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Major analysis shows value of non-physician clinicians for maternal health in sub-Saharan Africa

Posted on Friday 20th May 2011

Mothers in developing countries who give birth by caesarean section are at no significant extra risk from having the procedure carried out by non-physician clinicians, or 'clinical officers', according to major new research from the University of Birmingham published in the British Medical Journal (Friday May 20).

Caesarian sections are the most common major surgical procedure in sub-Saharan Africa, saving the lives of many women and their babies each year. Most are performed by clinical officers - specially trained staff who are often described as the 'backbone' of healthcare in developing countries, where doctors can be in short supply, particularly in rural areas.

A clinical officer's role includes numerous medical and surgical tasks usually carried out by doctors, such as anaesthesia, diagnosis and treatment of medical conditions and prescribing. The perceived benefits of using clinical officers compared with doctors include reduced training and employment costs as well as enhanced retention within local health systems.

However, uncertainty exists over the role, training, effectiveness and safety of clinical officers. While they are authorised to provide obstetric care in 19 out of 47 Sub-Saharan African countries, they can only carry out caesarean sections and other emergency obstetric procedures in five.

Researchers led by Dr Arri Coomarasamy, of the School of Clinical and Experimental Medicine at Birmingham, systematically reviewed and meta-analysed the effectiveness of clinical officers in caesarean section through six non-randomised controlled studies involving 16, 018 women. They found no significant differences between the clinical officers and doctors for maternal death or perinatal death. Clinical officers were, however, associated with a higher rate of wound infection and dehiscence (separation).

The team reports that: 'clinical officers and doctors did not differ significantly in key outcomes for caesarean section, although the conclusions are tentative owing to the non-randomised nature of the studies. The increase in wound infection and dehiscence may highlight a particular training need for clinical officers.'

Dr Coomarasamy comments: 'Given that caesarean section is the most common major surgical procedure in sub-Saharan Africa and must be delivered in a timely fashion to save a mother's or baby's life, clinical officers could potentially play an important part in increasing accessibility and availability of emergency obstetric care. Enhanced access to this care through greater deployment of clinical officers, in countries with poor coverage by doctors, can form part of the solution to meet Millennium Development Goals 4 (reducing child mortality) and 5 (improving maternal health).'

The research was supported by Ammalife, an evidence-based charity working to reduce maternal mortality in the developing world.

* A comparison of clinical officers with medical doctors on outcomes of caesarean section in the developing world; meta-analysis of controlled studies.

For more information, please contact Jenni Ameghino, University of Birmingham Press Office. Tel 0121 415 8134.

Notes to editors

• Dr Arri Coomarasamy is available for interview. Please contact the press office to arrange.

• This research was a collaboration between Amie Wilson, doctoral researcher and David Lissauer, clinical research fellow, School of Clinical and Experimental Medicine, University of Birmingham; Shakila Thangaratinam, senior lecturer in obstetrics and maternal medicine, and Khalid S Khan, professor of women's health and clinical epidemiology, Centre for Health Sciences, Barts and the London School of Medicine and Dentistry; Christine MacArthur, professor of maternal and child epidemiology, School of Health and Population Sciences, UoB, and Arri Coomarasamy, reader in reproductive medicine and gynaecology, UoB.

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