Canadian Collaboration for Immigrant and Refugee Health (CCIRH)
Full Text

GUIDELINES FOR IMMIGRANT HEALTH

Appendix 18: Contraception: evidence review for newly arriving immigrants and refugees

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ABSTRACT

Background: Each year, 120 million women worldwide have a need for contraception that is unmet. This unmet need may be higher in immigrant than in Canadian-born women and is associated with unintended pregnancy, abortion, and limitation of women's ability to achieve educational, employment and economic goals. We conducted an evidence review to identify actions to be taken by primary care practitioners to reduce unmet contraceptive needs and unintended pregnancies.

Methods: We systematically assessed evidence on the burden of unmet contraceptive need and on the effectiveness of screening for unmet contraceptive need and contraceptive counselling for new immigrant and refugee women. We assessed quality of evidence using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.

Results: There is evidence that immigrant and refugee women have higher rates of unmet need for contraception, unintended pregnancy and abortion than native-born women. No evidence exists for the effectiveness of screening or contraceptive counselling in immigrant populations. In the general population, screening and counselling have not been shown to reduce rates of unintended pregnancy. Screening linked to counselling does increase the provision of contraception, and structured counselling about side effects improves contraceptive continuation. Patient-centred counselling, providing the method of choice and having a good personal relationship can improve satisfaction and continuation. Attitudes to contraception, specific contraceptives, and the influence of partner, religious, and social factors vary among immigrant and refugee groups.

Interpretation: Immigrant women have substantial risk for unmet contraceptive need and unintended pregnancy. Health care providers should screen for unmet need early in resettlement and provide contraceptive counselling that is sensitive to the many factors (personal, socio-cultural, religious, medical) that influence decisions about contraception.

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The cases

Zainab, a 34-year-old mother of four who recently settled in Canada brings her youngest child for vaccination. Her husband, who is in their home country, will soon visit the family. She does not want more children, but has never used birth control. Her husband and mother-in-law might not approve of contraception. If she becomes pregnant, she will accept it as God's will.

Ying Dan is a 17-year-old high school student who is accompanied by her mother and has a respiratory infection. Her mother speaks limited English, but Ying Dan is fluent and states she likes her new school and has made friends. You have seen her once before for immunization.

Introduction

Family planning services and contraception are fundamental to women's health. The World Health Organization, the 1994 International Conference on Population and Development in Cairo, and the 1995 Fourth World Conference on Women held in Beijing, all recognized that reproductive and sexual health care is central to improving the health of women and is a basic human right. Couples and individuals have the right to "decide … the number, spacing and time of their children and to have the information and the means to do so."[1] Primary care practitioners have an important role in assisting women and couples to achieve their reproductive health intentions.

Worldwide, approximately 120 million women have unmet need for contraception (Figure 1).[2-4] As a consequence, many experience unintended pregnancies, which can be associated with such negative outcomes as abortion, failure to adopt healthy pregnancy recommendations, and limitation of women's ability to achieve educational, employment and economic goals (Figure 1).[2,4-6]

We reviewed the evidence for the effectiveness of screening and counselling for unmet contraceptive need and identified influences on contraceptive decision-making relevant to the immigrant and refugee population. Several related issues (HIV and AIDS, pregnancy, intimate partner violence, and sexually transmitted infections) are addressed in other evidence reviews in the series. The recommendations on contraception from the Canadian Collaboration for Immigrant and Refugee Health are found in Box 1.

Box 1: Recommendations on contraception from the Canadian Collaboration for Immigrant and Refugee Health

Screen women of reproductive age for unmet contraceptive needs and provide culturally sensitive, patient-centred contraceptive counselling to decrease unintended pregnancy and promote patient satisfaction.

Basis of recommendation

- **Balance of benefits and harms**. Contraceptive counselling led to improved patient satisfaction (number needed to treat [NNT] 3, 95% confidence interval [CI] 2–5) and improved continuation rates (NNT 4, 95% CI 3–7). Evidence that in-depth counselling reduces unintended pregnancy rates shows some uncertainty (relative risk 0.47, 95% CI 0.16–1.34); however, the guideline committee judged that contraceptive continuation rates are an acceptable surrogate for unintended pregnancy rates. There is a high prevalence of unmet need for contraception in immigrant and refugee women (5%–40%). Harms were minimal. No data were available on couple or family discord.
- **Quality of evidence**. Moderate
- **Values and preferences**. The guideline committee attributed more value to supporting informed choice to meet future family needs and personal needs of the woman (empowerment) and less value to concern about causing couple and family discord.

