Title

Strategies to communicate pregnancy complications: a systematic review and practical points for healthcare professionals.

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Abstract

Purpose/Methods

This systematic review aims to provide an overview of strategies available for healthcare professionals (HCPs) to effectively communicate unexpected news in pregnancy, specifically for the most common pregnancy complications. Three medical databases and grey literature were searched until March 2023 using subject headings and keywords. Snowball techniques were also used. The articles were reviewed at each stage of screening independently by two separate authors. Qualitative, quantitative and mixed methods studies were included.

Recent Findings

Forty-three studies were included and grouped according to the gestational age of the pregnancy complication – miscarriage, increased risk screening, fetal conditions, stillbirth. The main key points for communication were outlined at each specific complication and eventually the six common themes that emerged from all the categories were included in the acronym PRICES (Preparation – Referral – Individualised care – Clarity – Empowerment – Sensitivity)

Summary

Given the negative impact of failed communications both in pregnancy outcomes and patients' experience, we advocate that communication training for HCP providing pregnancy care should be mandatory, and skills should be updated at regular intervals. Tools like our acronym PRICES can be used during teaching HCPs how to communicate more effectively.

Keywords

Communication – pregnancy complications – disclosing unexpected news – discussing risk

Key-points

- Implementing protocols addressing both the biological and psychosocial aspects of healthcare is crucial to provide holistic care to patients.
- Communication training for healthcare providers delivering pregnancy care should be mandatory, given the negative impact of failed communication on pregnancy outcomes and patient experience.
- We suggest the use of PRICES (Preparation, Referral, Individualised care, Clarity, Empowerment, Sensitivity) acronym that can be used by HCPs when they plan their strategy to deliver unexpected news to pregnant women.
- PRICES can also be utilized to teach HCPs how to communicate more effectively during difficult antenatal conversations.

1. Introduction

For many women pregnancy is an exciting and positive experience. However, occasionally complications may arise (1) which range from minor and manageable to serious and potentially fatal (2). Such complications can happen at any point during pregnancy, from conception to delivery, and can impact either the mother, the developing fetus, or both (2).

The act of conveying unexpected news to patients has been a subject of discussion among different experts, with a focus on the ethical, cultural, psychological, and legal aspects that healthcare professionals (HCP) need to consider (3). Overwhelmingly, evidence suggests that HCPs are generally ill-equipped to deliver such information (4), and patients often have unpleasant memories of the moment they received the news due not only to the news itself but also to the healthcare provider's inadequacy to communicate such news, lack of sensitivity, or both (5).

In the context of antenatal care, all HCPs will have to communicate unexpected news to prospective parents at some point in their careers (4). A growing body of evidence suggests a link between parental anxiety related to receiving news regarding actual or potential pregnancy complications and adverse pregnancy outcomes including preterm delivery, growth restriction, deteriorating parental mental health and poor bonding with the expected offspring (6-8).

Different training strategies including those based on the SPIKES approach (9-11) or others adapted to Obstetrics (12, 13) and simulation-based training (14) have been shown to enhance HCP confidence in disclosing unexpected news (15), reduce their distress, anxiety, and depression related to this task (16) while improving patients' experience (17).

Despite this, communication training is often neglected during both medical education and specialty training (18). Recent studies have indeed reported on the dissatisfaction of HCP providing pregnancy care regarding their skills in delivering unexpected news thus highlighting their need for formal training in communication (19, 20).

In fetal medicine, where delivering unfavourable news is even more common, a wealth of lived experience has been accumulated from parents and HCPs, emphasizing the need to reflect and build on these experiences to develop strategies that can improve communication in pregnancy (21). Several studies have investigated tools for delivering unexpected news in specific obstetric scenarios, such as fetal structural (22-24), or chromosomal problems (25) or stillbirth (26). Other studies have focussed on the perspective of HCPs (4) or on parental views and experiences (27).

To our knowledge no previous review have provided a comprehensive synopsis on strategies to improve communication at every different stage of pregnancy, considering both the healthcare professionals and the service users' perspectives. The aim of this review is to provide a critical overview of the strategies available to communicate unexpected news in pregnancy for the commonest pregnancy complications in order to assist HCPs during difficult conversations with pregnant women.

2. Methods

A systematic search of the literature was performed using three medical databases: MEDLINE (via OVID), EMBASE and PsychInfo. The search was carried out using subject headings (MESH terms, Emtree terms) and keywords. Grey literature review (MedRxiv) and snowballing techniques were also used.

