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Can student mental health nurses be prepared for medicines management?

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## **Does mental health nurses' undergraduate preparation for their medicines' management role transfer to practice: A qualitative content analysis.**

### **Abstract**

**Aim:** This paper reports on an evaluation of the Medicines with Respect Project that implemented a stepped approach to the medicines management (MM) education and training for mental health nurses (MHNs). The project provided a link from knowledge and skill acquisition of student nurses in MM through to their practice as registered nurses and continued professional development.

**Method:** A retrospective qualitative design was used where Nine MHNs were interviewed to gain their perceptions of MM content they received as students at University and if it still had relevance.

**Results:** Content analysis of the interview data revealed that overall the participants valued the theoretical and practical learning strategies they experienced. The participants also reported that the approach prepared them for clinical practice as a registered nurse. Such an approach may also build the capacity of MHNs to develop as prescribers.

### **Introduction**

Psychotropic medication has been a frontline treatment for over six decades in people diagnosed with mental illness (Mutstata, 2011). Medication contributes to treatment efficacy, helps reduce relapse rates, provides a foundation for recovery-focused psychosocial interventions, and reduces the financial cost of treatment (Harris et al., 2009; Snowden and Barron, 2011). In the UK, over 90% of inpatients (Care Quality Commission (CQC), 2011) and 80% of mental health service users (hereafter, service users) living in the community are prescribed some form of psychotropic medication (CQC, 2012). However, this type of medication can cause serious and life-limiting side effects (Nash, 2011; Hemingway et al., 2014a), and its efficacy has been questioned (Leberman et al., 2005; Valenstein et al., 2006).

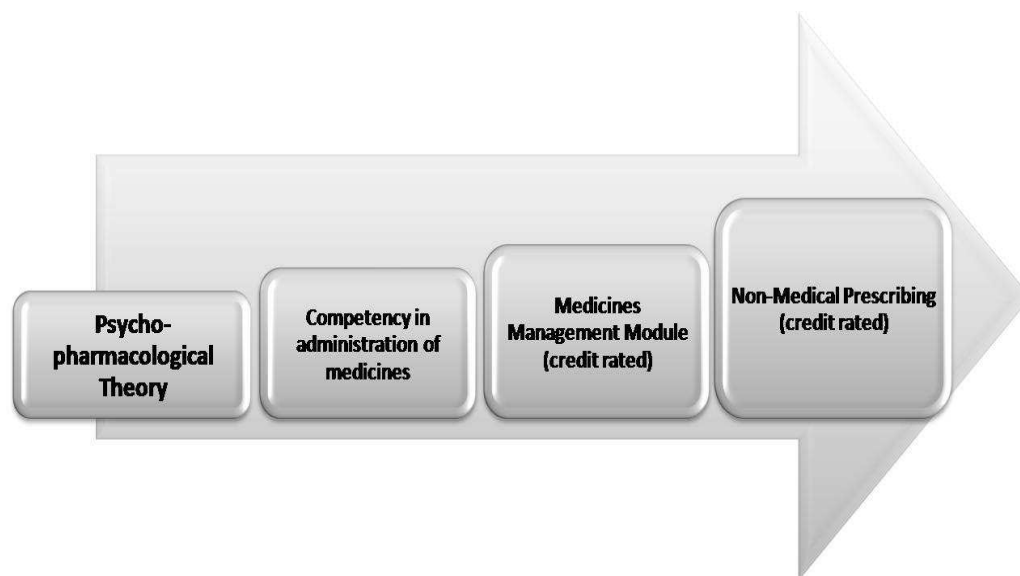
There is a significant and increasing belief that psychotropic medication may have some short-term benefit when service users experience acute and

distressing symptoms, but alternative psychological and social oriented approaches should also be used to enable recovery focused care (Barker and Buchanan-Barker, 2012; Harris and Shatnell, 2012). Studies have also reported that service users have accepted that psychotropic medication is an integral part of their treatment (Happell et al, 2004; Gray et al, 2005). Moreover, the largest predictor of relapse for service users is not taking their psychotropic medicines as prescribed (Hemingway and Snowden, 2012; Bressington et al, 2013).

