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What is bad news in fertility care? A qualitative analysis of staff and patients' accounts of bad and challenging news in fertility care

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ABSTRACT

STUDY QUESTION: What do fertility staff and patients think is bad news in fertility care?

SUMMARY ANSWER: Staff and patients agree bad news is any news that makes patients less likely to achieve parenthood spontaneously or access and do successful treatment, but their appraisals of how bad the news is are differently influenced by specific news features and the context of its delivery.

WHAT IS KNOWN ALREADY: Bad news is common in fertility care, but staff feel unprepared to share it and four in 10 patients react to it with unanticipated emotional or physical reactions. Research has paid much attention to how bad news should be shared, but considerably less to what news is perceived as bad, despite the fact this may dictate elements of its delivery.

STUDY DESIGN, SIZE, DURATION: Two cross-sectional, online, mixed-method surveys (active 7 January–16 July 2022) were distributed to fertility staff and patients across the UK and Europe.

PARTICIPANTS/MATERIALS, SETTING, METHODS: Staff inclusion criteria were being a healthcare professional working in fertility care and having experience of sharing bad news at least once a month. Patients' inclusion criteria were being adults and having had a conversation in which staff shared or explained bad news concerning their fertility care within the last 2 months. Surveys were created in English using Qualtrics, reviewed by patients and healthcare professionals, and distributed via social media, Prolific, fertility organizations, and scientific societies. Patients were asked, regarding the last time bad news were shared with them, 'What was the bad news?' and 'What other news would you consider bad news in fertility care?'. Staff were asked to 'List the three most challenging topics of bad news you share with your patients'. Staff and patient data were separately thematically analysed to produce basic codes, organized into sub-themes and themes. Themes emerging from patients' and staff data were compared and synthesized into meta themes.

MAIN RESULTS AND THE ROLE OF CHANCE: Three hundred thirty-four staff accessed the survey, 286 consented, and 217 completed (65% completion rate). Three hundred forty-four patients accessed the survey, 304 consented, and 222 completed (64% completion rate). Eighty-five percent of participants were women, 62% resided in Europe, and 59% were in private care. Average staff age was 45.2 (SD = 12.0), 44% were embryologists or lab technicians, 40% were clinicians (doctors, consultants, or physicians), and 8% nurses or midwifes. Average patient age was 32.2 (SD = 6.4) and 54% had children. Staff answers originated 100 codes, 19 sub-themes and six themes. Patients' answers produced 196 codes, 34 sub-themes, and 7 themes. Staff and patient themes were integrated into three meta-themes reflecting main topics of bad news. These were Diagnosis and negative treatment events and outcomes, Inability to do (more) treatment, and Care and patient factors disrupting communication. Staff and patients agreed that some news features (uncertain, disruptive, definitive) made news more challenging but disagreed in relation to other features (e.g. unexpected/expected). Patient factors made bad news more challenging to staff (e.g. difficult emotions) and care factors made bad news more challenging to patients (e.g. disorganized care).

LIMITATIONS, REASONS FOR CAUTION: Participants were self-selected, and most were women from private European clinics. Questions differed for staff and patients, focused on subjective perceptions of news, and did not measure news impact.

WIDER IMPLICATIONS OF THE FINDINGS: The badness of fertility news is not only a product of the extent to which the news compromises parenthood goals but also of its features (timing, nature, number) and the context in which the news is delivered. Guidance on sharing bad news in fertility care needs to go beyond easing the process for patients to also consider staff experiences. Guidance may need to be tailored to news features and context.

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(ESHRE) to develop fertiShare: a sharing bad news eLearning course for fertility care. fertiShare will be distributed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence (CC BY-NC-SA 4.0). No other conflicts are reported in relation to this work.

