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Version: Accepted Version

Article:
Hardicre, NK, Arezina, J, McGuinness, A et al. (2021) Managing the unmanageable: A qualitative study exploring sonographer experiences of and training in unexpected and difficult news delivery. Radiography, 27 (2). pp. 369-376. ISSN: 1078-8174

https://doi.org/10.1016/j.radi.2020.09.015

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Abstract

Introduction Ultrasound is used to diagnose pregnancy complications such as miscarriage and fetal health conditions. Within the UK, findings identified during ultrasound examination are delivered by sonographers as standard. However, little is known about the experiences of sonographers when delivering unexpected news (DUN), the impact this has on them, or their preferences for training on news delivery.

Methods Qualitative interviews were completed with fourteen sonographers and were analysed using an inductive thematic approach. Key themes were identified.

Results Participants said that obstetric ultrasound often involves 'managing' the patient encounter, including: navigating (unrealistic) patient expectations; handling their own responses to unexpected findings; and managing interaction by moderating emotional expression and communication practices to deliver patient-centred and empathic care. Persistent uncertainty of outcomes, prognosis and patient reactions, alongside high workloads, and frequent siloed working, makes DUN challenging for sonographers. DUN was experienced as emotionally burdensome, and sonographers employed personal coping strategies to reduce stress/burnout. However, the greatest mitigation for stress/burnout was support from peers, though accessing this was challenging. Peers were also described as key sources of learning, especially through observation.

Conclusion Challenges associated with DUN are an enduring experience for sonographers. Facilitating regular ongoing support and training would enable sonographers to cope with negative aspect of the role, including the emotional burden of DUN.

Implications for Practice Long patient lists are prioritised to deal with high demand for services. However, sonographer wellbeing needs to be a key priority to avoid stress and burnout. This means facilitating protected time to access support from colleagues, multidisciplinary working where possible, and regular access to training to support DUN. Training focusing on communication practices, alongside dealing with emotional burdens of the role would be beneficial.

Keywords:

Ultrasound, Communication, News Delivery, Breaking Bad News

Introduction

Pregnancy complications are common: around one in five pregnancies involve miscarriage or stillbirth[1-3] and in one in 20, a variation from expected development is identified which could signify the presence of a fetal health condition.[4,5] Ultrasound is regularly used to identify and diagnose these complications and while news delivery practices vary internationally, in the UK these findings are delivered by sonographers as standard.[6] A large number of studies have now investigated the experiences of expectant parents when receiving news of complications via ultrasound.[7-12] Together, these studies have suggested that receiving this news is experienced by parents as a journey. This journey begins with generally positive expectations of ultrasound scans followed by shock after the finding, the need to make decisions regarding further testing or pregnancy management and eventual adaptation to their new and unexpected situation.[8] They have also

highlighted key areas where practice changes can be made to improve the experience of expectant parents, such as the provision of written information, signposting to relevant support organisations and reducing the length of time between any investigations and the receipt of the results.[8]

While there is now a large literature base exploring the experiences of expectant parents when receiving unexpected news via ultrasound, there has been much less research conducted into the experiences of the healthcare professionals who conduct ultrasound scans. Only two qualitative studies have investigated the experiences of sonographers in delivering unexpected news[13, 14] and just one of these was conducted in a country where news delivery was a standard practice for the sonographers who participated.[14] This study was conducted two decades ago in the UK and found that the instant availability of ultrasound findings, the unpredictability of parents' reactions and the challenges in arranging ongoing care made delivering news in ultrasound settings particularly challenging.[14] In addition to these qualitative studies, there have been a small number of recent quantitative survey studies in sonographers.[15, 16, 17] Consistent with findings from studies in expectant parents, these have suggested that sonographers believe a policy of immediate disclosure of findings is a feature of patient-centred care,[8, 17] but that delivering news in this way is challenging when guidelines are unclear or support from other healthcare professionals is lacking.[15, 16]

There is a need for further qualitative research to better understand the experiences of UK sonographers in relation to news delivery for three main reasons. First, in most countries, news delivery practices among sonographers varies between practitioners, organisations and type of complications found.[13, 18, 19, 20] However, this landscape may be changing and in some countries such as Australia, there is now a growing debate around the standardisation of news delivery practices and whether a UK-style model may be more beneficial.[13,16,20] A better understanding of the experiences of UK sonographers regarding news delivery could inform this debate, but the situation for UK sonographers has changed since the last qualitative study in this area was conducted two decades ago: the Fetal Anomaly Screening Programme (FASP) has been introduced, which changed the way scans are delivered in pregnancy in England (with equivalent organisations in Scotland and Wales); the policy of news delivery as a standard practice has been formalised in professional guidelines[6]; and recent technological advances in ultrasound equipment design and technology have improved image quality, resulting in an increase in the number of anomalies and fetal conditions being detected.[21] As such, current information regarding the experiences of UK sonographers who deliver news as standard is needed to inform this debate and shape the nature of policies around news delivery practices as they are developed internationally.