Major influencing factors on service users' failure to take medications as prescribed are their poor medication literacy and lack of accessible information about these substances (Healthcare Commission, 2007). Contributing to this poor medication literacy is mental health nurses' (MHNs) failure to provide consistent medication information and education to service users when undertaking medication management (MM) interventions (Happell et al, 2004; Duxbury et al, 2010a). Another concerning influence is medicine errors by MHNs, where, for example, busy, environmentally distracting wards, may negate their ability to concentrate on the task of administering medicines (Duxbury et al, 2010b). MHNs' lack of knowledge of psychotropic medicines can also increase the potential for errors to occur (Hemingway et al., 2014b). As the largest professional working group in mental health care, MM is a well-established and important part of MHNs' role. Therefore, they need to be knowledgeable and competent in all aspects of these interventions (Hemingway et al., 2011; Snowden and Barron, 2011). It was against this background that the Medicines with Respect (MwR) project was developed.

### **The Medicines with Respect project**

Originally developed in Sheffield (UK) as a way of assessing MHNs' competence in oral administration of medicines (Turner et al, 2007; 2008) the framework was adapted and an intramuscular administration framework was added (Hemingway et al, 2010). The University of Huddersfield and South West Yorkshire Partnership Foundation Trust (SWYPFT) implemented the MwR project, a four-step approach to MM, which linked undergraduate MM education and training incrementally through to advanced nursing practice to include, prescribing medication (see Fig. 1).



*Fig 1 Stepped Approach to Medicine Management (Hemingway et al, 2010).*

## **Design**

A retrospective qualitative design was used, comprising in-depth, semi-structured qualitative interviews.

## **Methods**

The Aims of the study were:

- i) To explore MHNs' beliefs about the impact of the MwR approach on their clinical practice in MM interventions.
- ii) To ascertain MHNs' beliefs about the efficacy of the MwR approach in comparison to other routine undergraduate learning and teaching methods, such as lectures or generic practice assessment documents for assessing MM knowledge and skill acquisition.

## **Sample and recruitment**

A purposive sample of registered MHNs, who were graduates of the University of Huddersfield from 2009-2013 (N=160), and had undertaken part of the MwR project, were invited to participate through a health service trust-wide email. It was not possible to estimate how many graduates actually worked for the trust so the potential participants may have reduced somewhat. Nine MHNs, who practiced in a clinic, community and inpatient settings ranging from early

adulthood to old age, consented to participate. Their postgraduate and clinical work experience ranged from one to four years (see Table 1).

**Table 1. MHN participant characteristics**

| Allocated number and role       | Context and age range                      | Post graduate experience |
|---------------------------------|--|--------------------------|
| 1) Staff Nurse                  | inpatient acute/ adult                     | 12 months                |
| 2) Senior clinical practitioner | Community/adult                            | 15 months                |
| 3) Senior clinical practitioner | Psychiatric intensive care unit/           | 4 years                  |
| 4) Staff nurse                  | Medium secure unit/inpatient/adult         | 12 months                |
| 5) Staff Nurse                  | Inpatient/older people                     | 2 years                  |
| 6) Community staff nurse        | Early intervention service/community/adult | 2 years                  |
| 7) Staff Nurse                  | Memory clinic outreach/older people        | 2 years                  |
| 8) Staff nurse                  | Low secure inpatient /adult                | 3 years                  |
| 9) Staff Nurse                  | Inpatient/adult                            | 1 year                   |

*Table 1. MHN participant characteristics*

### **Data collection**

Audiotaped interviews, lasting between 60-90 minutes, were carried out, in private, in mutually convenient venues, such as the University of Huddersfield and interview rooms in a hospital/clinic. A semi-structured interview schedule was used to guide interview questions (Table 2). A constructivist approach was adopted in the questioning style of the researcher, which allowed the experience of the participant and researcher to be shared (Hoare et al, 2012). This approach allowed the researcher to facilitate participants' perceptions of their MM role as well as construct categories from the interviews and subsequent analysis (Mills 2006).

### **Data analysis**

A qualitative content analysis was then undertaken. Content analysis is a research method that researcher can use to make replicable and valid inferences from data to their context, with the intent of providing new knowledge, insights, representation of real-life, and as a guide to future action (Elo and Kyngas, 2008). Hsieh and Shannon (2005) state that content analysis is guided by a

structure; in this instance, what participants had experienced and pre-existing findings from the MwR project evaluation.

