

Student midwives and paramedic students' experiences of shared learning in pre-hospital childbirth.

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Abstract

Aim To explore the experiences of midwifery and paramedic students undertaking interprofessional learning.

Method: A one day interprofessional learning workshop incorporating peer assisted learning for undergraduate pre-registration midwifery and paramedic students was developed based on collaborative practice theory and simulation based learning. Twenty-five student midwives and thirty-one paramedic students participated in one of two identical workshops conducted over separate days. Videoed focus group sessions were held following the workshop sessions in order to obtain qualitative data around student experience. Qualitative data analysis software (ATLAS.ti) was used to collate the transcriptions from the focus group sessions and the video recordings were scrutinised. Thematic analysis was adopted.

Results: Four main themes were identified around the understanding of each other's roles and responsibilities, the value of interprofessional learning, organisation and future learning. Students appeared to benefit from a variety of learning opportunities including interprofessional learning and peer assisted learning through the adoption of both formal and informal teaching methods, including simulation based learning. A positive regard for each other's profession including professional practice, professional governing bodies, professional codes and scope of practice was apparent. Students expressed a desire to undertake similar workshops with other professional students.

Conclusion: Interprofessional learning workshops were found to be a positive experience for the students involved. Consideration needs to be given to developing interprofessional learning with other student groups aligned with midwifery at appropriate times in relation to stage of education.

Interprofessional learning (IPL) is a collaborative process between two or more professions where learning is shared (CAIPE, 2014). The focus is to positively promote mutual respect between professionals fostering a deeper understanding of roles and responsibilities, which are often achieved by working together using, simulated learning approaches based on real life clinical scenarios (Baker et al, 2008, Pullon, 2008, Thistlethwaite, 2012).

The World Health Organisation (2010) highlighted the need for students to work collaboratively with the aim of sharing knowledge and skills, recommending its inclusion in health care curricula. This is supported in the United Kingdom (UK) by the Department of Health (2007, 2013) whose policies have highlighted the need for health care staff to work closely together, recognising the unique contribution of differing professionals. Barr, Helme and D'Avray (2014) in their review of IPL in the UK suggest that IPL development should be embedded across universities and clinical practice with support from regulatory bodies in order to optimise the learning experience for health professional students.

IPL is embedded within midwifery educational standards (NMC, 2009), and achievement of collaborative competencies has been evident within the midwifery curriculum at the University of Cumbria since commencement of the three year BSc Midwifery programme in 2007. It is only recently however, with a

change in curriculum that IPL has been critically evaluated with student midwives perceptions of university based IPL being examined. Student midwives feel IPL is of value when they work with professionals that they will come into regular contact with in the workplace. They state that current IPL learning provision is nursing dominated and feel it does not always relate to midwifery practice; therefore, little value is placed on this learning approach resulting in further division between health care students. Evidence supports this, suggesting that although there is a wealth of literature highlighting the value of IPL much of this lacks validity due to a lack of robust methodology, therefore bringing into question the actual value of IPL (Barr, 2005, Cameron et al, 2012, Reeves et al, 2010).

In relation to midwifery practice however there is evidence to suggest that a lack of teamwork and effective communication has a detrimental effect on the care of women and babies. The Centre for Maternal and Child Enquiries reported 'major failures of communication between health workers' in its confidential enquiries into maternal death (CEMACE, 2011 p 9) and is supported by MBRRACE-UK (Knight et al, 2014) who reiterate this.

With this in mind midwifery lecturers at the University of Cumbria began to explore other interprofessional learning opportunities for student midwives. Opportunity arose to work with student paramedics developing IPL in relation to pre hospital childbirth and obstetric emergencies.

Paramedics are experts in providing emergency pre-hospital care and work collaboratively with many professionals including community midwives. Midwifery is an integrated profession with midwives locally working in both hospital and community settings on a rotational basis therefore the likelihood of working with paramedics is high. It is imperative that midwives and paramedics work closely together to ensure the best outcome for women and babies needing emergency care within the community setting as well as safe and efficient transfer to and between hospitals.

