Freer sex and family planning—a short history of the contraceptive pill

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Since the oral contraceptive pill appeared on the market almost 60 years ago, it has been the preferred form of birth control for millions of women around the world. The pill is now so widely available, it's easy to

forget that its development symbolised a revolutionary shift in family planning and women's reproductive rights.

Before the development of the pill, contraceptive options were extremely limited, and generally required the cooperation of the male partner. It was also illegal in many countries.

In 1916, Margaret Sanger, who would go on to establish Planned Parenthood, had a vision of a new form of contraception: one that could be taken orally, did not interfere with sexual intercourse, and which would not compromise future fertility.

Sanger's motivation to create such a pill was spawned by her experiences as a nurse in New York's slums. There she witnessed women suffering the effects of repeated pregnancy and childbirth, and deaths from backstreet abortions.

Although most women shared Sanger's desire for better contraceptive options, progress was slow. Due to the many scientific, social, political and legal hurdles to overcome, it was almost 50 years before her vision would become a reality.

Scientific development

Female fertility depends on the maturation and release of an egg from the ovaries. This process is regulated by a hormonal feedback loop which includes the ovary, brain, and pituitary gland. The pill works by interfering with this feedback loop, and suppresses egg production. It also causes the cervix to produce a thick mucus which prevents sperm movement.

Manipulating this feedback loop for contraceptive purposes dates back long before the pill. Some traditional medicines contain compounds that

act in the same way as the pill.

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However, only in the 1930s was it conclusively shown that fertility could be suppressed in rabbits who received injections of progesterone, a hormone normally produced by the ovaries during the menstrual cycle.

Although effective, these early experiments were highly inefficient. The only source of progesterone was ovarian tissue from animals, and thousands of ovaries were required to produce just a few milligrams of progesterone.

This problem was overcome in the early 1940s when a method was developed to extract large quantities of progesterone from a species of wild yam native to Mexico. This new form of progesterone also provided another major advantage: it could be given orally, and eliminated the need for injections.

Another advantage of the yam extract was that it also contained small amounts of mestranol, an oestrogen. Previous studies had shown that oestrogen could reduce breakthrough bleeding, a common side-effect of progesterone treatment.

All of the elements required for the pill were now in place. But before Sanger's "magic pill" could be released onto the market, it needed to be tested in women.

Human clinical trials

Initial plans to test the pill in the United States were short-lived, due to difficulties in recruiting enough women to take part in the trial and high

drop-out rates because of the side effects.

Testing of the pill was then relocated to Puerto Rico, where it was tested on hundreds of women.

Representing a darker side of the pill's history, these women were not informed that they were participating in an experimental trial. They also did not receive information on the possible risks.

During the trial, two women died and almost 20% of women reported side effects such as headaches, weight gain, nausea, and dizziness. These side effects were caused by the very high levels of hormones contained in the pill. Some women also experienced ongoing health issues as a consequence of the treatments they received.

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Despite the raft of side effects, only one of the women in Puerto Rico became pregnant and the trial was considered a success.

The pill was approved in the United States for the treatment of "menstrual disturbance" in 1957, and finally as a contraceptive in 1960. A year later, in 1961, it was approved in Australia, New Zealand and the United Kingdom.

Response

Although the pill's release was met with opposition from the Catholic Church and even some feminists, the response in general was overwhelmingly positive. Women celebrated the new control they had over their fertility. The pill has has even been linked to improved educational and social outcomes for women.

This newfound freedom did come with a price: side effects were common, and some women experienced more serious complications such as stroke, heart attack, blood clots, and depression. Through her 1969 book The Doctors' Case Against the Pill, writer and activist Barbara Seaman exposed these risks. This resulted in a mandate being introduced in 1970 requiring all pills to include patient safety information.

In 1988, high-dose pills were finally removed from sale. These were replaced by new low-dose formulations, which have a better safety profile, and fewer side effects.

Today, more than a century has passed since Margaret Sanger announced her seemingly impossible plans for a safe, effective oral contraceptive. The pill remains the mainstay of hormone-based contraception. However, it is no longer the only option. Research in this area is rapidly evolving, and we watch with interest to see what advances the next 100 years will bring.

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