Interviews were transcribed verbatim. Then a six-step content analysis of the data was undertaken, as outlined by Newell and Burnard (2006). In Stage 1, note taking and memoing ideas and impressions occurred during the interviews. In Stage 2, the researcher was immersed in the data and started to form general ideas about emerging themes. In Stage 3, open coding took place, where provisional categorization of the data and some text reduction occurred. In Stage 4, overlapping categories were merged and refined into more manageable data sets. In Stage 5, the final categories were organized and linked ready for reporting. In Stage 6, the findings of the analysis were presented, with exemplars, in this paper.

### **Ethical issues**

Permission to undertake the study was obtained from the National Health Service Integrated Research Application System (Reda ID: 088) and the NHS Trust where participants were employed. Written, informed consent was obtained from participants prior to participation, and they were informed they could withdraw from the study at any time without explanation. A particular ethical issue that arose in the study is the researcher was a University lecturer who had been directly involved with the MM aspects of the MHN programme. However, as the interviews were held after they graduated from their course there was no unequal relationship between participants and the researcher. Data collection was informed by Clark and McCann's (2005) guidelines for conducting research where there has been a nurse student-lecturer relationship.

### **Results**

Three main categories were abstracted from the data, with a focus on (i) The *pharmacology workbook* that facilitated knowledge acquisition, and, the assessment of competence derived from (ii) the *objective structured clinical examination (OSCE)*, and (iii) whilst in clinical placement undertaking an *assessment of their administration of medicine performance*. Figure 2 provides a summary of the three categories and their sub-categories.

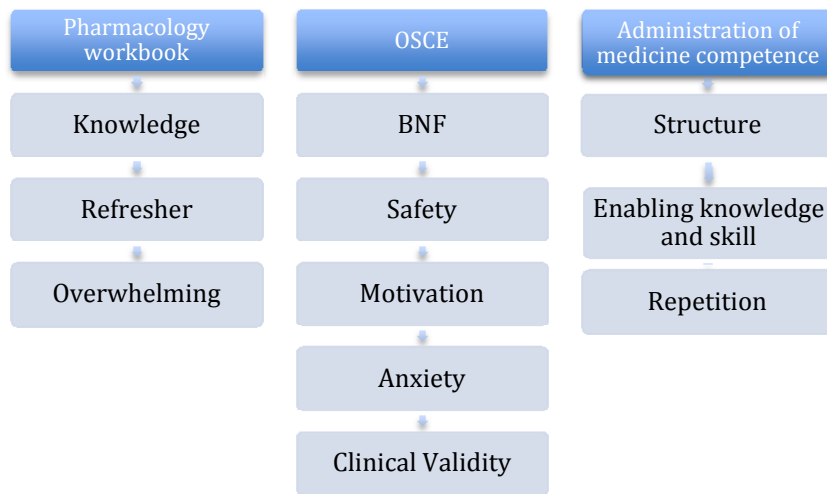


Fig 2 Summary of categories and sub categories relating to the participants' experience of MM education and training.

### **Pharmacology workbook.**

A pharmacology workbook was used to provide the underpinning knowledge, with the aim of informing safe practice. This category focused on participants' experience in using the workbook. Three sub-categories underpinned this category: facilitating *Knowledge*; its continued use as a *Refresher*, and, in contrast, some suggestions that the workbook was *Overwhelming* and, in turn, could negate learning.

### **Knowledge**

The intent of the workbook was to enable the student nurse to gain pharmacological knowledge about medications commonly prescribed in psychiatry. Participants' personal experiences showed how this could work. One participant commented about how the workbook facilitated learning providing baseline information about these medications:

*"I found that (workbook) really useful because it made me think about things in more depth. I knew the name of several medications, but it (workbook) made me think a lot more about them in more depth; for example, about interactions and side effects."*

The content of the workbook was designed to be comprehensive. According to several participants, however, some registered nurses in clinical practice questioned the theoretical content of the workbook as they felt it was too in depth for MHNs' learning needs:

*"People at the time (second-year undergraduate studies) in my community placements were saying that the content was only what doctors really needed to know and they didn't understand why I, as a student, was being asked to complete it" (workbook).*

### **Refresher**

One test if a student has learned anything is in its use. Participants gave examples of how the workbook designed for undergraduate study was still relevant years later and continually used in their daily work as registered nurses.

