Fifty years of obstetrics and gynaecology

The term 'obstetrics and gynaecology' now feels like an outmoded name for women's health care. Since the 1960s the specialty has been transformed by social change, technical innovation and medical subspecialization, although the core values of good clinical practice remain unchanged.

Women's health care, and maternity care in particular, have altered out of all recognition over the past 50 years, as a result of technical innovation and social change. The oral contraceptive pill became available in the early 1960s. *The Female Eunuch*, an important feminist text by Germaine Greer, was published in 1970. Louise Brown, the first in-vitro fertilization baby, was born in 1978. Changes have taken place worldwide but this article will focus on Britain, which sometimes led the way.

Maternity care

The focus of maternity care in the 1960s was on safety. Britain's maternal mortality rate had already fallen from 415/100 000 births in 1935 to 27/100 000 in 1965, as a result of medical advances such as antibiotics. By 1966 the leading cause of maternal death was criminal abortion. At that time there were about 100 000 'back street abortions' per year. The Abortion Act 1967 did not alter the number of terminations but decriminalisation made abortion safer and maternal deaths from this cause steadily decreased (Drife, 2010).

In 1965 home birth accounted for 22% of deliveries (Department of Health and Social Security, 1969) because hospital beds were rationed to those in greatest need. In 1970 a committee chaired by Sir John Peel recommended that facilities should be provided to allow 100% hospital delivery (Department of Health and Social Security, 1970). The 'Peel report' was not evidence based by modern standards but the move proved popular and the proportion of home births is now 2.3%.

The characteristics of the childbearing population have altered over 50 years. Parity fell, average maternal age rose to 30.2 years, and 27% of births are now to women born outside the UK. Safety continued to improve. The perinatal mortality rate fell from 26.9 to 5.9/1000 between 1965 and 2014 (Manktelow et al, 2016) and the maternal mortality rate from 25 to 9/100 000 (Knight et al, 2015). Debate still rages over whether this could have been achieved without the rise in the caesarean section rate, from 5% to 26%.

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Fetal medicine

Ultrasound has transformed antenatal care. When it was first introduced in Glasgow in 1958, large machines produced static images (Donald et al, 1958), enabling placental localization, measurement of fetal growth and diagnosis of twins. By the early 1970s measurement of crown–rump length in early pregnancy allowed accurate assessment of gestation. Real-time scanning was introduced during the 1970s, making routine antenatal screening possible. The 1980s saw the development of transvaginal scanning, Doppler imaging for the study of fetal and umbilical blood flow, and fetal cardiac scanning. The '20-week scan' for fetal abnormality became part of standard antenatal care (Campbell, 2013).

These remarkable advances, which we now take for granted, gave rise to the new subspecialty of fetal medicine. In 1996 the British Maternal and Fetal Medicine Society held its first meeting, with around 250 delegates. More than double that number attended its 2015 meeting. Subspecialization has had a beneficial effect on health care and on the sometimes fraught relationship between obstetricians and midwives. The former now concentrate on high-risk pregnancies while the latter care for normal pregnancies.

Gynaecology

Gynaecology in the 1960s was a surgical specialty with a limited range of operations. Menorrhagia was treated by dilatation and curettage ('D&C'), which was usually ineffective. Vessey et al (1992) estimated that 20% of British women underwent hysterectomy by the age of 55 years. Between 1989 and 2002, however, the rate of hysterectomy for menorrhagia declined by two-thirds as other therapies became available (Reid and Mukri, 2005), although after 2002 the decline slowed and then plateaued (Mukhopadhaya and Manyonda, 2013).

Minimal access surgery

The other therapies included medical treatment and minimal access surgery. Hysteroscopic endometrial ablation using laser, rollerball or resectoscope was introduced in the

1980s, followed by 'second generation' methods including thermal balloons, microwaves and cryoablation. Trials showed no significant differences in effectiveness among these techniques (McGurgan and O'Donovan, 2008).

Laparoscopy was introduced to the UK by Patrick Steptoe, who went to France to learn the technique. He published 'Laparoscopy in gynaecology' in 1967 and presented his work in London in 1968. Gynaecological laparoscopy was initially limited to inspection of the pelvis (e.g. for diagnosis of endometriosis), adhesiolysis and sterilization by tubal occlusion. By 1975 the proportion of women aged 20–54 years in the UK who had been sterilized was 6%, rising to 12% in 1990 (Rowlands and Hannaford, 2003).

Laparoscopic removal of an ectopic pregnancy was first reported in 1973. Lasers, introduced in the 1980s (Gordon and Magos, 1989), enabled more accurate treatment of endometriosis. Miniaturized television cameras revolutionized 'keyhole' surgery and by the 1990s it had been taken up by general surgeons, e.g. for cholecystectomy. Laparoscopic hysterectomy was introduced in the 1990s, although only a minority of operations are done by this route. The British Society for Gynaecological Endoscopy, founded in 1989, now has over a thousand members.

