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CONTRACEPTION IN CANADA: FROM EARLY METHODS TO FUTURE POSSIBILITIES

The availability of safe and effective contraception has always been an important issue for Canadians. However, contraception has not always been easily accessible and some methods have proven to be unreliable and dangerous. This issue of Check the Research presents an historical overview of contraception in Canada, from the mid 19th century to present day. A selection of various forms of birth control that have been used over the years will be discussed, as well as some of the controversies that have arisen over the introduction and use of certain methods. Future trends for contraceptive research will also be explored.

CONTRACEPTION IN THE 19TH AND EARLY 20TH CENTURIES

In 1892, the Criminal Code of Canada made it an indictable offence to sell, advertise or provide any device or substance that would prevent conception. In the United States, similar legislation prohibiting the distribution of contraceptives and information about birth control had existed since the introduction of the Comstock laws of 1873. Contraception was associated with obscene and immoral behaviour and was not freely discussed by physicians. The silence of the medical profession on the question of contraception led some health professionals to become birth control activists who risked legal prosecution for giving women what was often life saving information on ways to avoid unwanted pregnancies.

> "EVERYONE IS GUILTY OF AN INDICTABLE OFFENCE AND LIABLE TO TWO YEARS' IMPRISONMENT WHO KNOWINGLY, WITHOUT LAWFUL EXCUSE OR JUSTIFICATION… OFFERS TO SELL, ADVERTISES, PUBLISHES AN ADVERTISEMENT OF, OR HAS FOR SALE OR DISPOSAL ANY MEDICINE, DRUG OR ARTICLE INTENDED OR REPRESENTED AS A MEANS OF PREVENTING CONCEPTION OR CAUSING OF ABORTION OR MISCARRIAGE."
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> Criminal Code of Canada, Section 179 (c), 1892.
> (McLaren & McLaren, 1986, p. 19)

Methods of birth control in the late 19th and early 20th centuries included withdrawal, the rhythm method, douches, pessaries and sheaths or condoms. Pessaries are barrier methods such as the diaphragm and cervical cap, which block sperm from entering the uterus. Forms of the pessary have existed since ancient Egyptian times when crocodile dung was inserted into the vagina to prevent conception. Rubber forms of the diaphragm and cervical cap were introduced in the early 19th century and required fitting by a health professional. However, the effectiveness of pessaries depended on the additional use of a douche, or liquid, that would be introduced into the vagina to wash away and destroy sperm. The most popular contraceptive method until the 1930s was withdrawal. Couples also relied on the contraceptive effects of nursing to help space children. However, nursing does not confer protection if a woman does not breastfeed exclusively or often enough, and after 6 months of breastfeeding it no longer offers much protection against pregnancy (McLaren & McLaren, 1986).

Although laws in Canada and the US prohibited the advertisement, sale and dissemination of birth control, by the 1930s both countries were more lenient in some cases when such information was considered to be medically advantageous and contributing to the general good of society. However, most physicians and health professionals continued to be cautious around birth control issues. In the early 20th century, the term "feminine hygiene" was introduced in advertising as a euphemism for contraception. Although laws prohibited the sale or advertisement of contraception, the labelling of methods as feminine hygiene products avoided any direct claim of contraceptive properties, and therefore such products could be marketed openly to women. Advertisements for feminine hygiene products often referred to the importance of marital happiness, or in other words, the avoidance of an unwanted pregnancy (Hall, 2013).

> DAY AFTER HEART BREAKING DAY I WAS HELD IN AN UNYIELDING WEB…A WEB SPUN BY MY HUSBAND'S INDIFFERENCE…WAS THE FAULT MINE? WELL, THINKING YOU KNOW ABOUT FEMININE HYGIENE, YET TRUSTING TO NOW-AND-THEN CARE, CAN MAKE ALL THE DIFFERENCE IN MARRIED HAPPINESS, AS MY DOCTOR POINTED OUT. HE SAID NEVER TO RUN SUCH CARELESS RISKS…PRESCRIBED LYSOL BRAND DISINFECTANT FOR DOUCHING – ALWAYS.
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> Advertisement for Lysol, circa 1940. (cited in Pasulka, 2012)

In the 1920s, the household disinfectant Lysol was sold to female consumers as a form of contraception. Women used this corrosive and irritating liquid as a douche in order to prevent conception, even though the medical community issued warnings related to its use. Use of Lysol resulted in unwanted pregnancies, scarring, vaginal burning, poisoning, and in some cases, death. Lysol continued to be advertised as a contraceptive until the 1960s, when the introduction of the birth control pill saw its decline in popularity.

> LYSOL IS ESSENTIALLY IDENTICAL WITH AN OFFICIAL PRODUCT KNOWN AS COMPOUND CRESOL LIQUID. COMPOUND CRESOL LIQUID IS POISONOUS AND, IN FACT, HAS BEEN USED FOR SUICIDAL PURPOSES, BOTH UNDER ITS SCIENTIFIC NAME AND UNDER THE NAME OF LYSOL. IT MAY ALSO BE POISONOUS WHEN APPLIED TO THE VAGINAL MUCOUS MEMBRANES.
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> American Medical Association (AMA) statement, circa 1934.
> (Hall, 2013, pp. 86-87)

THE PILL AND HORMONE-BASED CONTRACEPTION

The pill was introduced in Canada in 1961 and in the United States in 1959. In both countries birth control was not legal when the pill became available and so it too was initially advertised under the euphemistic term of "feminine hygiene product." Although the pill was available in Canada in 1961, it only could be prescribed legally for purposes other than birth control (i.e. menstrual irregularity, menstrual cycle control), until 1969 when contraception was decriminalized. The pill quickly replaced older and less convenient methods of contraception such as the diaphragm and the condom. While there are no Canadian statistics on contraceptive use by method for the 1960s and 70s, American statistics indicate that the pill was used by over a third of women surveyed in 1973, compared to 1955 when over half of women relied on condoms and diaphragms (Watkins, 2012). Early formulations of the pill contained high dosages of estrogen and were found to have serious side effects such as nausea, headaches and blood clots. Dosages of both progestins and estrogens have been adjusted over the years and many versions of the pill have since been introduced.