All the search results were uploaded into the Covidence software and screened by three reviewers (IK, AB, MN), first by abstract and then by full text. Conflicts were resolved between the main author (IK) and one of the other reviewers (AB). All primary research articles available in literature and published in English language until March 2023 were included in our review. Exclusion and inclusion criteria are detailed in **Figure 1**. Quality assessment was performed using CASP checklist for qualitative studies(28), MMAT tool for mixed methods studies (29), tool for critical appraisal of surveys for the Questionnaire studies (30) and a critical appraisal checklist tool for evaluating guideline articles (31). Two reviewers (IK, AB) performed the quality assessment independently, resolving disagreements via discussion. Scores ≤ 5 were considered "low", scores of 6/7 were considered "moderate", scores of 8/9 were considered "high" and scores of 10 were considered "higher" quality.

In view of the heterogeneity of the studies included (qualitative, quantitative, mixed methods) a metanalysis of the findings was not performed.

3. Results

Forty-three studies were included in our review of which, 31 qualitative, 6 quantitative, 5 mixed methods and one guideline article produced as a consensus from a multi-disciplinary panel. Geographical setting varied widely across the studies, albeit almost exclusively limited to first-world Countries. Thirty-three studies focused on experiences of service users, 7 on the views of HCPs and 3 from both. The main "outcomes" or "strategies" outlined in each paper were identified and summarised based on their main focus in 4 sections: early pregnancy loss/miscarriage, increased risk at first trimester screening, fetal complications, and late pregnancy loss/stillbirth. Two additional sections are devoted to twin pregnancies and telemedicine. Quality assessment identified 16.5% studies to be of low quality, 48% moderate, 26% high and 9.5% higher. Details of the studies included are available in **Supplementary Table 1.**

3.1 Early pregnancy loss/Miscarriage care

Four articles discussed the key elements that promote effective communication in early pregnancy care (32-35) with individualised care being a recurrent theme.
Regarding care delivery, two studies highlighted the anxiety of women related to long waiting times for an assessment when their instinct of missed miscarriage was not acknowledged (32, 33). Another study suggested the importance of individualised extended support and follow-up care for women and their partners (32).
In terms of communication style and format, studies showed that women value a balance of hope, reassurance, honesty, and realism. They prefer to be informed of the possible outcomes of early pregnancy ultrasound scans before undergoing the procedure (34), and they wish for the care plan to be based on their values, needs, and preferences, rather than solely on adherence to clinical protocol (33). When disclosing a missed miscarriage, a UK-based, mixed method study concluded that operators may need to reinforce their words by showing the absence of cardiac activity on the screen (34).
An observational study where 40 trainees in O&G were assessed when disclosing news of miscarriage to patients, identified five main strategies to improve communication and patient experience in the early pregnancy unit setting. These include describing alternatives, assessing the context of patients' lives, evaluating their understanding, exploring their concerns, and determining their desire for input from others (35)

3.2 Increased risk at first trimester screening

Five studies discussed strategies to communicate risk at the first trimester screening (36-40). Regarding care delivery, studies stress the importance of screening services to include effective pre- screening counselling (where the purpose and possible outcomes of the screening process are clearly outlined), post-screening counselling (where the test result is explained) (33), as well as prompt access to diagnostic tests and results for individuals with a higher risk status (39). Finally, counselling that helps individuals readjust to having a 'normal' pregnancy after negative diagnostic tests should also be provided (37).
Regarding risk communication, the effects of different formats of communicating risk should be considered when choosing a strategy to disclose these results and tailor to the individuals involved (40). A survey study including over 500 HCPs and lay people suggested that women find less worrying when a risk is expressed in percentage rather than 1 in X. The chances of occurrence should be expressed in terms of both the desired and undesired outcomes. For example, the baby has 5% chances of having Down syndrome or 95% chance of not having this (38). The use of words such "rare"," abnormal" and "syndrome" should be avoided if possible as they increase anxiety (38). To overcome selective number numbness among pregnant women, practitioners may choose to use minimally descriptive comments, such as "this risk value is above average," (36) or opt for a graphical format (40) (**Figure 2**)

3.3 Fetal conditions

Twenty-four studies outlined strategies to communicate unexpected news regarding conditions in the unborn fetus. (41-64).

