

Professor Arri Coomarasamy

Professor of Gynaecology

Reproduction, Genes and Development

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About

Professor Coomarasamy leads a research group in the School of Clinical and Experimental Medicine, working at the forefront of gynaecological studies with a focus on miscarriage and global women's health. He maintains a keen interest in randomised controlled studies, test accuracy evaluations and evidence synthesis.

With numerous grant awards (of total value over £8 million), Professor Coomarasamy's current projects include three national and international multicentre randomised trials; one on the role of progesterone therapy in recurrent miscarriages (the **PROMISE** Trial); another on the use of levothyroxine in women with thyroid antibodies (the **TABLET** Trial); and the third on the effects of prophylactic antibiotics before miscarriage surgery in low-income countries (the **AIMS** Trial).

Professor Coomarasamy is also a trustee of **Ammalife** (<http://www.ammalife.org/>), an international charity with a mission to find solutions to maternal health problems through practical research and sustainable projects in the developing world. He maintains clinical responsibilities as a consultant gynaecologist with a special interest in early pregnancy management and reproductive medicine.

Qualifications

MBChB, MRCOG, DFFP, MD, SST, CCT

Biography

Professor Coomarasamy received his undergraduate medical training from the University of Birmingham, and completed his subspecialist training in reproductive medicine and surgery at Guy's Hospital, London. He gained his MD qualification in 2004 for work exploring the integration of diagnostic and therapeutic information, and since then has continued to move from strength to strength in the development of gynaecological expertise and research in the field of global women's health.

[Watch the inaugural lecture!](http://clic-ldu-echo.bham.ac.uk:8080/ess/echo/presentation/941fead8-9e48-4fae-a4f3-16fee2f6e51e) (<http://clic-ldu-echo.bham.ac.uk:8080/ess/echo/presentation/941fead8-9e48-4fae-a4f3-16fee2f6e51e>)

Postgraduate supervision

Professor Coomarasamy tremendously enjoys supporting the next generation of academic and clinical investigators. He is a member of the PhD Assessment Committee of the School of Clinical and Experimental Medicine, and currently guides a cohort of six doctoral researchers in the fields of gynaecology and early pregnancy management.

Research

Professor Coomarasamy leads a research group at the forefront of studies into miscarriage and global women's health. He maintains a keen interest in randomised controlled studies, test accuracy evaluations and evidence synthesis. His research is collaborative, spanning basic scientific, translational and clinical topics, and often co-ordinating national and international partners. Some of his key projects are further explained below:

[First trimester progesterone therapy in women with a history of unexplained recurrent miscarriages \(PROMISE\)](#)

As many as one in six clinically recognised pregnancies miscarry, and many women suffer the loss of three or more consecutive babies without any apparent reason for such recurrent miscarriage. The economic, societal and psychological costs are tremendous. The PROMISE trial tests whether treatment with progesterone (a natural pregnancy hormone) in the first trimester can reduce the risk of miscarriage in women with a previous history of unexplained recurrent loss. The study is taking place in approximately 50 hospitals across the UK and the Netherlands.

[A multicentre placebo-controlled randomised trial of levothyroxine to reduce miscarriage risk in euthyroid women with thyroid auto-antibodies \(TABLET\)](#)

TABLET seeks to evaluate the effects of thyroxine to prevent miscarriage in women with thyroid antibodies but normal thyroid function. The trial is conducted in approximately 30 centres across the UK, with a projected total of 900 participants, all closely monitored for thyroid function throughout the study.

[Effectiveness of antibiotic prophylaxis during surgical evacuation of the uterus for miscarriage management in low income countries \(AIMS\)](#)

Infection following miscarriage surgery is a problem affecting over 33 million pregnancies each year. A majority of these women undergo surgery to empty the womb. Post-surgical infection is a significant problem in low income countries. The infections can result in death, serious illness or long-term health problems. Currently medical guidelines do not recommend antibiotics to be given routinely in miscarriage surgery, because there is no evidence to show its effectiveness. The AIMS project proposes that antibiotics given just before miscarriage surgery could reduce the chances of infection, and tests the hypothesis through a large clinical trial conducted in Malawi, Tanzania, Uganda and Pakistan.

[United Kingdom Early Pregnancy Surveillance Service \(UKEPSS\)](#)

***UKEPSS** (<http://www.ukepss.org/>) is a nationwide collaboration for the study of serious uncommon disorders of early pregnancy and emergency gynaecology. It is a joint initiative of the Association of Early Pregnancy Units (UK), the Early Pregnancy Clinical Studies Group, the Miscarriage Association, the Ectopic Pregnancy Trust, and has been endorsed by the Royal College of Obstetricians and Gynaecologists. 188 Units have already committed to the UKEPSS Network, and the first UKEPSS study*

will be launched in September 2013.

