**EXPLORING LEARNING AT A WEEKLY CAESAREAN SECTION MEETING**

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**Abstract**

**Aim:** The aim of this study was to explore what clinicians learn from case stories told at a weekly caesarean section meeting.

**Methodology:** A case study methodology was used and data collected from observation of meetings, semi-structured interviews and focus group meetings that were audio-recorded and transcribed. The participants were the medical and midwifery students, resident doctors, midwives and consultants that attended the weekly caesarean section meetings. Thematic analysis of the data generated was undertaken.

**Findings:** Analysis showed that the attendees at the caesarean section meetings learned about when a caesarean section was appropriate, and when it was necessary to carry out other interventions such as Syntocinon augmentation and fetal blood sampling. They learned from their mistakes and those of others to improve the quality and safety of the care that they provided to women in labour.

All participants were clear that the caesarean section meeting was an important learning environment, and because of their attendance resident doctors changed their medical practice in accordance with the knowledge acquired.

**Conclusion:** The learning that occurred at the caesarean section meeting resulted in a change of behaviour (practice) that potentially could improve the quality and safety of care provided to women in labour.

**Key words:** Qualitative research, learning, case reviews, caesarean section meeting and quality of care

**Introduction**

The author has always been fascinated by stories, and stories about case management (case stories/reviews) can encapsulate practical knowledge, logical deduction, judgement and decision making, all ingredients that develop expertise.1 In general, stories provide a highly flexible framework for illustrating the lessons of experience, the tips and traps for young learners, and exploring the dilemmas requiring careful judgement in the trade-offs between benefits and risks; and listening to real stories unfold is much more effective in engaging learners and better remembered than being lectured at1. In fact, stories help listeners remember facts and details that otherwise might be forgotten, and when events are told in the form of a story they can catch our attention and leave a lasting memory.2,3 And it is the case description of errors that often provides the greatest understanding and learning.2

The caesarean section meeting at the Princess Royal Hospital (PRH), Haywards Heath, UK was set up to promote reflection on practice and address the rising caesarean section rate at the hospital. However, the objective of this study was to explore what clinicians learn from case stories presented at the weekly caesarean section meetings, and determine whether the learning influenced their practice.

**Methodology**

A qualitative research methodology, the Case Study, was used because it involves a critical inquiry to generate in-depth understanding of a single specific topic: the caesarean section meeting. Data collection was by observing and recording caesarean section meetings, and performing semi-structured individual and focus group interviews of clinicians who attended the meetings (appendix 1). The participants volunteered and provided informed consent.

The setting of this study was the Princess Royal Hospital, Haywards Heath, one of the three hospitals that make up the Brighton and Sussex University Hospitals (NHS) Trust in the United Kingdom. The PRH has on average 2,400 deliveries per annum and a caesarean section rate of 30 to 32%. The caesarean section meeting took place from 1.30pm every Friday for one hour in the Postgraduate Medical Education Centre, and it was a forum where all the emergency caesarean sections of the previous week were discussed with the aim of learning from the case stories to improve the safety and quality of care provided to women in labour. The case stories were prepared and presented by General Practice (GP) trainees or Obstetric and Gynaecology (O&G) trainees in their first two years of postgraduate medical education. These doctors are traditionally called Senior House Officers (SHOs). The other resident doctors, traditionally called Registrars are the most senior doctors on the ground in the delivery suite and usually initiate the decision to undertake a caesarean section with the approval of the consultant on-call. During the period of the study the obstetrics and gynaecology department had seven (7) SHOs, six (6) Registrars (Reg), six (6) consultants (Cons) and 68 midwives.

The cases are anonymised and presented to an audience of six to 12 people including medical students, midwifery students, postgraduate doctors, midwives and consultants The author recorded in his research diary the proceedings of the five caesarean section meetings that he attended during the four months of data collection from February to May, 2014.

Semi-structured interviews of three postgraduate doctors were carried out in March 2014. One interviewee was a second year GP SHO, and the other two were Registrars.

