Commentary

Rapid Decline in Stillbirths Globally

Abstract:

The decline in stillbirths from rates as high as 50 per 1000 births to roughly 5 per 1000 births now is one of the key success stories of contemporary obstetrics in high-income countries during the past five decades. Infant mortality linked to post-term pregnancies, hypoxia, hypertension, diabetes, Rh disease, placental abruption, and all infections, including syphilis, have decreased. The intrapartum period has seen several term births where this success has occurred. Most preterm stillbirths now occur during the antepartum period in high-income nations. Present-day stillbirth rates in many low- and middle-income countries, particularly in the regions of those nations with the worst similar to the functioning health systems found in high-income nations fifty years ago. The preponderance of late preterm, term and intrapartum stillbirths in low-resource nations is a significant distinction between stillbirths in high-income countries and elsewhere. By using established risk assessment techniques and quick delivery, frequently by Cesarean section, those stillbirths ought to be reasonably simple to avoid. A detailed six-paper study of stillbirths is covered in this commentary, focusing on low- and middle-income nations. One of the conclusions is that while a number of interventions have proven successful in reducing stillbirths, the potential for a substantial and sustainable decline in stillbirth rates will not be attained unless there is a working health system in which these interventions can be implemented.

Keywords: stillbirth, globally, decline

The decline in stillbirths in high-income countries is one of the key success stories of modern obstetrics. When compared to 40 to 50 years ago, when rates could reach 50 per 1000 births or higher, they are today frequently less than 5 per 1000 births, which is a roughly ten-fold decrease (1). Although the exact reason for this decrease is unclear, it is almost certain that it is due to the practically universal provision of antenatal and intrapartum care that focuses on risk identification, reduction, and treatment of obstetric complications as they occur. Obstructed labor, hypoxia, hypertension, diabetes, Rh disease, placental abruption, post-term pregnancy, and infections like syphilis all contribute to a lower rate of fetal mortality. Numerous treatments for these disorders have never been separately examined for their effects on stillbirth rates, but their widespread use over the past 50 years seems to have contributed to the remarkable decline in stillbirths mentioned above.

However, there has not been a consistent decline in the rates of all gestational ages or stillbirths. The majority of stillbirths currently take place antenatal and are preterm in high-income nations since stillbirths at term or during the postpartum period are becoming exceedingly rare. Actually, before 28 weeks of gestation, 50% or more of stillbirths take place (2). Despite past triumphs, the decline in stillbirth rates in

high-income countries has all but stopped in recent years. As a result, numerous research projects are being conducted to comprehend the current lack of advancement and to create novel interventions that will help to further reduce stillbirths. These measures must decrease stillbirths that take place during the first trimester if they are to be successful in high-income nations. Currently, many low- and middle-income countries, particularly those regions within those countries, have stillbirth rates that are alarming. Having inadequate health systems, approximately characteristics observed in wealthy nations fifty years ago (3). The main distinction between stillbirths in high-income countries and those abroad is that late pre-term, term, and intrapartum births predominate birth defects(4). Those stillbirths ought to be uncommon. Simple to avoid using well-known risk assessment techniques, and rapid delivery, frequently through a C-section (5). Delivering the elements of contemporary obstetric care as adopted by the majority of high-income nations should significantly lower stillbirth rates in low- and middle-income nations. Nations with underdeveloped healthcare infrastructure (6).

A group of renowned researchers has been led by Drs. Zulfiqar Bhutta (Aga Khan University), Gary Darmstadt (Johns Hopkins University), and Joy Lawn (Saving Newborn Lives/Save the Children), as well as researchers from Aga Khan University (MY Yakoob, T Soomro, EV Menezes), and Johns Hopkins University (RA Haws), have presented that stillbirths are one of the most frequent negative pregnancy outcomes, occurring more often than neonatal deaths, post-neonatal infant deaths, childhood deaths (ages 1 to 5) and AIDS-related adult fatalities (7). In contrast to these other causes of death, stillbirth has received little attention; it is not formally included in any of the worldwide indexes of disease, for instance. Rarely are interventions to lower stillbirth researched, and even interventions that have been reviewed to enhance other markers of mother and infant health have hardly ever included a study of their influence on stillbirth. An important first step in selecting the therapies that might be significantly contribute to solving this important and under researched issue is to conduct a comprehensive and thorough evaluation of the literature on prospective interventions that might minimize stillbirth.

