**Medicines management: an interview study of nurses at a secure psychiatric hospital**

*Camilla Haw, Jean Stubbs & Geoff Dickens*

**Abstract**

Aims. To explore mental health nurses’ knowledge, attitudes and clinical judgement concerning medicines management in an inpatient setting with a view to enhancing training.

Background. Medicines management is a key role of mental health nurses, but little research has been conducted into their training needs.

Design. An exploratory mixed-methods design was used involving individual interviews with participants to investigate their responses to hypothetical medicine administration scenarios.

Methods. Interviews were held with a convenience sample of 50 Registered Nurses working in a specialist mental health hospital between November 2012– February 2013. Participants were presented with clinical vignettes describing eight scenarios they might encounter as part of their medicines management role and asked about how they would respond. Responses were assessed by two independent raters against ten quality standards underpinning the vignettes.

Results. The median number of responses that were judged to demonstrate adequate awareness of associated quality standards was 4 (range 1–7), indicating that many participants did not appear to be aware of, or compliant with, current UK medicines management guidance and local policy. Many would not report a ‘near miss’ or medicines administration error. There was a lack of awareness of guidance on verbal prescribing, consent to treatment rules and the administration of off-label/ unlicensed drugs. Past year attendance on a medicines management course, time since registration and self-reported knowledge of national standards for medicines administration did not discriminate between total score on the 10 quality standards. Conclusion. The medicines management training needs of participants appeared not to be fully met by the existing learning sources. The use of vignettes to assess nurses’ training needs requires evaluation in other settings.

**Introduction**

Psychotropic medications are frequently prescribed to psychiatric inpatients worldwide and medicines management forms a central part of the mental health nursing role in most developed and developing countries (Gray et al. 2010). Medicines management comprises a set of activities whose aim is to ensure that the optimal therapeutic effect is achieved while potential adverse reactions are minimized (White 2004). It includes accessing a prescriber and medicines supplies, dispensing and administering medicines, monitoring effectiveness and side-effects, recording administration, managing adherence and patient engagement and providing education and information (Gray et al. 2002, Baker et al. 2006, National Mental Health Development Unit 2009). Medicines management demands knowledge of psychopharmacology, mathematical skills, an ability to work with finite resources and to manage the environmental and contextual influences that affect concentration during medicines administration (Hemingway et al. 2012a). In inpatient psychiatric settings, nurses encounter additional challenges, including patients who refuse, or attempt to secrete, medication, the issues of capacity and consent and rapid tranquillization. To consider the situation in one developed country, the UK, the duties of nurses in relation to medicines administration are detailed in the following documents: the Nursing and Midwifery Council (NMC) Standards for Medicines Management (2010), the Code of Practice (Department of Health 2008) and local hospital/ trust policies.

**Background**

In the last few years, several developments have aimed to improve medicines management training for mental health nurses based on a competency framework (e.g. Hemingway et al. 2012a, b) or on a psychological model of skills aware- ness (Snowden 2010, Snowden & Barron 2011). Other studies have explored mental health nurses’ experiences of inpatient medicines management (Duxbury et al.2009, 2010), independent nurse prescribing (Jones et al. 2007, Nolan & Bradley 2007, Wix 2007, Bradley et al. 2008, McCann & Clark 2008), use of PRN (pro renataor ‘as needed’) medication (Baker et al. 2010, Usher et al. 2010), delegation of administration (Dickens et al. 2008) and medication errors (Haw et al. 2005, 2007). A search of the literature indicates that some issues remain unexplored in

empirical research including reporting of near misses and of colleagues’ errors, assessment of patient’s mental capacity and the administration of unlicensed medicines. The use of clinical vignettes has been described as, potentially, a very useful research tool to explore non-observable phenomena (Hughes & Huby 2002); however, this approach does not appear to have been used with mental health nurses before in studies of their knowledge and clinical judgement about medicines management.

**The study**

**Aims**

The principal aim of this exploratory study was to investigate the knowledge, attitudes and clinical judgement of mental health nurses about a range of issues related to inpatient medicines management. Secondary aims were to determine if different groups of nurses differed in their responses: those who attended medicines management training in the past year compared with other participants, those who qualified within the past 5 years compared with the rest and those who reported a high level of knowledge of current professional medicines administration standards compared with those who did not.

**Design**

The study used a mixed-methods design. Eight clinical vignettes describing medicines management scenarios were presented to participants. Semi-structured interviews were conducted to explore their knowledge, attitudes and clinical judgement. The content of responses was then rated independently against quality standards associated with the vignette scenarios.

**Sample/participants**

The study was conducted at a large, charitable psychiatric hospital in the UK. Most patients are referred because of specialist or complex mental health problems and a history of offending and/or challenging behaviour. Most are detained under the Mental Health Act of England and Wales 1983 (amended in 2007) in low or medium secure wards. Potential participants were registered mental health nurses working with adolescent or adult male or female patients. Two of the researchers (CH, JS) visited wards to explain the purpose of the study and to provide information sheets. Very little research has been conducted into this topic to inform selection of an appropriate sample size; given the exploratory nature of the study, therefore, we decided to recruit a convenience sample of 50 nurses.

