

van de Ven J, Houterman S, Steinweg RA, Scherpbier AJ, Wijers W, Mol BW, Oei SG; TOSTI-Trial Group. Reducing errors in health care: cost-effectiveness of multidisciplinary team training in obstetric emergencies (TOSTI study); a randomised controlled trial. *BMC Pregnancy Childbirth*. 2010;10:59.

BACKGROUND:

There are many avoidable deaths in hospitals because the care team is not well attuned. Training in emergency situations is generally followed on an individual basis. In practice, however, hospital patients are treated by a team composed of various disciplines. To prevent communication errors, it is important to focus the training on the team as a whole, rather than on the individual. Team training appears to be important in contributing toward preventing these errors. Obstetrics lends itself to multidisciplinary team training. It is a field in which nurses, midwives, obstetricians and paediatricians work together and where decisions must be made and actions must be carried out under extreme time pressure. It is attractive to believe that multidisciplinary team training will reduce the number of errors in obstetrics. The other side of the medal is that many hospitals are buying expensive patient simulators without proper evaluation of the training method. In the Netherlands many hospitals have 1,000 or less annual deliveries. In our small country it might therefore be more cost-effective to train obstetric teams in medical simulation centres with well trained personnel, high fidelity patient simulators, and well defined training programmes.

METHODS/DESIGN:

The aim of the present study is to evaluate the cost-effectiveness of multidisciplinary team training in a medical simulation centre in the Netherlands to reduce the number of medical errors in obstetric emergency situations. We plan a multicentre randomised study with the centre as unit of analysis. Obstetric departments will be randomly assigned to receive multidisciplinary team training in a medical simulation centre or to a control arm without any team training. The composite measure of poor perinatal and maternal outcome in the non training group was thought to be 15%, on the basis of data obtained from the National Dutch Perinatal Registry and the guidelines of the Dutch Society of Obstetrics and Gynaecology (NVOG). We anticipated that multidisciplinary team training would reduce this risk to 5%. A sample size of 24 centres with a cluster size of each at least 200 deliveries, each 12 centres per group, was needed for 80% power and a 5% type 1 error probability (two-sided). We assumed an Intraclass Correlation Coefficient (ICC) value of maximum 0.08. The analysis will be performed according to the intention-to-treat principle and stratified for teaching or non-teaching hospitals. Primary outcome is the number of obstetric complications throughout the first year period after the intervention. If multidisciplinary team training appears to be effective a cost-effective analysis will be performed.

DISCUSSION:

If multidisciplinary team training appears to be cost-effective, this training should be implemented in extra training for gynaecologists.

TRIAL REGISTRATION:

The protocol is registered in the clinical trial register number NTR1859.

