement in the communication strategies used by nurses and other health professionals, to ensure that patients are deliberately included in discussions about this aspect of their care (Liu, Gerdtz & Manias, 2016). The participants described experiences of nurses who explained their medication to them before it was administered and others who did not. Thus, practice varied widely with respect to inclusion of patients in their medication management. Education changes would be required for nurses to improve communication in this area and increase the engagement of patients. The context of early discharge from hospitals means that greater

focus is required on self-management and preventative care where patients can practice medication management skills in hospital before discharge.

Limitations

A strength of this study is that it addressed an issue which has not been widely studied. The perspective of patients adds significantly to the discussion about consumer involvement in medication management in hospital. The main limitation of this study is that it was conducted in one hospital, which may limit transferability to hospitals comprising different geographical characteristics. The predominance of male participants may also be a limitation. The study excluded people who were unable to converse in English, which meant that the experience from a culturally and linguistically diverse perspective was not captured.

CONCLUSION

Participants in this study highlighted diversity in opinions about patient involvement in medication management in hospital. Patient preferences need to be established on admission to hospital and where appropriate, mechanisms to include patients more effectively and consistently in their own medication management need to be identified and implemented. Health professionals, patients and families require education about the role and responsibility of consumers in medication management to increase inclusion and engagement across the health continuum and support the transition to discharge.

Conflict of Interest statement

No conflict of interest has been declared by the authors

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Table 1: Examples of patient interview questions

1	If patients are taking medications: Do you know why you use these medications? How many do you take? What is the name of the medications? What time do you take them?
2	If the nurses discussed medications with patients: In what ways have the nurses discussed or informed you about your medications during your hospital stay?
3	In what ways have the nurses discussed or informed you about changes in your medications during your hospital stay?
4	In what ways have the nurses involved you in managing your medications during your hospital stay?
5	If you have had an opportunity to be involved: Can you give examples of how nurses have involved you in managing your medications on this ward? What has been your experience?
6	Are there things you can think of that can be changed so that you can be more involved in managing your medications?
7	What changes (if any) in the ward routines do you think could improve your involvement in managing your medications?
8	What sort of support or information would you need in order to go home and feel safe with your medication regime?

Table 2: Demographic characteristics of the patients (N= 20)

Gender	n (%)		
Female	5 (25)		
Male	15 (75)		
Age (years)	Mean (SD)		
	66.6 (14.2)		
Type of wards	n (%)		
Medical	9 (34)		
Surgical	11 (55)		
	Mean (SD)	Median	
Number of prescribed medications at discharge	10.3 (4.4)		
Number of medications in hospital	10.2 (4.2)	9	
Co-morbidities	4.4 (2.9)	5	
Length of Stay (Days)	21.2 (35.9)		

Table 3: Table of themes and sub-themes

Patient understanding of medication	Ownership of medication administration	Supporting discharge from hospital
<ul style="list-style-type: none"> • Pre-admission knowledge of medication • Understanding of current medication • Staff-patient communication during medication management 	<ul style="list-style-type: none"> • Patient satisfaction with medication administration in hospital • Self-administration in hospital • Family involvement in medication management 	<ul style="list-style-type: none"> • Patient expectations of discharge medication regime • Family role in recovery after discharge • Use of community resources