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Canadian Contraception Consensus

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Abstract

Objective: To provide guidelines for health-care providers on the use of contraceptive methods to prevent pregnancy and sexually transmitted diseases.

Outcomes: Overall efficacy of cited contraceptive methods, assessing reduction in pregnancy rate, risk of infection, safety, ease of use, and side effects; the effect of cited contraceptive methods on sexual health and general well-being; and the cost and availability of cited contraceptive methods in Canada.

Evidence: Medline and the Cochrane Database were searched for articles in English on subjects related to contraception, sexuality, and sexual health from January 1988 to March 2003, in order to update the Report of the Consensus Committee on Contraception published in May-July 1998. Relevant Canadian Government publications and position papers from appropriate health and family planning organizations were also reviewed.

Values: The quality of the evidence is rated using the criteria described in the Report of the Canadian Task Force on the Periodic Health Examination. Recommendations for practice are ranked according to the method described in this Report.

Key Words

Contraception, statistics, Canada, sexuality, sexual health, hormonal contraception, emergency contraception, barrier methods of contraception, contraceptive sponge, female condoms, contraceptive diaphragm, cervical cap, spermicide, fertility awareness, abstinence, tubal ligation, vasectomy, sterilization, intrauterine devices

Recommendations:

Chapter 1: Introduction

1. Family planning services should be provided with dignity and respect, based on individual differences and needs. (Grade A)
2. In order to enhance the quality of decision-making in family planning, health-care providers should be proactive in counselling and should provide accurate information. They should be approachable partners in a professional relationship. (Grade B)
3. Family planning counselling should include counselling on the decline in fertility that is associated with increasing female age. (Grade A)
4. Health-care providers should promote the use of latex condoms in combination with another method of contraception (dual protection). (Grade B)

Chapter 2: Contraceptive Care and Access

1. Comprehensive family planning services, including abortion services, should be freely available to all Canadians regardless of geographic location. These services should be confidential and respect an individual's privacy. (Grade A)
2. Questions about sexuality should be incorporated into a general assessment. (Grade C)
3. Canadian women and men, with their health-care providers, should address both the prevention of unintended pregnancy and sexually transmitted infections (STIs). (Grade C)
4. Testing for STI and prevention counselling should not be restricted to young or high-risk individuals. (Grade B)
5. Women and men should receive practical information about a wide range of contraceptive methods so that they can select the method most appropriate to their needs and circumstances. (Grade C)

These guidelines reflect emerging clinical and scientific advances as of the date issued and are subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of the contents may be reproduced in any form without prior written permission of SOGC.

6. Health-care providers should assist women and men in developing the skills necessary to negotiate the use of contraception, as well as the correct and consistent use of a chosen method of contraception. (Grade C)
7. Health promotion, emergency contraception counselling, and the prevention of STIs, sexual violence, and cervical cancer should be integrated into contraceptive care. (Grade C)
8. The Government of Canada should enhance access to safe and effective products for Canadian women by accelerating the approval process through harmonization with the therapeutic guidelines of other developed countries. (Grade C)
9. The SOGC should work with groups that support initiatives in women's health to promote the accessibility of all forms of contraception in Canada. (Grade C)
10. Hormonal emergency contraception should be available without a prescription in pharmacies, family planning clinics, emergency rooms, walk-in clinics, and school health programs. (Grade B)
11. The Society of Obstetricians and Gynaecologists of Canada should continue the Contraception Awareness Project (CAP) to promote safer sex and effective contraception for Canadian women and men and to continue professional education for health-care providers who are active in this field. (Grade C)
12. The established program, which allows compassionate provision of oral contraceptives to patients in need in Canada, must be maintained. (Grade B)

Chapter 3: Emergency Contraception

1. Because the efficacy of hormonal emergency contraception may be higher if used sooner, it should be started as soon as possible after an act of unprotected intercourse. (Grade A)
2. Hormonal emergency contraception should be available without a prescription in pharmacies, family planning clinics, emergency rooms, walk-in clinics, and school health programs. (Grade B)
3. Users of emergency contraception should be evaluated for pregnancy if menses have not begun within 21 days following treatment. (Grade A)
4. Women and men of reproductive age should be counselled about emergency contraception. Women should be offered a prescription in advance of need. (Grade B)

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CHAPTER 1: INTRODUCTION

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PREAMBLE

In 2003, a group of health-care professionals gathered under the auspices of the Society of Obstetricians and Gynaecologists of Canada to update the 1998 report of the Canadian Consensus Conference on Contraception.[1] As with the original conference, the participants reviewed current information from the perspective that family planning is an important aspect of life and a basic human right.

The present guidelines review the statistics on contraceptive use, give information on the determinants of contraception and the various aspects of sexual health, describe each contraceptive method available in Canada, and discuss the role of health-care professionals in sexual counselling and provision of contraception. Issues affecting access to contraception are presented. The document is designed to support professionals working in the area of family planning, including those in family medicine, pediatrics, gynaecology, nursing, pharmacy, and public health.

The guidelines committee met on 3 occasions, in January, March, and May 2003. The committee was divided into 3 working groups to research, analyze, and prepare the draft of the document. The committee developed the summary statements and recommendations based on the quality of evidence classification scheme developed by the Canadian Task Force on the Periodic Health Exam (Table 1). The principal authors produced the final drafts.

Table 1. Quality of Evidence Assessment[2]	Classification of Recommendations[2]
The quality of evidence reported in this document has been described using the Evaluation of Evidence criteria outlined in the Report of the Canadian Task Force on the Periodic Health Exam.	Recommendations included in this document have been adapted from the ranking method described in the Classification of Recommendations found in the Report of the Canadian Task Force on the Periodic Health Exam.
I: Evidence obtained from at least one properly randomized controlled trial.	A. There is good evidence to support the recommendation that the condition be specifically considered in a periodic health exam.
I-1: Evidence from well-designed controlled trials without randomization.	B. There is fair evidence to support the recommendation that the condition be specifically considered in a periodic health exam.
II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group.	C. There is poor evidence regarding the inclusion or exclusion of the condition in a periodic health examination, but recommendations may be made on other grounds.
II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category.	D. There is fair evidence to support the recommendation that the condition not be considered in a periodic health examination.
III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.	E. There is good evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.

