

Hypoglycaemia — low blood sugar in neonates arises as a consequence of prematurity, low birth weight, low body temperature and delayed milk production in the mother. Short periods of low blood sugar levels normally cause no harm, but if the blood sugar remains low for an extended period of time, the energy supply to the brain suffers and brain damage can occur.

Phototherapy — light treatment for jaundice is required when the bilirubin level in the baby's blood exceeds a certain value stipulated in national guidelines. The condition is normally transient and harmless, but can in rare cases of extremely high levels cause brain damage in the form of a severe form of cerebral palsy.

Background

Hypoglycaemia — Healthy neonates are born with glycogen stores that can be converted into sugar in the liver so that they will normally manage with little additional nutrition during their first 24 hours, until normal breast milk production has been established. Low blood sugar is treated by giving the neonate glucose, either in the form of milk or intravenously.

Phototherapy — Bilirubin is broken down more quickly when the child's skin is exposed to ultraviolet light. There are national guidelines in place for when infants should receive phototherapy.

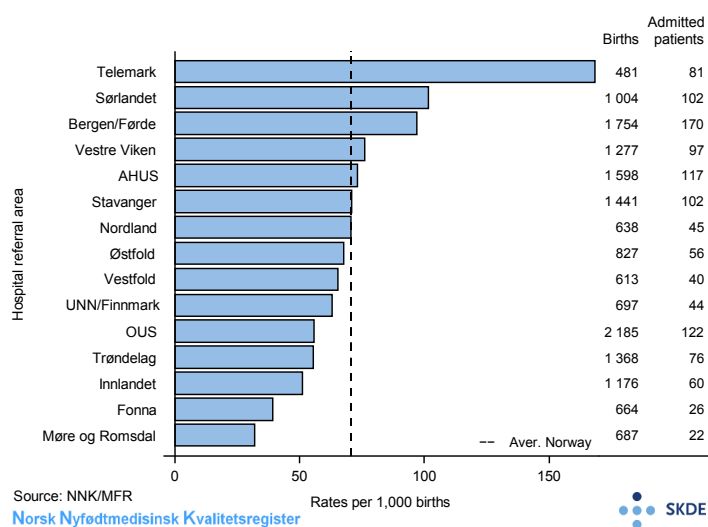


Fig. 1. Hypoglycaemia, number of patients per 1,000 births, gestational age 34–37 weeks

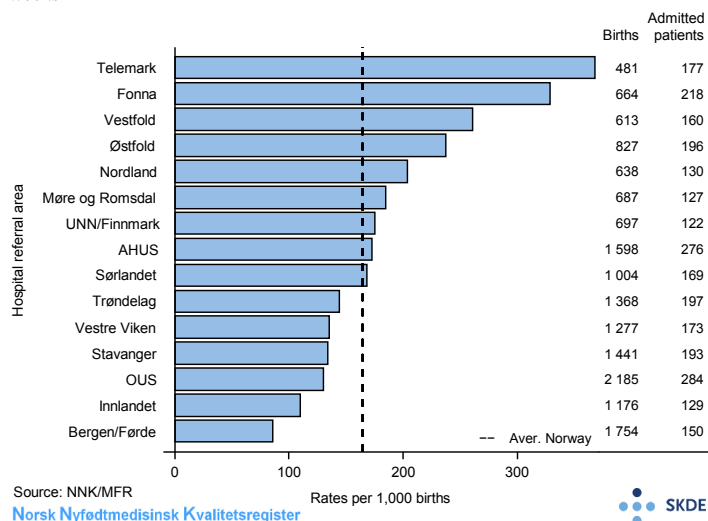


Fig. 2. Phototherapy, number of patients per 1,000 births, gestational age 34–37 weeks

Results

More than five times as many late preterm infants (gestational age 34–37 weeks, Fig. 1) and more than three times as many term infants (see report) are admitted with a diagnosis of low blood sugar in Telemark hospital referral area as in Møre og Romsdal.

There is corresponding variation in phototherapy. More than four times as many late preterm infants (gestational age 34–37 weeks, Fig. 2) and more than eleven times as many term infants (see report) are admitted for phototherapy in Telemark hospital referral area as in the Møre og Romsdal area.

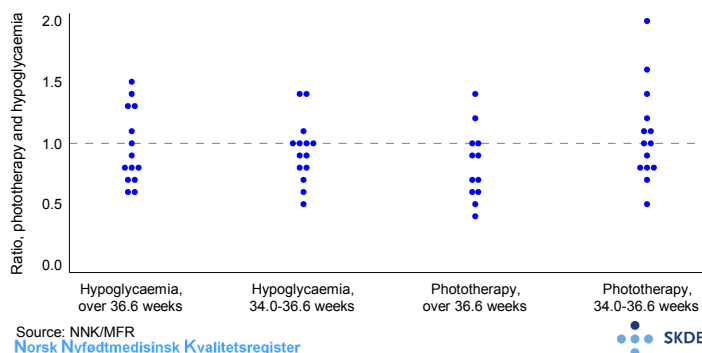


Fig. 3. Variation, hypoglycaemia and phototherapy, patients. Hospital referral area ratio = Rate of hospital referral area / national rate. If the rate of a given hospital referral area is equal to the national rate, the hospital referral area ratio for the area in question will equal one. Variation is low when many hospital referral areas have a ratio that is equal to or close to one.

Comments

There are no medical explanations for the observed variation in admission rates for children with low blood sugar levels or children who need phototherapy, and the variation can therefore be considered unwarranted (Fig. 3).

Transfer to a neonatal unit results in infants being separated from their mother, and there is no medical basis for assuming that the variation in admission practices has any bearing on the quality of treatment. Intervention in cases of low blood sugar or phototherapy for neonates with high bilirubin levels can normally be carried out while the children remain in the maternity unit, and the variation is largely a result of differences between local practices when it comes to where such treatment is given. There could therefore be reason to ask whether this shows an overuse of admissions for neonates in the hospital referral areas that have the highest admission rates.