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Introduction

Bad news is defined as 'any news that adversely and seriously affects an individual's view of his or her future' (Buckman, 1984). Infertility diagnosis, cycle failure, or pregnancy loss are common and recurrent events in fertility care, usually seen as bad news due to their negative impact on patients. Four in 10 patients who receive news of an unsuccessful cycle experience unexpected emotional or physical reactions (shock, intense sadness, guilt) in cross-sectional research (Stewart *et al.*, 2001). A systematic review showed that many fertility patients experience depressive symptoms lasting 6 months or more, with 30% of women and 10% of men developing a psychiatric disorder (Verhaak *et al.*, 2007). Most fertility staff share news that may be seen as bad by patients. For example, clinicians inform patients of diagnostic test results, embryologists phone patients with fertilization results, nurses share pregnancy test results, and administrative personnel tell patients of the costs of diagnosis and treatment procedures. Qualitative research indicate that fertility staff may be affected by the process of sharing bad news due to fear of being seen as unsupportive or discouraging (Harrison *et al.*, 2022). Staff may also anticipate difficult patient emotions that are hard to manage, especially when patients hold unrealistic expectations about treatment success, as shown in longitudinal research (Devroe *et al.*, 2022). Across a range of studies in fertility and other areas of health, staff report being underprepared to share bad news and perceive it to be one of the most stressful and challenging parts of their work and clinical communication (Ptacek *et al.*, 1999; Hulsman *et al.*, 2010; Monden *et al.*, 2016; Boivin *et al.*, 2017). It has been argued that the badness' of the news, which is a personal, subjective appraisal of the information being communicated to patients, depends on the gap between the patient's expectation of care and the medical reality of the situation (Baile *et al.*, 2000). Given the subjective nature of this appraisal and its dependency on individual circumstances, staff and patients would be expected to differ in what news they consider bad. Identifying what staff and patients perceive as bad news can enable clinics to better prepare for and support delivery of bad news. The current survey-based qualitative study aimed to identify and compare the topics appraised as bad news by fertility staff and patients.

Much attention has been paid to how bad news should be shared, but considerably less to what news is perceived as bad news despite the fact this may dictate elements of its delivery (Groh and Wagner, 2005; Leone *et al.*, 2017). It is known that fertility-related bad news has specificities of its own. Fertility bad news is often (but not always) part of a linked chain of bad news that may include infertility diagnosis, failure in a step of or whole treatment, miscarriage, or lack of effective treatment options (Leone *et al.*, 2017). It is not known, however, whether fertility patients appraise bad news according to its topic or its features, for instance timing of occurrence or cumulative impact of repeated occurrences (Legg and Sweeny, 2015), or both. Research focusing on sharing bad news (SBN) training suggests that the way and context in which news is shared can also affect perceptions of badness of the news and its impact (Lamiani *et al.*, 2012). Finally, fertility bad news is traditionally thought to directly threaten patients' parenthood goals, but it is possible patients hold a broader perspective of the badness in news.

To understand which fertility news is considered bad news we analysed and compared narratives from open-ended questions from two cross-sectional online surveys on this topic that were distributed among fertility staff and patients.

Materials and methods

Design

The data presented in this article are from a larger 'Sharing Bad News in Fertility Care' project that aimed to document fertility staff and patients' experiences of bad news delivery and their impact on patient health outcomes. The method comprised two cross-sectional, English language, mixed-methods online surveys distributed from 7 January to 16 July 2022. Only materials and data from questions relevant to the present study are described in detail but the surveys can be accessed in the Open Science Framework (https://osf.io/r2x6q).

Participants

To be included, patients and staff had to self-identify as meeting the inclusion criteria. Inclusion criteria for patients were being 18 years or older, having attended a clinic for fertility care in the last 2 months, and having had a conversation in which staff shared or explained bad news concerning their fertility care, also within the last 2 months. Inclusion criteria for staff were being a healthcare professional currently working at a fertility clinic and having experience of sharing bad news about fertility care with patients at least once a month. Additionally, patients and staff had to complete questions relevant to the present study. In total, 334 healthcare professionals accessed the survey and 286 began answering the questions. The final sample consisted of 217 participants (65% completion rate). Regarding patients, 345 accessed the survey and 304 started answering questions. The final sample of patients was 222 (64% completion rate).

Table 1 shows most staff and patients were women residing in Europe and providing or receiving private care. Patients were on average 32 years old, most were in a relationship, had children, and were being diagnosed or waiting to start treatment. Staff were on average 45 years old and were mostly embryologists or lab technicians, or clinicians (doctors, consultants, or physicians).

Materials

The anonymous online surveys were designed using Qualtrics (Qualtrics.XM, Provo, UT, USA). The patient survey defined bad news as 'any information that has a negative or serious effect on your views of your future, noting that bad news is always the opinion of the person receiving the news' (Buckman, 1984; Baile *et al.*, 2000). The staff survey provided the same definition but referred to 'your patient's views of their future'. The surveys assessed socio-demographics, clinical history (patients), professional background (staff), views of bad news in fertility care, experiences of sharing/receiving bad news, theory-informed

Table 1. Patient (N = 222) socio-demographic and clinical history characteristics and staff (N = 217) socio-demographic and professional characteristics.