Second, recent surveys of sonographers suggest that they report high levels of stress and burnout internationally.[22,23] Indeed, a recent UK study found that 89% of sonographers could be classed as suffering from a possibly minor psychiatric disorder and 80% were experiencing exhaustion, one aspect of burnout.[24] Alongside this, sonography vacancy rates are also high in several countries including the UK, Canada, Australia and New Zealand,[25,26,27] with UK vacancy rates varying between around 10-20%.[25,28,29] News delivery is experienced as stressful for sonographers and has been identified as one factor which could be contributing to these higher stress and burnout levels,[24] but there is a lack of information regarding how, when and why news delivery is experienced as stressful. There is also a need to understand the factors which can mitigate the stress linked with news delivery. A deeper understanding of these issues could help develop news delivery

interventions in sonographers which could also have the potential to reduce stress levels and support workforce engagement.

Third, whilst there has been only limited research into the experiences of sonographers regarding news delivery in a broad sense, there have been even fewer studies focused on how sonographers can be better supported to learn news delivery skills. Only three studies have been conducted in this area.[15,24,30] Two of these were quantitative studies in qualified staff which suggested that sonographers value news delivery training courses but believe these could be improved.[15,24] The third was a qualitative study, but this was in a sample of UK pre-qualification sonography trainees rather than qualified practitioners.[30] This study focused on trainees' experiences of news delivery training as part of their post-graduate qualification. It found that trainees most appreciated the opportunity to observe the practices of qualified sonographers while they were on placement, with classroom learning supplementing this. The study suggested that trainees welcomed input from service user representatives (i.e., speakers from SANDS, the Stillbirth and Neonatal Death Society) but sometimes received conflicting guidance and recommendations and felt confused about which words and phrases were best to use.[30] Whilst this study identified useful recommendations to help shape ultrasound training courses, there is currently a gap in knowledge regarding sonographers' preferences for post-qualification education.

In order to address these issues, the current study conducted qualitative interviews with qualified sonographers, which aimed to explore two key aspects around sonographers' practise of delivering difficult or unexpected news: their experience of delivering news and the impact this has on them, and their experiences and preferences around training for delivering unexpected news (hereafter referred to as DUN).

Methods

Within this study, an inductive, pragmatic approach was taken, whereby analysis was data-driven and interpretive. The research sought to go beyond individual accounts of experiences to identify 'underlying ideas, assumptions, and conceptualizations' [31] from the corpus of data (and thereby multiple participants), whilst remaining grounded *in* the data generated from within individual accounts.

Ethical approval

Ethical approval for this research was granted by the School of Psychology Research Ethics Committee at the University of Leeds, England (reference: PSC-175 05-December 2017).

Sample

Fourteen participants took part in the study. There were 13 female and one male sonographers with a mean age of 51. One participant was from a nursing/midwifery background, one had not had a previous profession and all other participants (n=12) were from a radiography background. Experience since qualification ranged from three years to 39 years (with a mean of 22 years). Thirteen participants were from eight regions within England and one was from South Wales.

This study was part of a wider research project. Sonographers who had participated in the first phase of the wider project (the completion of an online survey exploring sonographer experiences of

unexpected news delivery, training and wellbeing) who had agreed to be contacted regarding the second phase (n=65), were invited to participate by email. All participants were sent a participant information sheet, interview guide, consent form and debrief sheet.

Data collection

In-depth semi-structured qualitative interviews were conducted via telephone by authors JA and AMcG. The interview guide (see Appendix 1) was developed through iterative discussion amongst authors JJ, AMcG and JA and informed by relevant literature on the topic. Study information was sent in advance of interviews. Written informed consent was provided by all participants.

Data Analysis

Interviews were audio-recorded, transcribed and anonymised. Transcripts were analysed independently by authors JA and NH. In addition, NH listened to all audio recordings to become familiar with the data. Analysis used an inductive thematic approach.[32] Coding involved reading and rereading the transcripts, identifying key ideas (about experiences of DUN and training) emerging from the data, and sorting these ideas into categories according to similarity and difference. These initial categories were then expanded and/or reduced to create themes and sub-themes. Emerging codes and themes were discussed by NH, JA and JJ to reach consensus.

