Nurse Education in Practice 15 (2015) 387–392

Contents lists available at ScienceDirect

Nurse Education in Practice

journal homepage: www.elsevier.com/nepr

Midwifery education in practice

Midwifery students receiving the newborn at birth: A pilot study of the impact of structured training in neonatal resuscitation

Angela Bull [a, *], Linda Sweet [b]

[a] School of Health, Charles Darwin University, Darwin, NT, 0909, Australia
[b] School of Nursing and Midwifery, Flinders University, GPO Box 2100, Adelaide, 5001, Australia

ARTICLE INFO

Article history:
Accepted 16 March 2015

Keywords:
Midwifery
Education
Neonatal resuscitation
Newborn assessment
Simulation

ABSTRACT

The experience of midwifery students in receiving the newborn at birth, before and after structured training in neonatal resuscitation: A pilot study.

The practice of receiving the newborn, including neonatal resuscitation is an essential component of midwifery. Anecdotal evidence suggests preparation for the task is ad hoc within midwifery curricula, leading to student's anxiety. This paper reports impacts of neonatal resuscitation training upon levels of knowledge, preparedness, and anxiety for midwifery students receiving the newborn.

Midwifery students participated in an online questionnaire before and after neonatal resuscitation training. The responses collected were subjected to descriptive analysis.

Of 10 students invited, 6 completed the pre and post course questionnaires. Knowledge of the responsibility in receiving the newborn and instigation of resuscitation increased after attending the course. Steps to prepare to receive the newborn and clinical signs for initial assessment remained static. Students felt more prepared to receive the newborn after the course but did not improve in their preparation to initiate resuscitation. Anxiety levels remained static.

Structured neonatal resuscitation training and strategies to ensure application of skills learnt should be embedded into midwifery curricula. Midwifery students' experience in receiving the newborn and neonatal resuscitation is worthy of further study.

Introduction

Immediate assessment of the newborn at birth is required to ensure appropriate adjustment to extra-uterine life and to instigate measures of resuscitation when required. “Receiving the newborn” is a common term used to describe the role of ensuring neonatal wellbeing at birth. Receiving the newborn is performed by a second person who is able to support the accoucheur to instigate neonatal resuscitation if required and is in addition to that of delivering the baby.

Immediate assessment and neonatal resuscitation practices together are components inherent in receiving the newborn. The majority of babies do not require resuscitation and are recommended to undergo skin to skin contact with their mother (Moore et al., 2009). Although the risk for resuscitation of the newborn is low at birth, every birth should be attended by a person who is trained in neonatal life support, and is proficient to instigate neonatal resuscitation techniques when required (Australian Resuscitation Council, 2010; Lumsden, 2008). Midwives have a pivotal role in receiving the newborn (Lumsden, 2008; Singh et al., 2006) and thus are required to be proficient in the immediate assessment of the newborn and neonatal resuscitation. Midwifery students may be in attendance at births without adequate preparation to receive the newborn or prior to their formal neonatal resuscitation training, which may impact their confidence to initiate resuscitation when required. Receiving the newborn is a component of midwifery curricula internationally and professional standards for the development of midwifery programs require experience in neonatal resuscitation (Australian Nursing and Midwifery Council, 2009; Nursing and Midwifery Council, 2009), however anecdotal evidence suggests formal training in the task is ad hoc. The purpose of this paper is to examine the experience of students in the role of the second person at the birth, who are required to recognise the need for and initiate resuscitation when receiving the newborn. Students may not be cognisant of the

* Corresponding author. Tel.: +61 409679956.
E-mail addresses: angela.bull@cdu.edu.au (A. Bull), linda.sweet@flinders.edu.au (L. Sweet).

http://dx.doi.org/10.1016/j.nepr.2015.03.002
1471-5953/

significance of the immediate assessment when receiving a newborn nor be confident to initiate resuscitation when required. Research shows strong evidence that structured practical training in neonatal resuscitation improves midwifery skills in both receiving the newborn at birth as a whole and implementing neonatal resuscitation (Singh et al., 2006).

This pilot study aimed to investigate the experience of midwifery students in receiving the newborn before and after attending a structured neonatal resuscitation program. In order to discover the impact of training in neonatal resuscitation on midwifery students' experiences when receiving the newborn the following research question was used: "What is the experience of midwifery students in receiving the newborn at birth before and after structured training in neonatal resuscitation". This paper will report on a pilot quasi-experimental study in which midwifery students answered a questionnaire before and after participation in a hospital run neonatal resuscitation course. The questionnaires examined the students' knowledge, preparedness and levels of anxiety in receiving the newborn and neonatal resuscitation.