	Patients		Staff	
	%	*n*	%	*n*
Gender				
Women	95.8	213	74.7	162
Men	2.3	5	19.8	43
Prefer to self-describe/not to say	1.9	4	5.5	12
Age (range 19–54)				
<29	27.7	60	8.3	18
29–35	41.9	91	14.3	31
>35–45	28.1	61	31.8	69
>45	2.3	5	45.6	99
Age	Mean = 32.2	SD = 6.4	Mean = 45.2	SD = 12.0
Region of residence/work				
Europe	57.2	127	67.7	147
Americas	23.9	53	7.8	17
Africa	17.6	39	4.5	10
Oceania	1.3	3	2.7	6
Asia	0	0	16.6	36
Relationship status				
Partnered/married/cohabiting	87.0	193		
Single/divorced/separated	12.1	27		
Prefer not to say	0.9	2		
Children[a]				
Yes	54.3	120		
Past fertility treatment				
Diagnosis, waiting to start treatment	50.5	112		
First line treatments (OI, IUI, AI)	18.0	40		
Assisted reproduction (IVF, ICSI)	23.4	52		
Other (e.g. surgery)	8.1	20		
Professional role				
Embryologist, lab technician			44.2	96
Doctor, consultant, physician			39.6	86
Nurse, midwife			8.3	18
Psychologist, counsellor			5.1	11
Other			2.8	6
Type of funding or clinic[a]				
Private	54.1	120	65.7	142
Public	27.9	62	18.5	40
Both public and private	16.7	37	15.7	34

OI, ovulation induction; AI, artificial insemination.
[a] Indicates missing data.

outcomes (e.g. burnout for staff, satisfaction with care for patients), and willingness to receive training (staff).

To ascertain topics of bad news patients typically received, they were asked, regarding the last time bad news was shared with them, 'What was the bad news? Please describe in as much detail as you can'. Patients were also asked 'What other news would you consider bad news in fertility care? List as many or as few as you want'. To understand which news topics were perceived as challenging to share in fertility care, staff were asked: 'Please list the three most challenging topics of bad news you share with your patients'.

Procedure

The study surveys were developed in English and reviewed before circulation by two patient representatives and a multidisciplinary team, which included two fertility physicians, two nurse experts in bad news communication, two psychologists, and two undergraduate students (medicine and psychology). The patient survey was predominantly distributed through Prolific, a platform to support online research that is reported to have excellent recruitment standards and to generate high quality data from diverse populations (Peer *et al.*, 2017; Palan and Schitter, 2018). The staff survey was distributed through professional societies: the European Society of Human Reproduction and Embryology (ESHRE) and the British Fertility Society (BFS). Both surveys were also advertised on social media platforms, such as Instagram and Twitter, and in newsletters through different organizations, including: Progress Educational Trust, BioNews, CooperSurgical, IVF net, and Fertility Network UK. Interested parties clicked on the survey link and were presented with an information sheet, including study aims, the definition of 'bad news', inclusion criteria, and consent form (highlighting that the survey was voluntary and anonymous). No time limit was imposed for survey completion. The survey concluded with a debrief that gave further details of the study and, for patients only, support contacts if distressed from participating.

Data analysis

Textual (qualitative) data were analysed using thematic analysis, according to the method outlined by Braun and Clarke (Braun and Clarke, 2006). Data were first coded independently by M.O.H. and S. G. (patient data), and E.A. and J.B. (staff data). Initial coding was inductive, whereby all meaningful textual segments present in responses were coded in a descriptive manner and organized into sub-themes. After, sub-themes were grouped into themes that reflected key concepts frequently mentioned in the data. Finally, the themes that emerged from patients and staff were compared and synthesized into meta themes reflecting the commonalities and specificities of patients and staff themes. Coding procedures