**Data collection**

**Clinical vignettes**

In developing vignettes, we followed the principles of Barter and Renold (1999), namely that each should appear plausible, should depict events which participants are likely to have personal experience of, provide sufficient context to allow participants to understand the situation being depicted, but retain sufficient ‘fuzziness’ to allow them to define the situation in their own terms, be readily under- stood, internally consistent and not too complex. Initially, CH used clinical and research experience of observing medicines administration to patients (Dickens et al. 2007, 2008, Haw et al. 2007), NMC Standards for Medicine Management (2010), Code of Practice (Department of Health 2008) and relevant hospital policies to develop a series of vignettes with questions and prompts to be asked at interview. The vignettes were discussed with the Hospital’s Nursing Training and Development Officer and amended. Each vignette was associated with one or more quality standards (Table 1), which were derived from local policy and national standards. The revised schedule was piloted on six nurses and the results discussed by the authors before agreeing on the final schedule (Supporting Information).

**Interview format**

Individual interviews with nurses were conducted between November 2012–February 2013. Each participant was asked to read the vignette and was then asked what actions they would take (‘what would you do in this scenario?’). Participants were given further prompts (e.g. ‘is there anything else you would do?’). Supplementary questions were then posed (Table 1) to participants. For some vignettes (Supporting Information), new information was provided as supplementary material following exhaustion of the initial scenario. At the end of the interview, participants were requested to name any other difficult medicines management scenarios they had experienced. Each interview lasted 30–40 minutes. Detailed field notes of participants’ responses were taken and subsequently typed. Participants were asked how many years they had been qualified, when was their most recent attendance on a medicines management course and their self-reported knowledge of the NMC Standards for Medicines Management (2010) (Table 2).

**Ethical considerations**

Research ethics approval was not a requirement according to local regulations as the study was deemed to be a training needs analysis. Approval for the project was obtained from the Hospital’s Head of Clinical Effectiveness and the Director of Nursing.

**Data analysis**

Analysis was conducted using the principles of conventional qualitative content analysis, which is appropriate for study of phenomena about which little is known or where there is no existing theory to guide the investigation (Hsieh & Shannon 2005). Data were analysed on a question-by-question basis rather than as a whole corpus. Data analysis for each question commenced with repeated reading of transcriptions accompanied by note taking and generation of initial codes for individual’s responses. Similar codes were linked to form categories comprising conceptually similar responses. Judgements about whether the data for each participant met the associated quality standard for the vignette or not were made on the basis of all responses to the vignette under discussion. Quantitative data were entered into SPSS version 20 (SPSS Inc, Chicago, IL, USA). Frequency analysis of category level data was conducted; as the data for quality standards adherence were not normally distributed, the non-parametric Mann–Whitney U Test was used to test for differences between groups of nursing staff on their median scores on these items.

**Validity and reliability/rigour**

The category labels and coded responses were initially generated by CH and then verified independently by a second researcher (JS). The adherence or non-adherence of each of the ten quality standards was rated independently by CH and JS based on the full response to each vignette. Any discrepancies (<10%) were resolved through discussion by all three authors.

**Results**

Fifty-two nurses were invited to participate in the study and 50 (96%) agreed to do so. The majority were experienced staff nurses administering medication on a daily basis; 42% had attended a medicines management training course within the last year; and 38% reported having a good working knowledge of the NMC Standards for Medicines Management (Table 2).

**Near miss (wrong patient/drug)**

Forty-two (84%) participants recognized this scenario as a near miss, three (6%) were uncertain and five (10%) said it was not a near miss. When asked whether they would report a near miss, 20 (40%) said they would report it, nine (18%) said they were uncertain and 21 (42%) said they would not report it. The associated quality standard for this vignette, that the scenario was recognized as a near miss and that the near miss would be reported, was met by 14 (28%) participants. When asked what factors prevented nursing staff from reporting near misses, four (8%) could not conceive of why a near miss should not be reported; a

further 16 (32%) said in this instance no actual error had been made; 14 (28%) cited pressure of work; 12 (24%) feared being labelled as incompetent; 11 (22%) feared disciplinary action; two (4%) said no harm had resulted from the near miss; and one each (2%) said the incident was ‘just a one off’ and worried that reporting the incident would result in withholding of a salary increment. The most com- mon responses to a supplementary question about future re-occurrence of this problem were: communicating the risk to colleagues (24, 48%); marking the two charts so they could be easily distinguished (19; 38%); and being extremely vigilant (15; 30%).

**Administration of PRN on the basis of a verbal order**

Most participants (41; 82%) said they would contact the duty doctor and ask them to come to the ward and prescribe oral PRN Haloperidol. Other responses included attempted de-escalation of the patient including explaining to them they were only prescribed IM medication (7; 14%); taking a telephone prescription from the duty doctor (8; 16%); offering the patient IM Haloperidol (6; 12%); and looking in the patient’s notes to see if there was a reason the Haloperidol was only prescribed IM (6; 12%). Two (4%) said they would administer oral Haloperidol and then ask the duty doctor to write it. Almost all (49; 98%) knew that administering Haloperidol orally when the prescribed route was IM was a medication error and should be reported. However, only four participants (8%) were aware that the prescribing doctor must also put the prescription in writing before a nurse can administer the medicine and therefore only these participants fully met the associated quality standard for the vignette. A further seven participants (14%) would not accept a verbal order, but were unaware that the doctor could remotely submit a fax or e-mail or write the prescription in the patient’s electronic notes. Fifteen (30%) said it was necessary for two nurses to listen to the doctor on the telephone and then record the prescription, while another 16 (32%) said only one nurse need do this. Six (12%) said they were not confident about taking verbal messages and/or could not remember the correct procedure. Participants were asked how they would prevent this situation from arising again. Thirty (60%) said they would ask the ward doctor to write oral PRN medication. Twelve (24%) would ask for an O/IM prescription, a practice which is not recommended by the National Institute for Clinical Excellence (2005) Guideline on the Short-term Management of Disturbed/Violent Behaviour.