IMPACT OF FAMILY PLANNING DECISIONS

We live in an era of changing preferences for fertility control, family size, timing of establishing a family, and choice of occupation. The consequences of sexual risk-taking are increasingly significant. Canadians and their health-care providers are thus involved in fertility-related decisions that will fundamentally influence individual lives and society as a whole, well into the future. Family planning decisions affect and are influenced by emotional health, sexual attitudes and behaviours, gender equity, the quality of relationships, and respect between women and men. Family planning choices made today will affect not only the structure of the future population, but also the health, family size, responsibilities and social opportunities, and thus the quality of life of Canadians.

Physicians and other health-care professionals can contribute to the value of family planning decisions. Being proactive in counselling, providing accurate information, and being approachable partners in a professional relationship built on mutual respect, trust, open communication, and a sense of caring will ensure that good decisions are made. Training programs in Canada must maintain education in contraception and sexual health in their curricula, so that health-care providers will have the necessary skills to provide care in these areas.

TRENDS IN REPRODUCTIVE HEALTH AND CONTRACEPTIVE USE IN CANADA

Reproductive health in sexually active women and men involves the establishment of satisfying sexual relationships that are free of unwanted pregnancy, sexually transmitted infections, violence, and coercion. The risks of these events for individuals must be taken into account in the provision of care.

REPRODUCTIVE HEALTH

TRENDS IN BIRTHS AND THERAPEUTIC ABORTIONS

Over the past 40 years there has been a dramatic decline in the birth rate in Canadian women. The birth rate in 1997 was 44 per 1000 women aged 15 to 49, compared with 116 per 1000 women in 1959.[3] The greatest decline in birth rate occurred in the 1960s with the introduction of a variety of birth control methods, but statistics from the 1990s continue to show a slow decline.[4] One reason for this decline is that women are now older when they are having children.[4] In 1997 the average age of first birth was 27 years, compared to 23 years in the 1960s.[5] Although birth rates have declined dramatically in women under age 30, they have generally risen in women in their thirties over the last 15 years.[5]

As women delay childbearing until they are at an age when fecundity is declining, some face difficulties in conceiving. With increasing age, there is increased risk of aneuploidy, spontaneous abortion, and obstetrical complications such as diabetes and hypertension.[6]

Delayed childbearing is associated with an increased risk for neonatal morbidity largely due to an increase in the birth of preterm and low-birth-weight infants.[7,8]

Despite a steady decrease in the total pregnancy rate over the last 2 decades, the adolescent pregnancy rate has remained relatively steady. In 2000, the fertility rate for adolescents (number of pregnancies per 1000 women of reproductive age) in Canada was 17.3, compared with 33.9 for women aged 35 to 39 and 5.9 for women aged 40 to 44.[3,5]

The ratio of abortions per 100 live births rose from 28.6 in 1995 to 32.2 in 2000. The highest abortion rate (number of abortions per 1000 women) in 2000 in Canada was in the 20-to-24 age group, with a rate of 31.9 per 1000 women.[3,5] The persistent use of abortion services indicates either that we are not meeting

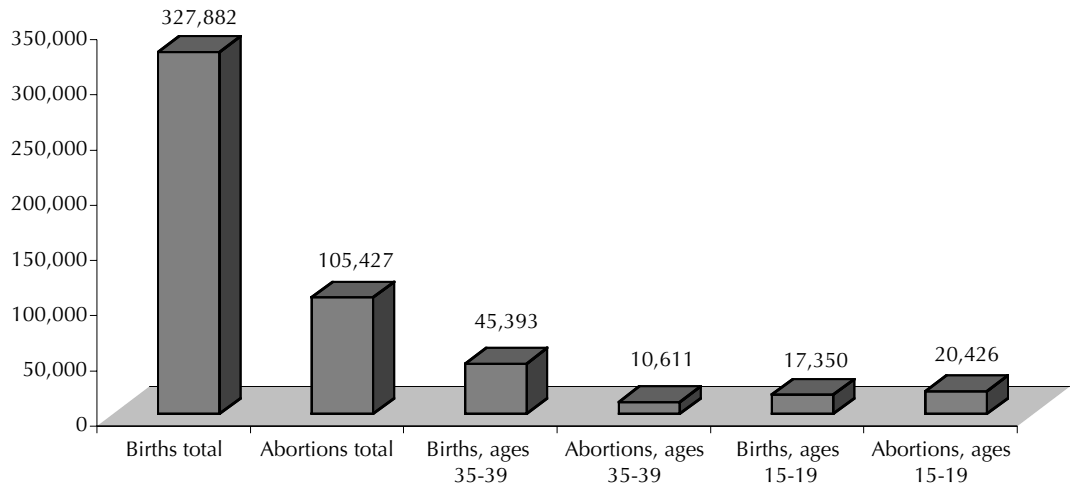

Figure 1. Data from Statistics Canada.[3,5]

the contraceptive needs of Canadian women, or that different approaches to the provision of contraception are required.

Relevant data from Statistics Canada in 2000 are shown in Figure 1.

