DEFINIZIONI E ASPETTI CLINICI DELLA MORTALITÀ PERINATALE

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The stillbirth rate is a marker of high quality antenatal and intrapartum care, and a sensitive marker of a health system’s strength.

“Millions of families experience stillbirth, yet these deaths remain uncounted, unsupported, and the solutions understudied. Better counting of stillbirths alongside maternal and neonatal deaths and strategic programmatic action will make stillbirths count.”
Defining stillbirth

«Variability in definitions occurs mainly among the high-income countries (with a range from 20 ws and/or more) and affects comparability»

Trends in global average stillbirth rates up to 2015 and projections to 2030

Worldwide rate 18.4/1000
98% in low-middle income countries

2.6 million third trimester SB
1.3 million intrapartum
.... Non solo il taglio cesareo

Molte morti intrauterine sono prevenibili attraverso una assistenza prenatale ed intraparto di alta qualità

<table>
<thead>
<tr>
<th>Country</th>
<th>SB rate 2015</th>
<th>CS rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>1.3‰</td>
<td>14.8%</td>
</tr>
<tr>
<td>Italy</td>
<td>3.3‰</td>
<td>38%</td>
</tr>
</tbody>
</table>

High-income countries need to eliminate all preventable stillbirth

The goal is to reduce by 2020 the SB rate to fewer than 5/1000 births
Stillbirths in high-income countries

Italy is one of the high-income countries in which the SB rate has declined the most in the last 20 years.
Present stillbirth rates and reductions since 2000 in high-income countries

1.3-8.8/1000

The Lancet 2016
- Stillbirth rate **3.3‰**
- 1 in 350 pregnancies
- 6 stillbirths every day

*One of the worst trend of reduction!*

**(ARR 1.1% between 2000 and 2015)**

*Ending preventable Stillbirths Series Launch. The Lancet 2016*
## Risk ratios (95% CI) of stillbirths in 2010 vs 2004 for 22 European countries

<table>
<thead>
<tr>
<th>Country</th>
<th>RR</th>
<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>0.61</td>
<td>(0.50–0.74)</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.62</td>
<td>(0.51–0.77)</td>
</tr>
<tr>
<td>Italy</td>
<td><strong>0.63</strong></td>
<td><strong>(0.59–0.68)</strong></td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.68</td>
<td>(0.60–0.76)</td>
</tr>
<tr>
<td>Poland</td>
<td>0.79</td>
<td>(0.73–0.85)</td>
</tr>
<tr>
<td>UK: Scotland</td>
<td>0.80</td>
<td>(0.66–0.96)</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.85</td>
<td>(0.63–1.14)</td>
</tr>
<tr>
<td>Ireland</td>
<td>0.85</td>
<td>(0.72–1.01)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.86</td>
<td>(0.66–1.12)</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.86</td>
<td>(0.57–1.31)</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.87</td>
<td>(0.75–1.02)</td>
</tr>
<tr>
<td>Germany</td>
<td>0.88</td>
<td>(0.82–0.95)</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.89</td>
<td>(0.75–1.05)</td>
</tr>
<tr>
<td>France</td>
<td>0.89</td>
<td>(0.63–1.24)</td>
</tr>
<tr>
<td>Malta</td>
<td>0.90</td>
<td>(0.44–1.87)</td>
</tr>
<tr>
<td>Norway</td>
<td>0.91</td>
<td>(0.73–1.13)</td>
</tr>
<tr>
<td>UK: Northern Ireland</td>
<td>0.92</td>
<td>(0.68–1.24)</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.92</td>
<td>(0.79–1.07)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.94</td>
<td>(0.67–1.32)</td>
</tr>
<tr>
<td>UK: England and Wales</td>
<td>0.95</td>
<td>(0.90–1.00)</td>
</tr>
<tr>
<td>Finland</td>
<td>0.96</td>
<td>(0.75–1.24)</td>
</tr>
<tr>
<td>Austria</td>
<td>0.99</td>
<td>(0.82–1.21)</td>
</tr>
<tr>
<td>BE: Flanders</td>
<td>1.00</td>
<td>(0.61–1.22)</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.03</td>
<td>(0.53–2.00)</td>
</tr>
</tbody>
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### Pooled RR

- **RR:** 0.83
- **(95% CI):** (0.77–0.90)