**Reporting a colleague’s recording omission error**

Most participants (37; 74%) said they would try and contact the nurse who had made the recording omission at home, while six (12%) would wait until that nurse was next on duty. Nine (18%) mentioned asking the patient if they had had their medication, while six (12%) said the patient’s recall might be unreliable. Almost all (45; 90%) recognized this scenario to be a medication error, while three (6%) were uncertain, one (2%) said it was a ‘near miss’ and one (2%) said it was not an error. When asked whether they would report the missing signature/reason for omission as a medication error, almost half (22; 44%) met the associated quality standard for the vignette by saying that they would report it using the error reporting system. Seven (14%) said they would tell the ward manager, nine (18%) would not report it, four (8%) would give the nurse concerned a chance to sign the chart and four (8%) would only report it if the nurse had not actually administered the medication. Two (4%) said they would not report it if it happened just once. Participants who said they would not report a missing signature error were asked why not. Their responses were: not wanting to get others into trouble (9, 18%), there could be a good reason it was not signed for (6, 12%), it is a very common problem (4, 8%), too much paperwork (3, 6%), it would upset the nursing team (2, 4%) and a belief that if the drug had been administered but not signed for it was not an error (2, 4%).

**Administration of night-time sedation to a sleeping patient**

Thirty-nine (78%) participants said they would not disturb the patient and would withhold the Zopiclone. Of these, 27 (69 2%) mentioned writing ‘withheld’ on the medication chart and documenting their actions in the patient’s notes. Two participants (4%) would check themselves that the patient was asleep. Eight (16%) would wake the patient up and administer Zopiclone, while two (4%) would ring the duty doctor for advice. Two (4%) thought the patient might have taken an overdose and so would closely observe them. If the medicine to be administered was instead the antidepressant Mirtazapine, 41 (82%) said they would wake the patient and administer the drug, five (10%) were uncertain as to what to do and four (8%) would let her sleep. When asked why they would wake the patient for Mirtazapine but not for Zopiclone, 32 out of 41 (78 0%) participants recognized the importance of regular administration of an antidepressant to treat the patient’s depression effectively thus meeting the associated quality standard for the vignette. Three (6%) mentioned that missing a dose of antidepressant could lead to discontinuation symptoms and five (10%) said hypnotics could be addictive.

**Administration of medicine to a patient who lacks mental capacity**

Twenty-nine (58%) of participants recognized that, due to the length of his inpatient stay, the patient’s prescription should have been authorized on a Mental Health Act form T3, thus meeting the first quality standard for this vignette. The most commonly cited methods of assessing the patient’s capacity related to: ‘ascertaining whether the patient knew why he is prescribed Clozapine’ (23; 46%); ‘whether the patient knows what Clozapine is used for’ (14; 28%); ‘identifying whether the patient believes that the medicine has had any benefit’ (13; 26%); and ‘whether the patient has knowledge of the side effects of Clozapine’ (12; 24%). Participants were asked if they would still administer a dose of Clozapine if the patient appeared not to have any understanding or knowledge about his/her medication and that the treatment was, therefore, not properly authorized. Thirty-two (64%) said they would still administer the Clozapine, with 9 (28 1%) of these stating that the drug should not be abruptly discontinued (thus meeting the second quality standard for this vignette); 18 (36%) said they were uncertain; 20 (40%) said administering Clozapine in this situation was contrary to consent to treatment rules, 19 (38%) thought it was in accordance with the guidance and 11 (22%) said they did not know. Most (47; 94%) would contact the patient’s consultant and discuss the situation.

**Providing information about a medicine’s unwanted, common side effects**

Sixteen (32%) participants said they would tell the patient they would sit down with them after the medication round, four (8%) would invite the patient to talk to the doctor and five (10%) would give the patient a drug information leaflet. Twenty-three (46%) mentioned the importance of being honest with patients and building a therapeutic alliance. Most (45; 90%) would state that Olanzapine can cause weight gain, although, of these, 29 (64 4%) said that they would tell the patient they could help them prevent weight gain by exercise and healthy eating. Four (8%) would deflect the patient’s concerns by emphasising the importance of taking the medication. Only 12 (24%) said they would discuss the benefits of taking the medication. When asked if they would they tell the patient that Olanzapine ‘commonly’ causes weight gain, 22 (44%) said they would not. The majority (46; 92%) met the quality standard for the vignette because they were aware that they had a duty to ensure that the patient knew about side effects before administering medication.

**Administration of unlicensed and off-license medicines**

Ten participants (20%) said they would administer an unlicensed drug that they personally had no knowledge of. However, when asked if administering an unlicensed drug in this situation would be contrary to the NMC Standards, 28 (56%) said yes, 13 (26%) were uncertain and nine (18%) said no. Participants were asked what information they would like to know about the medicine before administration. Most (32; 64%) focused on side effects and a smaller proportion (23; 46%) on potential benefits. Just one participant volunteered that the benefits should out- weigh the side effects and risks. In total, 28 (56%) participants were judged to meet the quality standard requiring them to be aware of the potential side effects, risks and benefits of any medicine they administer. Participants were asked what documentation they would look for in the patient’s notes. Their answers were: the consultant should record a clear rationale for the drug’s use (17; 34%), a statement that the medicine is being used for an unlicensed indication (12; 24%), clarification of the patient’s consent status (6; 12%) and details of potential side effects and monitoring (5; 10%). Finally, we asked whether participants would still administer this off-label drug if they felt there was no clear evidence of the benefits outweighing the side effects and risks. Six (12%) said they would administer the medicine because the patient was treatment-resistant and therapeutic options were very limited, four (8%) would give it under duress as it was difficult to stand up to doc- tors, 14 (28%) would give it provided another doctor had recommended it and other staff were in agreement and 26 (52%) would not administer the drug.