TRENDS IN INCIDENCE OF SEXUALLY TRANSMITTED INFECTIONS

From January to December 2002, Statistics Canada reported 56 093 cases of chlamydia infection and 7195 cases of gonorrhea.[9] The highest risk for contracting chlamydia infection and gonorrhea is in 15 to 19 year olds.[10] The 1998, age-specific incidence of hepatitis B remains highest among 25 to 29 year olds, with a male to female ratio of 5:2. The incidence of hepatitis B has continued to gradually decline with time.[11]

The number of positive human immunodeficiency virus (HIV) tests declined steadily in the late 1990s, although at the same time the number of positive HIV tests reported among heterosexuals increased. In 1999, 4190 Canadians were newly infected with HIV, similar to the number of newly reported cases in 1996. The cumulative total of HIV-positive tests reported in Canada up to June 2000 was 46 651.[12]

TRENDS IN DOMESTIC VIOLENCE

Effective use of a contraceptive method is difficult in situations where one partner is being victimized. Pregnancy is associated with both initiation and exacerbation of domestic violence, so contraceptive failure carries added risk for women in abusive or potentially abusive relationships.[13] In Canada, the rate of spousal (including common-law partner) violence directed against women was reported in 1999 as 8%, a decline from the rate of 12% reported in 1993.[14] However, in Aboriginal women, the reported rate of spousal violence in 1999 was 20%, compared to the reported rate of spousal violence in non-Aboriginal women of 7%.[14]

CONTRACEPTIVE USE

Canadian contraceptive use has changed over the past 20 years. Reliance on female sterilization has shown a linear decline across the past decade, while rates of male sterilization have stabilized in the same time.[15-19] Oral contraceptive use has increased, so that it is now the contraceptive method most used in Canada; the use of intrauterine devices has greatly declined, and the use of condoms has increased.[15-19] (Table 2)

The Canadian Community Health Survey indicated that, of those individuals using condoms, only 41% reported always using them.[20] Among Canadians aged 15 to 19 involved in a relationship of less than 12 months, the National Population Health Survey in 1996-97 found that 16% did not use a condom during their last intercourse, and 8% reported never using a condom.[18] High-risk sexual behaviours occur across the age spectrum; of the survey population aged 15 to 49, 8% reported never using condoms, and 16% reported not using condoms at the last intercourse in a relationship of less than 12 months.[21] Alcohol use poses a significant barrier to effective contraceptive use at all ages.

Very frequently we approach contraceptive practice with a focus only on preventing pregnancy rather than on family planning. Assisting women to explore their plans for childbearing is an important part of family planning and contraceptive care. For a woman who wishes to have children in the future, contraceptive counselling includes providing specific information about how fertility declines with age (Table 3), so that she can make an informed choice about family planning.

Table 2. Methods of Birth Control Currently Used By Women Who Have Had Intercourse[19]

Method	%
Oral contraceptives	32
Condom	21
Sterilization, male	15
Sterilization, female	8
Withdrawal	6
Injection (DMPA*)	2
Intrauterine device	1
Rhythm	2

*DMPA: depot-medroxyprogesterone acetate

MAJOR DETERMINANTS OF CONTRACEPTIVE CHOICE

An understanding of the social and psychological factors that drive contraceptive choice is essential for the creation of effective clinical and educational interventions to promote reproductive health in this area.[23-26] Three activities, described here, appear to influence contraceptive use and other reproductive health behaviours significantly.[27] In order to become an effective health-care professional and to be involved in shared contraceptive decision-making, clinicians should:

- share information
- enhance motivation, and
- help to develop behavioural skills

First, information about contraception and sexuality that is easy for the individual to understand and easy for the individual to act on is a prerequisite for contraceptive use.[27-29]

Information is easily exchanged verbally, or through brochures and other demonstration materials. This information, in order to be useful, needs to be:

Table 3. Effect Of Age On Fertility[22]

Age When Beginning Attempts to Conceive	% of Women Remaining Childless
20–24	6
25–29	9
30–34	15
35–39	30
40–44	64

- easy to understand (common words, simple instructions written in conversational fashion, information connected with individual social and sexual behaviour patterns)
- attractive and tailored to individual needs (question-and-answer format on particular topics, humorous anecdotes, pictures, and graphs)
- timely and accessible (available for the individual in time for it to be used effectively, and in a place that is comfortable for accessing the information)

Second, *motivation* to use contraception is a critical determinant of whether even well-informed individuals will act on what they know, and therefore use contraception effectively.[30-32]

Motivation will be affected by

- personal attitudes about the use of contraception ("What do you think of this contraceptive method and its use?")
- social norms that are seen to support or to oppose contraceptive use ("What will people around you think of you using this contraceptive method?")
- personal factors modifying effective contraceptive use ("What could make you use your contraceptive method less effectively? What could you do to overcome these difficulties?")
- perceived vulnerability to, and perceived costs of, unwanted pregnancy ("How would you react if you got pregnant now? When do you want to get pregnant? Do you think you could get pregnant before you want to?")

Third, *behavioural skills* for using contraception are crucial determinants of whether even a well-informed and well-motivated person will be capable of using contraception effectively over the long term.[30,33]

Contraceptive use requires an individual to perform a complicated series of intrapersonal and interpersonal acts that are rarely, if ever, directly taught or discussed. In order to be an effective user of contraception, an individual must be able to acquire and understand contraceptive information, anticipate sexual intercourse, talk with a partner about contraception, engage in such public acts as visiting a physician or a pharmacy to obtain contraception, and use contraception correctly and consistently over the long term.

Clinicians and educators need to be aware of the behavioural complexity of contraceptive use. They need to share, counsel, coach, teach, and problem solve so that individuals will be aware of their contraceptive behavior, be prepared to enact each of its steps skillfully, and be able to solve problems should the need arise. Strategies to reduce harm, including the concept of "dual protection" to reduce the risk of both unplanned pregnancy and sexually transmitted infection (STI), need to be addressed with each encounter.