Regarding care delivery, both in the case of ultrasound screening or fetal medicine setting, the literature unanimously agrees on the importance of prompt referral pathways, as minimising the interval from the first suspicion to a final diagnosis and specialist counselling is vital for the parents (49). In this respect, several studies urge for fetal medicine centres to create strong links with supporting specialised services, such as geneticists, fetal cardiologists, paediatric surgeons and cleft lip services (43, 49, 53, 55, 63) and highlights parental willingness for specialised referrals, with the aim to get clear, accurate and up-to-date information (41, 53, 62). Specialised counselling should be also supplemented with written materials, web resources and signposting to support groups (49, 63). Expecting parents value highly continuity of care (47, 48). However, Involvement of nursing staff and other support persons is also highly encouraged (51, 57, 59, 63).

In terms of communication style, all HCPs conducting screening ultrasound scans should prioritise the human and spiritual aspects of healthcare, emphasizing qualities such as empathy, sensitivity, and active listening (53, 59, 60). For this to be achieved, it is important to provide specific training in social skills and cultural competence to ensure that HCPs are better equipped to meet the needs of diverse patient populations (44) (53, 60).
Prior to conducting any consultation, operators should review the medical history of each pregnant woman as certain conditions such as a history of miscarriage may result in heightened emotions and potentially impact the communication process (46). HCP should communicate directly with the woman being examined, make eye contact to establish a sense of connection and ensure that she and her partner are comfortable physically throughout the consultation (52, 59). Any ultrasound finding of known or suspected significance should be disclosed with honesty, kindness, using simple words and avoiding assumptions to avoid misunderstanding and unnecessary distress (54). When complex jargon and technical terminology are necessary, lay interpretations should always be provided and the term "baby" should always be preferred to "fetus. HCP's approach should be calm and optimistic (41, 61). The importance of communicating honestly with the parents a suspected problem in their unborn baby at the first visit is highlighted by a Canadian, interview study, which included 42 women with a history of unexpected findings during their pregnancy. One of the themes

emerged during the content analysis from these interviews was that women prefer to know if during the scan a problem has been detected rather than leave the department with a false sense of reassurance (58).

Regarding the format of communication, particularly in the case of a screening visit, operators may consider pointing out the suspected problem on the screen as this has shown to be valued by prospective parents (42, 58). They should answer all the questions to the best of their abilities (59), ensure that a prompt referral for specialised review is expedited, as appropriate (58), and provide written information such as leaflets to revise at home (44, 61). Regarding the amount of information to be conveyed, an Irish grounded theory study suggests that HCPs should adapt the level of detail they provide to pregnant women based on their information-seeking tendencies. Women who have high information needs ("monitors") generally respond well to receiving detailed information. Conversely, those who exhibit information-avoidance behaviours ("blunters") should be allowed to choose when they are ready to receive information and be facilitated in an "opt-in" process to reduce the stress caused by perceived information overload (45).

In the case of women referred to a fetal medicine unit, evidence agrees on their desire for prompt diagnosis, more explicit information, both verbally and in written form, including details on best- and worst-case scenarios (47, 48). Regarding communication format, the literature stress the important of parents being given individualised, detailed information that will help them understand their offspring's diagnosis, make an independent, informed decision regarding preferred management (56), and prepare for birth and postpartum period (43, 53). These explanations should be written down and given to patients to ensure better understanding (61).
An American mixed methods study suggests that by gaining insight into parents' caregiving motives, HCPs can understand their priorities and concerns (55). Results from an interview-based study set in Spain in women who opted for pregnancy termination following a diagnosis of fetal abnormality emphasize that HCPs should ensure women have the opportunity to voice uninterrupted their priorities, perspectives, and concerns (47). Issues such as feelings of guilt and fears of losing the baby or discovering other anomalies or neurological problems at birth should be addressed during prenatal consultations(46).
Clear information regarding management options and care plans should be outlined in a sensitive and sympathetic manner (41, 57). When an invasive procedure is recommended, then this should be available as soon as possible (42). However, the only guidelines available in the literature on communicating unexpected news during obstetric ultrasound comes from a UK group and included a recommendation on refraining women from making any decisions during the first scan (61).

3.4 Late pregnancy loss/Stillbirth

Seven articles in the literature addressed the topic of communication in late pregnancy loss (65-71). Stillbirth is a devastating event for any expecting parent and healthcare professionals should learn how to protect these parents from unnecessary additional psychological trauma caused during the process of diagnosis and aftercare (67).

Regarding care delivery in this setting, adequate presence of family or friends (70), continuity of care as well as interdisciplinary approaches, including bereavement specialists or social workers (71), have been identified as crucial elements to provide comfort, answer questions, and address concerns. Individualised care has been promoted over adherence to protocol, for example length of time between diagnosis and induction of labour to be tailored to each woman's needs (67).