This analysis of the literature makes the assumption that the major factors causing stillbirth are well understood, and that if only these issues were properly identified and treated, stillbirth would significantly decline. This presumption is accurate in general. The leading causes of foetal death worldwide include: 1) obstructed labour and the subsequent trauma, asphyxia, and infections; 2) infections unrelated to obstructed labour, such as syphilis and malaria; 3) asphyxia associated with maternal and foetal complications, including poor placental function; 4) severe pre-eclampsia and eclampsia; 5) severe pre-eclampsia; 6) maternal/fetal malnutrition; Geographical regions exhibit significant variations in the contributions of these different causes, although these are generally the main causes of death everywhere. However, in order to create and implement effective screening and treatment plans, it is crucial for any nation working to reduce its stillbirth rate to be aware of the regional causes of foetal mortality. Fetal autopsy, placental histological investigation, and medical histories have all been considered together to determine a cause of death in several high-income nations (8). Even with all of this knowledge, nearly one-third of all stillbirths are undetermined. Autopsies are nearly never accessible, and placental examinations are hardly carried out, therefore the precise cause of death is rarely known with any degree of accuracy in many low- and middle-income countries. Studies are presently being conducted to assess the efficacy of verbal autopsies, in which the cause of death is determined through systematic interviews with the mother, family, and birth attendants

(9). Compared to autopsy and placental examination, it is questionable if this method will have sufficient accuracy for identifying the proper cause of embryonic mortality.

The scarcity of vital statistics data for stillbirth from numerous nations and the lack of consistency in the existing data over time or between geographical areas are two of the key obstacles to gaining an adequate picture of stillbirths worldwide. For instance, many studies do not differentiate between stillbirth and neonatal mortality and instead include data on perinatal mortality. Lawn et al. outline the various birth weight and gestational age cut-offs that have been employed to define a stillbirth in the first paper of this series. Due to this, it is impossible to know the true scope of the issue globally or to compare geographical areas internationally in a meaningful way.

The authors have decided to adhere to the generally accepted worldwide standards for this series, which set the lower gestational age and birth weight cutoffs at 28 weeks or 1000 g. In the US, half of all stillbirths occur between 20 and 28 weeks (or weigh less than 1000 g), thus most states choose 20 weeks as the lower gestational age cut-off (10). If these figures reflect the contribution of preterm births lasting 20 to 28 weeks to stillbirth rates globally, significantly more stillbirths—defined as those lasting 20 weeks or more—occur each year than the 3.2 million stillbirths reported in this series. Based on this supposition, it is estimated that there are at least 6 million stillbirths worldwide each year. The link between different illnesses and stillbirth has piqued our curiosity in particular.

According to our analysis, 10 to 25% of stillbirths in high-income nations are presumably brought on by infections, whereas in low- and middle-income countries, the percentage rises to a significantly higher number (11). The huge variety and quantity of organisms that are documented to be responsible for stillbirths, particularly the extensive range of these kinds of organisms linked to vector- and animal-borne diseases, have astounded us. These have never been systematically researched, and it is uncertain how much of a contribution they make to the etiology of stillbirth. However, the advice from this collection of publications to concentrate on syphilis and malaria seems to be right on point (12).

In total, histologic chorioamnionitis is linked to more than 50% of early stillbirths in all settings and lesser but significant portions of late pre-term and term stillbirths. More than 50 different organisms can cause chorioamnionitis, or inflammation of the foetal membranes. The most prevalent ones are Urea plasma urealyticum, Mycoplasma hominis, Escherichia coli, and Group B streptococcus. Few interventions have, to now, been consistently demonstrated to lower chorioamnionitis and the ensuing preterm deliveries and stillbirths. A significant research effort should concentrate on reducing chorioamnionitis and make a determined effort to determine the contribution of all infections to stillbirths using cutting-edge molecular tools, especially in populations from various low- and middle-income countries. The fact that stillbirths do not always follow other unfavorable prenatal outcomes should also be made explicit (9).

High rates of neonatal fatalities, fistulas, long-term childhood morbidity, and maternal mortality all frequently co-occur in the same communities and geographical regions. Interventions that successfully lower maternal and early newborn mortality should also successfully lower stillbirths. Interventions that reduce stillbirth are expected to reduce other perinatal morbidities as well. Although not specifically assessed, the emergency obstetric care measures, which concentrate on timely Cesarean sections, coupled

with other interventions to prevent maternal fatalities, should have a significant influence on stillbirths as well (13).

We now have a better understanding of many of the evidence-based therapies that are effectively reducing stillbirths because of the extensive and in-depth review conducted by the writers of this series. Furthermore, the writers of this series have identified the behaviors that are most likely to have little or no effect on the number of stillbirths. Even if nothing else, maintaining these behaviors uses up resources that may be better effectively supporttreatmentsntst are effective. The richest and poorest women have vastly different access to life-saving Cesarean sections, even in low-resuscitation sourceurce situations (14). Now, especially in these situations, we must make therapies that have been shown to be effective in reducing stillbirths widely accessible and sustainably used.

The creation and evaluation of creative and efficient solutions is one way that research contributes. Another is programmatic research, which will educate us all on how to scale up interventions that are known to be helpful and to execute stillbirth reduction programs in locations where the burden of stillbirth is high and the resources available are scarce in a sustainable, cost-effective manner.

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