Methods

We used the 14-step method developed by the Canadian Collaboration for Immigrant and Refugee Health team.[7] We developed a logic model to define preventive actions, to specify outcomes, and to derive key questions for the literature search. The Clinician Summary Table highlights the epidemiology of unmet need for contraception in immigrant populations, clinical considerations and potential key clinical actions (Appendix 2).

Search strategy for systematic reviews, guidelines and population-specific literature

We designed a search strategy with a librarian scientist to identify systematic reviews and guidelines related to screening for unmet need for contraception and contraceptive counselling in immigrant and refugee populations and the general population. We searched electronic databases (MEDLINE, MEDLINE InProcess, HealthSTAR, Cochrane Database of Systematic Reviews, American College of Physicians Physicians' Information and Education Resource database, Database of Abstracts

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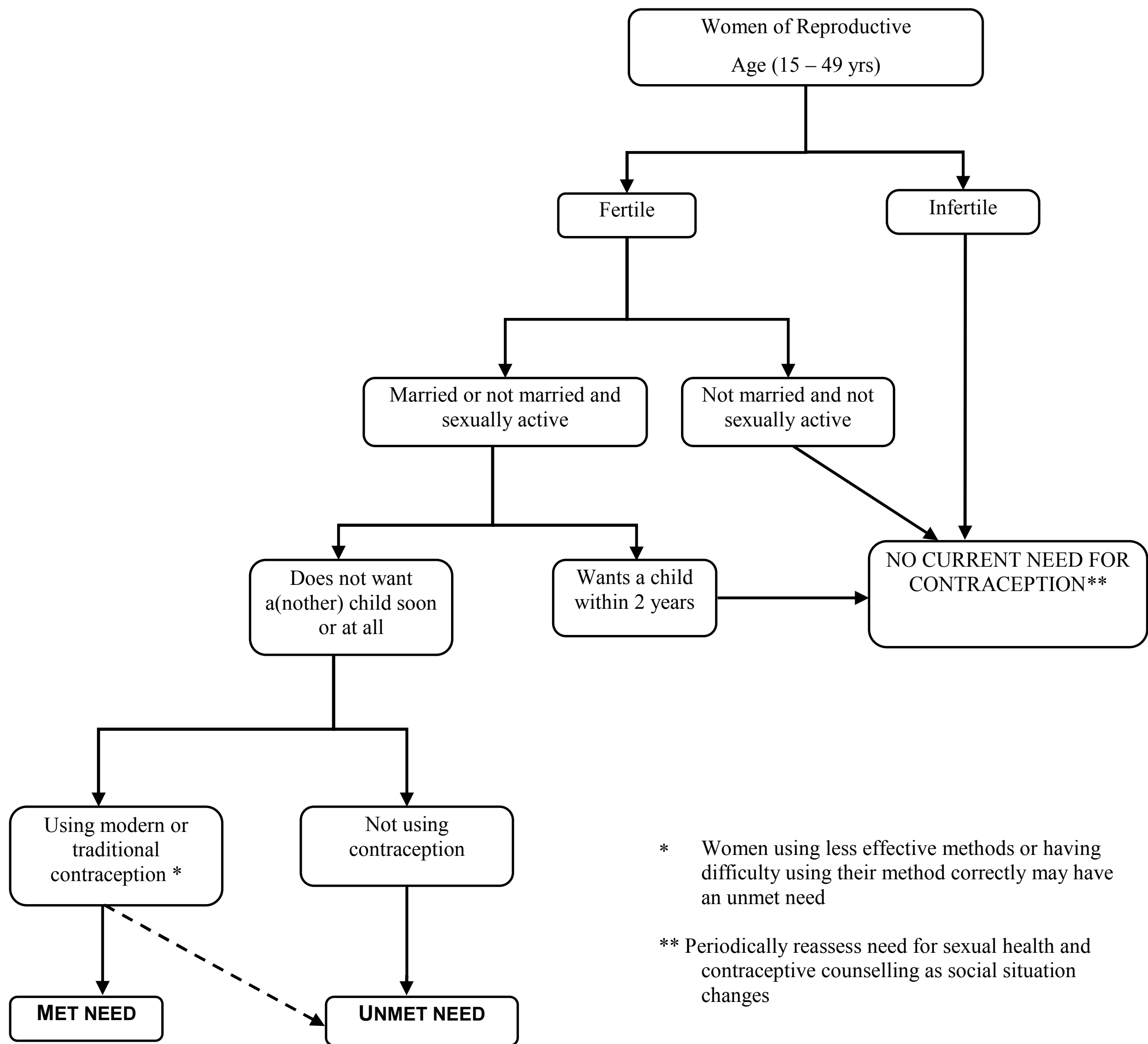