### A 17% decline in all gestational age subgroups

- 12% 28-31 weeks
- 19% 32-36 weeks
- 18% ≥ 37 weeks

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Declines in stillbirth and neonatal mortality rates in Europe between 2004 and 2010: results from the Euro-Perinat project

Italian data on stillbirth, 1980-2008
From the Italian National Institute of Statistics

Stillbirth rate
Italy 2.7/1000 *
Tuscany 2.5/1000

*Stillbirth defined as intrauterine death after 25th week
Tuscany data on stillbirth, 2008-2013

*From the registry «Nascere in Toscana 2015»*

Is still one of the lowest rates in Europe and in the world

![Graph showing stillbirth rates in Tuscany from 2008 to 2013 with a rate of 2.1 per 1,000 births in 2013.](image)
Recent increase in risk in high-income countries

- higher maternal age
- weight before pregnancy
- multiple births (ART)
THE MAIN MODIFIABLE RISK FACTORS in high-income countries

- **DEMOGRAPHICS:** Maternal age > 35 years

- **NON-COMMUNICABLE DISORDERS:**
  - Overweight and obesity
  - Maternal pre-existing diabetes
  - Maternal pre-existing hypertension
  - Pre-eclampsia/eclampsia
  - Tobacco

- **FETAL DISORDERS:**
  - Post-term pregnancy ≥ 42 weeks

*The Lancet’s Series 2016. Stillbirths: rates, risk factor, and acceleration towards 2030*
MADRI INDIGENTI NEI PAESI AD ALTO SVILUPPO

IL RISCHIO PIÙ ALTO PER LE FAMIGLIE PIÙ POVERE

Incidenza doppia di morte in utero

- basso livello culturale
- madri fumatrici (fino al 60%)
- limitato accesso a cure ostetriche appropriate

Un approccio etico alla salute globale dovrebbe raggiungere le donne più povere, le loro famiglie e i loro figli

Stillbirths occurring near term are more likely to be unexplained than stillbirths occurring earlier in gestation.

Two thirds of the unexplained fetal deaths after 35 weeks' gestation

The risk of unexplained stillbirth at 39-41 weeks is also four times higher than at 33 weeks.

Risk of unexplained stillbirth at different gestational ages.
Yudkin PL et al. Lancet. 1987
30–50% of unexplained stillbirths have not reached their growth potential.

This condition is often undetected and occurs in women who do not have risk factors

PLACENTAL DISFUNCTION??

J.Gardosi BMJ 2013
Babies that have not reached their growth potential have a 5 to 10 fold risk of dying in uterus. The key to solving these problems is to develop a method that can identify the growth potential for individual fetuses.

Maternal and fetal risk factors for stillbirth: population based study


• Cohort study, 92,218 normally formed singleton pregnancies: 91,829 live births and 389 stillbirths (after 24th weeks)

The highest risk factor identified was: **undetected FGR**
13 cohort studies and 3 case-control studies

3,412,079 women with pregnancies beyond 20 weeks duration
3,387,538 (99.3%) had had a previous live birth
24,541 (0.7%) had a stillbirth

Recurrence risk of stillbirth

OR 4.77
A prospective multicenter study on 364 SB and 320 subsequent pregnancies

- 39.6% SB related to PVD*
- 44.3% unexplained SB by Codac classification
- 16.1% SB related to other causes

*abruption, infarcts, insufficiency, fetal growth restriction, severe preclampsia, antiphospholipid antibodies syndrome

**Adverse neonatal outcome**

- 32% SB with PVD vs 19.4% SB other causes or unexplained
  (p=0.01, OR 2.0)

When a previous SB is related to placental vascular disorders there is a high risk for adverse neonatal outcomes in the subsequent pregnancy

- Very low birth weight
  - OR 3.65
- Preterm birth
  - OR 1.95
La morte endouterina è sostanzialmente invisibile nelle discussioni globali sulla salute materna e neonatale.
La morte in utero è ancora ignorata nella società. Questo lutto è comunemente negato.

A Stigma taboo fatalism Impediscono i progressi verso la prevenzione della morte in utero

The Lancet’s Series 2011. Stillbirths: why they matter
Azioni prioritarie per ridurre il trend di natimortalità

- Definire protocolli di indagini e uniformare sistema classificativo
- Migliorare la qualità delle cure
- Identificazione e correzione dei fattori di rischio
- Ridurre le disparità sostenere le donne di comunità povere o minoranze etniche
Stillbirth cannot continue to be invisible

Thanks for your attention