**Solo administration of controlled drugs/injections**

Twenty-eight participants (56%) were aware that Temazepam was kept in the CD cupboard and 24 (48%) knew it was subject to CD regulations. Twenty-three (46%) said they would get a second nurse to assist with the CD procedure, while one participant (2%) said they would use a Healthcare Assistant because of the difficulty in getting a second nurse. Most participants (45; 90%) said they would never administer and had never administered an injection (or CD) on their own in an inpatient setting, although five (10%) mentioned having done so because of staff shortages. Two (4%) said that in the community depot, antipsychotics were administered by a single nurse and one (2%) mentioned immunizations. Just two (4%) could envisage giving an injection to save a life.

**Other difficulties and dilemmas in medicines management**

Most participants (44; 88%) described some other difficulties and dilemmas with medicines administration. The main themes were: pressure of work, distractions during medication rounds and needing a second qualified nurse to administer and check a CD (12; 24%), problems with prescription charts (e.g. poorly written and unsigned prescriptions) (11; 22%), difficulties with persuading patients to take medication (9; 18%), lack of training about medicines administration (5; 10%), difficulties with calculations (3; 6%) and patients demanding PRN medication that the nurse considered they did not need (3; 6%).

**Comparison of participants on total scores on 10 quality standards**

Participants’ correct responses to the 10 quality standards are given in Table 3. The median score on the 10 quality standards was 4 (range 1–7). As total scores were not normally distributed, non-parametric statistical tests were used to test for differences between groups. Median scores of the 21 participants who had completed a medicines management training course within the past year were compared with those of the remaining 29 participants. The results were not significant (median scores 4 vs. 4, P = 0 88). The 20 participants who had qualified as mental health nurses within the last 5 years were compared with the 30 who had been qualified for longer on the same quality standards and again there was no significant difference in the median scores (4 5 vs. 4, P = 0 68). Finally, the 19 participants who reported they had a good working knowledge of the NMC Standards for Medicines Management were compared with the remaining participants on the ten quality items. Although those with self-reported good knowledge had a higher median score than those that did not, the result did not reach statistical significance (median scores 5 vs. 4, P = 0 21).

**Discussion**

Very little is known from previous research about mental health nurses’ knowledge and attitudes about a range of medicines management issues. The participants who took part in this exploratory study were mainly experienced senior staff nurses who were on the front line of medicines management, administering medication on a daily basis. It was surprising, therefore, that many were apparently not up to date on the current NMC Standards for Medicines Management (2010). Participants’ responses to clinical vignettes were judged to adhere to 10 associated quality standards on a median of four occasions (Table 3). Only one standard (informing patients about possible risks and side effects) was very widely met; a further three (understanding the importance of regular administration of therapeutic medication, correct authorization of medicines for detained patients and knowledge of the risks, benefits and side effect profile of all administered medicines) were met by more than half of the participants. Participants’ responses about administration of medicines on the basis of a verbal prescription, about the legitimacy of solo administration of medication by injection and the importance of not abruptly stopping a drug like clozapine suggested particular knowledge limitations (all <20% adherence to the associated quality standards). Issues related to near misses, reporting the error of a colleague and the local policy status of the controlled drug Temazepam were in the mid-range.

Our study therefore highlights a potential knowledge deficit across a range of medicines management issues among the mental health nursing workforce. This is important because both nurses’ knowledge and their deviation from correct procedures contribute to medication errors, which can result in patient harm (Brady et al. 2009). We examined whether there were significant differences between groups of nurses based on various features relating to their experience, training and medicines management-related self-efficacy. No differences were found; this is disappointing as it might have provided information about where to target education and training resources to improve knowledge. Furthermore, the lack of difference reinforces the conclusion that the knowledge deficit is not confined to a single, narrow group of mental health nurses.

Participants’ responses also suggested that a wide range of other factors, in addition to knowledge, were perceived to contribute to their decision-making and medicines management behaviour. For example, the reasons given for not reporting a near miss or a colleague’s error largely reflected those given in studies conducted in other settings. So, while knowledge is reported as a contributory factor to medication errors in other healthcare settings (Wakefield et al.1996, Ulanimo et al. 2007, Chiang et al. 2010), there are additional factors. Fear is commonly reported by nurses as a reason for not reporting such events (Wakefield et al. 1996, Osborne et al. 1999, Mayo & Duncan 2004, Chiang & Pepper 2006, Mrayyan et al. 2007, Koohestani & Bagh- cheghi 2009, Chiang et al. 2010, Hartnell et al. 2012). Similarly, the pressure of work cited by a quarter of nurses in the current study as a reason for not reporting a near miss has precedents in studies in other non-mental health settings (Chiang & Pepper 2006, Sanghera et al. 2007, Almutary & Lewis 2012, Hartnell et al. 2012). Furthermore, in our study, a small number of nurses said they would not report an error because they did not want to get a colleague in trouble. Participants’ responses to the vignettes highlighted the wide range of factors that they perceived to be contributing factors to their decision-making including their beliefs about the likely consequences of their decision (e.g. in relation to non-reporting of a ‘trivial’ missing signature); their professional identity (e.g. fear of being labelled as incompetent); social influences (e.g. not wanting to get others into trouble); memory and attention (e.g. pressure of work); environmental context and resources (e.g. again pressure of work).