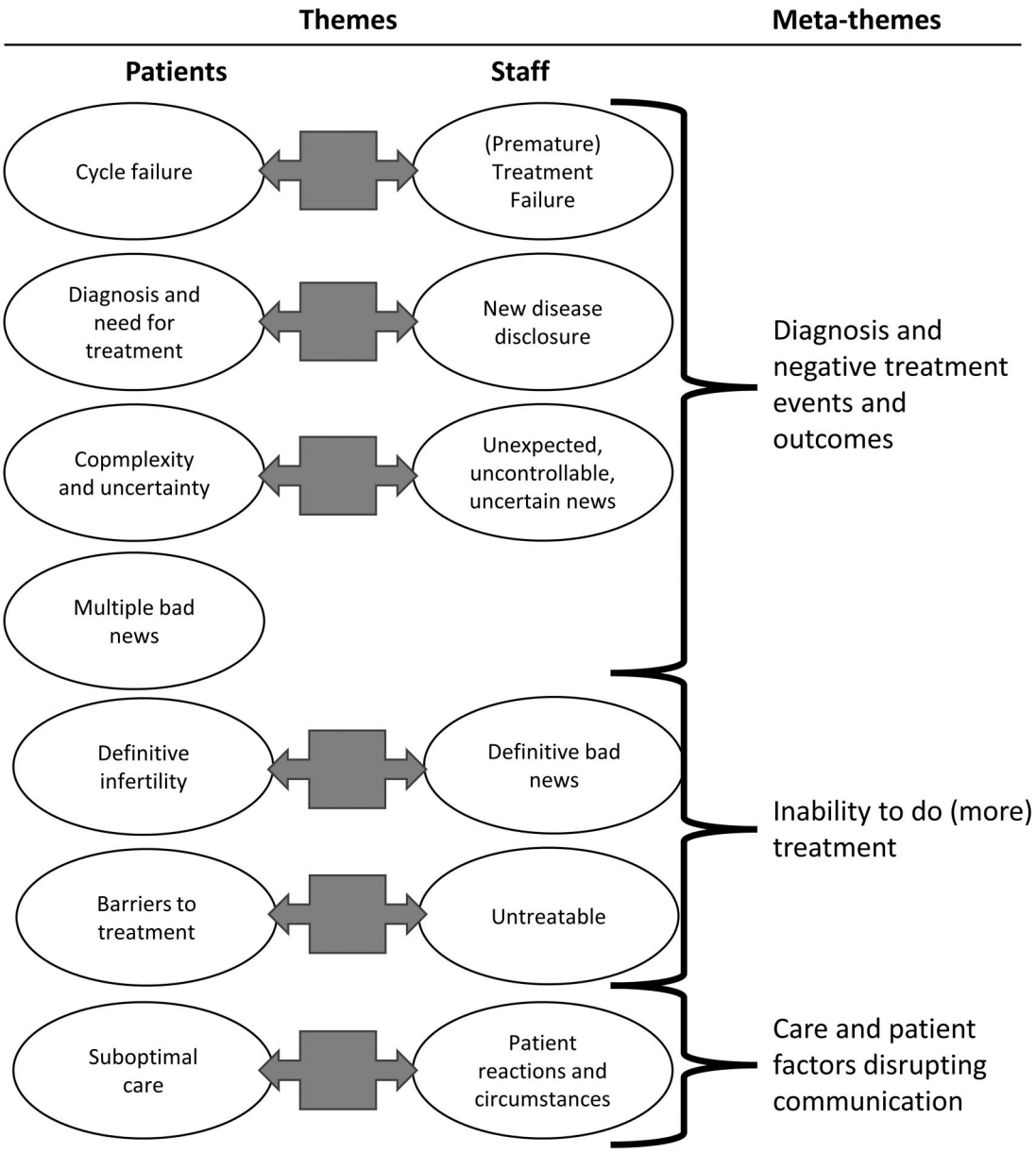

Figure 1. Themes and meta-themes inferred with thematic analysis. Grey squared arrows indicate high overlap between staff and patients' views.

and results were reviewed and approved by all during regular team meetings. Data analysis was presented as a summary accompanied by a thematic map (Fig. 1). Illustrative quotes were used with […] indicating irrelevant text removed and () indicating text added for clarity.

Ethical approval

This research received ethical approval from the School of Psychology Ethics Committee, Cardiff University (EC.21.11.09.6442G).

Results

Patient answers were combined into one analysis that produced 196 codes, organized into 34 sub-themes, abstracted into seven themes. Staff answers originated 100 codes, organized into 19 sub-themes, and abstracted into six themes. Patient and staff themes are separately presented in Tables 2 and 3, respectively.

These themes were integrated into three meta-themes that mostly captured commonalities in staff and patients' perceptions of bad news and are described next. Figure 1 presents the thematic map. The first meta-theme captured Diagnosis and negative treatment events and outcomes and grouped seven themes, the second referred to the Inability to do (more) treatment and grouped four themes, and the third captured Care and patient factors disrupting communication and grouped two themes.

