

Making discoveries through research: midwifery students' perceptions of their role when caring for pregnant women who misuse substances: neonatal simulators as creative pedagogy

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- What is the risk of harm to the baby if a woman has drunk only small amounts of alcohol before she knew she was pregnant or during pregnancy?

- Are there any barriers that prevent or inhibit you from advising pregnant women to abstain from alcohol?

- Did you receive any education on alcohol and pregnancy during your UG training?

- Can you remember how many hours of education on alcohol use during pregnancy did you receive before you started working as a midwife?
- What about as a qualified practitioner?



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Background 1

- Research conducted by Winstone and Verity (2015) with midwives from 13 NHS Trusts in East Anglia in England on their knowledge of Foetal Alcohol Syndrome (FAS) discovered that pregnant women were being offered conflicting advice in relation to alcohol intake during pregnancy
- The midwives reported wanting more support and education on the impact of teratogens on foetal development
- Additionally, FAS education for midwifery professionals was found to be mostly unstandardized in the United Kingdom (UK)
- Winstone and Verity (2015) advocated expanding midwives' FAS knowledge in order to improve the quality of antenatal advice given to pregnant women.

Current UK guidelines on alcohol consumption during pregnancy

For pregnant women, or those planning a pregnancy, the guidelines say the safest approach is to drink no alcohol at all to keep risks to the fetus to a minimum. The advice is that drinking in pregnancy can lead to long-term harm to the baby, with the more you drink, the greater the risk (NICE 2016)

The safest approach is not to drink alcohol at all if you are pregnant, if you think you could become pregnant or if you are breastfeeding (RCOG 2015)

The best thing a woman can do for her unborn baby is to avoid alcohol at all stages of pregnancy and whilst trying to conceive (NOFAS 2020)

Drinking [alcohol](#) at any stage during pregnancy can cause harm to your baby and the more you drink, the greater the risk. This is why the [low risk drinking guidelines](#) advise pregnant women that the safest approach is to not drink alcohol at all during pregnancy. If you're pregnant or think you may become pregnant, you're also advised not to drink (DrinkAware)

"There is little evidence having the occasional drink while pregnant harms a baby," reports the Mail Online. The review found that low-to-moderate alcohol consumption may slightly increase the risk of having a baby small for gestational age.

NHS Choices follows CMO Guidelines



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Background 2

- A more recent UK based study discovered that 69% of midwives had received fewer than four hours of alcohol training prequalification, 19% had received none and only two thirds of the midwives provided information about the effects of alcohol consumption in pregnancy to pregnant women (Schölin et al. 2019)
- A similar picture emerges for illicit drug use during pregnancy
- It can prove challenging for both midwives and student midwives to care for these women (Doleman et al. 2019)
- First year undergraduate (UG) midwifery students are likely to have little experience, knowledge, confidence and skills in caring for pregnant women including those who may misuse substances like drugs and alcohol



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Background 3

- Research has indicated that pregnant women who misuse substances find engaging with antenatal services difficult as they fear negativity, hostile interactions from healthcare professionals including midwives (Kerker et al. 2004) and report staff's attitudes towards them as more significant than the medical care they receive (Hall and van Teijlingen, 2006)
- These studies highlight the importance for midwives to feel confident in providing advice on substance misuse during pregnancy and the need to consolidate knowledge on its impact during pregnancy at undergraduate level midwifery education (Schölin et al. 2019).
- Undergraduate midwifery curricula should therefore address midwifery students' knowledge with the aim of improving the quality of antenatal advice and support which will lead to better prevention, intervention and recognition of the signs and symptoms of foetal alcohol syndrome and that of drug misuse (Miles et al. 2013; Winstone and Verity, 2015; Howlett et al. 2019; Schölin et al. 2019)

Simulation 1

- Within the undergraduate midwifery curriculums various teaching strategies including simulation are used to enable students to gain the relevant knowledge and skills around safe woman-centred care (Durham and Alden, 2012)
- There are different typologies of simulators, ranging from static low fidelity (LFS), medium fidelity (MFS) or fully interactive high fidelity (HFS) (Meller 1997)

Simulation 2

For example..