Our participants reported a range of other problems or challenges that they encountered during medicines management including issues commonly reported across healthcare settings such as distraction and poorly written prescription charts (Brady et al. 2009). Our participants also reported issues that may be more idiosyncratic to the study setting including having to persuade patients to take medicines and having to deal with patients who demand PRN medication when they believe it is clinically inappropriate. These issues deserve research attention to develop teachable strategies.

**Limitations**

The nurses who participated in this study were all working in specialist inpatient settings in the independent sector, so the results cannot automatically be extrapolated to NHS settings or to general adult acute inpatient settings. The participants were likely to be more familiar with specialist prescribing and hence with off-label and unlicensed drug use, than those working in acute psychiatric units. Of course, the local medicines policy, medication error reporting system and local training programmes also influenced the findings. Another limitation is that we transcribed participants’ responses rather than tape recording them. Thus, we may have lost some of the richness and subtlety of responses. Our method of coding adherence to quality standards dichotomously did not credit partial knowledge and it is therefore possible that this was reflected in the relatively low scores obtained by participants. In a live situation participants may draw on other resources, for example seeking advice from a colleague or looking at the internet; however, these options were infrequently volunteered by participants themselves. It is difficult to comment on our findings in relation to the previous research literature as there is an absence of comparable studies, particularly in psychiatry. It was disappointing that recent attendance at a medicines management training course, recent qualification or self-assessed good working knowledge of the NMC Standards were not associated with significantly higher scores on the ten quality standards. However, the relatively small sample sizes may have affected the power of the study to detect significant differences between groups and the exploratory nature of our study meant we could not ascertain what would be an adequate sample size.

**Conclusion**

The identification of potential knowledge deficits in mental health nurses’ medicines management practice in this study warrants further investigation in future research. Observational studies and in-depth qualitative interview studies could extend our knowledge in relation to mental health nurses’ experience of difficult medicines management scenarios. Further investigations into the clinical decision- making processes underlying psychotropic medication administration by nursing staff would aid the development of educational interventions. While the design we used had some limitations, the findings of the study do indicate that additional training in issues like those explored here is warranted. Findings from the current study highlight that, while factual knowledge about standards and procedures is key to safe practice, both the environmental context and social influences present a barrier to the adoption of knowledge into behaviour (Michie et al. 2005). Interventions to increase reporting of errors and near misses in mental health settings should therefore focus on all relevant aspects and not just knowledge (Haw et al. 2014). It will be important to establish the extent to which the knowledge deficit in any given domain of medicines management practice influences behaviour relative to that of factors like social influence, self-efficacy and perceived con- sequences. Training developments should, of course, be evaluated in rigorously designed and well-conducted studies. It is hoped that by highlighting training needs in medication management in mental health nursing and by developing a programme of research in this area, patient safety will be improved.

We used clinical vignettes to explore nurses’ knowledge and attitudes to medicines management issues. The advantage of this is that a relatively large sample of nurses can be recruited into a study and be presented with an even stimulus. In addition, vignette studies can be useful when the scenarios are sufficiently rare that an observational design would be overly time consuming and costly (Hughes & Huby 2002). We found that a further advantage was that the data generated from the interviews were richer than might have been obtained from alternative strategies of knowledge testing, for example, multiple choice questions, where the participants might be able to deduce the correct response by determining alternative options as incorrect (Lau et al. 2011). On the other hand, clinical vignettes can only describe very specific situations and it is unlikely that the results can be generalized to scenarios that differ in any significant way (Gould 1996). We found that participants generally found the vignettes interesting and challenging and were keen to learn more about the interviewers’ view of the ‘correct’ action. This suggests that vignettes like these would make useful educational material in the classroom setting where various options can be discussed. In the current study, vignettes facilitated the exploration of a much under-researched topic and thus have contributed to the development of the literature.

**Acknowledgement**

We thank the nursing staff at St Andrew’s, Northampton who so willingly gave their time to participate in this study.

**Author contributions**

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the IC- MJE (http://www.icmje.org/ethical\_1author.html)]:

• substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;

• drafting the article or revising it critically for important intellectual content.

**Supporting Information**

Additional supporting information may be found in the online version of this article at the publisher’s web-site.

**Tables and Figures – at end of document – to be inserted to published version**

**References**

Almutary H.H. & Lewis P.A. (2012) Nurses’ willingness to report medication administration errors in Saudi Arabia. Quality Management in Health Care 21, 119–126. doi:10.1097/ QMH.0b013e31825e86c8.

Baker J.A., Lovell K., Easton K. & Harris N. (2006) Patient’s experience of ‘as needed’ psychotropic medications in acute mental healthcare settings. Journal of Advanced Nursing 56, 354–362.

Baker J.A., Lovell K. & Harris N. (2010) The impact of a good practice manual on professional practice associated with psychotropic PRN in acute mental health wards: an exploratory study. International Journal of Nursing Studies 45, 1403–1410.

