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Title **Neonatal Care of Low-Risk Newborns. An Approach to Evidence Based Health Care Planning in Styria**

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Aim

To address the question whether employing 24-hour, on-site pediatricians at hospitals that provide care for low-risk births results in better outcome for newborns than arranging visiting consultants with on-call duties.

Conclusions and results

Internationally, trends in obstetrics are toward "regionalization" and "centralization". The former relates to managing births in hospitals at different levels of care according to pre-defined risks in pregnancy. The latter relates to a general shift toward managing births at larger units supported by the argument that a high volume of births is associated with low neonatal mortality. In Styria, neonatal care is characterized by considerable regionalization with only 2 clinics that provide neonatal units alongside obstetrics. One third of the births take place in these 2 hospitals. In the remaining 8 obstetric units, visiting consultants provide the care for newborns. Generally in Austria, births have increasingly taken place in hospitals with pediatric units. In addition to several obstetric units with over 1000 births/year, there are units with less than 1 or 2 births/day and low rates of difficult births (eg, caesarians, forceps). Studies show higher mortality risks at volumes under 500 births/year. Yet, the question of adequate pediatric staff for the 10% to 12% of newborns requiring neonatal care is barely addressed. Since primary responsibility in birth management lies with the obstetrician, it is common (even in clinics with neonatal care units) that they (or midwives) perform the first examination of the newborn (cutting the umbilical cord, suctioning amniotic fluid, determining the Apgar-Score, determining the acid-base balance). Physicians with experience in neonatology become involved only in cases of serious adaptation problems that may require a transfer to another level of care. In contrast, pediatricians always perform the routine examination of newborns before hospital discharge. No studies were found that address the research question directly. The literature and guidelines mainly address issues of regionalization, centralization (volume), timing of neonatal diagnostics, and required neonatological qualification. According to the guidelines, experience and yearly volume are relevant for adequate diagnostics and care in cases of neonatal problems and for routine examinations. However, no accepted minimum caseload has yet been defined.

Optimal neonatal care is to be seen as a trade-off between maximum centralization with maximum availability of highly experienced staff on one hand, and short distances to hospital but higher risks due to low volumes on the other. Making an additional pediatric unit available would be useful only under a general regional restructuring involving the overall care system and prognostic demographic factors.

Recommendations

1. Improve neonatological education for obstetricians
2. Guarantee neonatological acute care by highly experienced staff in case of adaptation problems
3. If necessary, restructure (centralize, reduce obstetric units) taking into account the overall system of care
4. Conduct further research in the form of primary studies.

Methods

Secondary data of obstetric and neonatal care provision in Styria were analyzed. Information concerning the role of pediatricians in the care of newborns was collected, based on current standards of care. A systematic literature review was performed using well-known databases and complemented by a systematic review of clinical guidelines. Secondary data indicating future needs were collected.

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