- HFS have been found to educate school students as a practical pedagogical tool on teenage parenting (Hussain et al. 2019)
- Both LFS and HFS were found to be highly valued by nursing students and assist them to develop safe-practice with increased self-efficacy (Levett-Jones and Lapkin, 2014)
- Simulation based learning in midwifery education is gaining impetus as a teaching strategy (Vermeulen 2016) and is, in the main, mostly related to developing clinical skills such as obstetric emergencies



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Simulation 3

- Simulation in midwifery is now seen as a *vital pedagogical resource* to practice core midwifery skills/proficiencies in a safe environment to eliminate risks to pregnant women, improve confidence and competence in practice and improve the quality of maternity care (Deegan and Terry, 2013; Catling et al. 2016; Yuill 2017; Bogren et al. 2019; Chitongo and Suthers, 2019)
- Simulation based education cannot however, replace clinical practice as holistic, woman-centred care is central to midwifery practice (McKenna et al. 2011) but can 'bridge the gaps' between simulation and life practice (Fanning and Gaba, 2007)
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Simulation 4

- In recognition of real world impacts to mother and baby, researchers have recommended that undergraduate midwifery curricula should address midwifery students' knowledge with the aim of improving the quality of antenatal advice and supporting which will lead to better prevention, intervention and recognition of the signs and symptoms of foetal alcohol syndrome and that of drug misuse (Miles et al. 2013; Winstone and Verity, 2015; Howlett et al. 2019; Schölin et al. 2019)

Finally:

- The literature therefore highlights a gap in undergraduate midwifery education and student midwife knowledge in relation to understanding the impact of teratogens on foetal development as well as the short term impact on the newborn baby exposed to substance misuse during pregnancy.
- There is minimal research involving undergraduate midwifery students interacting with neonatal simulators as creative pedagogy

Objectives



- To enable midwifery students to interact with Foetal Alcohol and Drug Affected neonate simulators as a means of co-constructing knowledge around the effects of substance misuse during pregnancy and postnatally



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Methods

- Ethical approval was obtained from the University Research Ethics Committee No: 22036
- Fifty female Year 1 midwifery students who were approximately a third of the way through their first year of the undergraduate midwifery curriculum were approached through a letter of invitation and participation information sheet
- A taught session on protecting the unborn environment; interaction with the neonatal simulators; and planned activities were undertaken
- A qualitative approach to data gathering was undertaken

The neonate simulators



**Non-interactive Foetal
Alcohol Simulator doll
(Low Fidelity Simulator)**

The FAS
doll
illustrates
the typical
facial
features
such as thin
upper lip etc



Lip/Philtrum
Guide 1

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Hemingway PhD, University
of Washington



**The Drug Affected
Syndrome Simulator
(medium fidelity via
on/off switch)**

Results : three broad themes

**Kinaesthetic
learning**

***In their
shoes***

**Midwifery
Role in
Educating
Others**

Kinaesthetic learning

To see the physical effects boosted my understanding of the effects as I am a visual learner and was then able to discuss with my peers

I felt the doll interactions shocked me yet has added depth to the information I give to women

Visually seeing the effects on a baby helps to realise the real damage teratogens can have and the sad reality (FAS)

In their shoes



Bullying at school

*Continuous medical care;
Challenging behaviour and
learning difficulties*

*Long term non-visible effects
(behavioural difficulties when
older etc); Guilt*

*Be sensitive do not judge them
or make them feel bad*

In their shoes continued



Use shock tactics with women who think a small amount of alcohol is ok during pregnancy. Seeing the effects of that on the doll

Seeing is believing hearing the painful cry, scare tactics, brings reality to light [...]



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Midwifery Role in Educating Others

Women aren't fully aware of teratogenic effects. Need to educate every woman as mandatory education starting from school particularly as FAS NAS effects aren't always visible

- *Use FAS/DAS dolls in maternity classes and provide verbal information at booking*
- *Talk to women with visual aids/video showing on screens in waiting room*

When women are pregnant it's too late. Give talks in schools/colleges

- *Dolls could be very useful at booking appointment time especially if the woman discloses drug/alcohol addiction and wants to know effects on her baby*
- *At booking appointment discuss with them the effects of drugs and alcohol and provide them with relevant leaflets and information so they are aware NO ALCOHOL*



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Discussion

- Students engaged better in the taught session due to the kinaesthetic effects of being able to hold, touch, feel and listen to the simulators
- Students could appreciate the physical, behavioural and psychological impact for the baby, the developing child and the family at large
- Ideas such as information videos in antenatal waiting rooms, targeting young people at secondary school and visual aids to help pregnant women were some of the 'new' knowledge suggested by the students

Conclusion

- Students as ‘researchers’ emphasized the importance of interacting with the simulators as creative pedagogy as a method for enhancing their knowledge and as a means of building ‘new knowledge’.
- This research has helped bridge the disconnect between teaching, research and practice as students were able to reflect on their future roles as midwives

Questions for the audience

1. Would you find it acceptable to use the simulators at any point in the antenatal period to explore FAS/DAS with women?

If no please explain why?

2. The students indicated that the simulators could be useful at the booking appointment especially if the woman discloses drug/alcohol addiction and would like to know effects on her baby? Would you use them at this point?

3. In your view would it be useful to have a video in antenatal waiting areas demonstrating the effects of FAS/DAS

4. Any further thoughts?



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