Barter C. & Renold E. (1999) The use of vignettes in qualitative research. Social Research Update 25. Retrieved from http:// www.soc.surrey.ac.uk/sru/SRU25.html on 06 November 2013.

Beasley C.M. Jr, Tollefson G.D. & Tran P.V. (1997) Efficacy of olanzapine: an overview of pivotal clinical trials. Journal of Clinical Psychiatry 58, 13–17.

Bradley E., Wain P. & Nolan P. (2008) Putting mental health nurse prescribing into practice. Nurse Prescribing 6, 15–19.

Brady A.M., Malone A.M. & Fleming S. (2009) A literature review of the individual and systems factors that contribute to medication errors in nursing practice. Journal of Nursing Management 17, 679–697.

Chiang H.Y. & Pepper G. (2006) Barriers to nurses reporting of

medication administration errors in Taiwan. Journal of Nursing Scholarship 38, 392–399.

Chiang H.Y., Lin S.Y., Hsu S.C. & Ma S.C. (2010) Factors determining hospital nurses’ failures in reporting medication errors in Taiwan. Nursing Outlook 58, 17–25.

Department of Health (2008) Code of Practice: Mental Health Act,

1983 (revised 2008). The Stationary Office, London.

Dickens G., Stubbs J. & Haw C. (2007) Administering medication to older mental health patients. Nursing Times 103(15), 30–31.

Dickens G., Stubbs J. & Haw C. (2008) Delegation of medication administration: an exploratory study. Nursing Standard 22(22), 35–40.

Duxbury J.A., Wright K., Bradley D. & Roach P. (2009) A study of the views of patients and nurses about the administration of medication in the acute mental health setting. Journal of Psychiatric and Mental Health Nursing 16, 672–677.

Duxbury J.A., Wright K., Bradley D. & Barnes P. (2010) Administration of medication in the acute mental health ward: perspectives of nurses and patients. International Journal of Mental Health Nursing 19, 53–61.

Gould D. (1996) Using vignettes to collect data for nursing research studies: how valid are the findings? Journal of Advanced Nursing 5, 207–212.

Gray R., Gournay K. & Wykes T. (2002) From compliance to concordance: a review of the literature on interventions to enhance compliance with antipsychotic medication. Journal of Psychiatric and Mental Health Nursing 9, 277–284.

Gray R., White J., Schulz M. & Anderhalden C. (2010) Enhancing medication adherence in people with schizophrenia: an international programme of research. International Journal of Mental Health Nursing 19, 36–44.

Gupta S., Doney T., Al-Sammarai S., Keller P. & Frank B.I. (1999) Olanzapine: weight gain and therapeutic efficacy. Journal of Clinical Psychopharmacology 19, 273–274.

Hartnell N., MacKinnon N., Sketris I. & Fleming M. (2012) Identifying, understanding and overcoming barriers to medication error reporting in hospitals: a focus group study. BMJ Quality Safety 21, 361–368. doi:10.1136/bmjqs-2011-

000299.

Haw C. & Cahill C. (2011) A computerized system for reporting medication events in psychiatry: the first two years of operation. Journal of Psychiatric and Mental Health Nursing 18, 308–315.

Haw C.M., Dickens G. & Stubbs J. (2005) A review of medication administration errors reported in a large psychiatric hospital in the United Kingdom. Psychiatric Services 56, 1610–1613.

Haw C.M., Stubbs J. & Dickens G. (2007) Medication administration errors in older psychiatric inpatients. International Journal of Quality in Health Care 19, 210–216.

Haw C., Stubbs J. & Dickens G.L. (2014) Barriers to the reporting of medication administration errors and near misses: an interview study of nurses at a psychiatric hospital. Journal of Psychiatric and Mental Health Nursing. doi:10.1111/ jpm.12143 [epub ahead of print].

Hemingway S., White J., Baxter H., Smith G., Turner J. & McCann T. (2012a) Implementing a competence framework for administering medication: reporting the experiences of mental health nurses and students in the UK. Issues in Mental Health

Nursing 33, 657–664.

Hemingway S., White J., Turner J., Dewhirst K. & Smith G. (2012b) The Medicine with Respect Project: a stakeholder focus group evaluation. Nurse Education in Practice 12, 310–315.

Hsieh H.-F. & Shannon S.E. (2005) Three approaches to qualitative content analysis. Qualitative Health Research 15, 1277–1288.

Hughes R. & Huby M. (2002) The application of vignettes in social and nursing research. Journal of Advanced Nursing 37, 382–386.

Jones M., Bennett J., Lucas B., Miller D. & Gray R. (2007) Mental health nurse supplementary prescribing: experiences of mental health nurses, psychiatrists and patients. Journal of Advanced Nursing 59, 488–496.

Koohestani H.R. & Baghcheghi N. (2009) Barriers to the reporting of medication administration errors among nursing students. Australian Journal of Advanced Nursing 27, 66–74.

Lau P., Lau S., Hong K. & Usop H. (2011) Guessing, partial knowledge and misconceptions in multiple-choice tests. Educational Technology and Society 14, 99–110.

Mayo A.M. & Duncan D. (2004) Nurse perceptions of medication errors: what we need to know for patient safety. Journal of Nursing Care Quality 19, 209–217.

McCann T.V. & Clark E. (2008) Attitudes of patients towards mental health nurse prescribing of antipsychotic agents. International Journal of Nursing Practice 14, 115–121.