Results

The main themes that arose from the interviews with sonographers were i) managing the patient encounter, ii) managing themselves, and iii) the importance of relationships with peers. Table 1 shows each theme (and sub-theme), a summary of key ideas associated with each, and illustrative participant quotes. Each of the themes were connected to both experiences of actually DUN and the training sonographers had had, alongside preferences for training and support to improve the process of DUN and reduce the impact this has on sonographers. In general, sonographers felt that their job was poorly understood by those not working within obstetric ultrasound, including the negative impacts of high workloads and DUN. Obstetric ultrasound was described as the most difficult area to work in because it is complex, emotionally demanding, and requires managing multiple people and situations simultaneously. This was experienced most intensely within the patient encounter.

Managing the Patient Encounter

The patient encounter was the key focus of sonographers' experiences of DUN because this was the space where they actually had to deliver difficult and unexpected news to parents. Sonographers described having to actively manage situations and this often started as soon as the patient encounter began, prior to the identification of problems and the moment of disclosure. Much of the patient encounter was about trying to manage expectations, especially about the purpose of the scan and the potential for identifying problems. In general, and consistent with other qualitative work in this area, sonographers felt that expectant parents did not have a good understanding of the diagnostic purpose of scans (especially mid-pregnancy anomaly scans) and so were unprepared regarding the potential to detect problems.[14,15] This made DUN more difficult. Consequently, sonographers tried to prepare parents at the start of the scan by explaining what was going to happen and to let them know that complications may be detected. All sonographers reported this

being slightly easier during early pregnancy, when patients were more likely to be experiencing symptoms and so were more likely to anticipate problems.

Managing Uncertainty

Almost everything about the patient encounter was uncertain: sonographers often did not know what the scan would show (the exception being when they were asked to confirm a finding already identified by a colleague); when they were DUN they did not know how the patient/family would respond – to them or to each other; and when anomalies were detected, there was frequently uncertainty around prognosis. Because so many aspects were uncertain, sonographers felt like it was difficult to know how best to manage the situation – what works in one situation did not necessarily work in another. This caused apprehension and anxiety for all sonographers and contributed strongly to some sonographers' experiences of stress and burnout.

Managing workload and environment

All sonographers described having very high workloads, which contributed to the negative impact of DUN – it was described by one sonographer as a kind of emotional 'repetitive strain injury'. This was especially true when scanning in early pregnancy where DUN was more common. Sonographers said that system pressures – target driven and high workloads – were challenging for multiple reasons. Firstly, it reduces time to spend developing a relationship with patients – this makes it more difficult to DUN should this be necessary. Secondly, it reduces time available to spend with patients after DUN. Thirdly, higher frequency of DUN is tiring for sonographers; it makes taking breaks challenging, which was seen as a key resource for managing emotions and the negative impact of DUN.In agreement with Simpson and Bor,[14] our study suggests that allocating more time in the day to accommodate unexpected news delivery, alongside allowing sonographers opportunities to recover from difficult patient encounters, would be beneficial for practitioners.

Alongside workload, the environment and context within which sonographers work was not under their control but frequently had an impact on DUN and how the situation was managed afterwards. For example, sonographers said that having only one entrance and exit to scanning rooms was particularly problematic after delivering news of pregnancy loss. Participants reported that it felt insensitive to expect patients-experiencing-loss to walk past couples still waiting to be scanned. Simpson and Bor, found that difficulty contacting a doctor to refer patients on to was a key factor impacting sonographer experiences of DUN.[14] Although not limited to referrals to doctors, proximity to other services was also influential on experiences of DUN within our research. Being able to refer families to additional services immediately after the scan was felt to be beneficial for both patients – who would receive continuity of care – and for sonographers, who felt that they were entrusting patients to the care of another healthcare professional rather than just 'discharging' them from their care.

Managing Themselves

Much of the work that sonographers engaged in was emotional and communication management. Detecting unexpected findings, including serious problems, triggered physical and emotional responses in sonographers. These needed to be managed to communicate findings effectively. Therefore, maintaining control of the situation required maintaining control of oneself. Sonographers described managing the emotions they were feeling, managing the expression of those emotions, and communication with others as being central parts of the job.

