Is it Reasonable to Establish an Independently Managed Obstetric Unit in a Small Hospital and Does it Result in Measurable Changes in Quality of Maternity Care?

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Introduction Obstetric services in Germany are usually under single management of the Obstetric and Gynaecology Department. We aimed to determine whether establishing an independent specialty obstetric unit in a small hospital setting resulted in measurable changes in quality of maternity care. Besides structural changes, we explore other possible factors contributing to higher quality and sustainability in a small obstetric unit. In Germany, there are many obstetric units (>700 in all), but most of them perform less than 1000 deliveries per year. Over the last several years, many small units were closed because they were not cost-effective.

Material and methods We present obstetric data from a hospital in Frankfurt, Germany, which accommodates 210 beds in total, including 20 obstetric beds. It is a level IV hospital with no paediatric unit on site. We compared data from the mandatory state register collected in 2013, when the obstetric unit was managed with the gynaecology department, with data collected in 2016 after the establishment of independent obstetric unit and a specialised service. We include basic quality indices as defined by the German Externe stationären Qualitätssicherung (EsQS) [External Inpatient Quality Assurance], such as caesarean section (CS) for primiparous women and repeat CS rates, and rates of other interventions and basic parameters. Data were analysed with SPSS® Version 23 using the chi-squared test.

Results Between 2013 and 2016, the birth rate in our hospital increased by 46.4%, from 803 to 1176 births/year. CS rates decreased by 8.9%, from 34.9% to 26% (p<0.01). Operative vaginal delivery rates increased by 5.2% (p<0.01%). Transfer of neonates to the NICU decreased from 5.6% to 3.1% (p<0.01). Other obstetric interventions have also decreased, including induction of labour (10.1% to 9.4%, p=0.632) and rate of episiotomy (13.4% to 1.1%, p<0.01). The overall rate of vaginal tears increased (p<0.01), mostly influenced by a marked increase in first degree tears (8.2% to 17.5%, p<0.01). Rates of severe fetal acidosis (p<0.05) increased from no events in 2013 to two events in 2016, and average cord blood pH measurement increased (97.4% to 99.3%, p<0.05). There were non-significant reductions in planned caesarean section for primiparous women and repeat caesarean section. The other EsQS quality indices showed no significant changes.

Conclusions A specialised, independently managed obstetric unit separate from an Obstetric & Gynaecology Department previously under single management can lead to an increase in birth rates as well as a significant decrease in the overall CS rates and other measurable changes in a short period of time. Factors which may have contributed to a higher quality of care besides the new management are assessed and will need to be explored further. However, EsQS quality indices showed no significant changes as yet. That could be because the study interval was too short and therefore the numbers too small, or because they may not be totally suitable to assess a modern obstetric practice. Most of the indices have not been adjusted for more than 20 years. Our results support the development of independent obstetric units even in smaller hospitals on the basis of cost effectiveness (due to marked increase in delivery rates), sustainability, and long-term increases in quality of care and safety.

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