Editorial

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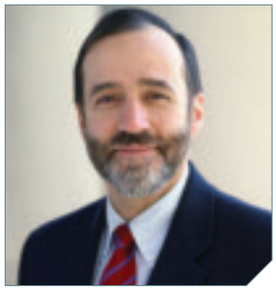

Stillbirth: Preventable tragedy or a lethal "act of nature"?

We've made great progress on reducing fetal loss, but more is needed because too many late stillbirths still occur

Stillbirth late in pregnancy is a major obstetric tragedy. It traumatizes the mother, reverberates through the family for weeks, months, and, sometimes, painful years, and creates recurring waves of sadness, loneliness, anger, and wonder about a child who might have been.

Stillbirth is often defined as fetal loss after 20 weeks of pregnancy (if gestational age is known). By that definition, there are about 6 stillbirths for every 1,000 total births in the United States. Over the past 20 years, the rate of early fetal loss (at 20 to 27 weeks' gestation) has remained relatively stable, whereas the rate of late fetal loss (28 weeks and later) has decreased by about 30%—likely because of better obstetric care.

Yet much more can be—should be—done to prevent stillbirth because, in part, a substantial number of stillbirths occur after 37 weeks of pregnancy. Here is one standardized, inexpensive way that we can reduce late fetal loss.

A woman at 38 weeks' gestation reports decreased fetal movement. What's your plan?

Instant Poll
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Assessing fetal movement

The Cochrane Systematic Review on the assessment of fetal movement as an indicator of fetal well-being, which was updated in 2006, concluded that **1)** available data were insufficient to influence practice and **2)** robust research was needed in this area.[1]

In a recent study of more than 65,000 pregnancies, however, Tveit and coworkers reported that **taking a standardized approach to a woman's report of decreased fetal movement reduced the rate of late fetal loss by approximately 33%**.[2] The study was designed as a multicenter intervention comprising:

- 7 months of preintervention (baseline) data collection, followed by
- standardized changes in practice, and then
- 17 more months of data collection.

Those "changes in practice" included **1)** a standardized approach to patient education on how a mother should assess, and respond to, what she perceives to be a decrease in fetal movement and **2)** a guideline for clinicians on how to respond when a patient offers a chief complaint of decreased fetal movement.

The centerpiece of the study's **patient education** intervention is a brochure* that includes a kick chart and detailed advice to the mother about how to count kicks and respond to what she perceives to be a decrease in fetal movement. She is advised to never wait until the next day to contact a health-care provider when she thinks that fetal movement has decreased.

The **clinical guideline** used in the study recommends that clinicians obtain, from all women who report decreased fetal movement, a nonstress test (NST) and an obstetric sonogram to assess fetal movement, amniotic fluid volume, and fetal growth and anatomy.

Impact of the intervention

Here is what investigators found:

- Before the intervention, baseline late fetal loss rate for the entire pregnant population at the study sites was 3 for every 1,000 births; afterward, that rate fell to 2 for every 1,000.
- The intervention did not significantly increase the number of women who self-reported decreased fetal movement.
- Before the intervention, 6.3% of pregnant women reported decreased fetal movement; afterward, that rate was 6.6%.

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Some suggestions on offering support for mother and family after stillbirth

You can do a world of good by providing support for a woman who has just experienced stillbirth; in fact, **such support, done well, is as important as the interventions you put in place to prevent fetal loss**. Although few high-quality studies have yielded evidence that can guide your response, after the tragedy of a stillbirth, to a grieving mother and her family, two small-scale observational and qualitative studies[1,2] recommend that you:

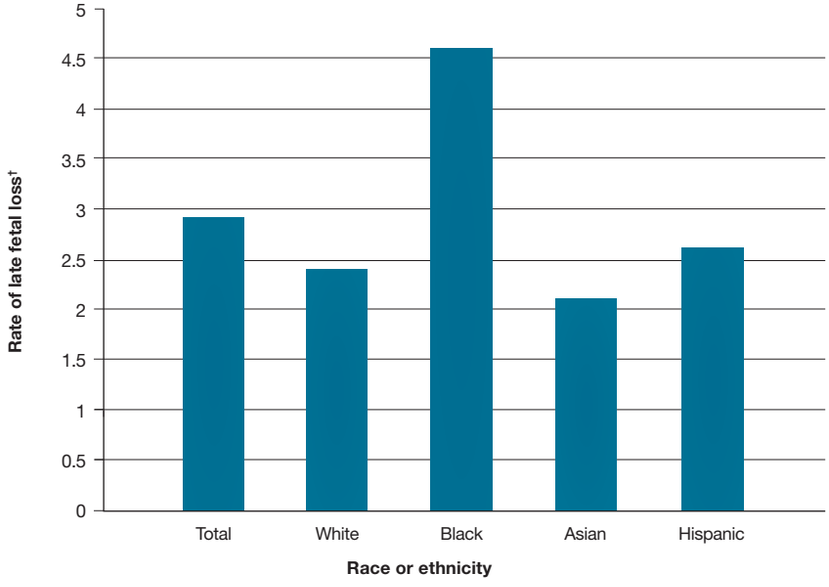
- reduce the woman's perception of chaos and loss of control
- support an individualized approach to her interaction with, and separation from, the fetus
- support her grieving and be sensitive to its critical steps, including denial, isolation, anger, and depression
- provide her with a comprehensible explanation for the stillbirth
- develop a well-organized care pathway from diagnosis of the loss through to delivery or surgical termination and recovery
- provide opportunity for follow-up with her and her family as a way to offer closure.