Diagnosis and negative treatment events and outcomes

Most patients and staff highlighted bad news topics related to diagnosis and treatment. For both groups this spanned from establishing the need for treatment after a diagnosis of sub- or infertility (e.g. azoospermia or premature ovarian failure) to managing cycle failures, for instance due to the development of abnormal embryos or failed implantation. Both groups identified features of bad news that made sharing or receiving this news harder. Patients and staff agreed that news that introduced uncertainty and complexity (e.g. complications, delays) to fertility care was challenging. Staff focused on news that was

Table 2. Themes and illustrative quotes for the last bad news received and other news that is considered bad by patients (total codes k = 196, participants N = 222).

Themes, proportion (%) participants mentioned theme, description	Illustrative quotes, patient number (P)
Cycle failure, 71% All instances and events that lead to cycle failure regardless of when in the cycle these happen, with one-third referring to failure early in the cycle and another third to pregnancy loss (i.e. after embryo implantation).	*'All news regarding failed treatment is bad'* P173 *'The hormones not working, and unable to collect the egg follicles, and then, if we do have a successful egg, it then doesn't amount to anything resulting in another miscarriage'* P221
Diagnosis and need for treatment, 67% Any infertility diagnosis (female, male, unexplained, mixed), even when expected, and consequent need to do fertility treatment. Need for treatment in the absence of a diagnosis.	*'It would be bad news to hear that I didn't ovulate or that my partner's sperm are poor'*. P169 *'The bad news was that I couldn't be able to conceive unless I received external help for my PCOS'* P32
Complications and uncertainty, 48% Any unexpected or uncontrollable events that add complexity and uncertainty to treatment, including changes to treatment procedures, need to make new decisions, health risks to self and others (including the unborn child), new health problems, pregnancy concerns and delays in treatment.	*'Told that the fibroids make me infertile. Having the surgery but they still won't shrink […] and they scar me so it affects my ability to conceive'*. P172 *'Changes in treatment plans, […] postponement'* P181 *'Unexpected and serious illness, ovarian cancer, tumours, endometriosis'* P199 *'Delays in the fertility clinic due to scheduling, or vacation times, etc.'* P214
Definitive infertility, 32% News that there is no more treatment available, or this is not likely to be successful, recommendations to pursue gamete donation or adoption, meaning that chances of having a biologically related child are exhausted.	*'The staff told me that I was unlikely to ever be able to have a child"* P47 *'Treatment not working, needing a second opinion on what we should do, being told to consider adoption'*. P59 *'Being told there is nothing else we can do for you'*. P230
Barriers to treatment, 24% Being advised not to undergo or being denied treatment due to multiple reasons, including health concerns, lack of NHS funding, high BMI or already having a child.	*'I have PCOS and have constantly been told I must reduce my BMI … to have further fertility treatment. […] putting a barrier in front of what should be your basic human right (to have children)'* P220 *'Finding out I'm ineligible for a required fertility treatment or finding that it's not covered by NHS and I would have to finance it myself'*. P187
Multiple bad news, 19% Receiving more than one bad news at the same time or receiving successive negative feedback that culminates in bad news.	*'My eggs were in decline because of my PCOS and my partner had a low sperm count'*. P23 *'We had 23 follicles going into retrieval but […] they only got 9 eggs. The embryologist called us the next day to tell us only 6 were mature and that only 3 had fertilized. On day 3 one embryo died, on day 5, one made it to blastocyst. On day 7 a second made it to blastocyst but was too small to be genetically tested and the previous blastocyst had started to rot'*. P31
Suboptimal care, 17% Negative interactions with staff during sharing bad news encounters, e.g. not including partner, lack of empathy or other communication skills. Reports of perceived incompetence, disorganization or other clinic factors leading to treatment delays and complications.	*'[…] Lack of empathy from staff, disorganisation, […], not allowing partners to attend the transfer of their own child and support their partner, partner treated as a sperm donor … '* P18 *'He first approached me and my partner and he never really spoke to me, he only regarded my partner. […] Then he proceeded to say it is my fault since I deal with PCOS, although it is under control and I am regularly ovulating. He never blamed the sperm quality or other factors. I was the only one to blame'* P59

unexpected, shared early within the treatment pathway (e.g. initial infertility diagnosis, cycle failure before embryo transfer), and for which there was no clear explanation(s). Patients focused on receiving multiple pieces of bad news, either within a short time span (for example one consultation) or a longer period (for instance, over a few days and culminating in cycle failure), or pertaining to both members of the couple, and considered bad news could be challenging even when expected.

Inability to do (more) treatment

Around one-fourth to one-third of patients and staff referred to news that treatment did not work or was (no longer) suitable as significant bad news topics. Common reasons for ending treatment identified by patients and staff included exhaustion of treatment options, lack of public funding or financial limitations, and concerns over suitability of available treatment options, for example due to specific health concerns or if BMI was too high. The suggestion that alternatives to genetic parenthood, such as third-party reproduction, adoption, or childless lifestyle should be discussed was identified by staff as challenging to give and by patients as devastating to receive.

