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EMBEDDING EVIDENCE-BASED PRACTICE WITHIN THE PRE-REGISTRATION MIDWIFERY CURRICULUM

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KEY POINTS

Research and evidence-based midwifery practice are essential in order to drive the profession forward in the delivery of excellent women-centred care.

Midwifery students and midwives need to be able to identify and evaluate evidence to justify their practice.

Midwifery academics have a role and responsibility to prepare pre-registration students to become evidence-based practitioners, delivering excellent women-centred care.

Curriculum models need to be dynamic and flexible to allow for changes in midwifery practice, delivery of services and the continued development of evidence-based practice.

A spiral curriculum is recommended as it facilitates learning to progress from simple understanding of concepts to a complex, in-depth application of them.

REFLECTIVE QUESTIONS

Why should you use evidence to underpin midwifery care?

What area of midwifery practice might you want to ask evidence-based practice questions about?

What intervention do you undertake relying on experience and intuition? What evidence exists on which to base your practice?

Embedding evidence-based practice within the pre-registration midwifery curriculum

Abstract

100-150 words

Clinical midwifery skills and understanding are continually changing in line with research evidence and service innovations. Evidence-based midwifery practice is essential to ensure the care provided to childbearing women is safe, effective and of the best quality to meet their individual needs. Evidence from research should be considered in conjunction with clinical experience and women's own preferences to ensure that midwifery care provision is women-centred. One of the challenges for Higher Education Institutions that offer pre-registration midwifery education is to incorporate evidence-based practice across the curriculum so that student midwives see it as an integral part of their role rather than a separate concept. Midwifery students need the knowledge and skills to not only identify areas of practice in need of investigation, but also an understanding of how each stage of the research process works and the skills to critique others' research studies to ensure that their practice is evidence based.

Introduction

Research and evidence-based midwifery practice are essential in order to drive the profession forward in the delivery of excellent women-centred care that is safe, efficient and effective. Curriculum models need to be dynamic and flexible to allow for changes in midwifery practice, delivery of services and the continued development of evidence-based practice. It is important for students to appreciate that evidence-based practice is evolving but it is not a new concept. McKibbin (1998, p399) recognised the importance of the client in-decision-making regarding their own care, particularly resonant in midwifery: *'It involves complex and conscientious decision-making based not only on the available evidence but also on patient characteristic, situations and preferences'*. This understanding is entrenched in governmental health policy with the slogan *'No decision about me, without me'*, underpinning their vision for embedding shared decision making in the NHS (NHS England, 2017).

This paper will explore the nature of evidence-based midwifery practice, discuss the context influencing midwifery evidence-based practice, highlight forms of evidence and provides examples of how a philosophy of evidence-based practice can be embedded within a pre-registration midwifery curriculum and beyond.

Background

Midwives work in ever-changing care environments. Changes in policy, practice improvements, technology and the changing demography of society all impact on the ways in which midwifery care is delivered. Increasing scrutiny of the work that midwives undertake has come about in response to various high profile public inquiries (for example the Francis Inquiry (2013), Morecambe Bay NHS Foundation Trust and more recently in Guernsey). Clinical negligence claims relating to maternity care represent 50% of the received claims to NHS Resolution (the new operating name of the NHS Litigation Authority) (NHS Resolution, 2017). Midwives are increasingly required to justify the decisions they make for the care they have provided rather than relying upon experience and intuition.

Elements of evidence-based practice

There has been some debate about what evidence-based practice actually means. There are a number of terms used interchangeably in the literature: evidence-based practice, evidence-based medicine, evidence-based healthcare, research-informed practice. The term evidence-based practice derived from medicine as *'the integration of best research evidence with clinical expertise and patient values'* (Sackett et al, 2000, p1). This definition acknowledges that we should use the best research evidence available, but apply it discerningly in the context of individual patient (client, woman-centred) care.