The author also facilitated two focus group interviews; the first, in March 2014 involved a GP SHO, a Registrar and a midwife. The second interview involved two consultants, and took place after one caesarean section meeting in May 2014.

The interview questions (appendix 1) had been shared with the participants before hand, and their responses determined the data generated and the relative importance of each of the data.

The author audio-recorded and transcribed all the interviews and one caesarean section meeting in March 2014. The audio-recording was done using *Olympus Digital Voice Recorder WS-811,* and transcribed by a secretary. The author listened to the recordings several times and compared them with the transcripts to ensure their accuracy.

Ethical Approval was obtained from the Kent, Surrey and Sussex Ethics Committee (Ethical approval reference code: MDM492014OO).

**Data Analysis and Results**

Data generated from the observations and recordings of the caesarean section meetings, the semi-structured interviews and the focus group interviews were analysed and the study objectives were used as themes to structure the presentation of the data.

Teaching and learning at the Caesarean Section Meetings

The expectation is that doctors and midwives attending the caesarean section meetings would learn about the management of women in labour and improve the quality of care that they provide to women in labour. But does learning take place at the meetings? The following case was presented at the audio-recorded caesarean section meeting of March 2014;

*'Tabitha' a 33 year old woman had had two pregnancies. The first pregnancy in 2013 ended in a miscarriage. The second and recent pregnancy was complicated with pre-eclampsia at 38 weeks gestation. As a result she was admitted on 10 February 2014 for induction of labour when she was 39 weeks pregnant. She went into labour, CTG was commenced and an epidural analgesia was sited for pain relief. The CTG subsequently became pathological and a decision was made to perform an emergency caesarean delivery (category 1). The baby was born in excellent condition.*

There was active teaching and learning taking place during the caesarean section meetings. The attendees, mostly the Registrars sought clarification as the stories unfolded, and all were involved in discussing the cases throughout the presentations. The consultants asked questions and the trainees were eager to answer the questions and give their opinions. The following extract from the caesarean section meeting of March 2014 demonstrated learning of the classification of CTG and the struggle of Registrar 2 to comprehend;

*“What do you think about the CTG before the epidural went in? (Cons 2)*

*“It was suspicious (Reg 1)*

*“Why was it suspicious? (Cons 2)*

*“The baseline was between 160 and 180 (Reg 1)*

*“If it goes like that for more than 40 minutes it would be suspicious? (Cons 2)*

*“There are shallow decelerations struggling to recover (Con 1)*

*“I can't see the decelerations, there is a little bit of undulation there but I wouldn’t call it a deceleration …. (Reg 2)*

The doctors made contributions of their views of the management, and their knowledge was tested. There was constant dialogue throughout the presentation and in the case of 'Tabitha' there was learning and understanding of why the CTG was pathological. At the end of each case presentation the group was asked if they thought that the decision to perform a caesarean section was appropriate or not. Three cases were presented that day. In two cases the group felt that the decision was appropriate, and in one case it was felt that the decision was doubtful. In the doubtful case the indication for caesarean was given as a pathological CTG, but the group felt that the CTG was suspicious and that at the very least fetal blood sampling (FBS) should have been performed to further assess fetal well being before performing a caesarean section.

The caesarean section meeting was a conducive environment for collaborative and interactive process of learning. The discussions at the meeting were much more than about the case presentation, everybody contributed and active learning took place. “Would it have been useful to examine her?” “what should we have done?” “why did we call a category 1 caesarean?” “for maternal pyrexia should we be doing an FBS?”.

*“....but actually the way in which we examine things is more interactive than .. which gives rise to good discussion and if the team that was caring for the woman at the time are actually in the meeting I feel it is even more relevant....*

*….whereas in other surgical departments quite often it’s a sort of monotonous one way speech that I’m giving about a patient....” (M)*

The attendees at the caesarean section meetings confirmed that they learn from their mistakes and change their practice on the basis of what they learn at the meetings, as demonstrated by the following extract from my interview of NP (Reg);

*“Again I know I’m coming back to learning from my mistakes but if someone corrects you and tells you that maybe that might not have been the best approach next time you have a case that’s very similar to it, you will take the other approach to it and hope it has a better outcome*