Care and patient factors disrupting communication

Around a fifth of participants referred to interpersonal challenges experienced in the context of sharing bad news encounters. Staff did not tend to be self-critical, but many recognized limitations in care provided and suboptimal communication imposed by time or other constraints. Staff referred to the challenge of addressing negative emotional reactions (most commonly anger, frustration, extreme sadness) and the psychosocial implications of the news. They also referred to specific patient circumstances that made sharing bad news very challenging, for instance, during oncofertility care. Many patients referred to interpersonal challenges as bad news itself, most commonly, receiving the news in a context considered unfavourable (e.g. alone, without the partner, while driving) and non-empathic sharing of news (e.g. unfriendly or blaming attitude from staff, news shared in a very matter-of-fact fashion). Other patients referred to these challenges as adding to the burden of receiving (other) bad news. Patients also outlined specific suboptimal care experiences that created or augmented bad news, for instance perceived clinical incompetence or disorganization leading to treatment delays and complications.

Figure 2 presents a schematic summary of news topics, features, and contexts perceived to make bad news challenging. Most news topics were seen as challenging by staff and patients, with only new (non-fertility related) disease/health problems and negative interactions being mentioned by patients but not staff. Features that made news challenging differed for staff and patients, with commonalities being that news triggered uncertainty or were disruptive or definitive. The context of news delivery also affected staff and patients differently. For staff, patients' individual circumstances and reactions (emotions, concerns) to the news and work constraints influenced their views of how challenging news delivery was. For patients, sup-optimal care and communication made bad news worse.

Discussion

Staff and patients agree bad fertility news is any news that makes patients less likely to achieve parenthood spontaneously or access and do successful treatment to have children. However, the specific features (timing, nature, number) of each news and the context of its delivery (patient, care) shape perceived badness of news in distinct ways for staff and patients,

Table 3. Themes and illustrative quotes for the three most challenging topics of bad news staff share with their patients (total codes k = 100, participants N = 217).

Themes, proportion (%) participants mentioned theme, description	Illustrative quotes, staff number (S)
(Premature) treatment failure, 74% News that treatment is unsuccessful, especially unexpectedly before the transfer of embryos, meaning patients do not even have a chance to achieve pregnancy.	*'When patients' embryos did not develop and end up with nothing to transfer. Very sad new(s) to tell patients'* S59 *'Failed fertilisation, when the eggs collected do not fertilise and subsequently the patient's cycle is finished before it has even really begun'.* S40
New disease disclosure, 43% Informing patients of an infertility diagnosis for the first time or communicating a direct threat to patients' parenthood goals and identity.	*'Communicating irreversible conditions such as premature ovarian failure or non-obstructive azoospermia'* S91 *'Explaining to women 45 and over about poor egg quality. The problem is a lack of understanding and a serious lack in believing there is no cure for this issue'.* S78
Definitive bad news, 34% Informing patients treatment was unsuccessful, especially following repeated setbacks, or informing alternatives to genetic parenthood have to be considered.	*'To tell a woman/couple after long fertility treatment that she/they will not be able to get a biological child'* S88 *'Loss of pregnancy—following perhaps many rounds of unsuccessful fertility treatment'* S162
Untreatable, 28% Communicating the need for treatment cessation due to protocol limitations, concerns over patients' suitability for treatment, or logistical restrictions to care such as constrained finances and resources.	*'We are not going to treat the patient because there are too many concerns about the psychosocial stability of the patient'* S46 *'Discussion about ending ART and accepting that there is no reasonable treatment option'.* S175
Unexpected, uncontrollable, or uncertain news, 23% Sharing bad news that were unexpected and/or without knowing the reason(s) for the (negative) outcome.	*'Unexpected bad news—when (the) patient was not aware of the possibility'* S98 *'Unable to pinpoint underlying reason for failure'* S103
Patient reactions and circumstances, 19% Negative patients' emotions and/or concerns that are difficult to address or specific patient characteristics that make the sharing of bad news more challenging, such as cancer-related fertility care.	*'Some of them are frustrated, others are angry'* S115 *'Answering moral/ethical/religious/spiritual/personal beliefs/"karma" related questions to why the disease happened to them'* S177