There is limited published evidence critically examining workplace relationships between paramedics and midwives. Evidence available either considers paramedics collaborating with primary health care staff (Mulholland, 2014) or midwives collaborating with obstetricians and GPs (Murray- Davis et al, 2011, O' Neill, 2008, Shaw, 2013). Of the studies identified McLelland, McKenna and French (2012) used a validated tool developed by Iwasiw and Goldenberg (1993) to explore the benefits of using inter-professional peer assisted learning by undergraduate midwifery students teaching clinical skills to paramedic students. They found that role appreciation was enhanced when senior student midwives were involved in facilitating teaching sessions for junior student paramedics. Peer assisted learning as a tool for collaborative learning was identified within the study although the inexperience of the student paramedics may have reduced the learning experience for the student midwives.

Most recently Mulholland, Barnett and Spencer (2014) undertook a critical review of the literature considering paramedics interprofessional learning in

rural communities. Three themes emerged from this analysis, interprofessional education, multidisciplinary teamwork and interprofessional learning. Of the 24 articles identified only one referred to collaborative working between midwives and paramedics, which was in relation to multidisciplinary continuing professional development (CPD) in rural Scotland (Harris et al, 2011). This study highlighted the effectiveness of multiprofessional CPD in enhancing effective team working around obstetric emergencies.

From the limited evidence available it appears that student midwives and paramedic students engaging in IPL is a new phenomenon. In view of this it was decided to undertake a qualitative research study investigating the experiences of both midwifery and paramedic students' perceptions of shared learning in the context of pre-hospital childbirth.

Methodology

A one-day (6 h) IPL workshop for undergraduate pre-registration midwifery students and pre-registration paramedic students was developed. This same workshop was implemented on two separate days to different student groups. The learning approaches used to facilitate both workshops included an initial introduction from the lecturing team on the importance of IPL and collaborative practice, inclusive of interprofessional communication theory. This short introduction was followed by an 'icebreaker' exercise. The respective professions were then split into smaller groups and asked to discuss and write down their understanding of each other's professions 'role' and 'scope of practice'. Themes were provided for consideration which included: 'Governing Bodies', 'Clinical Practice Guidelines', 'Drug Provision' and 'Policy Drivers'. The small professional groups then interacted with one another and discussed their responses (PAL). Following this an equipment familiarisation session was facilitated where students demonstrated the purpose and how to use the profession specific equipment to the other profession. Finally an afternoon of high-fidelity pre-hospital obstetric scenarios was undertaken, where students collaborated in small teams performing their respective roles. The students were not provided with any prior detail of the workshop other than they would be learning alongside each other at the event.

Twenty-five student midwives and thirty-one paramedic students participated in the workshop. The students were divided into two groups each group attending one of two identically run workshops run over separate days. The first workshop included 13 first year student midwives and 16 second year paramedic students. The second workshop consisted of 12 second year student midwives and 15 second year paramedic students.

Following the workshop all students were invited to participate in focus groups. The rationale for using focus groups as a method of data collection derived from the premise that they are well established as a useful and effective method of obtaining qualitative data such as collective opinions, experiences and beliefs (Halcombe et al., 2006). They are widely used to examine people's experiences of health and illness and the use of health services and are an effective technique

for exploring the attitudes and needs of staff.

Green (2013) argues that the potential for discussion means that focus groups can be more advantageous than a single person interview as it brings together people with something in common, in this case the experience of learning together about pre-hospital birth. This provided the researchers (educators) with a direct way of assessing if the participants benefitted from the experience and the potential impact this could have on positive outcomes for a mother and baby.

Five focus groups were held, two with paramedic students and three with midwifery students.

