Interdisciplinary Simulation of Emergency Caesarean Section to Improve Subjective Competence

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The emergency caesarean section is a gynaecological emergency which is potentially life-threatening for mother and child. It demands seamless interdisciplinary cooperation with severe time constraints and pressure to act; often, the team members have only limited or no experience with such a situation. In the management of these time-critical situations, human factors as well as the competence of the crisis resource management team have been shown to be important factors for success. The "simulation" concept has not been validated as a training tool for professional competence of multidisciplinary teams in the delivery suite. The aim of this study was to assess the competence gained, through subjective evaluation of the team members, after taking part in emergency caesarean section training which is integrable into the daily clinical setting.

Method
36 members of a multidisciplinary team of a delivery suite took part in a 4-hour “high-fidelity” "emergency caesarean section" simulation training. Scenarios were created around the case setting of eclampsia with bradycardia of the child, uterus rupture, placenta abruption and cord prolapse. We intentionally created the need for multiple handovers through successive involvement of the team members. Each participant was involved in two scenarios as either a spectator or a team member. Using a questionnaire, the course performance and debriefing were evaluated and the subjective professional competence in Crisis Resource Management was recorded.

Results
In the aggregate of trainees (experience ≥ 5 years), 25% had no practical experience in any cases of emergency caesarean. On a scale of 1 to 6 (1 = very good, 6 = fail), the course was given an overall mark of 1.4 and a mark of 1.8 for its relevance to daily work. Six months after the training, participants rated their competencies in prioritising necessary actions, following treatment plans, communicating among the team members as well as integrating new information as significantly improved.

Conclusion
The four-hour simulation training can be easily integrated into everyday clinical practice. The participants marked the course scenarios as realistic and relevant for their clinical practice. The number of years of prior work experience is not significantly related to the experience in rare emergency situations. The interdisciplinary team training is a way to improve individual performance as well as to establish and practise interdisciplinary emergency concepts in this medicolegally sensitive area of practice. Through this concept, we aim to make interdisciplinary training for emergency caesarean sections available to a wide audience. We believe this is possible as part of daily practice even at small hospitals.