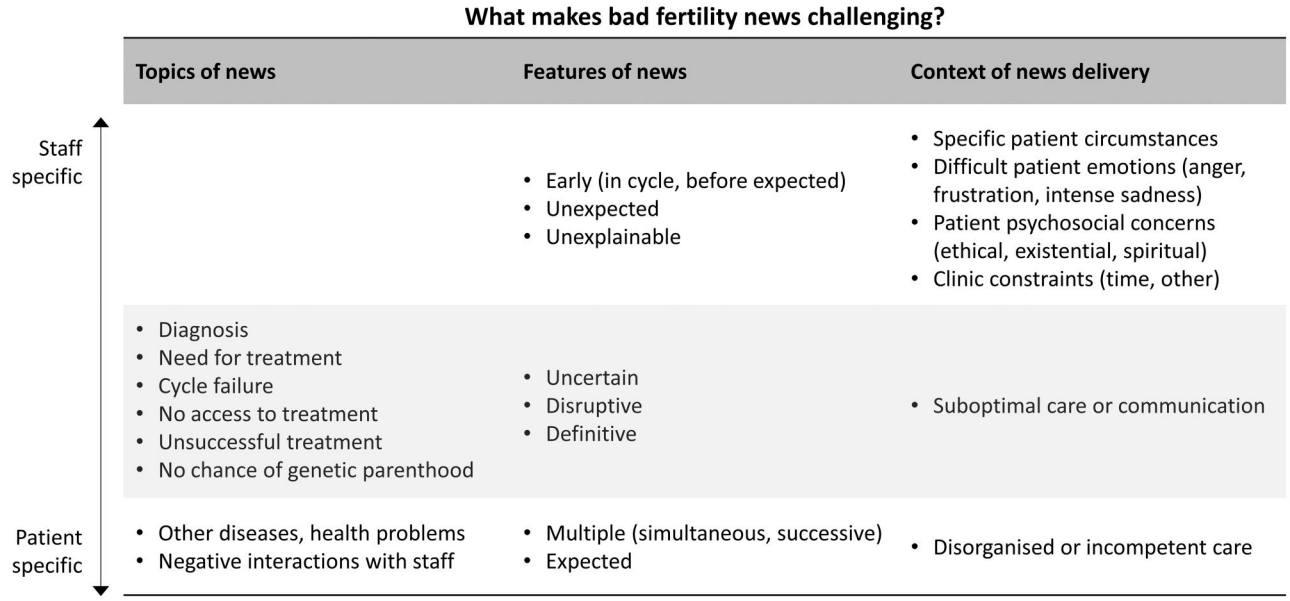

Figure 2. Schematic summary of news topics, features, and interpersonal contexts perceived to make bad fertility news challenging. The light grey area represents commonalities between patients and staff.

most likely because these define the challenges to be faced. Guidance to share bad news in fertility care needs to go beyond easing the process for patients to also include staff experiences. Guidance may need to be tailored to news features and context.

Results shown in Fig. 2 suggest staff have intuitive understanding of what will be bad news for patients (Lamiani *et al.*, 2012). While two bad news topics were only mentioned by patients, staff responses suggested awareness that such issues pose challenges to patients. Results are reassuring in that they indicate staff can identify when they should prepare to share bad news and when to apply best-practice recommendations to optimize how they share it.

Bad news poses different challenges to staff and patients. For staff, news is particularly challenging when it reflects therapeutic failure or limitations. Indeed, staff highlighted news that happens early (in cycles, before expected), is unexpected (patient is unaware news can happen) or unexplainable, and their answers reflected frustration towards the limits of medically assisted reproduction. Unexpected news can trigger shock reactions in patients (Groh and Wagner, 2005) that staff may find difficult to address. Staff may also feel responsible for not being able to anticipate or explain news. Research indicates that forewarning patients about possible negative outcomes in advance of treatment and giving a warning shot that bad news will be shared aligns with patient preference and can attenuate shock reactions (Baile *et al.*, 2000; Mosconi *et al.*, 2021; Harrison *et al.*, 2022). Taking these steps could ease the task for staff and promote more constructive discussions of the news implications.

Both groups equate the badness of the news with the extent to which it interferes with patients' ability to have children. Specifically, news that creates uncertainty about, is disruptive of, and compromises quality and efficacy of treatment is perceived as particularly bad (for patients, even when the news is expected), and news that treatment is not possible or unsuccessful as devastating. The underlying challenge for staff seems to be how to foster (realistic) hope in the face of uncertainty and adversity, skills in which most staff feel they lack competence (Leone *et al.*, 2017; Boivin *et al.*, 2020; Gameiro *et al.*, 2023). Evidence to inform how competence can be achieved in fertility care is lacking, but the field can benefit from advances made in other areas of care, such as oncological and end of life care (Hill *et al.*, 2022). Sharing bad news guidance bespoke to fertility care should also address how to communicate uncertainty (Simpkin and Armstrong, 2019) and address (extreme) emotional reactions empathically (e.g. anger; Gerhart *et al.*, 2017).