McKibbin (1998, p399) provides an explanation of evidence-based practice that recognises the importance of the client in decision-making regarding their own care, and is perhaps particularly relevant in relation to midwifery:

Evidence-based practice...involves complex and conscientious decision-making based not only on the available evidence but also on patient characteristic, situations and preferences.-

Evidence is graded in a hierarchy relating to studies with different types of research design (table 1). The highest quality evidence is at the top of the hierarchy table, and the evidence types that require more quality assessment at the lower end of the table. However, there is a growing understanding that various forms of evidence have to be acknowledged because different types of problems or circumstances call for different types of knowledge and skills to be applied (Rolfe et al, 2008). Research knowledge is only one source of

information. This challenges the concept of a hierarchy of research evidence because each type of evidence has its own strengths and applications. Evidence derived from randomised controlled trials, perceived by medicine towards the top of the well-established hierarchy of evidence, has been suggested to limit and control women's choices, for example in relation to length of second stage and place of birth (Fahy, 2008). Thus, we suggest that in order to work in partnership with women, we need to taking into account information from research evidence, what we have learned from clinical experience, and information from women and their families.

Table 1: Hierarchy of evidence (Bettany-Saltikov, 2012, p7)

Level 1a	A well-conducted systematic review of randomised controlled trials
Level 1b	One good quality randomised controlled trial
Level 1c	All or none studies
Level 2a	Systematic review of cohort studies
Level 2b	One cohort study
Level 2c	Outcomes research (i.e. the effect of an intervention)
Level 3a	Systematic review of case control studies
Level 3b	Case series
Level 4	One case study
Level 5	Qualitative studies and expert opinion

Moule (2015) describes five explicit steps for evidence-based practice identified in figure 1.

1. Identifying a clinical problem and turning it into a specific question
2. Finding the best available evidence that relates to the specific question, usually by systematically searching the literature
3. Appraising the evidence for its validity, usefulness and methodological rigour
4. Identifying current best practice and, together with the client's preferences, apply it to the clinical situation
5. Evaluating the effect on the client and the practitioner's own performance

Figure 1: Evidence-based practice methodology (Moule, 2015)

Embedding evidence-based practice within the pre-registration curriculum

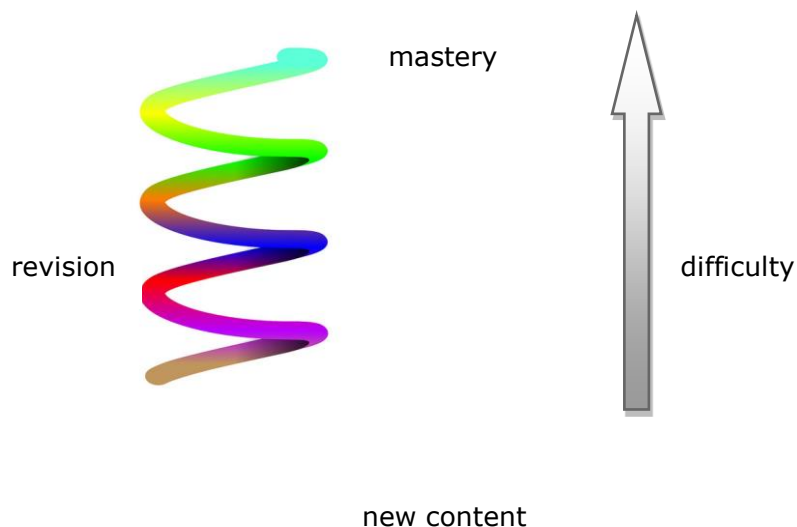
The Nursing and Midwifery Council (NMC) (2015, p7) stipulates that midwives must '*always practise in line with the best available evidence*'. There are numerous examples of the integration of evidence-based practice in midwifery, for example routine use of episiotomy for uncomplicated vaginal births, and routine use of enema in first stage of labour. These studies were instigated by midwives seeking evidence with which to question the inefficiency or harm of ritualised and accepted medical obstetric practices. Midwifery academics have a role and responsibility to prepare pre-registration students to become evidence-based practitioners, delivering excellent women-centred care. The current NMC standards for pre-registration midwifery education (2009, p5) specify that education programmes must be designed 'to prepare students to practise safely and effectively...Students must demonstrate competence...underpinned by appropriate knowledge'. Education programmes must also reflect the emphasis on evidence-based practice and learning, the NMC (2009, p7) specifying the components of evidence based practice as searching the evidence base; analysing, critiquing and using evidence in practice; disseminating research findings; and adapting and changing practice where appropriate. One of the challenges for education providers is to incorporate evidence-based practice across the curriculum so that student midwives see it as an integral part of their role rather than a separate concept.