*“....I had a patient who was a primip and was pushing for over an hour and I went to assess her and I felt that the head was too high and wasn’t suitable for an instrumental, I felt at the time that her contractions were fairly ok but I took her for a Caesarean section ….” (NP)*

NP said that when this case was discussed at the caesarean section meeting it became apparent to her that the uterine contractions could have been better and it was suggested that perhaps syntocinon augmentation should have been considered at the time and although it may not have worked it would have given that woman a chance so now she has changed that side of her practice. So attending the caesarean section meeting led to a change in behaviour/clinical practice of NP. This is true learning.

Consultants also learn at the caesarean section meetings; they learn from the experience of others and clear up doubts that they may have about complex management decisions

*“I think it is always about continually reviewing your own practice when you sit and discuss somebody else’s case and sit and think what would you have done in that scenario as compared to what they did, it’s interesting” (HB)*

 *“We learn from it all the time and I think I am very open minded; well I take suggestions from everybody and I think when I have a doubt or anything, some of the doubts are cleared up, sharing knowledge for one is good”(AG)*

*“especially with a more complex situation sometimes it’s interesting to hear how other people approach it, sometimes there is no clear or correct answer” (HB)*

Caesarean section meeting and the change in practice in the care of women in labour

The caesarean section meeting is run with anonymity for both the patients and the clinicians involved in their care. This is to enable an open and detailed exploration of any clinical care that may have led to an adverse outcome. This way lessons can be learnt to prevent a similar adverse outcome in future. The meeting in March 2014 took place in a very conducive and convivial environment with a lot of laughter, and doctors felt safe enough to 'out' themselves.

*“.... and I do think that the forum (caesarean section meeting) is quite collaborative, …. there isn’t a power struggle like I thought there would be, quite often in other specialties there is a feeling of Consultants going first and saying their piece and you not being able to add in and I think that it is important to have that open forum so that there is no hierarchy because we are all there to learn at the end of the day …. everybody’s valuable I guess – it would be nice to have Midwives actually more often” (M)*

However, the caesarean section meetings expose the pressures that the Registrars face and their state of mind at the time that they make the decision to proceed to a caesarean section. The pressures are amplified for them as the most senior doctor on the ground. There can be real tension between the doctors and midwives, and some of the tension may filter to the patients who are already anxious about themselves and their babies. Part of the tension is due to disagreements about the classification of the CTG, an important component in the management of labouring women and the decision to perform a caesarean section. This is illustrated by the following extract from a caesarean section meeting;

*“But when you are alone in the labour ward you have like a* ***gang of midwives*** *asking if you are going to call the consultant because the CTG has 2 features making it pathological, or they will call the consultant themselves (Reg 1)*

*“This is where leadership comes in (Cons 1)*

*“and your state of mind at the time (Reg 2)*

*“I think it is important too that the pressures can be so much (Reg 1)*

The pressures come mostly from the midwives, but there can also be pressure from the anaesthetists and neonatologists sometimes physically bearing down on the Registrars and asking *“what are you going to do about this”*. It can be tough for the Registrars to be able to absorb all these pressure while making life and death decision. At the caesarean section meeting clinicians learn how to cope with the pressure that they face on the shop floor, and improve their leadership ability and the quality of care that they provide. They learn how to improve their relationship with the team and gain their confidence by clearly explaining their every decision and action to the patient and the team.

The meetings provide an opportunity to learn from mistakes and receive and give constructive criticism and feedback. The Registrars say that what they learn at the caesarean section meeting improves the quality of care that they provide as they change their practice in response to the learning.

*“...we learn actually how to take safe decisions and I think this meeting also focuses and gives us an idea of risk management.........and also sometimes if you hear stories which have gone wrong and could have been done better by another colleague then I think this is another place where we can pick it up and keep it in mind and then if I come across a similar situation or a case then I hope that memory will come to me and I can take a step to prevent it happening....” (BC)*

*“it’s very good and definitely as a registrar you learn from this experience sometimes it’s a case that you were actually involved with and sometimes it’s from your colleagues although I think it is particularly helpful when it’s your case because it’s nice to hear what your peers would have done in the same situation and I suppose it can be positive or negative but I think that’s part of learning and medical education that sometimes what we do is not the right thing but it’s good to learn from your mistakes. I mean when it’s a positive reaction, then it’s quite good to know that we are carrying out best practice (NP)*

At the caesarean section meetings, clinicians learn what they may have done differently and what to do next time; they learn how they would change their practice.