*"The pharmacology workbook's really good; I still use it now. It's there as an aide memoire all the time"*

### **Overwhelming**

For some participants, the workbook did not inspire them to learn; rather, they considered it to be a large and unwieldy document for their learning needs:

*"I can just remember it being that vast that it was a bit overwhelming".*

And for the same participant, instead of motivating him to study it had the opposite effect:

*"not really learning anything, just copying, just Googling it, copying it and that's it, not really remembering" .*



Another participant provided an insight as to why there was some resistance from students to the workbook, and suggested a solution to help motivate them, hinting it should be summative rather than formative assessment:

*“I don’t think they’re not interested; I think because you do have to really think about it and you do have to go out there and research it and, you know, ask other professionals. I think, as it was set out, people thought, ‘what do I really need to do this for?’ If you did put use it as a formal (summative) assessment tool, then they (students) would have to go out and do it, and they’d probably just get on and do it”.*

### ***Objective Structured Clinical Examination (OSCE)***

The objective of the OSCE was to gain an objective picture of students’ working knowledge and skills of MM before they went on clinical placements. The OSCE contained two stations. The first station required the student to respond to a case scenario where all the answers to questions could be obtained from the BNF. The second station necessitated the student being involved in administering medication. Five sub categories were abstracted from the data highlighting positive and negative aspects of OSCE: Learning how to use the *British National Formulary*, a *safety focus*, preparing for the OSCE was *motivational*, OSCE related examination *anxiety*, and questioning the OSCE’s *clinical validity*.

#### **Learning how to use the British National Formulary**

The British National Formulary (BNF) (Joint Formulary Committee, 2014) is a pharmacological reference book providing comprehensive information about prescribing and pharmacology, along with specific facts and details about medicines prescribed in the UK National Health Service.

*“During clinical placement or in practice you don’t have the time to sit around for somebody to go through it (BNF) ... So, having it in uni. (university) where we had to go through and look at the BNF and contraindications, I think was very beneficial”.*

Learning to utilise the BNF, as part of the OSCE, also seems to have transferred to one participant's MM interventions:

*If somebody says, 'I'm having this as a side effect,' you've got to know exactly where to go or, 'can I take this with this,' when we're requesting antipsychotics and other medications from the GP, then obviously we need to know, you know, it's [the medication] not going to interact".*

### **Safety**

One of the main aims of the MwR project was to make MHNs practice more safely in MM. Administering medicines has been described as one of the highest risk activities a MHN can undertake (Hemingway et al. 2014). For participants, the OSCE was perceived as an assessment that aimed to minimise this risk:

*"I saw it (OSCE) as being a safety thing. It was about making sure the right person got the right medications and the right dose of medication, you know, it's complying with NMC (Nursing and Midwifery Council) Guidelines. It was like a safety task to me, I guess, because I'd given medicines under supervision in practice".*

### **Motivation**

It has been claimed that the OSCE motivates students toward knowledge and skill acquisition in aspects of their clinical practice (Hemingway et al 2013). Participants echoed the OSCEs beneficial influence on their knowledge and skill acquisition:

*"it [OSCE] forced me to go and spend that time with the treatment team, just being interested, asking the right questions, really; because they do it all the time (medicines administration). I just thought, 'I'll go and get that experience,' and it did help me".*

### **OSCE related anxiety**

Examinations can be stressful for students. Participants made similar comments about the effects of OSCE induced stress. They claimed they had witnessed other students perform less well due to OSCE-related examination stress, which, in turn, undermined their confidence.