Incorporating evidence-based practice across the curriculum

The fundamental components of evidence-based practice are essential elements of taught sessions consisting of lectures, workshops and directed activities in the University setting: how to search the evidence base; how to analyse and critique evidence; the importance of disseminating research findings and the variety of ways through which research findings can be disseminated, and change management theories to facilitate the implementation of research findings into practice. A spiral curriculum model (Bruner, 1960) (figure 2) is recommended through which a culture of evidence-based practice can be engendered. The spiral curriculum model supports a developmental constructivist process that allows learning to take place over a long period and be repeatedly revisited. Thus the student progresses from simple understanding of key concepts to the development of a rich depth and breadth of information, knowledge and competence. This is a curriculum in which there is an iterative revisiting of topics, subjects or themes throughout the course, with each successive encounter building on the previous one. Thus the theme of evidence-based practice is organised in a simple to complex, general to detailed, abstract to concrete manner. This model takes into account that prerequisite

knowledge and skills need to be mastered first with sequencing that provides linkages between each session as students spiral upwards through the pre-registration programme. In the spiral curriculum model, evidence based practice is not viewed as a specific module or topic, but as a central tenet of midwifery.

Figure 2 Spiral curriculum



Year One

Surprisingly we have found that whilst students acknowledge the importance of evidence-based practice in midwifery, not all students view research as integral to the role of the midwife, with expectations that unless a midwife wants to be a 'researcher', then only a basic understanding of evidence-based practice is required. However, considering some experiences they have in the practice areas, later discussed in 'learning environments', this finding should not be unexpected. Therefore, we have introduced the concept of midwives and research being inextricably linked early in the programme, along with the importance of service user involvement in not only being the main focus of the students' clinical experience, but also through public participation in research to help direct and improve maternity care (NIHR 2017). As students progress through the three years of their programme they can see how every midwife has a role in evidence-based practice, whether they use their skills and knowledge to ascertain the quality and credence of guidelines and research, are instigators of change, or a researcher of empirical evidence. In the first year, students are directed towards examples of clinically practicing midwives who are also performing primary research alongside their day to day

midwifery role. Thereafter, students learn how to search for and evaluate evidence. Key face-to-face lectures are supported with timetabled small group sessions in the library with the subject librarian using a variety of databases and directed activities delivered via digital online technology. This blended learning approach is creative and flexible, and designed to support learning (Garrison and Kanuka, 2004). Rather than being a specific discrete module, these components of evidence based practice are delivered throughout the year within other modules so the student can see the relevant underpinnings of evidence and referencing skills which are reinforced across the other year one modules.

Year Two

Students revisit the theme of evidence-based practice when they look at analysing and critiquing evidence and dissemination in year two, building upon their understanding of searching the evidence base from year one. All modules throughout the second year explicitly require students to search and critically appraise the literature. In order to link their university taught knowledge to their clinical practice, students identify a clinical problem or issue from placement, for example 'management of physiological third stage of labour in low risk women' or 'postnatal depression' and use that clinical problem to work through the evidence-based practice steps that they are learning about. The assessment of the research module in year two requires students to formulate a question using the P (population and their problems) E (exposure) O (outcomes or themes) or P (population, patient, problem) I (intervention) C (comparison) O (outcome) format (Bettany-Saltikove, 2012) (table 2), identify how to search for relevant literature from evidence-based sources through developing a list of search terms and devising a search strategy, then search for a research article and a clinical guideline in order to answer their research question. Students disseminate their findings through the construction and presentation of a poster as a formative assessment in that same module.

Table 2: PICO and PEO tables

Patient/population/problem (P)	Intervention (I)	Comparison (C)	Outcomes (O)
3 rd stage of labour	Physiological Management	Active Management	Postpartum haemorrhage

Population/patient/problem (P)	Exposure (E)	Outcomes/themes (O)
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Mothers with postnatal depression	Postnatal depression	Experiences, daily living
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Year Three

In year three, students apply theory to practice in the development of a research proposal commencing with defining their research question and providing a clear rationale for their proposed study. The research proposal could be developed further in post registration research degrees, providing a basis for the students to investigate their research questions.

