

## Stillbirth in Iceland 1996-2021; incidence and etiology

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**Objectives:** Iceland has a low stillbirth rate (SBR) which fluctuates due to its small population. This study explores changes in the SBR over time and causes of stillbirth (SB) in different gestational age (GA) groups.

**Methods:** Data was collected from medical records of mothers (n=385) who delivered stillborn infants (n=395) from 22+0 weeks of gestation in Iceland 1996-2021. All placental pathology was reviewed and classified according to the Amsterdam consensus. The Stockholm classification of stillbirth was used to determine the cause of death. Infants were grouped according to GA at diagnoses of SB: early preterm (< 28 weeks, n=136), late preterm (28 to 36+6 weeks, n=134) and term (>=37 weeks, n=125). Results were compared between the three GA groups and two 13-year periods (1996-2008 and 2009-2021).

**Results:** Comparing earlier and later periods, the total SBR decreased from 4.1 to 2.9/1000 infants ( $p=0.005$ ) but did not decrease at term, 1.19 vs. 1.15 /1000 term infants ( $p=0.89$ ) and a larger proportion of SB in the later period was diagnosed at term. There was no difference between periods in maternal age, BMI, parity or diagnosis of hypertensive disorder of pregnancy, but fewer mothers smoked, and more were non-Icelandic speaking in the later. Over 50% of SB was attributed to 2 causes: reduced circulation in the umbilical cord and placental insufficiency. Both were more common in higher GA groups, causing >70% of SB at term. There was a significant increase in placental insufficiency as cause of death in the later period.

**Conclusion:** Although the overall SBR decreased, the SBR at term did not. SB due to placental insufficiency increased with GA and was more common in the later period. Research into causes of SB at term and histopathological findings is needed.