*“I saw that several people get really anxious about it [OSCE]. I’m not sure if it (OSCE assessment) didn’t go as well as possible because of the anxiety and that made them worry even more about their safety in practice”.*

In contrast for one participant, the stress of being assessed by the OSCE was beneficial because it lead to a positive outcome and contributed to learning:

*“I think as anxious or as stressful as it was, it was a vital part of learning as well”.*

### **Clinical validity**

A major criticism of OSCEs is, that although they were informed by lecturers it was a clinically valid form of assessment, some students who completed it claimed it was not an accurate reflection of clinical practice:

*I’m not sure it fully formulated every situation you might encounter. It didn’t simulate exactly what you might encounter in practice. I don’t think it substitutes practice and doing that out in the field [clinical practice] as it was, especially with the sort of environments medication is administered.*

Conversely, another participant was more positive and gave an example about how one aspect of the OSCE demonstrated clinical validity:

*“We did IM (intramuscular injections). Other than there not being an actual real patient there, they were pretty much exactly how it is on here (inpatient unit). The actual set-up and everything was pretty much the same*

### **Administration of medicine competence**

This category relates to participants’ responses about the assessment of the administration of medicines performance in clinical practice. The assessment was undertaken in the students’ final undergraduate placement. Three sub-categories were abstracted from the data relating to aspects of the assessment of medication administration: Structure; Enabling knowledge and skill acquisition; Repetition.

## **Structure**

The MwR framework followed a logical order. One participant showed how the framework allowed them to assimilate good practice with its step-by-step sequence to medicine administration:

*"I think it's just good to make people consciously aware of a process that we do without thinking about it, and it breaks that down into steps".*

## **Enabling knowledge and skill acquisition**

This sub-category highlighted that the participants respected the use of the frameworks in terms of making sure the MHN was up to speed with the knowledge and skill required to administer medication. One participant suggested that the framework was that they felt validated, in that in passing the assessment, this indicated they had developed competence to administer medication:

*"It (MwR framework assessment) finally validates you (gives evidence), you're alright to do it. Fitness to practice, you are fit to do this" (administer medication).*

## **Repetition**

When MHNs graduate and obtain employment they have to undertake a one-year preceptorship period before being permitted to practice autonomously. One aspect of SWPFT Trust preceptorship is a requirement to be assessed in the administration of medicine competence. This entailed Huddersfield University MHN graduates, who had been deemed competent to administer medications as part of their final clinical placement as a student nurse, were then required to revisit the frameworks. Some frustration of repeating the assessment was evident:

*"I had to wait, about three months for my preceptor (assessor) to do the assessment with me. So I wasn't able to give medicines on my own for that time and I wasn't able to sign Controlled Drugs or anything as part of the staff nurse role".*

In contrast, one participant could see the rationale for the assessment being repeated, and gave some reasoning for this opinion:

*“I think ... you take what you learn and you apply it to the particular situation that you’re in, and, I think, if you do it in your third year (undergraduate), you’ll be linking it to a particular situation, where you’re on placement and taking it to that environment. When you’re in preceptorship, you’re in your actual job role, and that might be a different environment, it might be a different clientele, it might be a different, totally different situation”.*

## **Discussion**

The overall findings of this study showed how the implementation of a stepped approach to knowledge and skill acquisition in MM was successful in that it transferred to the everyday practice of the MHNs in the sample. There was also evidence that the undergraduate experience of MM has transferred to the daily MM practice of MHNs in the study. Each category that was abstracted from the data will be discussed in terms of its impact and value on undergraduate preparation of MHNs. A comparison of the MWR project content and evaluation findings to other studies that have focused on education and training approaches is then presented.

## **Pharmacology workbook**

The pharmacology workbook was developed to give student nurses baseline knowledge of psychotropic medication to inform their safe and competent MM practice (Hemingway et al, 2010). The findings show that the workbook succeeded in knowledge creation and understanding of MM and was still used by some participants to refresh their understanding of MM. The fact that the workbook appeared to increase MHNs’ knowledge base could be significant. Snowden & Barron (2011) findings highlighted that MHNs who had undertaken the non-medical prescribing course did not know as much about psychopharmacology on commencing the course as they thought they did, a concern echoed elsewhere (Skingsley, 2006; Hemingway and Ely, 2009). Thus, if

appropriate educational strategies, such as using the workbook, are in place this may help to improve MHNs' knowledge in MM.