A skilled and effective facilitator is essential to the success of a focus group (Litosseliti, 2003) therefore the research team decided to invite experienced facilitators to conduct the groups in an attempt to prevent any biases from the researchers potentially interfering with the data collection. Litosseliti (2003) goes on to say that the facilitator should have some understanding of the topic to be researched but should not be the lecturer if the participants are her/his students. The focus groups were video and audio recorded and later transcribed. Qualitative data analysis software (ATLAS.ti) was used to collate the transcripts from the five focus groups. These data was then analysed using a process of thematic coding and categorization (Gibbs, 2007). The Ritchie and Lewis (2003) Framework Approach was applied to provide direction and clarity of the analysis. The analysis focused on looking for group consensus themes that emerged across the professions. This process was justified, as the splitting of the groups was purely logistical and not significant to this research aim.

Ethical considerations

Ethical approval was sought and approved through the Universities Ethics Advisory Panel. All participating students were briefed prior to the workshops on the research to be undertaken and signed consent was obtained.

Results

In the analysis of the data four broad themes were identified. These themes were consistent across all student groups (fig 1)

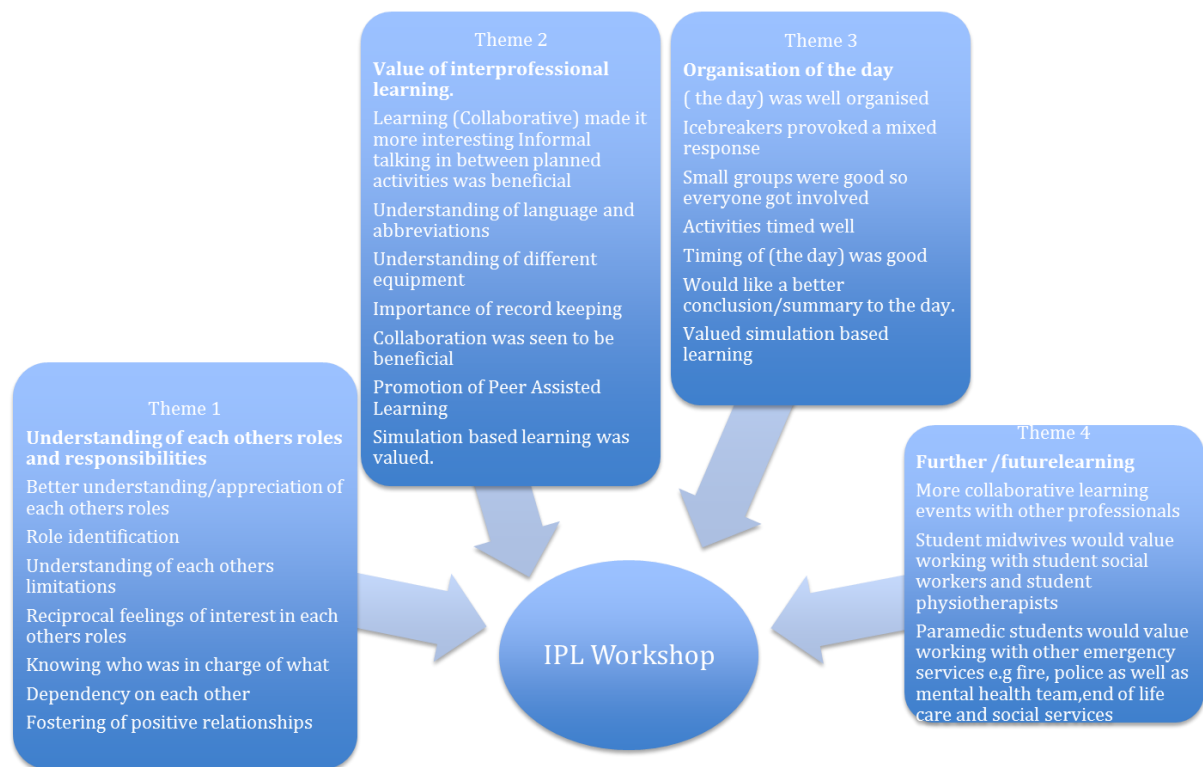


Fig 1: Summary of themes identified across all student groups

It was generally agreed that the day enhanced the students' understanding of each other's roles and all the students felt this was reciprocated. The first year student midwives particularly valued the 'unplanned learning' that took place. Having time to engage on an informal level enabled them to gain a valuable insight into the roles and responsibilities of paramedics and all students felt a mutual respect was fostered.