In vitro fertilization

After his presentation on laparoscopy, Patrick Steptoe was approached by Robert Edwards, who was working on mouse oocytes but wanted to extend his research. Edwards, based in Cambridge, and Steptoe, in Oldham, collaborated for 10 years despite the distance, lack of funding and opposition from those who thought the work unethical. In 1978 they reported the birth of Louise Brown, initiating a transformation in infertility treatment (Steptoe and Edwards, 1978). In 1991 the Human Fertilisation and Embryology Authority was set up to regulate practice and research in the UK. By 2013 over 5 million babies worldwide had been born as a result of IVF.

Biographies of Steptoe and Edwards appear in the book, *On the Shoulders of Giants* (Baskett, 2008). In their case, the title is particularly appropriate. Their tenacity in the face of scepticism and hostility was remarkable. Edwards was awarded the Nobel Prize in 2010. Aged 85 years, he could not travel to Stockholm to receive it. A belated British knighthood was bestowed a year later.

Subspecialization

With Steptoe's encouragement, the British Fertility Society was founded in 1972. In that year Joe Jordan and Albert Singer, two young lecturers interested in cervical cancer screening, formed a group which became the British Society for Colposcopy and Cervical Pathology. These organizations were followed by others. There are now 17 subspecialist societies associated with the Royal College of Obstetricians and Gynaecologists, including the Institute of Psychosexual Medicine, the British Gynaecological Cancer Society and, most recently, the British Association of Abortion Care Providers. A question raised in the past, 'Should obstetrics and gynaecology become two separate specialties?', now seems irrelevant: the specialty is a federation of many subspecialties.

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Urogynaecology is an example of how subspecialization benefits patients. In the 1960s pelvic floor repair and treatment of urinary incontinence were part of the work of all gynaecologists. Urologists were separate specialists, consulted when things went wrong. When Stuart Stanton became a research registrar in urology in 1971 he was concerned by their 'often sarcastic (but well-deserved) comments about gynaecologists and bladder and ureteric fistulae' (Stanton, 2012). In 1982 he established urogynaecology as a subspecialty recognized by the Royal College of Obstetricians and Gynaecologists, with its own training programme. The British Society of Urogynaecology, formed in 2001, now has around 450 members.

Sexual and reproductive health

Contraception provision in the UK has a long history. The Family Planning Association, for example, was founded in the 1930s. In 1974 the Family Planning Association's clinics, about 1000 in number, were handed over to the NHS, and in 1975 GPs started to be paid for this service, making the UK the first country in the world to provide free contraceptives. At the same time specialist doctors formed the National Association of Family Planning Doctors, which in 1993 became, under the chairmanship of David Bromham, a faculty of the Royal College of Obstetricians and Gynaecologists (Wilkinson and Halfnight, 2013). The Faculty of Sexual and Reproductive Health now has 15 000 members and issues guidance on good practice in contraception.

Guidelines

The Royal College of Obstetricians and Gynaecologists and many of the specialist societies also issue guidelines. These are a relatively recent development. In the 1980s consultants made their own decisions, and began to be criticized – not always fairly – for failing to base their practice on up-to-date research. When the phrase 'evidence-based medicine' first appeared in 1992 (Smith and Rennie, 2014) its leading UK exponent, Iain Chalmers, had already co-authored *Effective Care in Pregnancy and Childbirth* (Chalmers et al, 1989), initiating a sea-change in clinical practice. Chalmers had been a trainee in obstetrics and gynaecology but left to become a health services researcher. In 1978 he became the first director of the National Perinatal Epidemiology Unit and in 1993 head of the UK Cochrane Centre.

KEY POINTS

- The annual number of births in the UK has reduced since the 1960s but the average maternal age has risen, family size is smaller, and home births have fallen from 22% to 2%.
- Maternal mortality has dropped from 25 to 9 per 100 000 maternities, and criminal abortion, formerly the commonest cause, is no longer a cause of maternal death.
- Obstetric ultrasound, introduced in 1958, transformed antenatal care and opened the way to the development of the new subspecialty of fetal medicine.
- Laparoscopy, introduced to Britain in 1968, led on to minimal access gynaecological surgery and to in-vitro fertilization, which has revolutionized fertility treatment.
- Evidence-based medicine, from 1989 onwards, was the basis for the introduction of Royal College of Obstetricians and Gynaecologists guidelines, which now inform much of our clinical practice.

Today the Cochrane Collaboration is a global network extending across medicine. The UK Confidential Enquiry into Maternal Deaths, which has been running since the early 1950s, is now based in the National Perinatal Epidemiology Unit. It is hard to believe that only 20 years ago, bodies like the Royal College of Obstetricians and Gynaecologists were reluctant to issue guidance to their members. Guidelines now form the basis of clinical teaching and learning in most specialties – a trend which some fear may go too far (Baker, 2014).

Conclusions

The past 50 years have seen remarkable changes but if a woman in a maternity bed were transported by a time machine from 1966 to 2016 the biggest surprise might be the gender of the medical staff. Most (but not all) trainees are now women, and this applies across all the subspecialties mentioned above. Standards – and expectations – have risen greatly since the 1960s, recruitment and morale are good, and the specialty is broader and more fascinating than ever. **BJHM**

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