Communication

Communication (both verbal and non-verbal) was central because it was the means of DUN. Sonographers suggested that whilst word choices were important – unlike findings from other studies,[14] clarity was considered crucial, for example – the *manner* of delivery was critical to how news was received. However, because patient reactions were variable and could be difficult to predict, effective communication started *before* news delivery when sonographers first met patients. Sonographers described continually reading and assessing patients from first introduction and throughout the scan, alongside being responsive and guided by the ways in which patients behaved and the words they said. Simpson and Bor[14] proposed that there is the potential for sonographers to misjudge patient reactions and assume that DUN has been handled well if patients do not visibly demonstrate distress. However, our findings do not suggest this to be the case. Instead, because patient reactions were used as a means of tailoring communication to deliver patient-centred care, non-response from patients was described as difficult to manage. Many sonographers assumed that their communication had *not* been successful because non-response was often associated with not understanding and sonographers frequently took responsibility for a patient's understanding of the situation, assuming it was wholly related to their skill in communicating news.

Sometimes sonographers felt that no communication was the most appropriate response to patients. Knowing when to be silent and give people time to digest difficult news and information was also considered crucial. This was more difficult for less experienced sonographers but got easier over time. Empathic and genuine communication was considered ideal and some sonographers said that their own life experiences contributed positively to this. All sonographers suggested that training in communication skills would be useful both pre- and post-qualification. It was also felt that students and newly qualified staff would benefit from having access to key phrases about certain aspects of the work (e.g. purpose of scan and disclosing intrauterine death). This appears to be consistent with sonographer experiences even when disclosure of news practices are different and sonographers are not necessarily required to DUN routinely.[13,15] This suggests that guidance that provides direction to sonographers regarding processes for DUN would be useful regardless of the context within which sonographers are doing so. Moreover, the UK National Institute for Health and Care Excellence (NICE) guidelines for early pregnancy loss[33] recommend news delivery training for all healthcare professionals working in this setting. Currently, there is no evidence-based way to meet this requirement. A multidisciplinary group in the UK have created a consensus document to begin to meet this need.[34] However, further research and development of evidence-based communication training for sonographers would be valuable.

Managing Emotions & Emotional Expression

Consistent with previous studies,[13,14,30] we found that detecting and disclosing unexpected and difficult news caused physical and emotional responses for sonographers, during the patient encounter and afterwards. Many sonographers described experiencing an 'adrenalin rush', panic, and increased heart and breathing rates when discovering problems. These responses were considered barriers to effective communication which needed to be managed before disclosing news to patients. Consequently, the job demands the sonographer to *feel* and *behave differently,*

predominantly in not expressing felt emotion, and conveying unfelt emotion. Within the patient encounter, this frequently included pretending that one did not feel the panic or upset that they did and expressing a sense of calm that was not felt. Participants said that when DUN they frequently felt like they were walking a fine line between empathy – which can be a facilitator of good communication – and over-identification – which can be problematic for both sonographer well-being and communication with patients. However, some patient stories deeply affected sonographers and they struggled not to find situations upsetting. Whilst expressing this upset to patients was sometimes considered acceptable, all sonographers felt that taking this upset into the next patient encounter was inappropriate – in part because they wanted to provide good care to all expectant parents, but also because patient expectations demanded such an approach.

Feelings of guilt and responsibility for causing patient suffering were also experienced and these were enduring emotions after patient encounters. This is consistent with findings of other studies, which suggest that sonographers feel a heavy burden of responsibility for patients,[13] not only for how they feel but also what they do, including at times whether people proceed with their pregnancy.[14] Even though all sonographers in our study knew that they were not responsible for pregnancy outcomes, *feeling* responsibility for patient distress through disclosing unexpected news was described as emotionally exhausting, physically draining and sometimes unrelenting (especially when working in early pregnancy assessment clinics). This was described as a major cause of stress and burnout. Managing emotions was therefore not only important for delivering good patient care, but also for maintaining their own wellbeing.

Strategies for managing emotions include 'compartmentalising', acting in ways consistent with patient expectations rather than personal experience, and emotionally distancing from patient situations. However, these sometimes conflicted with one another. For example, being emotionally distant was sometimes helpful to protect sonographer wellbeing, but empathy and authenticity were considered by sonographers to be key aspects of good communication with patients. This required sonographers to carefully balance competing priorities – their own mental and emotional wellbeing, the wellbeing of the patient/families within this encounter, the experience of patients/families next on the list, and the system's requirements to work quickly and effectively to manage a high workload due to service demand. Sonographers frequently prioritised patient wellbeing, followed by the needs of the service, often to their own detriment. As a means of dealing with these pressures sonographers frequently relied on informal support from peers.