'I didn't expect it to be as good as it was.'

'They were just really nice, weren't they' (referring to paramedic students).
'Helped us to appreciate each other's roles'

'I think a lot of what was very interesting was the conversations that took place that weren't planned'

'Just by talking to the paramedics and finding out about their job and their role that was very interesting.'

(Student midwives)

'It's understanding everybody's roles and responsibilities'

'...once you know what your (paramedics) roles are, if they (midwives)

are there you now know what their roles are...'

'...normally when you have a patient you're responsible for the whole patient, but then in that environment you can share responsibilities...it was quite nice to learn in that way...'

'Sat chatting to some of them about what they'd do in certain circumstances and vice versa. I think that's quite good because you're kind of outside that environment and you're learning from them as well.'

(Paramedic students.)

It appeared that the sessions enhanced the students' understanding of the skills and limitations of each other's role. This was particularly evident in the afternoon session when undertaking management of obstetric emergencies. Several of the first year midwifery students felt however that they lacked the knowledge of their paramedic counterparts and vocalised how self-conscious this made them which impacted on their enjoyment of the day. One student stated that she found the day 'testing' as she felt as a first year she lacked the knowledge and skills needed. In contrast to this however one first year student stated that feedback from the paramedic students had been extremely positive and that they (the paramedics) had been impressed with the level of knowledge and skills the first year student midwives possessed.

The first year student midwives generally acknowledged however that there was disparity in knowledge between themselves and the paramedic students who were coming to the end of their educational programme, and they felt this was significant. They all agreed that they would benefit more from the day in their second year when they have a deeper understanding of the complexities of childbirth.

The second year student midwives articulated that the structure of the sessions allowed them to reflect on practice, in particular the importance of record keeping and communication. They enjoyed doing an activity examining the language used between each profession and how this could impact on care. They discussed the significance of good documentation and ensuring a smooth transition in the handover of care between professionals. In contrast to this, several first year student midwives felt it was of little value or relevance to their practice. One student did comment on the fact that she had received women onto the maternity ward that had been transferred to hospital by paramedics and was able to relate it to the session thereby informing her practice.

Most students agreed that interprofessional learning is valuable in building trust between professionals, as well as gaining experience working together as a team. There was a realisation of how the services depend on each other as the day progressed, and all the students agreed that they would be better prepared in dealing with obstetric emergencies in practice from engaging in the simulation based learning

'It was really good.' (Referring to scenario sessions.)

'You get a better idea of the different roles from each other and it teaches you to understand from their perspectives and where their limitations are and how they differ from ours and how we react differently when we both arrive at a similar scene. It was quite interesting seeing that they do things that we wouldn't do and vice versa.'

'I've not really considered how much you could come into contact with a paramedic actually, either at a home birth or paramedics bringing in women. So I think, to me, I found it useful to understand where their remit finished and where we took over and where those overlaps were, what skills they could do and then what we had to do.'

(Student midwives)

'the interesting thing was that we were in a scenario that would happen in real life. We would be with the patient and the midwife would be there or arrive, so it was useful in the fact that it mirrored what tends to happen...'