Learning environments

Pre-registration midwifery students currently spend between 50-59% of time in practice learning (NMC, 2009). Learning opportunities and placements span antenatal, intrapartum and postnatal environments, in addition to community, caseholding, non-midwifery placements (medicine, surgery, gynaecology, mental health) and within a 'standalone' or 'stand alongside' midwife-led unit where possible. One of the challenges for pre-registration midwifery education lies in the interaction between the University setting and the practice environment. This is never more evident than in relation to evidence-based practice. Students report mixed experiences of evidence-based clinical practice ranging from mentors and other practitioners who are clearly engaging with the principles and practice of evidence-based practice to witnessing clinical practice that contradicts the current evidence base. Students also report difficulties if they attempt to apply current evidence during their placements. This is perhaps not surprising given that midwifery care has previously been described as being based more on tradition and clinical experience than research evidence (Hunter, 2013). Students should be encouraged to challenge the poor practice they witness, thereby demonstrating courage, one of the 6Cs advocated by the Department of Health (2012). This can be more difficult than it sounds in reality: students worry about fitting into the clinical team, and about whether there will be possible repercussions in terms of grading in practice. However, *The Code* (NMC, 2015) has made explicit that it is each practitioner's duty to raise concerns (whether qualified or student). The RCM (2015) also makes it clear that midwives, including students, should speak out if they have concerns about the quality of care and should be supported and protected when doing so. The importance of challenging poor practice is discussed with students during preparation for each placement and this includes the example of witnessing practice that is not evidence-based. Challenging poor practice needs to be undertaken with respect to the ongoing relationship with the mentor and the placement area. The link lecturer or personal teacher can provide

support and discuss strategies for challenging/questioning poor practice in a constructive manner. It should be remembered that it is not only as a student that you may need to challenge a colleague's poor practice.

These incidences are hoped to reduce as new and existing mentors are required to meet the NMC standards to support learning and assessment in practice (Slaip) (NMC 2008). These standards are embedded in eight domains, specifically identifying the responsibilities of mentors to update their knowledge and skills required to effectively meet the needs of healthcare students. Placement providers are responsible for maintaining a 'live register' of mentors. In order to stay on the live register mentors need to meet with a designated supervisor for a 'Triennial review' to provide evidence of having:

- Mentored at least two students within the three year period
- Participated in annual updating – to include an opportunity to meet and explore assessment and supervision issues with other mentors/practice teachers.
- Explored as a group activity the validity and reliability of judgements made when assessing practice in challenging circumstances.
- Mapped ongoing development in their role against the current NMC mentor/practice teacher standards.
- Been deemed to have met all requirements needed to be maintained on the local register as a mentor, sign-off mentor or practice teacher.

(NMC 2008, p15)

The seventh of the eight domains for mentors is specifically relevant to supporting students in their appreciation of the importance of research in midwifery

'Evidence-based practice

- Identify and apply research and evidence-based practice to their area of practice.
- Contribute to strategies to increase or review the evidence-base used to support practice.
- Support students in applying an evidence base to their own practice.'

NMC (2008, p26)

As mentors consider this domain their mentoring skills to supporting students in embedding research in to their role are strengthened.

Conclusion

Evidence-based midwifery practice ensures women receive the care that fits their needs, facilitates sound decision-making, reduces unnecessary and ineffective interventions, provides student midwives and other healthcare practitioners with the skills and knowledge to justify their practice, and minimises risk. Therefore, we thread evidence-based practice throughout the curriculum, across all modules, from teaching evidence-based practice methodology to its application in clinical practice. Students need to see the relevance of evidence-based practice to midwifery practice, and have the confidence and conviction to challenge when practice experiences are at odds with the evidence base. Our aim is to instil principles of lifelong learning so midwives are not relying solely on experience and intuition, but utilising their research knowledge and skills. We aim to equip midwives with the confidence and the ability to evaluate the underpinning research that forms national and local guidelines which have such a substantial effect on the care they deliver, so rather than being confined by 'others' research, they can greatly influence the care they deliver to the ever changing needs of childbearing women and their families.

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Keywords

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Key points

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Midwifery students and midwives need to be able to identify and evaluate evidence to justify their practice.

Midwifery academics have a role and responsibility to prepare pre-registration students to become evidence-based practitioners, delivering excellent women-centred care.

Midwifery students need to embrace the integral part that research has in the role of the midwife.

Curriculum models need to be dynamic and flexible to allow for changes in midwifery practice, delivery of services and the continued development of evidence-based practice.

A spiral curriculum is recommended as it facilitates learning to progress from simple understanding of concepts to a complex, in-depth application of them.

Reflective questions

Why should you use evidence to underpin midwifery care?

What area of midwifery practice might you want to ask evidence-based practice questions about?

What intervention do you undertake relying on experience and intuition? What evidence exists on which to base your practice?