The Society of Obstetricians and Gynaecologists of Canada provides easily accessible resources on contraception and sexual health:

- www.sexualityandu.ca (for health-care providers, educators, parents and consumers)
- www.sogc.org (for health-care providers to access clinical practice guidelines, has a contraception hotline, and lists answers to frequently asked questions)
- *Sex Sense* (an award-winning consumers' guide to contraception and sexuality in paperback form)

SUMMARY STATEMENTS

1. Family planning is an important aspect of life and is a basic human right. Canadians have the right to the highest possible quality care related to their sexual and reproductive health as part of primary health care.
2. Both adults and adolescents face challenges when attempting to use contraception appropriately and consistently.
3. The provision of appropriate contraceptive services requires adequate training of care providers in the areas of contraception and sexual health. (Level II-2)
4. The consistent and correct use of latex condoms in combination with another method of contraception (dual protection) will provide maximal protection against unintended pregnancy and STI, including HIV infection. (Level III)

RECOMMENDATIONS

1. **Family planning services should be provided with dignity and respect, based on individual differences and needs. (Grade A)**
2. **In order to enhance the quality of decision-making in family planning, health-care providers should be proactive in counselling and should provide accurate information. They should be approachable partners in a professional relationship. (Grade B)**
3. **Family planning counselling should include counselling on the decline in fertility that is associated with increasing female age. (Grade A)**
4. **Health-care providers should promote the use of latex condoms in combination with another method of contraception (dual protection). (Grade B)**

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CHAPTER 2: CONTRACEPTIVE CARE AND ACCESS

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INTRODUCTION

The World Health Organization recognizes reproductive and sexual health care as a fundamental human right.[1] The Platform for Action of the 1995 Beijing Conference affirms the following:

> … the basic right of all couples and individuals to decide freely and responsibly the number and spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health.[2]

Responsibility for ensuring these rights lies with government, the health-care system, and individual health-care providers. Specifically, governments must make safe and effective contraceptive methods available and accessible, and provide adequate funding for delivery of contraceptive and sexual health services. The health-care system must ensure that contraceptive and sexual health services meet the needs of the population. Finally, individual health-care providers must recognize contraceptive care as more than just the provision of a method of birth control. Health-care providers should not only ensure that individuals have information and access to the widest array of safe and effective methods of birth control, but also take into account their broader sexual and reproductive health-care needs in helping them to choose and use a contraceptive method. Those who actively collaborate in choosing a contraceptive are most likely to be satisfied with their method and are most likely to adhere to it over time.[3]

CONTRACEPTIVE CARE IN THE CONTEXT OF SEXUAL BEHAVIOR AND REPRODUCTIVE HEALTH

Choosing a contraceptive method, and having the desire and ability to take up and continue to use contraception (contraceptive adherence) take place in the broader context of a person's social circumstances, belief system, sexual behavior, and reproductive health needs. An integrated approach to contraceptive care that recognizes the relationship of these factors is therefore recommended in order to address their sexual health needs.[4]

CONTRACEPTIVE EFFECTIVENESS

A major factor influencing choice of a contraceptive method is the effectiveness of the method in preventing pregnancy. This is related to both the inherent efficacy of the method and how consistently and correctly it is used. Some methods such as sterilization are inherently very effective and are almost unaffected by user characteristics. Others, such as condoms, are inherently effective but in actual use are very dependent on the user for achieving their maximal effectiveness (Table 1). Health-care providers should address these differences in counselling.

INDIVIDUAL AND ENVIRONMENTAL DETERMINANTS OF CONTRACEPTIVE BEHAVIOR

An individual's knowledge about contraception, their motivation to act on this knowledge, and their ability to act on it effectively will influence contraceptive choice and adherence to a contraceptive method over time. Supportive environmental factors such as ready access to health care, affordable contraception, and an agreeable partner are also critical to a person's ability to use contraception effectively (Figure 1). Well-informed, well-motivated, and behaviourally skilled individuals in a supportive environment are the most likely to take up and adhere to effective and safe contraception.[5,6]

Information that is practical and relevant to contraceptive choice is central to a person's ability to adopt a contraceptive method that meets her needs. Canadians have a limited awareness of their contraceptive options, and have suboptimal adherence to contraceptive methods.[7] Health-care providers can help to address these challenges to effective contraceptive practice by providing information about

- the range of birth control options and their effectiveness
- specific characteristics of the method
- common side effects
- health risks and benefits
- how to use a chosen method correctly
- what to do if problems occur

Table 1. Effectiveness of Family Planning Methods*

Effectiveness group	Family planning method	Pregnancies per 100 women in first 12 months of use: As commonly used	Pregnancies per 100 women in first 12 months of use: Used correctly and consistently
Always very effective	Vasectomy	0.2	0.1
	DMPA	0.3	0.3
	Female sterilization	0.5	0.5
	Cu-380 IUD (no longer available in Canada)	0.8	0.6
	Progestin-only oral contraceptives (during breastfeeding)	1	0.5
Effective as commonly used; very effective when used correctly and consistently	Lactational amenorrhea method	2	0.5
	Combined oral contraceptives	6-8	0.1
	Progestin-only oral contraceptives (not during breastfeeding)	†	0.5‡
Only somewhat effective as commonly used; effective when used correctly and consistently	Male condoms	14	3
	Coitus interruptus‡	19	4
	Diaphragm with spermicide	20	6
	Fertility awareness-based methods	20	1-9
	Female condoms	21	5
	Spermicides	26	6
	Cervical Cap		
	Nulliparous women	20	9
	Parous women	40	26
	No Method	85	85

*Adapted from: World Health Organization. Medical eligibility criteria for contraceptive use. Geneva, World Health Organization, 2000; Hatcher RA, Rinehart W, Blackburn R, Geller JS, Shelton JD. The essentials of contraceptive technology. Baltimore, Johns Hopkins University School of Public Health, Population Information Program; 1997.

†Outside breastfeeding, progestin-only contraceptives are somewhat less effective than combined OCs. See Hatcher RA, Trussell J, Stewart F, Cates Jr W, Stewart GK, Buest F, et al. Contraceptive technology. 17th ed. New York; Ardent Media Inc.; 1998.

‡Hatcher RA, Trussell J, Stewart F, Cates Jr W, Stewart GK, Buest F, et al. Contraceptive technology. 17th ed. New York: Ardent Media Inc.; 1998.

Key	0-1	Very effective	2-9	Effective	10-30	Somewhat effective

- strategies to assist an individual's or couple's consistent use of a method over time
- back-up strategies such as emergency contraception
- information on avoiding sexually transmitted infection[8-10]

In order to provide information that is meaningful and relevant to an individual's needs and lifestyle, health-care providers must elicit information about their sexual activity, family planning intentions, and personal preferences. Such a two-way flow of contraceptive information is essential to achieving an optimal user-method "fit" that will promote appropriate choice, satisfaction, and adherence.