(Paramedic student)

When asked about simulated based learning the response was mixed. Some first year student midwives felt it was 'false' and felt uncomfortable undertaking 'role play'. Others felt the 'role play' scenarios did not feel like such because it was conducted in a light hearted way. It was noted however that all the student midwives agreed that they had learned from doing the scenarios particularly in understanding each other's roles, responsibilities and limitations. Most of the student midwives agreed that by understanding the paramedic's role more fully, particularly their limitations when dealing with obstetric emergencies, reinforced to them that midwives are often the lead professionals when dealing with pre-hospital emergencies and cannot hand over the responsibility to paramedics. Also they were able to acknowledge that there are many midwifery skills that paramedics are unable to perform, e.g. catheterization and bi-manual compression. Comments included...

'When we were doing the skills in the afternoon.... there was one in an ambulance where a woman had had a bleed, and it was just good when you're there, knowing what our role is and what the paramedics role is, cos it's not something I'd ever really thought about before.'

'Well actually if that happened if you were at a home birth and your woman has a PPH and you had to transfer her, you would now because of that day know what you were to do and if you had to do a bi-manual compression, how you would do that in the back of an ambulance.'

(Student midwives.)

The paramedic students found the format of the simulated based learning

sessions beneficial and they articulated how the scenarios reflected 'real life'. They were very complimentary of learning in this way and how practical simulation promoted a visual awareness of the roles and responsibilities of each profession and the importance of working collaboratively.

'...you can sit there in a classroom and read books and have loads of lectures on everything, but unless you're actually getting your hands on and learning the actual skills then I don't think it actually sinks in properly...'

(Paramedic student)

All the students stated that they would like to have shared learning sessions with other professionals. The student midwives felt that learning with student social workers in relation to safe guarding would be particularly valuable in fostering a deeper understanding of each other's role, and to a lesser extent shared learning with physiotherapists in relation to the pregnancy continuum. In contrast to this the paramedic students generally felt they would benefit from IPL workshops with other emergency services e.g. police, fire services as well as mental health professionals, end of life care professionals and to a lesser extent social services.

In terms of the organisation of the day, the students agreed that the day was well structured and organised. The second year student midwives commented however that they felt there was no proper closure to the day following the simulation based learning session, and would have valued all meeting up together at the end of the day for a collective debriefing. This was in contrast to several paramedic students who felt the morning session was disjointed and lacked focus in places. Several students also negatively questioned the use of ice breakers.

It was generally felt that the day was unrushed, with the right number of planned activities and with opportunity for informal discussion. The second year student midwives all agreed that the day was timely in relation to their Objective Structured Clinical Examinations (OSCEs), and that learning was good and conducive to their stage of education. Although it appeared that the first year student midwives did not all agree on the value of the morning session, one student stating that it was a 'waste of a morning', on further reflection most midwifery students agreed that the morning session was important in leading into the afternoon session which consisted of small group sessions acting out emergency scenarios. The paramedic students would have liked more PAL in the morning as they particularly valued this method of learning. Almost all the students on questioning agreed that the day was 'fun' 'informative' and "a valuable learning experience' and all were keen to repeat the experience.

Discussion

It is widely acknowledged that challenges to IPL are often centred on the relationship professionals have with each other (Oandasan and Reeves, 2005). Negative stereotypes of each other's roles often exist resulting in a breakdown in communication and lack of team work (Barr et al, 2005). In relation to this study

however the results generally reflect a positive attitude to each other's profession, with evidence to support the value of both PAL through informal discussion and 'unplanned learning' as well as more formal simulation based learning which is reflective of the work undertaken by McLelland, McKenna and French (2013).

The focus group analysis consistently highlighted the positive relationship between the two professions including an increasing understanding of each other's roles and responsibilities which is reported as being an indication for IPL success (Barr et al, 2005). Both student midwives and paramedic students talked of how each would feel relieved and supported when the other arrives at a prehospital scene with the added knowledge of knowing how each other's roles would complement each other.