Medicines Act (1968). The Stationery Office, London.

Michie S., Johnston M., Abraham C., Lawton R., Parker D., Walker A. & on behalf of the ‘Psychological Theory’ Group (2005) Making psychological theory useful for implementing evidence based practice: a consensus approach. Quality and

Safety in Health Care 14, 26–33.

Misuse of Drugs Regulations (2001). The Stationery Office, London.

Mrayyan M.T., Shishani K. & Al-Faouri I. (2007) Rate, causes and reporting of medication errors in Jordan: nurses’ perspectives. Journal of Nursing Management 15, 659–670.

National Institute for Clinical Excellence (2005) The Short-term

Management of Disturbed Violent Behaviour in Inpatient Settings and Emergency Departments. Clinical Guidance 25. NICE, London.

National Mental Health Development Unit (2009) Getting the Medicines Right 2: Medicines Management in Mental Health Crisis Resolution and Home Treatment Teams. College of Mental Health Pharmacy, London. Retrieved from http://

www.nmhdu.org.uk/silo/files/getting-the-medicines-right-2.pdf on 06 November 2013.

Nolan P. & Bradley E. (2007) The role of the nurse prescriber: the views of mental health and non-mental health nurses. Journal of Psychiatric and Mental Health Nursing 14, 258–266.

Nursing and Midwifery Council (2010) Standards for Medicines Management. NMC, London. Retrieved from http://www.nmc- uk.org/Documents/NMC-Publications/NMC-Standards-for-medici nes-management.pdf on 06 November 2013.

Osborne J., Blais K. & Hayes J. (1999) Nurses’ perceptions: when is it a medication error? Nursing Administration 29, 33–38.

Sanghera J.S., Franklin B.D. & Dhillon S. (2007) The attitudes and beliefs of healthcare professionals on the causes and reporting of medication errors in a UK intensive care unit. Anaesthesia 62, 53–61.

Snowden A. (2010) Integrating medicines management into mental health nursing in UK. Archives of Psychiatric Nursing 24, 178– 188.

Snowden A. & Barron D. (2011) Medicines management in mental health. Nursing Standard 26(3), 35–40.

Ulanimo V.M., O’Leary-Kelly C. & Connolly P.M. (2007) Nurses’ perceptions of causes of medication errors and barriers to reporting. Journal of Nursing Care Quality 22, 28–33.

Usher K., Baker J.A., Holmes C.A. & Winship G. (2010) Understanding clinical decision making for PRN medication in mental health inpatient facilities. Journal of Psychiatric and Mental Health Nursing 17, 558–564.

Wakefield D.S., Wakefield B.J., Uden-Holman T. & Biegen M.A. (1996) Perceived barriers in reporting medication administration errors. Best Practice Benchmarking Healthcare 1, 191–197.

White J. (2004) Medication management. In Good Practice in

Adult Mental Health (Ryan T. & Pritchard J., eds), Jessica Kingsley, London, pp. 90–107.

Wix S. (2007) Independent nurse prescribing in the mental health setting. Nursing Standard 103(44), 30–31.

Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario | Local policy/professional guidance information | Associated quality standard | Other aims | Supplementary questions |
| Near miss scenario involving | Local policy is that the nurse | 1. Nurse would report a near | Identify barriers to reporting | How would you prevent |
| wrong patient/wrong drug | making or discovering a | miss and would use the | near misses. | re-occurrence of the |
| (John Hunt/Jonathan Hunter). | medication error or near | correct local procedure |  | scenario? |
|  | miss should report it | to do so. |  |  |
|  | immediately using the |  |  |  |
|  | Hospital’s electronic error |  |  |  |
|  | reporting system (Haw & |  |  |  |
|  | Cahill 2011). NMC |  |  |  |
|  | (2010: p.37) provide |  |  |  |
|  | similar guidance. |  |  |  |
| Administration of oral *PRN* | A verbal order must be | 2. Aware of the correct | Recognize that administration | How would you prevent |
| haloperidol to an acutely | supported by a fax or email | procedure for taking a | by a non-prescribed route | re-occurrence of the |
| manic patient on the basis of | prescription (NMC 2010: p.29). | verbal order. | is an error. | scenario? |
| a verbal order when  prescription is IM only. | The prescription specifies.. .  the route of administration’ |  |  |  |
|  | (NMC 2010: p.18) |  |  |  |
| Reporting a colleague’s | All errors and near misses to be | 3. Would report a medication | Identify barriers to reporting | If you would not report the |
| recording omission error | reported through local risk | error made by a colleague | similar errors. | error why not? |
| from the previous shift. | management systems | using the correct procedure. |  |  |
|  | (NMC 2010: p. 29). |  |  |  |
| Administration of sedative- | N/A | 4. Recognizes and understands | Recognize common-sense | What are the differences |
| only medicine (Zopiclone) to |  | the importance of | approach is not to wake | between the two scenarios? |
| a sleeping patient vs. |  | administering a therapeutic | a sleeping patient to | Would you wake the patient to |
| administration of |  | medicine such as an | give sedation. | administer the antidepressant |
| antidepressant (Mirtazapine) |  | antidepressant on a |  | and if so why? |
| to a sleeping patient. |  | regular basis. |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 1 (*Continued*). |  |  |  |  |
|  | Local policy/professional | Associated quality |  | Supplementary |
| Scenario | guidance information | standard | Other aims | questions |
| Administration of | By definition, a person who lacks | 5. Aware that in England & | Identify how nurses assess | How would you assess |
| antipsychotic medicines | capacity to consent does not | Wales psychotropic | a patient’s capacity and | capacity in this case? |
| (clozapine) to a detained | consent to treatment, even if they | medication for detained | consent. | Would you administer |
| patient where the | co-operate with the treatment or | patients after 3 months |  | clozapine even if capacity |
| patient’s capacity is | actively seek it (Code of Practice, | of compulsory treatment |  | remained doubtful? |
| doubtful. | 2008: p.189). | needs to be correctly |  |  |
|  | Where a detained patient beyond | authorized. |  |  |
|  | the first 3 months of compulsory | 6. Recognizes the importance |  |  |
|  | treatment lacks capacity to consent | of not missing doses or |  |  |
|  | to medication, then a Second | abruptly stopping a drug |  |  |
|  | Opinion Appointed Doctor must | such as clozapine, |  |  |
|  | issue a certificate authorizing the |  |  |  |
|  | treatment known as a Form T3 |  |  |  |
|  | (Mental Health Act, 1983, |  |  |  |
|  | amended in 2007). |  |  |  |
| Providing truthful | Up to 94% of people taking | 7. Aware that nurses have a | Identify how nurses approach | Would you tell this acutely |
| information about | olanzapine gain weight | duty to inform patients | informing a patient about | ill patient that this drug |
| unwanted side effects | (Gupta *et al.* 1999). About 40% | about the risks and side | unwanted side effects when | commonly causes weight |
| (weight gain) of | of people gain 7% + of baseline | effects of their medicines | acutely unwell. | gain? |
| medicines | weight (Beasley *et al.* 1997). | prior to administration. | Identify how nurses balance |  |
|  | In every case, the patient must |  | competing needs to properly |  |
|  | be given sufficient information |  | inform and act in the |  |
|  | about all significant possible |  | patient’s best interests. |  |
|  | adverse outcomes (Code of |  |  |  |
|  | Practice, 2008, p. 189). |  |  |  |
| Administration of an | ‘You must know the therapeutic | 8. Aware that nurses should | Recognize need to satisfy | What information would |
| unknown unlicensed | uses of the medicine to be | have knowledge of the | themselves about the relative | you look for about the |
| medicine/administration | administered, its normal dosage, | medicines they are | risk: benefit of off-license or | medicine before |
| of a known medicine | side effects, precautions and | administering including | unlicensed use. | administering? |
| for an unlicensed | contra-indications’ | their likely effects, benefits, |  | What information would |
| purpose (Minocycline | (NMC 2010: p. 6). | risks and side effects. |  | you look for in the |
| for schizophrenia). |  |  |  | patient’s record? |
|  |  |  |  | Would you administer if |
|  |  |  |  | the risk–benefit ratio was |
|  |  |  |  | unclear? |

Table 2 Descriptive data about study participants (N = 50).

Job title

|  |  |  |
| --- | --- | --- |
| Staff nurse | 4 | 8 |
| Senior staff nurse | 30 | 60 |
| Deputy ward manager | 14 | 28 |
| Ward manager | 2 | 4 |
|  |  |  |
| Age group  <25 years 3 6 | | |
| 25–34 years | 11 | 22 |
| 35–44 years | 15 | 30 |
| 45–54 years | 15 | 30 |
| 55+ years | 6 | 12 |

How often in past 6 months have you done a medicines round?

On all/most days 40 80

At least once a week 8 16

At least once a month 1 2

Less than once a month 1 2

How long is it since you attended a

|  |  |  |
| --- | --- | --- |
| medicines management training  course or similar course? |  | |
| <1 year | 21 | 42 |
| <3 years | 16 | 32 |
| >3 years | 4 | 8 |
| Never | 9 | 18 |

How familiar are you with the NMC Standards for Medicines Management?

I have read them and have a good

working knowledge of them

I have read them, but my recall of them is limited

19 38

26 52

I have not read them 5 10

Years since qualification

Median (range) 7 (0 3–38)

Table 3 Participants’ correct responses to the ten quality standards.

|  |  |  |
| --- | --- | --- |
| Number | Quality Standard | Number of correct responses (%) |
| 1 | Able to recognize the scenario in vignette (1) as a ‘near miss’ and would report it using the correct local procedure. | 14 (28) |
| 2 | Aware of the correct procedure for taking a verbal order. | 4 (8) |
| 3 | Would report the medication error described  in vignette (3) using the correct local procedure. | 22 (44) |
| 4 | Recognizes and understands the importance of administering a therapeutic medicine such as an antidepressant on a regular basis. | 32 (64) |
| 5 | Aware that in England and Wales, psychotropic medication after the first 3 months of compulsory treatment needs to be correctly authorized. | 29 (58) |
| 6 | Recognizes the importance of not missing doses or abruptly stopping a drug such as clozapine. | 9 (18) |
| 7 | Aware nurses have a duty to inform patients about the risks and side effects of their medication prior to administration. | 46 (92) |
| 8 | Aware nurses should have knowledge of the medicines they are administering including the likely effects, benefits, risks and side effects. | 28 (56) |
| 9 | Aware the Hospital treats Temazepam as a Schedule 2 controlled drug and thus administration requires two nurses to check and sign for the drug which is kept in the Controlled Drug Cupboard | 23 (46) |
| 10 | Awareness of the circumstances under which a nurse may legitimately administer an  injection on their own. | 6 (12) |