Relationships with Peers

One characteristic of obstetric sonography frequently described as challenging was lone working: both as a sonographer who is scanning patients, and as a profession where lone working is common. Working and interacting with other sonographers was a key source of both training and support, yet many sonographers worked alone and got minimal time to work with or talk to colleagues. Those that did, reported this being extremely valuable for their continuous professional development and as a coping mechanism for the difficult aspects of the job. Moreover, sonographers appeared to feel disconnected from other healthcare professionals within maternity services and distinct from the rest of a patient's care pathway. Consequently, sonographers rarely received feedback, either about their work or patient outcomes and this meant that they did not know whether what they had done

was 'right'. All sonographers we spoke to, wanted more opportunity to work with others throughout their careers because exposure to the ways other people do things was considered extremely beneficial.

Training and CPD

Like Thomas et al,[13] who proposed that tacit knowledge passed down by other sonographers was the key means of learning, the importance of peer learning was emphasised by all our participants. This was achieved primarily through observation but also through role-play and mentoring. Opinions about role play were divided, though most people felt it could be valuable if done well. Sonographers emphasised the benefit of scenario-based training with supportive role-play and discussion as a key part of this. It was felt that training as a team would be useful because learning with colleagues instead of strangers would be a more supportive environment. Reflective practice was promoted as a means of developing professionally and also coping with difficult aspects of the job. Whilst this can be done individually, many sonographers felt it would be beneficial to discuss reflections with colleagues and/or a mentor – doing so would enable sonographers to get insights from others and also provide debrief opportunities. Importantly, all participants suggested that training in DUN should start pre-qualification and continue throughout their career. This is consistent with sonographers working within and outside the NHS.[13-15, 24, 30] At present, the postgraduate diploma which qualifies sonographers in the UK, is only a year in duration and this may limit the capacity of pre-qualification courses to offer training in communication and skills around DUN, alongside the technical aspects of sonography. However, some universities are now offering a three-year undergraduate degree course, and this could offer more scope for robust, comprehensive, and assessed training in all aspects of sonography practice. Moreover, although research suggests that many sonographers do receive some form of post-qualification training (of which the majority report it improved their practice), [24] there are currently no evaluations of training interventions for communication in sonography. [35] Research evaluating interventions to improve sonographers experience and skills in communication and DUN would be beneficial.

Proposed means of training remained consistent regardless of a sonographer's level of experience and this centred around observation (both observing others and being observed by others),[24] professional and patient feedback about what works and what is less helpful/effective, and opportunity to practice. Learning through both watching and doing was considered vital. Some sonographers suggested that until you have actually delivered news to expectant parents, you did not understand the magnitude of the task.

Support

Other sonographers were key sources of support – often informally, through opportunistic encounters.[15] This was, in part, because of proximity (e.g. being in the same team and using shared spaces during break times), but also because they felt only 'insiders' 'get it'. There was a strong sense that only those doing the job really understood what it was like and this was why sonographers chose to speak to other sonographers when trying to manage the negative aspects of the job, such as DUN. Support tended to operate in informal networks, though most participants would like it to be more formalised and supplemented with support from other disciplines. This is consistent with findings from almost twenty years ago,[14] suggesting that although there have been multiple changes to UK sonography practice – for example, introduction of the Fetal Anomaly Screening Programme, the formalised policies of news delivery as standard practice,[6] and increase in

capability to detect anomalies and conditions due to technological advances[21] – little has changed to improve the support for sonographers.

Conclusion

Challenges associated with delivering unexpected news appears to be an enduring experience for sonographers working in obstetric ultrasound, regardless of expectations about the role of sonographers in routinely DUN. Variability of (previously unknown) clinical findings, alongside the variability of patient expectations, is unlikely to change because it is an inherent aspect of the work. However, the organisation of work, such as reducing workloads where possible, building in time for breaks and additional time to spend with patients when DUN, and multidisciplinary working to integrate sonographers into maternity services, could reduce work-related stress. More formalised protocols for delivering news have also been proposed as a solution for improving experiences of delivering (and receiving) unexpected news, especially for less experienced sonographers. The UK consensus guidelines for the delivery of unexpected news in obstetric ultrasound: The ASCKS framework has the potential to meet this need. [34]

Facilitating *ongoing* support and evidence-based training for sonographers would enable them to cope with the negative aspects of the job, including the difficulties associated with managing emotions and emotional expression. Proposed mechanisms include protected time to spend with colleagues and ongoing training incorporating observation of colleagues, scenario-based training, and reflective practice. Multidisciplinary input, including feedback from patients, would also be helpful – 'closing the loop' would help people manage the uncertainties of the job and would facilitate a sense of 'closure' that is frequently missing from obstetric sonography.

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