It was evident from the results that the students valued the simulation based learning scenarios in relation to role recognition and collaborative working. Evidence widely supports the use of simulated based learning in midwifery education in developing team work, communication and collaboration as well as increasing confidence and competence (Cooper et al, 2012, Dow, 2008, Norris, 2008,) and is reflected in paramedic literature (Danne, 2003, Bredmose et al, 2010, Harris et al, 2011). A 'hands on' approach to IPL has been shown to be highly valued (Hall and Zierler, 2015) and this was evident in the focus group analysis. In contrast to this however there was evidence of a negative association with simulation based learning with some midwifery students feeling uncomfortable engaging in 'role play'. Van Soeren et al (2011) suggest that students need to be fully engaged with simulated based learning in order for it to be a positive experience.

Although there is little research regarding optimum timing of IPL for students (Mohaupt et al, 2012), it was acknowledged that negativity was more prevalent amongst the first year student midwives with several suggesting they lacked sufficient knowledge in complex childbirth in order to fully benefit from the workshop. Mohaupt et al (2012) suggest that senior students may engage more readily with simulation based learning because they have a better understanding of their roles and responsibilities and may feel more confident in working with others. Nisbet et al (2008) supports this stating that IPL outcomes are more positive if students are in the latter stages of their undergraduate education. This is debatable however. Begley (2009) promotes early introduction of IPL into the curriculum stating that early interaction enhances interprofessional relationships which in turn improves patient care.

The perception of unequal status has been shown to result in poor self-esteem and negatively within IPL groups (Ajjawi et al, 2009). It could be argued however that the positive regard from the paramedic students towards the junior student midwives fostered an increase in self-esteem and confidence, and promoted learning as the majority of first year students appeared to value the learning opportunities the day provided.

The results suggest that the organization of the day was good however some

issues arose around timing and ensuring adequate closure to the day. This needs to be reflected upon and addressed for future workshops to ensure optimum student learning experience.

It appears that more time for PAL opportunities would have enhanced the paramedic students learning. The paramedic students recognised the significance of PAL particularly enjoying working in small groups and how this enabled them to gain a deeper understanding and appreciation for midwifery. It is well documented that social interaction between peers facilitates learning and promotes confidence building (Hammond et al, 2005, Topping, 2005). Pedagogical literature aims to improve student engagement and increase learning (Biggs, 1999, 2003) therefore development of PAL needs to be explored further within the context of IPL for these and future students.

Future learning opportunities were identified by both groups of students in relation to IPL with other professionals. This highlights the positive learning experience the students had, and that they had reflected on their learning post workshop. The students requested to undertake IPL with other students that they are more likely to work collaboratively with in the work place. In relation to the midwifery students this is significant as current IPL arrangements within the University bring together midwifery, nursing, social work, physiotherapy, occupational therapy and radiography students. On further examination however, the student midwives felt that this was too generic, learning common themes together as opposed to true IPL. Students identified the need to work with professionals individually and in relation to their specialism. This is significant in terms of curriculum planning within the University and needs further exploration across all fields.

There were a number of limitations to this study. Firstly, it was acknowledged that some of the first year student midwives perceived their knowledge to be inadequate, and therefore this may have had a negative impact on their learning experience. For future IPL workshops this will be taken into consideration with senior students invited to attend to ensure equality between the groups. There is also scope to develop a peer assisted learning workshop, where senior students teach their junior colleagues (Field et al, 2007, McLelland, McKenna and French, 2013) as well as junior student midwives working with junior paramedics to encourage early socialisation (Begley, 2009).

Due to the small sample size the results are not representative of all midwifery and paramedic students and therefore no generalized conclusions can be made. The results however reflect what is happening locally and therefore IPL between student midwives and paramedic students will be further explored and evaluated within the University of Cumbria.

Conclusion

Overall the IPL workshops were a positive experience for the students involved. Results suggest that students benefited from a variety of learning opportunities, including IPL and PAL through the adoption of both formal and informal

teaching methods, including simulation based learning. Peer assisted learning appeared to be valued by the students and needs further consideration. Timing of IPL needs also to be considered in relation to stage of education to deliver maximum benefit to the students.

