Human factors: The dirty dozen in CTG misinterpretation

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The contribution of human factors to errors and adverse outcomes within most healthcare systems cannot be underestimated. In Obstetrics we rely on the cardiotocograph as a non-invasive tool for detecting fetal hypoxia. However, since its introduction in 1960 the CTG has failed to reduce the rate of hypoxia-induced perinatal morbidity and mortality. The recent Each Baby Counts report indicates that 62% of stillbirths, neonatal deaths, and brain injuries of term babies in labor in 2015 were related to errors in CTG interpretation and management. This carries a significant financial burden as recent figures from the National Health Service Litigation Authority (NHSLA) show that Obstetrics makes up 50% of the total value of negligence claims in the UK. The aim of this review is to explore the different aspects of human factors and how each contributes to CTG misinterpretation. We will be using a framework devised by Gordon DuPont called the Dirty Dozen. These are the 12 most common causes of error within aviation maintenance: Lack of communication, complacency, lack of knowledge, distraction, lack of teamwork, fatigue, lack of resources, pressure, lack of assertiveness, stress, lack of awareness, norms. We will discuss each of these and apply them to common CTG misinterpretation themes. Obstetrics is a highly pressured and often unpredictable specialty and, because of these human factors and the working environment, CTG interpretation errors occur. We believe that the solution to reducing errors is 2-fold; a) increasing use of Human Factors sciences and b) Improving understanding of the fetal physiology that underpins CTG appearances.

Abbreviations: CTG: Cardiotocograph; NHSLA: National Health Service Litigation Authority; CESDI: Confidential Enquiry into Stillbirths and Deaths in Infancy; SROM: Spontaneous rupture of membranes; NCT: National Childbirth Trust.

Speaker Biography

Caroline Everden qualified from St Bartholomew’s Hospital and The Royal London Hospital in 2005. After starting her training in north-east London, she moved to Surrey in 2012. She is currently an Obstetrician and Labor lead at Kingston Hospital with an interest in ambulatory gynecology.

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