**Discussion**

Case-Study methodology is a critical inquiry that generates in-depth understanding of a single specific topic. What defines a Case Study is its singularity, and Simons defined Case Study as an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context.4 It is thought to be subjective, giving too much scope for the researcher's own interpretation, making the validity wanting.5 However, Case-Study produces the type of context-dependent knowledge that research on learning shows to be necessary to allow people to develop from rule-based beginners to virtuoso experts.5 Context-dependent knowledge and experience are at the very heart of expert activity5, and hence case study research may be an excellent way of exploring learning in the context of a weekly caesarean section meeting that examines expertise in the management of women in labour.

Medicine is fundamentally narrative and the oral recounting of this medical narrative is a central part of clinical education and supervision in a teaching hospital.6 The physician's medical version of a patient's story is the narrative embodiment of a diagnostic hypothesis, the reconstruction of what has gone wrong and the narrative organisation of the facts of illness, and nowhere is this more evident than in the case presentation.6 Case presentations are essentially stories, and clinicians and educators in gerontology rely on case stories to stimulate discussion about key aspect of theory, illustrate application of important concepts, and explore difficult and complex issues with some older patients.7 This is essentially what happens in the weekly caesarean section meetings. The case stories provide a concrete context for discussion, and the patient's story of subjective experience becomes a narrative of education and control.6

In exploring the interactive process of sharing stories in small group activity in general practice, Abildsnes et al found that the traditional succinct case stories only generated questions at the end, whilst the more detailed and expansive stories with more focus on the patients' life context generated more discussions during the presentation of the patients' agenda and expectations, and constructive criticism and peer support for clinicians.8 The discussions included best practice and exchange of useful tips, and they concluded that sharing stories in small groups in general practice facilitated meaning-making, reflection on practice and peer support8.

Good medicine involves learning all the time from patients and colleagues, and some of this learning involves sharing case stories as happens in the caesarean section meetings. Collins et al suggest that good learning should be active and interactive, that learners should question and analyse their knowledge, and that learning should be a collaborative process involving the learner, the teacher and environment9. All the participants said that the caesarean section meeting provided an excellent learning opportunity, and the doctors, consultants and midwives who directly manage women in labour appear to learn in an active and interactive manner from the cases presented at the caesarean section meetings to the extent that it results in a change in their behaviour (practice). They learned about when it was appropriate to perform a caesarean section for women in labour, and when alternative interventions such as fetal blood sampling, Syntocinon augmentation of labour and instrumental vaginal delivery were more appropriate.

Telling stories that teach others about our mistakes and successes can enhance patient safety, and these narratives teach us about the hazards, unsafe conditions and accident producing contexts that exist within specific clinical environments such as the operating theatre2. Indeed, the Registrars learn from mistakes and subsequently change their practice suggesting that attendance at the caesarean section meetings may make women and their babies safer.

Future studies should look at the trends in the caesarean section rate and the rates of alternative interventions such as fetal blood sampling, syntocinon augmentation and instrumental vaginal deliveries to confirm if the caesarean section meeting is truly leading to a change in practice.

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**Appendix 1: The interview questions**

1. What do you think that you learn from listening to case stories at the weekly caesarean section meeting?
2. What is your experience of presenting case stories at the caesarean section meetings
3. How does hearing the case stories at the caesarean section meetings make you feel?
4. What is the role of the weekly caesarean section meetings in the medical education of postgraduate doctors?
5. Is the weekly caesarean section meeting an effective way of teaching and learning about the management of women in labour?
6. Does attendance at the weekly caesarean section meeting improve the quality and safety of care provided by trainees to women in labour?