The students enjoyed interacting with each other and learning about each other's differing roles and responsibilities. The workshops fostered a positive regard for each other's profession including professional practice, professional governing bodies, professional codes and scope of practice.

References

- Ajjawi R., Hyde, S., Roberts, C., Nisbet, G (2009) 'Marginalisation of dental students in a shared medical and dental educational programme'. *Medical Education*, 43 238-245
- Baker, C., Pulling, C., McGraw, R., Dagnone, J., Hopkins-Rosseel, D., Medves, J. (2008) 'Simulation in interprofessional education for patient-centred collaborative care'. *Journal of Advanced Nursing*, 64(4) 372-379
- Barr, H., Koppel, I., Reeves, S., Hammick, M., Freeth, D. (2005) *Effective Interprofessional Education: argument, assumption and evidence*. Oxford: Blackwell
- Begley, C. (2009) 'Developing inter-professional learning: Tactics, teamwork and talk', *Nurse Education Today* 29 (3) 276-283
- Biggs, J (1999) 'What the student does: teaching for enhanced learning'. *Higher Education Research and Development* 18, 1
- Biggs, J (2003) *Teaching for Quality Learning at University* Open University Press
- Bredmose, P., Habig, K., Davies, G., Grier, G., Lockey, D. (2010) 'scenario based outdoor simulation in pre-hospital trauma care using a simple mannequin model' *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*. 18, 13
- Cameron, S., Rutherford, I., Mountain, K. (2012) 'Debating the use of work-based learning and interprofessional education in promoting collaborative practice in primary care; a discussion paper'. *Quality in Primary Care* 20 211-17
- Centre for Maternal and Child Enquiries (2011) *Saving Mothers' Lives. Reviewing maternal deaths to make motherhood safer: 2006-2008*. London: Wiley-Blackwell
- Centre for the Advancement of Interprofessional Education [CAIPE]. (2014). *The definition and principles of interprofessional education*. URL: <http://caipe.org.uk/resources/defining-ipe/> [Accessed 1 December 2014]
- Cooper, S., Cant, R., Porter, J., Bogossian, F., McKenna, L., Brady, S., Fox-Young,

- S. (2012) 'Simulation based learning in midwifery education: A systematic review'. *Women and Birth*, **25** (2) 64-78
- Danne,P (2003) 'Trauma management in australia and the tyranny of distance'. *World Journal of Surgery*. **27** (4) 385-389
- Department of Health (2007) *National Service Framework for Children, young people and Maternity Services*. Standard 11. London: DOH
- Doody, O; Slevin, E; Taggart, L. (2013) 'Focus group interviews'. Part 3: analysis. *British Journal of Nursing*. **22** (5), 266-269
- Dow, A. (2008) 'Clinical simulation: A New Approach to midwifery Education'. *British Journal of Midwifery* **16** (2) 94-98
- Field, M., Burke,JM., McAllister, D., Lloyd, DM. (2007) 'peer assisted learning: a novel approach to clinical skills learning for medical students'. *Medical Education*, **41** (4) 411-418
- Gibbs, G. R. (2007) *Analyzing Qualitative Data*. London: SAGE
- Green J., (2013) The use of focus groups in research into health. Cited in Saks, M; Allsop, J. (2013) *Researching health: qualitative, quantitative and mixed methods* London: SAGE.
- Hall, L., Zierler, B (2015) 'Interprofessional Education and Practice Guide No. 1: Developing faculty to effectively facilitate interprofessional education'. *Journal of Interprofessional Care*, **29** (1) 3-7
- Hammond, J.A., Bithell, C.P.,Jones, L., Bidgood, P (2010) 'A first year experience of student- directed peer assisted learning'. *Active Learning in Higher Education* **11** 201-212
- Harris, F., Van Teijlingen, E., Hundley, V., Farmer, J., Bryers, H., Caldow, J. et al. (2011) 'The buck stops here: midwives and maternity care in rural Scotland.' *Midwifery* **27** (3) 301-307
- Halcomb, EJ; et al. (2007) 'Literature review: considerations in undertaking focus group research with culturally and linguistically diverse group. *Journal of Clinical Nursing*. **16**, 6, 1000-1011.
- Iwasiw, C.L., Goldenberg, D., (1993). Peer teaching among nursing students in the clinical area: effects on student learning. *Journal of Advanced Nursing* **18**, 659–668
- Knight, M., Kenyon, S., Brocklehurst, P., Neilson, J., Shakespeare, J., Kurinczuk, J. (eds) (2014) *Saving lives, Improving mothers' Care. Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-2012*. Oxford: National Perinatal Epidemiology Unit, University of Oxford.