Many stressful events begin with what can be considered bad news and many of the news features leading to worse appraisals in staff and patients are consistent with the cognitive theory of Stress and Coping (Lazarus and Folkman, 1984). According to this theory, stress or harm appraisals are more likely for events that are unpredictable or uncertain, uncontrollable, co-occur with other stressors, and for which people feel they lack coping resources to manage the demands of the situation. Such situations are taxing and can cause psychological, physiological, and behavioural stress reactions. Future research should identify and measure the impact(s) of bad news for fertility staff and patients. It should also (continue to) explore if, consistently with coping interventions based on the Stress and Coping model, tailoring SBN delivery to the features of the news will decrease stress (or badness) appraisals, news impact, and create benefits for staff and patients (see Legg and Sweeny, 2015, for a comprehensive review of current understanding on this topic).

Finally, the interpersonal and organizational context in which bad news is shared can affect how news is appraised. Beneficial factors seem to be those that enable a patient-centred approach to discussing the news and its implications for future care (Baile *et al.*, 2000). These are resources, such as an adequate private and safe space that allows for the involvement of significant others (e.g. partners), good staff communication skills, and enough time to share and discuss the news. Furthermore, well-organized and competent care can avoid additional bad news in the form of delays or complications. Systematic review has shown patients attribute high importance to these factors when receiving an infertility diagnosis (Mosconi *et al.*, 2021). Overall, these data show bad news will always be bad, but the way it is conveyed can make a (positive/negative) difference. When favourable communication conditions are lacking, SBN encounters can become strained (Boivin *et al.*, 2017; Leone *et al.*, 2017) and this can fuel staff burnout (Simpson and Bor, 2001). While associative research has shown that staff who do sharing bad news training experience less burnout (Johnson *et al.*, 2019), this association may be moderated by staff resources (space, time) to acquire and apply skills. Future research should investigate how fertility patient-staff communication is shaped by organizational factors.

Strengths and limitations

Data were collected via two cross-sectional online surveys, and this created limits for the sample representativeness, as participants were mostly women attending or working at European private clinics. The surveys targeted different staff and patients who were not reporting on the same bad news. Questions differed for patients and staff, with patients reporting primarily on one specific event of receiving bad news and staff reporting their overall views of what constitutes bad news. Although these differences could prompt different views of bad news our results suggest otherwise. The surveys focused on subjective perceptions of news and did not measure its actual impact. However, there is enough evidence in support of appraisals determining wellbeing, including in healthcare professionals (Li and Hasson, 2020).

Conclusion

The badness of fertility news is a product of the extent to which the news compromises parenthood goals, its features (timing, nature, number), and the context in which it is delivered. Qualitative research showed fertility staff thought SPIKES, the most endorsed and efficacious framework to guide bad news delivery in healthcare (Baile *et al.*, 2000; Johnson and Panagioti, 2018), is appropriate for fertility care. Our results suggest SPIKES (or similar frameworks) may need to be adapted or augmented so that guidance puts equal emphasis on addressing the challenges that sharing bad news poses to staff and patients, is tailored to news features, and informs on how to communicate uncertainty, address (extreme) emotional reactions empathically, and promote hope when sharing the news. Future research should investigate how news features and organizational factors shape delivery, appraisals, and impact of news.

Data availability

The mixed-methods surveys will be made available in the Open Science Framework website (https://www.osf.io), alongside quantitative data submitted. We prefer not to make the qualitative data available as there is a risk of some participants being identifiable.

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Authors' roles

S.G., J.B., E.A., and C.G.M. conceptualized, designed and distributed the surveys. A.D. contributed to survey design. E.A., J.B., S. G., and M'.O. analysed the data. S.G., E.A., and J.B. drafted and revised the article with input from all authors, who approved the final version for submission.

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Conflict of interest

S.G., J.B., O'.H., and A.D. report funding from the Higher Education Funding Council for Wales and the European Society for Human Reproduction and Embryology (ESHRE) to develop fertiShare: a sharing bad news eLearning course for fertility care. fertiShare will be distributed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence (CC BY-NC-SA 4.0). No other conflicts are reported in relation to this work.

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