Motivation is a second critical determinant of effective contraceptive use. Personal motivation (attitudes towards specific contraceptive practices) strongly influences contraceptive choice. Anyone who has negative attitudes about contraception, or is uncomfortable with their sexuality, is unlikely to anticipate the need for contraception in advance.[8] They are also unlikely to be able to discuss this matter preemptively with their partner or with their physician, or to adhere to a contraceptive regimen consistently over time.[11-13] A person's social norms – that is, their perceptions about what is accepted or rejected by a partner, a parent, or other significant persons – also influence contraceptive choice and adherence.[11-13] By considering the characteristics of a range of contraceptive methods, individuals can tailor the method they choose to their own attitudes and set of social expectations.

Specific behavioural skills are needed to acquire a contraceptive and use it correctly and consistently.[4,11] The individual must first acknowledge the fact that he or she is (or soon will be) sexually active. Individuals must then formulate a contraceptive health agenda; this may involve acquiring and using a method of birth control, practising safer sex, and seeking reproductive health care such as regular cervical cancer screening. Once this agenda is set, the individual must actively seek information about contraception and related reproductive health issues, choose and obtain a method of contraception, negotiate its use with a partner, and use it correctly and consistently over time.

Contraception is a complex matter involving a number of tasks. Awareness of this on the part of health-care providers is the first step in assisting consumers to develop the behavioural skills required. Health-care providers should review with individuals how they can use these skills in situations when sexual activity is likely. For example, practising how to bring up condom use with a partner can help build the behavioural skills essential for practising safer sex. ("Tell him you want to have sex, and that he should put on a condom.") Simple information about routines ("A lot of my patients take their pill every morning when they brush their teeth, and I give all of my patients a prescription for the 'morning after pill,' just in case.") can build an individual's confidence in their method and their ability to use it effectively.

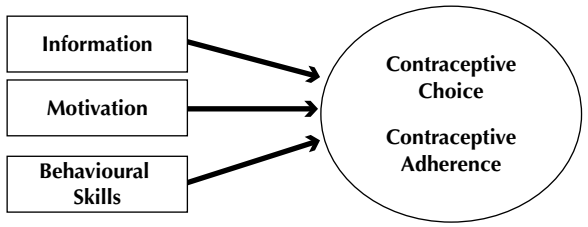

Figure 1. Individual and environmental determinants of contraceptive behavior: environmental factors.

Environmental factors may lessen the ability of even well-motivated individuals to use contraception effectively.[8] Those who are in abusive or disempowered relationships, who cannot afford contraception, who have limited access to care, who are chemically dependent, and who have major competing life demands are unlikely to use contraception effectively, unless such environmental factors are addressed.[8]

The assessment and discussion of environmental barriers to contraceptive choice (e.g., cost) or adherence (e.g., chemical dependency) are an important part of contraceptive counselling. For example, if a woman's environment requires an "invisible" method of contraception, injections of long-acting progestin or use of an intrauterine device with the strings cut short may represent a good user-method "fit." Cost issues can often be circumvented if they are determined to be impediments as well. Finally, addressing issues such as physically abusive relationships in which contraception is not tolerated may take precedence over contraceptive management itself.

THE RELATIONSHIP OF CONTRACEPTIVE PRACTICE TO SEXUAL BEHAVIOUR AND REPRODUCTIVE HEALTH

Contraceptive choice and utilization can have direct effects on sexual activity and reproductive health status. For example, the provision of a non-barrier contraceptive can free a woman to initiate sexual activity without fear of pregnancy, but at the same time it puts her at risk of acquiring a sexually transmitted infection (STI) that can impair her fertility and overall health. The more sexual partners that young Canadian women report having, the more likely they are to be using oral contraception, the less likely they are to use condoms, and the more likely they are to have had an STI.[14]

Given the interdependency of contraceptive use, sexual activity, and reproductive health, contraceptive care must address contraception in the broader context of each of these factors. When providing information for making a contraceptive choice appropriate to an individual's attitudes, preferences, and environmental constraints, health-care providers should also counsel about related sexual health concerns such as STIs, sexual function, relationship violence, cervical cancer screening, and hepatitis B vaccination.[15] For example, a woman using

a hormonal method of contraception who is in a new but monogamous relationship should be advised about the need for STI prevention, including dual protection (use of hormonal contraception plus condoms), mutual human immunodeficiency virus (HIV) antibody testing and mutual monogamy.

PUTTING AN INTEGRATED APPROACH TO CONTRACEPTIVE CARE INTO PRACTICE

To establish a "sexual health–friendly" environment, the following cues may be helpful.

Environmental cues such as posters, books, or brochures in the practice setting clearly establish that the health-care provider is an approachable and knowledgeable source for contraceptive and reproductive health care. These cues can encourage individuals to express contraceptive and reproductive health concerns even in visits not originally intended for this purpose.

Verbal cues can systematically address contraception and related sexual and reproductive health concerns. Health-care providers can use a script-like approach during routine history taking or sexual health–related visits. This might involve the following verbal cues from the health-care provider:

"Part of my job is to help look after your sexual and reproductive health. Do you mind if I ask a few questions in this area?

- Are you sexually active? With men, or with women, or both?
- What are you and your partner doing to prevent pregnancy?
- What are you and your partner doing to prevent sexually transmitted infection/HIV infection?
- Do you have any concerns or questions about sexual function?
- Do you have any concerns or questions about sexual or relationship violence?

You can always ask me questions about these issues."

This approach to contraceptive care has a number of advantages. First, it can be used either in a visit for a general health assessment, or, with appropriate modification, in a visit for contraception or a sexual health concern. Second, it integrates a discussion of contraception, sexual activity, sexual function, and sexual or relationship violence. Third, this approach identifies the legitimacy of care in this area, and the approachable and non-judgemental nature of the clinician for ongoing sexual health care.