Other forms of hormone- based contraceptives followed the pill, such as implants, sponges, patches, injections, and rings. Each method offers a different way of delivering hormones to prevent pregnancy. The contraceptive implant Norplant was available in Canada from 1991 to 2000 and consisted of a series of small plastic rods that were implanted under the skin of patients. The rods contained progestin which was slowly released into the bloodstream to provide long acting contraceptive protection for up to 5 years. However, in 2000 it was taken off the Canadian market due to concerns about effectiveness. In the US, Norplant was withdrawn in 2002 but remains the focus of many malpractice law suits regarding adverse side effects, and permanent injuries due to implantation and removal techniques. A new form of an implantable contraceptive is currently available in the US but, as yet, there has been no implant method reintroduced into Canada.

Injectable progestin-only contraceptives were developed in the early 1990s . They must be injected by a health professional every 12 weeks and offer three months of protection from pregnancy. Concerns have been raised about potential side effects that may include heavy menstrual bleeding or loss of menstrual periods, weight gain and blurred vision. Studies have also pointed to the possibility of bone loss in long term users of injectable contraceptives (Beksinska, Kleinschmidt, Smit, Farley & Rees, 2009).

INTRAUTERINE DEVICES

The Dalkon Shield was an intrauterine device that was marketed in the early 1970s as a form of birth control with none of the side effects associated with hormonal contraception. It required insertion by a medical practitioner but then women would not have to remember to take a daily pill or use contraception with every sexual act. However, women using this IUD began to report high rates of pelvic infections, ectopic pregnancies, and perforated uteruses. The Dalkon Shield was used primarily between 1970 and 1974 when its use was largely discontinued in the North American market. However, it remained in use in developing countries as late as the early 1980s.

Intrauterine devices have continued to be developed following the demise of the Dalkon Shield. Presently there are various forms of intrauterine devices available in Canada. The Copper T is a small t shaped plastic device that is wrapped in copper wire. It does not rely on hormones to prevent pregnancy but rather the copper causes a chemical reaction in the uterus that destroys sperm and prevents the implantation of a fertilized egg. Another hormonally based intrauterine system, Mirena, releases the synthetic progesterone levonorgestrel, which prevents sperm from entering the uterus and alters the lining of the uterus to prevent implantation. Both methods provide up to 5 years of contraceptive protection.

CONTRACEPTIVES FOR MEN

There are only two widely used contraceptives for men, vasectomy and condoms, while there are many more forms of contraceptives available for women. Contraceptives for women generally require a visit to a health professional for prescriptions, fitting and follow-up. Female-based methods may have side effects since many involve the use of hormones to prevent pregnancy, however there are few side effects associated with the currently available male methods. Research on female-based contraceptives has existed for much longer than research on forms of male contraceptives. The field of andrology, or the study of the male reproductive system, was only formally established in the late 1960s. In comparison, gynaecology, the study of the female reproductive system and the diseases associated with it, has a centuries long history. Gender norms that suggest that men cannot be trusted to use contraception responsibly, and that they are not interested in assuming responsibility for contraception, may be one reason that research into male contraceptives has not been well funded (Campo-Engelstein, 2011).

> "ANOTHER REASON THERE ARE NO MALE LARCS (LONG ACTING REVERSIBLE CONTRACEPTIVES) IS BECAUSE DOMINANT GENDER NORMS SURROUNDING TRUST AND REPRODUCTIVE RESPONSIBILITY LEAD MANY TO CONCLUDE THAT NO MARKET EXISTS FOR MALE CONTRACEPTIVES."
>
> (Campo-Engelstein, 2011, p. 293)

THE FUTURE OF CONTRACEPTION

Hormonal intrauterine devices that are designed to last longer than 5 years are currently being developed. These devices release low doses of levonorgestrel, a synthetic progesterone. Research is also underway into the development of a new version of the vaginal ring which will last for up to one year, as compared to the present version that must be replaced monthly. A new version of the diaphragm that would be a "one size fits all" device and that would not require fitting by a health professional is being investigated. As well, new versions of a female condom that would be easier to insert and offer a reduced possibility of slippage while in place are being developed. New contraceptive pill formulations that would have fewer side effects and offer greater protection if dosages were missed continue to be researched (Dorflinger, 2013).

While new methods of hormone-based contraception are being developed for women, some note that these developments generally represent reworked versions of existing methods (Liao, 2012). Developments in the area of male contraception would add dramatically new options for both men and women. Future directions in male contraception include hormonal methods that use progestin and androgen to inhibit the production of viable sperm. A non-hormonal method that blocks the sperm's passage in the vas deferens is also being investigated. This method , known as RISUG (reversible inhibition of sperm under guidance), involves the injection of a synthetic chemical into the vas deferens, the tubes that carry the sperm for ejaculation. The chemical forms a plug that prevents the passage of sperm. The method would be reversible should a return to fertility be desired (Liao, 2012).

WHAT'S THE TAKE HOME MESSAGE?

The history of contraception in Canada includes the passage and eventual repeal of laws that criminalized the advertisement and distribution of birth control, the marketing of dangerous and ineffective methods, and the ongoing development of various hormone-based and barrier methods for women. While contraception for Canadian women has evolved significantly from the 19th century to the present, the development of more contraceptive options for men is an area of research that needs to be addressed.

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