

Stillbirth: is it preventable?

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Abstract

In the UK stillbirth, describes the death of a baby before birth after 24 completed weeks of pregnancy. The rate has decreased in the UK over recent years but at a slower pace than other similar high-income countries. The association of certain risk factors (including maternal age, previous poor obstetric outcome, smoking and obesity) is clearly documented, though only a number of these factors can be modified. Use of interventions including the 'Saving Babies Lives' Care Bundle focussing on smoking cessation, assessment for small for gestational age (SGA) babies, educating women regarding reduced fetal movements and effective fetal monitoring during labour aim to reduce both antenatal and intrapartum stillbirth. As yet, it remains difficult to predict which pregnancies are at greatest risk of stillbirth but with further research, ongoing improvements in antenatal and intrapartum care, and improved patient education, it is anticipated that the incidence in the UK can be substantially reduced.

Keywords antenatal stillbirth; intrapartum stillbirth; prevention; reduced fetal movements; small for gestational age; stillbirth

Introduction

In the UK stillbirth is defined as the death of a baby born with no signs of life over 24 completed weeks of pregnancy. The most recent data suggest that in the UK the absolute risk of stillbirth is approximately 1 in every 260 pregnancies. Since 2000 this has decreased by 1.4% per year, with a more significant fall between 2014 and 2015 from 4.20 to 3.87 stillbirths per 1000 total births (Figure 1). The slower initial annual rate of reduction placed the UK in the lowest third of countries. Stillbirth rates are considerably higher in low and middle income countries (LMICs) where there is often poorer access to healthcare resources and less comprehensive antenatal and intrapartum care. In high-income countries (HICs) the majority of stillbirths occur in the antenatal period with fewer than 10% occurring intrapartum, starkly contrasting to LMICs where 50% of stillbirths occur in labour.

The disparity between the stillbirth rate in the UK and comparable HICs, and within different areas of the UK, suggests that a significant proportion of stillbirths are preventable. In 2016, the UK government implemented targets to reduce stillbirth by 20%

by 2020, and by 50% by 2030. A number of strategies have been introduced to help with this, including the 'Saving Babies Lives' Care Bundle which will be discussed later.

This article will discuss the diagnosis and initial management, causes, investigation and classification of stillbirth. It will then focus on risk factors associated with stillbirth to help explore strategies which might be pursued to reduce or prevent stillbirth. The overall premise of this article is that a significant proportion of stillbirths in the UK are preventable with different care. This is underpinned by observations from the Confidential Enquiries which have identified that suboptimal care was a factor in around 50% of cases; had alternative care been given, the outcome may have been different.

It is important to remember that stillbirth has many potential causes. Attempting to define the cause as a distinct entity, and separate it from a spectrum of possible contributing and confounding factors can be challenging. In the UK, in 17–42% of cases the diagnosis remains unclear or unexplained. When a comprehensive classification system (such as the ReCoDe or CODAC systems) is used, the number of cases classified as "unexplained" is substantially reduced.

Diagnosis of intrauterine death and initial management

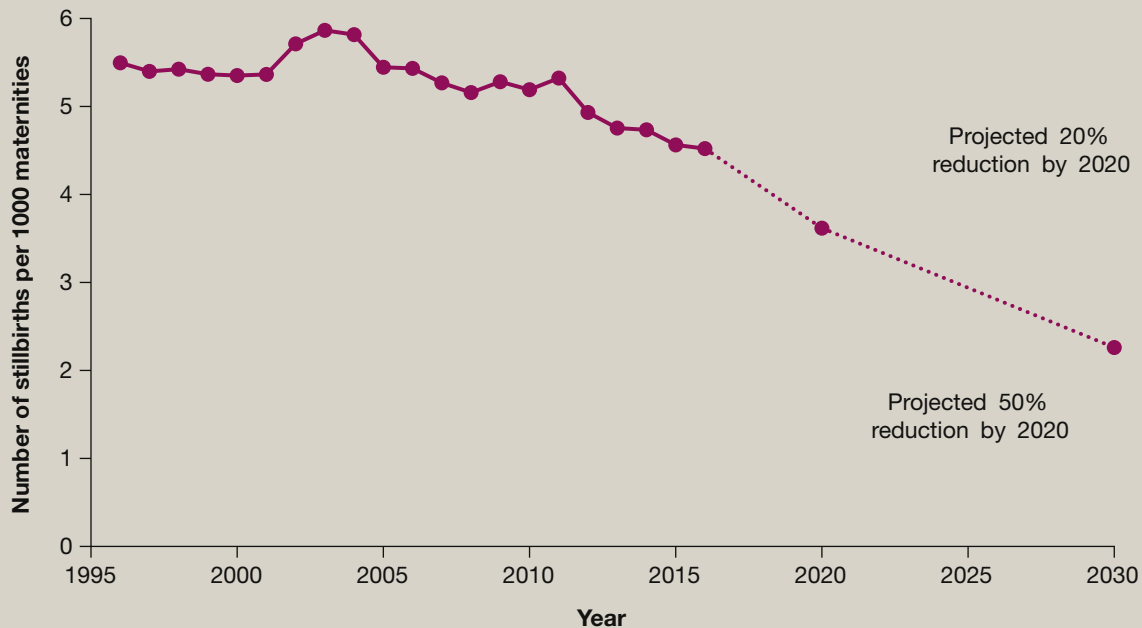
Guidelines recommend that diagnosis of intrauterine fetal death (IUFD) should not be made by auscultation of the fetal heart using doppler ultrasound or cardiotocography (CTG) alone. Although these techniques are often used to *suspect* fetal death, they are not sufficiently reliable for formal diagnosis. Ultrasonography must be employed to confirm fetal death by direct visualisation of the fetal heart, ideally augmented with colour Doppler flow of the fetal heart and/or umbilical cord vessels. Ideally, ultrasound services should be available at all times in consultant-led units. If possible, the woman should have her partner or another family member with her. Women's reactions after being told their baby has died vary immensely; all women must be offered appropriate psychological and social support.