A multicentre trial of outpatient hysteroscopy before IVF, after recurrent IVF failures (TROPHY)

The TROPHY trial tests whether performing an outpatient hysteroscopy prior to starting an IVF cycle improves the likelihood of achieving a live birth in women who have previously experienced between two and four IVF implantation failures. The study has recruited around 700 patients across eight European fertility centres.

Accuracy of bladder ultrasound in the diagnosis of detrusor overactivity: a study to evaluate whether ultrasound can reduce the need for urodynamics (BUS)

BUS follows the progress of almost 700 patients to evaluate the diagnostic accuracy of bladder wall thickness scanning in the identification of an overactive bladder. Urodynamic tests are accepted as a gold standard in the investigation of urinary symptoms, but they are invasive and expensive. The BUS study was designed to overcome these problems with an alternative means of assessment.

Selection of sperm for assisted reproductive treatment by prior hyaluronic acid binding: increasing live birth outcomes and reducing miscarriage rates – multicentre randomised controlled, blinded trial (HABSelect)

In over 50% of IVF cases, the sperm are injected directly into the egg. Unfortunately, although this method is very successful in achieving fertilisation, it is estimated that less than a quarter of all fertilised eggs, once transferred into the womb, will implant and develop normally. One reason may be that we are still not very good at choosing the best sperm for injection. This trial tests a new method to select sperm for injection by their ability to stick to hyaluronan, a naturally occurring substance in the female tract.

Vitamin D and IVF Outcome

The vitamin D and IVF outcome study investigates whether or not there may be any association between serum vitamin D levels and IVF outcome. The study is due to commence in August 2013 and will be based at the Birmingham Women's Fertility Centre.

Other activities

Professor Coomasamy is a board member of numerous academic committees and working groups such as the BBC CLRN (Birmingham and Black Country Comprehensive Local Research Network); and the RCOG (Royal College of Obstetricians and Gynaecologists) Clinical Studies Groups in Early Pregnancy and Reproductive Medicine. He also maintains an international advisory role in the field of gynaecology, contributing to the recommendations of organisations such as the WHO (World Health Organisation).

Professor Coomasamy is a trustee of **Ammalife** (<http://www.ammalife.org/>), an international charity with a mission to find solutions to maternal health problems through practical research and sustainable projects in the developing world. He is an enthusiastic communicator on the theme of research into global women's health, and frequently delivers talks and seminars on this theme to a range of groups at local and national levels. For example, Professor Coomasamy chairs the **GLOW conference 2013** (<http://www.glowconference.org/>).

Professor Coomasamy held scientific editorial responsibility for the BJOG (British Journal of Obstetrics and Gynaecology) for several years until 2010, and he continues to review numerous manuscripts for this and other leading publications in the field of reproductive health. He also maintains clinical responsibilities as a consultant gynaecologist with a special interest in early pregnancy management and reproductive medicine.

Publications

Selected Publications (Last 2 Years) (total >100)

- Prost A, Colbourn T, Seward N, Azad K, Coomasamy A, Copas A, et al. Women's groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: a systematic review and meta-analysis. *Lancet*. 2013;381(9879):1736-46. Epub 2013/05/21.
- Verhaegen J, Gallos ID, van Mello NM, Abdel-Aziz M, Takwoingi Y, Harb H, et al. Accuracy of single progesterone test to predict early pregnancy outcome in women with pain or bleeding: meta-analysis of cohort studies. *Brit Med J*. 2012;345:e6077. Epub 2012/10/10.
- Thangaratinam S, Rogozinska E, Jolly K, Glinkowski S, Roseboom T, Tomlinson JW, et al. Effects of interventions in pregnancy on maternal weight and obstetric outcomes: meta-analysis of randomised evidence. *Brit Med J*. 2012;344:e2088. Epub 2012/05/19.
- Wilson A, Gallos ID, Plana N, Lissauer D, Khan KS, Zamora J, et al. Effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *Brit Med J*. 2011;343:d7102. Epub 2011/12/03.
- Wilson A, Lissauer D, Thangaratinam S, Khan KS, MacArthur C, Coomasamy A. A comparison of clinical officers with medical doctors on outcomes of caesarean section in the developing world: meta-analysis of controlled studies. *Brit Med J*. 2011;342:d2600. Epub 2011/05/17.
- Sunkara SK, Rittenberg V, Raine-Fenning N, Bhattacharya S, Zamora J, Coomasamy A. Association between the number of eggs and live birth in IVF treatment: an analysis of 400 135 treatment cycles. *Hum Reprod*. 2011;26(7):1768-74. Epub 2011/05/12.
- Coomasamy A, Truchanowicz EG, Rai R. Does first trimester progesterone prophylaxis increase the live birth rate in women with unexplained recurrent miscarriages? *Brit Med J*. 2011;342:d1914. Epub 2011/04/20.