THE HEALTH-CARE PROVIDER AS AN INFORMATION RESOURCE

Practical information that is easy for the individual to understand and to translate into behaviour is the foundation of good contraceptive practice. This can be done through individual counselling, or through brochures, books, or Web sites such as:

www.sexualityandu.ca
www.plannedparenthood.org/health/
www.itsyoursexlife.com/
www.womenshealthmatters.ca

REFERRAL NETWORKS

A locally relevant referral map will help in making appropriate referrals for specialized care. This may include referral links to abortion providers, public health services, child protection services, domestic violence services and sex therapists. In addition, an office library with pamphlets, books, and a list of Web resources for patient use can support practical information needs.

CONTINUING EDUCATION

Knowledge in contraceptive care is frequently changing as new contraceptive technologies become available. Training programs for health-care professionals should include sexual health counselling. Health-care providers should assess their own skills and comfort level, and seek out continuing clinical education in contraceptive care and related areas. The Web site www.sexualityandu.ca, administered by the Society of Obstetricians and Gynaecologists of Canada (SOGC), contains current information for health-care providers and others. The SOGC also initiated and manages a Canada-wide Contraception Awareness Project (CAP) to promote safer sex and effective contraception for Canadian women and men. Information about this program is available at www.sogc.org (search for "contraception awareness").

ACCESS TO CONTRACEPTION

There are significant barriers to the effective use of contraception. Some of these are related to the potential user, some are provider related, some are system related, and some are related to government and industry.

ISSUES RELATED TO CONTRACEPTIVE USERS

The knowledge and motivation of the contraceptive user is central to effective contraceptive practice. Potential users must first acknowledge their need for contraception. They must have enough information about contraception to choose a method, know how to obtain their chosen method if it is one that does not require a prescription, and know how to use it correctly. Alternatively, they need to know where and how to access a health-care provider for contraceptive counselling and sexual health assessment, so that a suitable method can be provided or prescribed. Teens are a particularly vulnerable group in this respect, as they are often reluctant to seek information and help for contraception from their family physician.[16] School-based programs that provide information about contraception have been shown to reach this target group effectively.[17-18]

ISSUES RELATED TO PROVIDERS

Other steps to contraceptive utilization are provider dependent. Providers must be knowledgeable about the variety of contraceptive methods available, and be able to provide them. Providers may be less likely to recommend use of a contraceptive method with which they are not familiar, such as the intrauterine device.

Health-care providers must also be approachable and accessible to the population in need of contraception. In times of doctor shortages and cutbacks in the funding of sexual health services by public health departments, there may not be a sufficient number of health-care providers to ensure that contraceptive services meet the needs of the population.

SYSTEM-RELATED ISSUES

Access to a contraceptive method can be impeded if the cost of the method is excessive, or if the delivery of the method is cumbersome or inconvenient. The cost of many contraceptive methods is out of reach for women with limited financial means. Both government and private insurance plans cover the costs of many birth control methods, but this is not uniform even for hormonal methods. Sexual health clinics and many university health services provide free or subsidized contraceptives but these services are not widely available to the population as a whole. The SOGC's national Compassionate Oral Contraceptive Program ensures that access to contraception is not denied because of lack of funds. Information about this program is available at www.sogc.org (search for "contraception awareness").

GOVERNMENT AND INDUSTRY-RELATED ISSUES

Canadian women deserve access to all safe and effective contraceptive methods. Nevertheless, contraceptive choice in Canada is restricted in comparison to the situation in many other countries. A comparison of the availability of new contraceptive products shows that Canadian women have access to only 17% of the newer methods available, compared to Denmark, where 61% of all newer products are approved, and the United States, where 44% are approved.[19] The time for approval of new drugs in Canada is significantly longer than in the United States and Sweden.[20] In this environment, sponsors may not submit applications for new hormonal contraceptives when there appears to be a low chance of successful approval.[19]

In recent years, Canadian women have lost access to products that are approved because suppliers have withdrawn them from the Canadian market. Thus Canadian women no longer have access to the Gyne-T 380 IUD, Norplant, and the Lea Shield. The Canadian market is small for many of these products, and unfortunately decisions are made that are detrimental to the ability of Canadian women to choose a contraceptive that is most acceptable to them.

SUMMARY STATEMENTS

1. Sexuality is an important aspect of life and is expressed in a variety of ways.
2. Counselling about contraception and STI consists of tailoring information to individual needs, enhancing positive attitudes towards contraception, sexuality, and STI prevention; modifying barriers to effective use; and helping individuals to develop practical skills to use their contraceptive method consistently. (Level II-2)
3. All individuals in sexual relationships are at risk for acquiring STIs; individuals changing or establishing new relationships are especially at risk. (Level II-2)
4. Well-informed, well-motivated, and behaviourally skilled individuals are more likely to use safe contraceptive and STI prevention methods effectively and consistently. (Level II-2)
5. Canadian women and men have the right to access a wide range of contraceptive options.

RECOMMENDATIONS

1. **Comprehensive family planning services, including abortion services, should be freely available to all Canadians regardless of geographic location. These services should be confidential and respect an individual's privacy. (Grade A)**
2. **Questions about sexuality should be incorporated into a general assessment. (Grade C)**
3. **Canadian women and men, with their health-care providers, should address both the prevention of unintended pregnancy and STIs. (Grade C)**
4. **Testing for STI and prevention counselling should not be restricted to young or high-risk individuals. (Grade B)**
5. **Women and men should receive practical information about a wide range of contraceptive methods so that they can select the method most appropriate to their needs and circumstances. (Grade C)**
6. **Health-care providers should assist women and men in developing the skills necessary to negotiate the use of contraception, as well as the correct and consistent use of a chosen method of contraception. (Grade C)**
7. **Health promotion, emergency contraception counselling, and the prevention of STIs, sexual violence, and cervical cancer should be integrated into contraceptive care. (Grade C)**
8. **The Government of Canada should enhance access to safe and effective products for Canadian women by accelerating the approval process through harmonization with the therapeutic guidelines of other developed countries. (Grade C)**
9. **The SOGC should work with groups that support initiatives in women's health to promote the accessibility of all forms of contraception in Canada. (Grade C)**