Detailed discussion of the management of stillbirth is outwith the scope of this article, but planning for birth should be decided taking into account the mother's preferences as well as her wellbeing and clinical history. If there is concern regarding maternal wellbeing then immediate augmentation of delivery is recommended. Rarely, caesarean section may be required if there is significant maternal compromise e.g. from massive placental abruption. Women should be advised that if they are well with normal haematological and biochemical parameters that they are unlikely to suffer complication with a short period of conservative management. They should be provided with open access to the maternity unit during this period. Although there is a paucity of evidence, vaginal delivery is recommended in most situations with a combination of mifepristone and a prostaglandin preparation as first line management. Mifepristone is an anti-progestagen and acts by downregulating the effects of progesterone thus taking 24–48 hours to work. Mifepristone reduces the number of doses of misoprostol required for delivery. Administration of mifepristone and misoprostol remains best practice in women with a previous caesarean section, though the doses are lower and it should be recognised that data are lacking for those with multiple caesarean deliveries or atypical uterine

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Total stillbirth rate per 1000 maternities from National Statistics data: United Kingdom 1996–2016



Data adapted from the Office of National Statistics demonstrating the number of stillbirths per 1,000 maternities over a 20 year period as well as the projected reduction needed in order to achieve the government targets of a 20% reduction by 2020 and a 50% reduction by 2030.

Figure 1

incisions. Delivery in these situations should be planned with senior obstetric involvement. Uterine dehiscence and or rupture is a real possibility. One-to-one care should be given in labour by an experienced midwife and maternal wishes for analgesia should be respected.

Postnatal care

Care of women and their families following stillbirth is critical in determining long-term outcome. It is an undeniably emotional time and support should be available whilst in hospital and following discharge from the maternity unit. Maternity units should have specifically trained members of staff (midwives, nursing staff, obstetrician, specialist bereavement counsellors) who can help parents and families at this time.

Following stillbirth, women are at increased risk of postnatal depressive symptoms, which may require mental health referral if symptoms are severe. Lactation suppression with dopamine agonists (e.g. Cabergoline) reduces breast milk production, though not all women may want this. General medical considerations including thromboprophylaxis must also not be forgotten.

Duty of candour should be implemented and families should be kept informed regarding the investigation process and given an opportunity for an in-depth postnatal debriefing once investigation results are available. This may help with their grieving processes and can also prompt discussion about future pregnancy and possible care and outcomes in the event of subsequent pregnancy.

Determining the cause of stillbirth

Attempting to identify the cause of stillbirth (and relevant associated factors) is important for parents to enable them to understand why their baby died and the likelihood of complications in future pregnancies. It is also important from a public health perspective to understand the underlying reasons for stillbirth to guide preventive efforts. Determining the cause of stillbirth depends on the availability of information from mother's medical records and postnatal observations and investigations. This information is then combined to record the causes and associated factors relating to stillbirth. Thus, accurate recording is dependent upon good quality information and the use of an appropriate classification system. In a significant proportion of cases of stillbirth (15% with a detailed classification system and up to 66% where a classical classification system is not used), no specific cause is found though there may still be a number of associated risk factors identified (Box 1).

Investigation of stillbirth

Investigation following stillbirth focuses on confirming maternal wellbeing, trying to establish a cause of fetal death and attempting to identify factors of relevance for any future pregnancy. The risk of disseminated intravascular coagulation (DIC) is 10% within 4 weeks following IUDF rising to 30% thereafter, therefore, tests should be repeated twice weekly if expectant management is considered although in practice in the UK expectant management for this duration of time is unusual.

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