Litosseliti, L. (2003) *Using Focus Groups in Research*. London: Continuum. (Continuum Research Methods Series).

Mohaupt, J., Van Soeren, M., Andrusyszyn, m., MacMillan, K., Devlin-Cop, S., Reeves, S. (2012) 'Understanding interprofessional relationships by the use of contact theory'. *Journal of interprofessional Care*. 26 370-375

Mulholland, P, Barnett, T, & Spencer, J 2014, 'Interprofessional learning and rural paramedic care', *Rural & Remote Health*, 14, 3, pp. 1-13, CINAHL Plus with Full Text, EBSCOhost, viewed 1 December 2014.

Murray- Davis, B., Marshall, M., Gordon, F. (2011) 'What do midwives think about interprofessional working and learning?' *Midwifery* **27**, 376-381

Nesbit, G., Hedry, G.D., Rolls, G., field, M. J. (2008)' Interprofessional learning for pre-qualification health students: An outcomes based evaluation.' *Journal of Interprofessional Care* **22** (1) 57-68

Norris, G. (2008) 'The Midwifery Curriculum: Introducing Obstetric Emergency Simulation'. *British Journal of Midwifery* **16** (4) 232-235

Nursing and Midwifery Council (2009) *Standards for pre-registration midwifery education*. London: NMC

Oandasan, I., Reeves, S. (2005) 'Key elements of interprofessionaleducation Part 2: Factors, processessand outcomes.' *Journal of Interprofessional Care* **20** (1)39-48

O'Neill (2008) *Safe Maternity Teams. Safe Births. Everybody's Business. An Independent Inquiry into the Safety of Maternity Services in England*. London: Kings Fund

Pullon, S. (2008). 'Competence, respect and trust: Key features of successful interprofessional nurse-doctor relationships' *Journal of Interprofessional Care*, 22(2), 133-147.

Reeves S., Zwarenstein, M., Goldman, J et al (2010) 'The effectiveness of interprofessional education: Key findings from a new systematic review.' *Journal of Interprofessional Care* 24 230-241

Ritchie J, Lewis J (2003) *Qualitative Research Practice*. London: Sage Publications
Shaw, B. (2013) 'Collaborative working within community maternity services- is this the chink in the armour?' *British Journal of Midwives* 21 (4) 285-291

Topping, K.J(2005) 'Trends in peer learning'. *Educational Psychology* 25 631-645
Van Soeren, M., Baker, L., Egan-Lee, E., MacMillan, K., Cop, S., Reeves, S. (2011) 'Simulated interprofessional education: an analysis of teaching and learning processes'. *Journal of interprofessional Care* 25, 434-440

Wright, L. (2008) 'Interprofessional learning in health care programmes'. *British*

Highlights.

- Students benefited from a variety of learning opportunities
- Simulation based learning was identified as being particularly beneficial.
- A positive regard for each other's profession was apparent.
- A deeper understanding of each other's roles and responsibilities was fostered.
- Undertaking similar workshops with other professional students was requested.