Healthcare professionals should be trained to communicate this information in a sensitive, supportive manner(68, 69). Overall, according to another recent mixed methods study that involved 439 participants, HCPs should be trained in the biological, psychological, and communication/language skills necessary to support women who have experienced stillbirth and to provide them with the care and support they need during this difficult time (65).

According to a qualitative study carried out in Ireland, bereaved parents appreciate clear and explicit communication of the diagnosis, without leaving doubts and using diversionary techniques (66). The timing of stillbirth disclosure should balance the patient's desire for immediate information with the need for accurate diagnosis (70).
The literature insists that the communication strategies do not stop at the point diagnosis. HCPs should be able to provide more clear information about next steps by assessing when the parents are ready to make decisions. This involves allowing some time following the diagnosis for emotions and questions (71).

3.5 Twin pregnancy

Only one small study focussed on strategies for communicating unexpected news in twin pregnancies (72) analysing interviews of 9 service users with lived experience of loss of one twin. This study highlights the importance of counselling parents appropriately about the risk of adverse pregnancy outcomes in twin pregnancies. It stresses the concept that the death of a co-twin should never be overlooked, as the surviving twin cannot and should not be considered a replacement of the lost one. Finally, it outlines the need to provide support to both mothers and fathers separately, as their needs may differ, and as a couple.

3.6 Telemedicine

Use of telemedicine has increased over the past few years following the COVID-19 pandemic (73). Two studies provide guidance for HCPs conducting video consultations in prenatal setting(74, 75). An American study published in 2013 suggests that proving patients with detailed information on what to expect from their virtual consultation ahead of the appointment may improve their experience. During the consultation, the camera should be focused on the HCP to avoid distracting the patient and strategies should be in place to avoid any interruption of the specialist (phone calls, bleeps etc) during the consultation (74). A more recent study that interviewed 16 women who had received unexpected news by telephone has concluded that a patient-centred approach is most effective and beneficial for delivering difficult news to prenatal patients (75). Signposting to written information, support group resources and follow-up care is deemed essential also in this setting (75). Finally, feedback should be sought from the patients in order to improve this new type of service (74).

4. Discussion

In this review we discussed evidence for effective communication strategies in prenatal care. Four key scenarios are considered, each with specific communication challenges, for which evidence-based recommendations are discussed, and summarised as practical points in **Table 1**.

Despite different timing or nature of the complication considered, it is apparent that there are six common themes that emerge from the strategies outlined, which can be memorised with the acronym **PRICES**. These include:

P – Preparation: Prepare for the consultation by reading the medical history, prepare the parents for possible adverse outcomes of screening test/high risk pregnancies.
R – Referral: Minimise waiting time for referral and diagnosis. Refer to specialists as appropriate.
I – Individualise care: Do not adopt a one-size-fits-all approach but offer information and care tailored to patients' individual needs.
C – Clarity: Offer clear, honest information (verbal and written). Answer all questions to the best of your ability. Refrain from false reassurance.
E - Empowerment: Empower women and their partners to make independent, informed decisions; let them voice priorities and concerns; avoid making assumptions.
S- Sensitivity: Disclose information with sensitivity and empathy.

4.1 Strengths and limitations

Strengths of this review include the systematic design, the focus on different pregnancy complications, the wide geographical variation of studies included which makes it applicable to different populations/settings, the creation of an acronym and practical points to guide HCPs through the difficult task of delivering unexpected news in pregnancy .
Main limitations include the heterogeneity of the design/methods of the studies included, which accounts for the inability to perform a metanalysis of the results.

5. Conclusion

To ensure that patients receive holistic care that encompasses both their physical and psychological well-being, it is essential that all units implement protocols addressing both the biological and psychosocial aspects of healthcare (60). Our review has provided evidence to support HCPs when facing difficult conversations regarding the commonest pregnancy complications. Delivering unexpected news is not an innate talent but a skill that can be taught, practiced, and learnt. Given the negative impact of failed communications both in pregnancy outcomes and patients' experience, we advocate that communication training for HCP providing pregnancy care should be mandatory, and skills should be updated at regular intervals. Tools like our acronym PRICES can be used during teaching HCPs how to communicate more effectively. Finally, co-production studies between HCP and patients with lived or learned experience are needed to ensure that patients' communication needs are truly met during difficult conversations in pregnancy. Further studies should also address communication between HCPs and women with more complex communication needs, such as those living with mental health conditions and/or learning disabilities.

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Conflicts of interest
Authors declare no conflict of interest.

6. References

Papers of particular interest, published within the annual period of review, have been highlighted as:
* of special interest
** of outstanding interest

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