10. **Hormonal emergency contraception should be available without a prescription in pharmacies, family planning clinics, emergency rooms, walk-in clinics, and school health programs. (Grade B)**
11. **The SOGC should continue the Contraception Awareness Project (CAP) to promote safer sex and effective contraception for Canadian women and men and to continue professional education for health-care providers who are active in this field. (Grade C)**
12. **The established program, which allows compassionate provision of oral contraceptives to patients in need in Canada, must be maintained. (Grade B)**

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CHAPTER 3: EMERGENCY CONTRACEPTION

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INTRODUCTION

Emergency contraception (EC) is any method of contraception which is used after intercourse and before the potential time of implantation. As these methods work prior to implantation, they are not abortifacients. Emergency contraception is a back-up method for occasional use, and should not be used as a regular method of birth control.

OPTIONS

There are 2 methods of emergency contraception: hormonal methods, which involve the use of emergency contraceptive pills (ECPs), and the post-coital insertion of a copper intrauterine device (IUD). Two hormonal preparations are used as ECPs in Canada: one contains only the progestin levonorgestrel, while the other is a combined preparation containing both ethinyl estradiol and levonorgestrel.

The levonorgestrel-only method, marketed as Plan B, was introduced into Canada in 2000 and is the only product approved by Health Canada for EC. The regimen consists of 2 doses of 750 µg levonorgestrel taken orally 12 hours apart.

In use since the 1970s, the Yuzpe method consists of the oral administration of 2 doses of 100 µg ethinyl estradiol (EE) and 500 µg levonorgestrel 12 hours apart. Ovral tablets (each containing 50 µg ethinyl estradiol and 250 µg levonorgestrel) are most commonly used to provide these doses. Other products can be substituted if they are more readily available (Table 1). Although they may not deliver an exactly equivalent dose, they are considered to offer equivalent efficacy.[1]

EFFECTIVENESS

The Yuzpe and levonorgestrel-only methods have been shown in randomized trials to reduce the risk of pregnancy by approximately 75 and 85% respectively.[2-5] This does not mean that 25% of women using the Yuzpe method will become pregnant; it means that, if 100 women had unprotected intercourse once during the

second or third week of their menstrual cycle, 8 of them would be likely to become pregnant, but that only 2 would become pregnant (a reduction of 75%) after use of the Yuzpe method.[6] A single dose of 1.5 mg of levonorgestrel appears to be as effective as the standard 2-dose levonorgestrel regimen.[7,8]

Although they have generally been used only up to 72 hours after intercourse, both hormonal methods of EC are effective when taken between 72 and 120 hours after unprotected intercourse.[7,9,10] The effectiveness when used after 72 hours seems to be slightly lower. The effectiveness of EC has been shown to decline significantly with increasing delay between unprotected intercourse and the initiation of treatment: levonorgestrel EC prevented 95% of pregnancies when used within 24 hours of intercourse, 85% when used 25 to 48 hours after intercourse, and 58% when used 49 to 72 hours after intercourse. The corresponding figures for the Yuzpe method were 77%, 36%, and 31%.[2] Although significant in several studies,[2,8,11-13] this time-effect relationship was not seen in other studies.[7,9]

A meta-analysis has demonstrated that the effectiveness of post-coital IUDs approaches 100%, significantly higher than the effectiveness of hormonal EC.[14]

MECHANISM OF ACTION

Theoretically, EC could interfere with follicle maturation; the ovulatory process; cervical mucus; sperm migration; corpus luteum sufficiency; endometrial receptivity; fertilization; and zygote development, transport, and adhesion.[15] The mechanism of action may differ not only with the different EC methods, but also within each method, depending upon when it is given relative to the time of both intercourse and ovulation.[15]

INDICATIONS

Hormonal emergency contraception should be considered for any woman wishing to avoid pregnancy who presents within 5 days of unprotected or inadequately protected sexual intercourse. A post-coital IUD insertion can be considered up to 7 days after unprotected intercourse. Appropriate indications include the following situations:

- failure to use a contraceptive method
- condom breakage or leakage
- dislodgement of a diaphragm or cervical cap
- two or more missed birth control pills
- Depo-Provera injection over 1 week late
- ejaculation on the external genitalia
- mistimed fertility awareness
- sexual assault when the woman is not using reliable contraception

Because it is difficult to determine the infertile time of the cycle with certainty,[16-18] EC should be provided to a woman who is concerned about her risk of pregnancy regardless of the cycle day of exposure. Although ECPs are not recommended as a regular form of contraception, repeat use poses no known health risks and should not be a reason for denying women access to treatment.

Table 1. Ovral and Substitutions

Brand	Pills per Dose	Ethinyl Estradiol (μg/dose)	Levonorgestrel (μg/dose)
Ovral	2	100	500
Alesse	5	100	500
Triphasil	4 yellow	120	500
Triquilar	4 yellow	120	500
Min-Ovral	4	120	600

CONTRAINDICATIONS

The only absolute contraindication to the use of emergency hormonal contraception is known pregnancy. The effect of ECP use in women already pregnant on the outcome of pregnancy is unknown, but pregnancies in which the fetus has been exposed to oral contraceptives (OCs) have shown no evidence of teratogenicity.[19]

No substantial increased risk for developing venous thromboembolism has been found with combined hormonal EC. However, studies of safety have frequently excluded women who have contraindications to oral contraception.[20] Since the levonorgestrel-only method carries no theoretical risk, it may be a preferred option for women with significant contraindications to estrogen – such as those with known thrombophilia, a history of stroke or heart attack, migraine headache with neurological symptoms, or smokers over age 35.[21]

If insertion of an IUD is considered, a preexisting pregnancy must be excluded. This may require a sensitive urine pregnancy test or assay of serum human chorionic gonadotropin (hCG). There should be no history of recent pelvic inflammatory disease, low risk for sexually transmitted infection, and no evidence on examination of vaginal or cervical infection.

