



## Rock's pill that rocked the world

I was a rookie doctor on the goldmines in the early 1960s. Part of my duties was to look after the families in the villages of the Anglo American mines at Welkom in the Free State. Their invariably large numbers of children prompted me to enquire whether they wished to have assistance in family planning. Their positive response led me to visit family planning clinics in Johannesburg. The standard methods in use at the time were condoms (spoken about in hushed whispers), the 'Dutch cap' or diaphragm, and an intra-uterine device (Lippes loop). However, I found that a small number of women in the private sector were using a new product known as 'the Pill'. As this was very expensive, it could not be used in public sector family planning clinics.

The goldmines were making big profits at the time, so I approached the mine managers and requested them to fund the Pill for those villagers who wished to take it. They agreed. So began the first use of the Pill in a family planning clinic in South Africa. The first version to be approved for use in family planning was Enovid. It soon became apparent that its high hormone content (compared with products available today) caused uncomfortable side-effects in a sizeable minority of women – mainly nausea, weight gain and breakthrough bleeding. Enovid was followed by products with improved balances of hormonal dosages, which caused fewer side-effects and were safer while maintaining efficacy.

The ready acceptance of the Pill by the villagers soon drew the attention of the Catholic nursing sisters who staffed Ernest Oppenheimer Hospital, the Anglo American hospital. After some unsuccessful pressure by Catholic colleagues to discontinue the family planning exercise, I was requested to meet with the Catholic moral advisor from Johannesburg. Our meeting in the nursing sisters' home was my first major encounter with and debate on ethical issues in medical practice. His main argument was that the practice was unnatural, whereas the alternatives of abstinence and the 'rhythm method' were natural. I responded that to me both the latter, but abstinence in particular, were unnatural. I suggested that our aims – i.e. to keep the sperm from reaching the ovum – were identical, but that he was advocating a time barrier whereas others used mechanical barriers. The new product in effect created a hormonal barrier. Our differences remained unresolved. Only recently did I become aware of how differing beliefs at that time profoundly shook the originator of the Pill.

### The Pill – the revolution

This year celebrates the 50th anniversary of the clinical use of the Pill, a combination of oestrogen and progesterone that was first approved for contraceptive use in the USA in 1960. When taken by mouth every day, these pills inhibit female fertility. More than any other contraceptive before it, the Pill revolutionised family planning. It enabled women to take control of their own fertility and thereby revolutionised their role in society. The Pill remains a very popular form of birth control.

By the time Gregory Pincus, a reproductive physiologist, commenced his contraceptive hormone research, much work had already been done on the isolation and structure of the steroid

hormones. In the 1950s Pincus enlisted the support of John Rock, an American gynaecologist at Harvard and an expert in the treatment of infertility, to do clinical trials with women. Their work led to the formulation of Enovid, the world's first oral contraceptive to be used in clinical practice.

The Food and Drug Administration (FDA) of the USA approved Enovid 10 mg for contraceptive use in 1960. However the manufacturer, Searle, only advertised its use for this purpose in 1961, when the FDA approved the 5 mg version of Enovid for contraception.

It is generally accepted that the health risks of oral contraceptives are lower than those from pregnancy and birth, and the Pill is generally a very safe medical product. However, it became evident that combined oral contraceptives increase the risk of deep-vein thrombosis and that its use should be limited in those at risk, e.g. with cardiovascular disease, a genetic predisposition to blood clots, smokers, etc. The long-term effects of oral contraceptives on the development of or protection from cancers are less clear. There is a small increase in the development of breast cancer but a decrease in ovarian, endometrial and colorectal cancer.

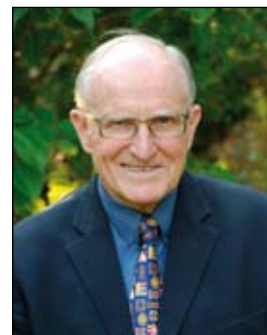
The real revolution of the Pill was that its use was separate from intercourse and required no special preparations. Women could make long-term educational and career plans without sacrificing sexual relationships. This change resulted in ethical debates and considerations by religious bodies on their responses to women's new-found freedom. In 1968 the Catholic Church responded by the papal encyclical that reaffirmed its traditional teaching, including the prohibition of 'artificial' contraception.

John Rock, the co-developer of the Pill, was himself an ardent Roman Catholic. He taught birth control in his medical classes and believed that in time the Catholic Church would approve the use of the Pill for contraception. The papal encyclical that entrenched the church's opposition profoundly disappointed Rock, and he stopped attending Mass.

Forget global warming. The greatest threat to humanity remains increasing overpopulation. Family planning, by whatever means, should be at the top of health and social care management agendas. Colleagues recently advocated the increased use of the intra-uterine contraceptive device (IUCD), which is more than 98% effective in preventing pregnancy.<sup>1</sup> To which please add the Pill!

**J P de V van Niekerk**

*Managing Editor*



1. Crede S, Harries J, Constant D, Hoke TH, Green M, Moodley J. Is 'planning' missing from family planning services? *S Afr Med J* 2010;100: 79-580

Source: Wikipedia and Gladwell M. John Rock's error. 'What the inventor of the birth control pill didn't know about women's health', in *What the Dog Saw*, Allen Lane, 2009.