Outcomes of Planned Out-of-Hospital and Low-Risk Hospital Births in Lower Saxony

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Introduction
Internationally, there is debate on the safety of different birth settings inside and outside of hospitals. Low-risk women in Germany can choose where they give birth, and out-of-hospital births are especially necessary in regions lacking infrastructure. The health insurances agreed on a catalogue of criteria and quality markers for birth centers and home births with midwives in 2007 and 2015. To date, national studies are sparse. Comparison is complicated due to internationally differing health care systems.

Materials and Methods
We investigated planned out-of-hospital (OH) and hospital births in Lower Saxony, Germany in 2005. Women with a singleton fetus in the vertex position were included once they reached 34+0 gestational weeks. 1,273 out of 4,424 births were included via singleton fetus in the vertex position were included once they reached 34+0 gestational weeks. 1,273 out of 4,424 births were included via singleton fetus in the vertex position were included once they reached 34+0 gestational weeks.

Results
Out of hospital births were predominantly performed by midwives (NP: OR 2.78, 95% CI 1.91–4.06, p<0.001; MP: OR 1.33, 95% CI 0.94–1.87, p<0.05). In hospital births, fetal monitoring was more likely performed via cardiotocograph (NP: OR 0.006, 95% CI 0.002–0.015; MP: OR 0.006, 95% CI 0.003–0.013, p<0.001) instead of intermittent auscultation (NP: OR 164.94, 95% CI 81.94–332.01; MP: OR 166.52, 95% CI 91.71–302.37, p<0.001). Duration of labor was significantly longer in OH births (median: NP: 9.01 h versus 7.38 h; MP: 4.53 h versus 4.25 h, p<0.01). Nulliparae had more spontaneous births out of hospital (94.7%) than in hospital (73.6%; OR 6.38, 95% CI 3.03–13.40, p<0.001). There was no difference in adverse fetal outcomes, blood loss, and severe perineal lacerations. The perineum was less frequently intact in hospital births (NP: OR 2.15, 95% CI 1.44–3.22, p<0.001; MP: OR 1.66, 95% CI 1.22–2.28, p<0.01). Retained placenta was documented more often in out-of-hospital births (NP: OR 15.15, 95% CI 1.80–126.96, p<0.001; MP: OR 11.38, 95% CI 1.39–93.03, p<0.05).

Conclusions
In an out-of-hospital setting, fewer interventions were performed, spontaneous births occurred more often and there was no difference in neonatal outcomes. OH birth appears reasonably safe with thorough pre-labor risk assessment and good transfer management. Our results are mostly applicable to birth center births because most out-of-hospital births took place in this setting. Some beneficial aspects of OH birth care (like continuity of care and restriction of routine interventions) could be adopted by hospital labor wards, leading to a higher rate of vaginal births and improved care.

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