SIDE EFFECTS

The common side effects of hormonal emergency contraception are gastrointestinal. The levonorgestrel method has a significantly lower incidence of nausea (23.1% versus 50.5%), vomiting (5.6% versus 18.8%), dizziness, and fatigue than the Yuzpe method.[2] The antiemetic meclizine (available without prescription) has been shown to reduce the risk of nausea when taken orally in a dose of 50 mg 1 hour before the first dose of

the Yuzpe method, but its use increases the incidence of drowsiness.[22] Less common side effects of both methods include headache, bloating, abdominal cramps, and spotting or bleeding.[23] Most women will have menstrual bleeding within 3 weeks of taking ECPs.[2]

Possible complications of post-coital IUD insertion include pelvic pain, abnormal bleeding, pelvic infection, perforation and expulsion.[23]

MYTHS AND MISCONCEPTIONS

1. Emergency contraceptive pills cause a "mini-abortion."
   Fact: Emergency contraceptive pills have no effect on an established pregnancy.[19] They act prior to implantation and therefore are not abortifacients.[15]
2. If emergency contraceptive pills are too easy to obtain, women will "abuse" them.
   Fact: Women who are supplied with emergency contraceptive pills in advance of need will use them appropriately and are not more likely to abandon regular forms of birth control.[24-26]
3. Emergency contraceptive pills have high doses of hormones and are dangerous to use.
   Fact: The brief one-time dose of hormone in emergency contraceptive pills is extremely safe and can be used by virtually any woman who needs it.[27]

PROVIDING EMERGENCY CONTRACEPTION

In order to determine whether EC is indicated, it must be determined that unprotected intercourse occurred within the time frame when EC is effective. The woman's risk for having a preexisting pregnancy should be assessed by determining the timing and character of her last menstrual period. Rarely, a urine pregnancy test may be necessary to rule out pregnancy. A history of previous unprotected intercourse during the current cycle should not preclude the use of EC to lower risk related to unprotected intercourse within the therapeutic window for EC.

Health-care providers should also discuss broader sexual health concerns, such as whether the unprotected act was coerced, risks for sexually transmitted infections, and need for ongoing birth control. If nucleic acid amplification techniques are available to test for chlamydia, urine testing for chlamydia infection at the time of presentation for EC has been shown to detect most cases. It should be considered for high-risk groups (e.g., women under age 30) when reliable follow-up cannot be guaranteed.[28]

Women should be informed about the potential side effects of EC, and should be advised that hormonal EC will not prevent pregnancy resulting from unprotected intercourse in the days or weeks following treatment. A barrier method such as the condom can be used for the remainder of the current menstrual cycle, and a regular contraceptive method can be initiated at the beginning of the next cycle if the woman desires. A woman who wishes to begin using OCs may be provided with a prescription to start with her next period or the next day following the use of ECPs.[29] She should use a condom until she has taken the oral contraceptive pill for 7 consecutive days.

To maximize effective use of EC, women should have it readily available when needed. Visits for periodic health examinations or reproductive health concerns give an opportunity for health-care providers to offer a woman a prescription for EC in advance of need.

FOLLOW-UP

Women should be advised to have a pregnancy test if they do not experience normal menstrual bleeding by 21 days after treatment (28 days if she began using OCs after taking ECPs). If indicated, a follow-up appointment can be made to discuss contraception issues or to test for sexually transmitted infections.

TROUBLESHOOTING

Women who experience nausea or vomiting after taking hormonal EC should be advised to take an antiemetic such as meclizine or dimenhydrinate. Using the levonorgestrel-only method as a single-dose regimen (1.5 mg orally) obviates the need for a second dose if nausea occurs, and may be preferred for this reason.

If it is likely that a woman may forget to take her second dose of the 2-dose regimen, the single-dose levonorgestrel regimen should be recommended. If the second dose is forgotten, it can be taken up to 24 hours after the first without significant change in pharmacokinetics compared to the 12-hour dosing schedule.[30]

DRUG INTERACTIONS

Although theoretically the serum concentrations of the ECP hormones are affected by the use of drugs such as rifampicin and certain anticonvulsants, the efficacy of ECPs in this situation is uncertain. A case report of a woman taking warfarin who used the levonorgestrel-only ECP described a subsequent significant increase in anticoagulant effect.[31]

SUMMARY STATEMENTS

1. Women who have had unprotected intercourse and wish to prevent pregnancy can be offered use of hormonal emergency contraception up to 5 days after intercourse, (Level II-2) or insertion of a copper IUD up to 7 days after intercourse, to reduce the risk of pregnancy. (Level II-2)

2. The levonorgestrel emergency contraception regimen is more effective and causes fewer side effects than the Yuzpe (ethinyl estradiol–levonorgestrel) regimen. (Level I)
3. One double dose of levonorgestrel emergency contraception (1.5 mg) is as effective as the regular 2-dose levonorgestrel regimen (0.75 mg each dose), with no difference in side effects. (Level I)
4. Advance provision of hormonal emergency contraception increases the use of emergency contraception without decreasing the use of regular contraception. (Level II-2)
5. A pelvic examination is not a prerequisite to providing emergency contraception. (Level III)

RECOMMENDATIONS

1. **Because the efficacy of hormonal emergency contraception may be higher if used sooner, it should be started as soon as possible after an act of unprotected intercourse. (Grade A)**
2. **Hormonal emergency contraception should be available without a prescription in pharmacies, family planning clinics, emergency rooms, walk-in clinics, and school health programs. (Grade B)**
3. **Users of emergency contraception should be evaluated for pregnancy if menses have not begun within 21 days following treatment. (Grade A)**
4. **Women and men of reproductive age should be counselled about emergency contraception. Women should be offered a prescription in advance of need. (Grade B)**

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Please note: The CPD Quiz including objectives and questions will appear at the end of the third part.