References

1. Säflund K, Sjögren B, Wredling R. The role of caregivers after a stillbirth: views and experiences of parents. Birth. 2004;31:132–137.

2. Rand CS, Kellner KR, Revak-Lutz R, Massey JK. Parental behavior after perinatal death: twelve years of observations. J Psychosom Obstet Gynaecol. 1998;19:44–48.

FIGURE Looking by race and ethnicity, blacks have the highest rate of late* fetal loss



*28 weeks or later.

†For every 1,000 (total) births beyond 20 weeks' gestation.

Adapted from: Centers for Disease Control and Prevention. MacDorman MF, Kirmeyer S. Fetal and perinatal mortality, United States, 2005. Natl Vit Stat Rep. 2009;57:1–20.

- Among women who reported decreased fetal movement, the late fetal loss rate fell—from 4.2% at baseline to 2.4% after the intervention ($P < .004$).
- Among women who reported decreased fetal movement, the **late fetal loss of a normally formed fetus decreased**—from 3.9% to 2.2% ($P < .005$).
- Because of ultrasonography, antenatal detection of growth-restricted fetuses increased significantly after the intervention.

What lesson can we take home?

In many birthing centers in the United States, the approach to decreased fetal movement isn't standardized. Taking a standardized approach to patient education about fetal movement and having a standardized clinical response that includes NST and sonography—the cornerstones of the Tviet study—is likely to reduce the rate of late fetal loss.

This approach to testing has a serendipitous advantage: It isn't associated with a massive increase in cost for additional testing.

Many hurdles ahead

The risk of late fetal loss is influenced by many variables, including:

- gestational length
- maternal age
- race and ethnicity (see the **FIGURE**)
- parity
- level of education
- history of fetal loss
- numerous maternal and fetal diseases (e.g., maternal diabetes, hyperthyroidism, and hypertension; fetal growth restriction and congenital anomalies).

Key word: "Optimize." The question of how to develop clinical algorithms that optimize pregnancy outcome by

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Instant Poll

Decreased fetal movement and a triple nuchal cord at term. What is your approach?

A 29-year-old woman, G2P1, reports decreased fetal movement at 38 weeks' gestation. Your physical exam is unremarkable; a nonstress test is reactive. You obtain an obstetric sonogram, with these findings:

- fetal movement is detected
- amniotic fluid volume is normal
- estimated fetal weight is at the 15th percentile
- anatomic survey is normal.

The sonography specialist calls you to report that she sees a triple nuchal cord—a finding that she observes only rarely.

The patient has had one previous vaginal delivery; the baby weighed 7 lb at birth.

Your plan is (most closely) to:

- ❑ recommend twice-weekly fetal testing and wait until labor begins spontaneously
- ❑ induce labor immediately
- ❑ perform cesarean delivery immediately
- ❑ wait; induce labor at 39 weeks
- ❑ perform amniocentesis and 1) induce labor now if fetal lung indices show maturity or 2) induce labor at 39 weeks if those indices show immaturity

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identifying an optimal upper limit of an optimal time for delivery hasn't been answered because the matter hasn't been exhaustively studied in randomized trials. It will be a challenge to validate such algorithms, because any strategy runs the risk of utilizing substantial health-care resources for modest clinical gain.[3–5]

Until sophisticated, multifactorial algorithms for identifying an optimal due date are developed, clinicians are left to select a few prominent variables to guide their recommendations—such as gestational length and maternal age. For a healthy woman, expectant management of pregnancy beyond 41 weeks is associated with an increase in the rates of stillbirth; meconium staining and meconium aspiration syndrome; and cesarean delivery. Based on these observations, many obstetricians routinely offer elective delivery to women who have reached 41 weeks' gestation but have not begun spontaneous labor.[6]

As I noted, in addition to gestational age, such variables as the mother's age and race influence optimal timing of delivery. Examples: For a woman 40 to 44 years old, delivery between 38 and 39 weeks' gestation may be optimal to prevent stillbirth. For a woman 25 to 29 years old, it is likely safe to allow the pregnancy to progress to 41, possibly 42 weeks' gestation before delivery.[7]

In addition, given the increased risk of stillbirth among black women (**FIGURE**), it might be reasonable to consider using race to **1)** guide the decision to initiate fetal testing and **2)** determine the optimal time for delivery.[8,9]

4,000 fewer tragedies would be a blessing

With 4 million births annually in the United States, a late fetal loss rate of 3 for every 1,000 total births means 12,000 near-term stillbirths. Monitoring fetal movement, and responding promptly and in a standardized manner when it decreases, would reduce late fetal loss by 33%. That is 4,000 more live births, every year.

Look how a small shift in practice can bring a significant change in outcome—each one of those babies a precious gift to a mother and family!

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References

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9. MacDorman MF, Kirmeyer S. Fetal and perinatal mortality, United States, 2005. Natl Vital Stat Rep. 2009;57:1–19.

Where you can send families for support after loss of a pregnancy

- www.compassionatefriends.org
- www.nationalshare.com
- www.misschildren.org
- www2.marshfieldclinic.org/wissp