Literature review

Attendance at resuscitation training has been found to improve levels of knowledge, confidence and performance in resuscitation skills (Graham et al., 2006; Jukkala and Henly, 2007; Rovamo et al., 2013; Singh et al., 2006; Van Schaik et al., 2008). Many studies have shown the benefits of training in neonatal resuscitation for improved perinatal outcomes (Draycott et al., 2006; Jukkala and Henly, 2007; Lee et al., 2011; Singh et al., 2006). Simulation in clinical education imitates the management of real life situations as a method of training and has been shown to be an effective method of teaching within neonatal resuscitation courses (Campbell et al., 2009; Cates, 2011; Halamek et al., 2000; Hamalek, 2008; Rovamo et al., 2013; Sawyer et al., 2011; Yaegar and Arafeh, 2008) and there is growing evidence that simulation in midwifery education should be the standard (Cooper et al., 2011; Lathrop et al., 2007). However, there is little evidence examining the effect of neonatal resuscitation training for midwifery students, either in their confidence or performance at neonatal resuscitation or when routinely receiving the newborn at birth.

The cohort of Midwifery students who are the subject of this paper have anecdotally reported anxiety and feeling unprepared when receiving the newborn, which is congruent with the notion that new graduates feel unprepared for their role as a midwife upon qualification (Van der Putten, 2008). In our experience, midwifery students who attend a hospital run neonatal resuscitation course reported feeling much more prepared and less anxious when receiving the newborn. This paper will explore the hypotheses that structured training in neonatal resuscitation for midwifery students will increase their levels of knowledge and preparedness, and reduce anxiety levels when receiving the newborn at birth.

Methods and approach

A quasi-experimental design was used to address this research question (Schneider et al., 2013). This approach is relevant when there is only one group of participants (i.e. no control group) for studying the effects of an intervention (Schneider et al., 2013), in this case an educational program. Ethics approval was obtained from three ethics committees; including two university ethics committees and the Department of Health ethics committee.

The participants in this pilot study were a cohort of 10 midwifery students studying a Graduate Diploma of Midwifery. All of the students were Registered Nurses employed in Maternity settings as Midwifery Students. All of these students are expected to attend a hospital run structured neonatal resuscitation course which follows the curriculum of the American Heart Association® and American Academy of Paediatrics Neonatal Resuscitation Program® adapted to meet the Australian Resuscitation Council® guidelines. The course consisted of an online theoretical component in which students were required to achieve 85% in the final quiz, and then a 3 ½ hour practical workshop. Instruction and practice in the workshop was delivered via small group skills stations and included checking of equipment, initial steps of resuscitation, ventilation, chest compressions, intubation, umbilical catheterization and medications. After meeting the practical requirements of each step the students participated in simulated full resuscitation scenarios using a SimNewB® manikin.

All 10 of the midwifery students were approached by a research assistant who was independent of the students' employed status, university or supervisory role within the clinical practicum, and invited to participate in this study. The research assistant gave each potential participant a written Letter of Introduction and Participant Information Sheet detailing the study, and the implications for participating or not. Following the initial approach, willing students were asked to voluntarily provide a contact email to the research assistant, which was then used for communication as to when the online questionnaires were accessible, and to provide the electronic links to the secure online pre and post neonatal resuscitation course questionnaires. Participation was voluntary and students were not coerced in any way to participate. Participation was anonymous to the researchers, and consent was implied by completion of both the pre and post questionnaires. The students' self-allocated an anonymous study code on each questionnaire so the researchers could compare individual pre and post course responses. At the time of the initial recruitment, these midwifery students were approximately half way through their midwifery program and so had some experience in attending births and receiving the newborn.

The questionnaires were developed to examine the students' knowledge, preparedness and anxiety levels in receiving the newborn at birth, and were administered before and after completion of the hospital neonatal resuscitation course. A combination of quantitative and qualitative questions was used. The quantitative questions focused on students' levels of preparedness and anxiety, and were answered by way of a Likert scale. Students were asked whether they felt 'very unprepared', 'somewhat unprepared', 'unsure', 'somewhat prepared' or 'very prepared' to receive the newborn and instigate resuscitative measures when required. Similarly, students were asked whether they felt 'very anxious', 'quite anxious', 'unsure', 'a little anxious' or 'not at all anxious' when receiving: an uncompromised newborn; a compromised newborn; and in relation to their overall responsibility in receiving the newborn. The qualitative questions focussed on the students' knowledge of the task of receiving the newborn and were answered by way of free text. Students were asked what steps they take to get ready for the task; their knowledge of the responsibilities; what clinical signs they base their immediate assessment on; what they would do to instigate resuscitation; and how they felt about their responsibility in receiving the newborn including reflection on their performance to date. The questionnaires were piloted on two senior midwives within the hospital birthing suite to determine the appropriateness of the questions and the timeframe for completion. Both midwives returned similar answers within a timeframe of 15 minutes. The questions were refined based on the midwives' feedback. The questionnaires were then uploaded into the electronic survey tool, Surveygizmo® for the main study. This is a secure online and anonymous tool for gathering questionnaire responses.