Service users have also identified lack of information about drugs they have been prescribed (Happell et al, 2004; Duxbury et al, 2010b), and this may be attributable, in part, to MHNs feeling they have insufficient knowledge to discuss psychotropic medication. Lack of knowledge of psychotropics has also been identified as a potential cause of medicine administration error (Hemingway et al. 2014b). In turn the workbook could help address any deficit in knowledge enabling the MHN to take part in meaningful discussion with service users. Currently, undergraduate MHNs in the UK have a considerable number and variety of learning requirements and assessments to complete in their course, so requiring them to undertake the workbook could potentially overload what they are exposed to. This, in turn, may produce a 'backwash effect' (Tiwari et al., 2005). A backwash effect is when students solely concentrate on what they need to pass an assessment. Indeed, integrating knowledge and skill acquisition in undergraduate nursing curricula has been found to depend on the time commitment and, therefore, some content may be receive less attention from undergraduate nurses (Bengston and Ohlsson, 2009). It may be due to the depth and thus the time commitment to complete the workbook suggests it should be used as a summative rather than formative assessment. It has been established that knowledge to base safe and competent practice is needed in such a high-risk area of the MHNs' role in MM (Snowden, 2010; Gabe et al., 2011). MHNs also have an important role in preventing medicine error, but to do so they require an adequate knowledge base to fulfil this aspect of their role. This is an area where little priority has been given to equipping MHNs to implement their MM role adequately (Bee et al., 2005; Snowden and Barron, 2011). To practice safely and competently, MHNs need appropriate knowledge to underpin MM interventions. However ensuring this knowledge transfers to MHNs' practice remains an ongoing challenge (Baker et al., 2008; Nash, 2011).

### **Objective Structured Clinical Examination**

The findings of the present study firstly add to knowledge known about OSCEs in terms of how it transferred to practice. Secondly, learning how to use the British National Formulary had clearly impacted favourably on participants and motivated them to learn in preparation for the OSCE. Thirdly and following on this may demonstrate that assessment (OSCE) can facilitate learning (Hemingway et al, 2013a). The OSCE was also seen as a safety-focussed assessment that can reaffirm safe practice, but was also seen by some as a 'tick box' exercise, provoking anxiety and not reflecting practice. However, participants in the present study affirmed previous study findings, that the OSCE had some credibility in ensuring safe practice but not as much as assessment undertaken in clinical practice (Hemingway et al, 2013a). The reliability and validity of OSCEs are recognised as the most important prerequisites of its success as an assessment of competence (Meechan et al, 2011b; Selim et al, 2012; Suloraasi et al, 2012). Related recommendations given by the sample involved improving the reliability of assessments used and increasing the content validity in terms of how closely the OSCE reflected the practice context, thus, this is an important issue to address.

### **Administration of medicine competence**

MHNs in the sample accepted the need to be assessed in terms of ensuring safety, Even though the participants had been assessed as competent in the third year of their undergraduate course, the whole process was repeated as part of their first year preceptorship period as a new nurse registrant. Findings in this category expressed criticism about the need to repeat the assessment, repeating some findings of a previous evaluation of the MwR framework (Hemingway et al, 2012a).

However, competence in clinical performance can vary over context and time (Bradshaw and Merriman, 2008), and some participants had supported the need to repeat the assessment. While some MHN participants were frustrated because they perceived they were not trusted to administer medication, an assessment of competence that is repeated over time may address the changed context of clinical practice and also can refocus the practitioner toward ensuring safe and

competent in MM (Hemingway et al, 2012,a; 2012,b).

### **MM education and training**

There are several examples of undergraduate MM learning and teaching strategies that can be compared to content of the MwR project . Firstly, Banning (2003) identified an approach that would expose undergraduates and postgraduate nurses to a pathway for knowledge and skills acquisition similar to the MwR project. Secondly influenced by Banning, Meechan et al. (2011a), set out to integrate pharmacology in MM in undergraduate nursing curricula with some success with the same drivers as the MwR stepped approach. Manias et al. (2005) discussed how nurses assimilated good practice by being encouraged to follow protocols for medicines administration, an outcome also repeated by the MwR frameworks. Furthermore, Baker et al. (2008) showed how implementation of good practice guidelines for PRN (as required) medication could positively influence MHNs and psychiatrists' practice.

Blending the approach to MM to knowledge and skill acquisition should involve simulated practice and theoretical knowledge (Gray et al, 2009), all of which was evident in the findings of the present study. What is important is that this study shows that by linking MHN undergraduate study through to their clinical practice to undertake MM interventions helps develop the necessary knowledge and skills needed to undertake MM competently including the prescribing of medicines.

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