Figure 1: Defining Characteristics of Women With Unmet Need, Met Need, and No Need For Contraception. (Adapted from Sedgh G et al.[4])

of Reviews of Effectiveness, EMBASE, CINAHL, POPLINE), and websites including National Guideline Clearinghouse (http://www.guideline.gov/), United States Preventive Services Task Force, the Canadian Medical Association Infobase (http://mdm.ca/cpgsnew/cpgs/index.asp), and the Geneva Foundation for Medical Education and Research (http://www.gfmer.ch/Guidelines/Family_planning/Family_planning_contraception.htm). Searches were limited to English- and French-language articles from January 1996 to September 2007.

Two reviewers screened titles and abstracts, if necessary, and selected articles relevant to our key questions. We excluded articles that focused solely on postpartum women or interventions occurring outside office or clinic settings. Eligible interventions included screening for unmet contraceptive need or contraceptive counselling. Eligible outcomes were unintended pregnancy, abortion, uptake or adherence to contraception, attitudes and satisfaction.

We appraised eligible reviews using the National Institute for Health and Clinical Evidence critical

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appraisal tool. We chose a reference review that was most relevant to our key question.[8] Because few reviews included numeric data, we hand-searched reference lists from eligible reviews for relevant primary studies and reviewed these studies for evidence and quality.

We updated the reference systematic review with a second literature search using the same databases, beginning in January 1999, one year before the end date of the reference review search. We included randomized controlled trials, controlled clinical trials, and cohort studies of contraceptive counselling in comparison with usual care or using a pre/post design with a relevant outcome. Because no systematic reviews of screening for unmet need for contraception were listed, we also searched the same databases as well as websites of international organizations (World Health Organization, United States Agency for International Development, Population Council) for relevant primary studies.

We undertook a third search for information on the burden of unmet need and unintended pregnancy and cultural, social, economic and religious concerns relevant to providing contraceptive care to immigrants and refugees. We searched the same electronic databases, together with websites of organizations involved in family planning policy, surveillance or programming (Guttmacher Institute, United Nations, Population Council, United States Agency for International Development, World Health Organization, Statistics Canada, Family Health International), and hand-searched reference lists for relevant articles. An updating search, focusing on randomized controlled trials and systematic reviews during the period January 1, 2007, to January 1, 2010, was conducted to determine whether any recent publications would change the position of the recommendation.

Synthesis of evidence and values

We synthesized evidence using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) summary of findings tables assessing both relative and absolute effects of interventions (Box 2).[7,9] We appraised quality of evidence for each outcome using the GRADE quality-assessment tool. We also identified clinical considerations and implementation issues relevant to our population. Finally, we identified gaps in the research literature.

Results

We found no systematic reviews or guidelines related to screening for unmet contraceptive need for any population and none on contraceptive counselling in the immigrant and refugee population. Our search on contraceptive counselling in the general population yielded 789 titles, from which 127 articles were retrieved and reviewed. We retained four reviews, two guidelines and six primary studies as the basis for our evidence.[8,10-20] In our search to update the reference systematic review on contraceptive counselling, we found 203 new studies and retrieved three for full review. None met our inclusion criteria. Although we found no direct evidence on screening or contraceptive counselling in refugee and immigrant populations, our evidence comes from studies in both general and high-risk populations of sexually active women from developed, low and middle-income countries (Appendix 1).

What unmet contraceptive needs affect immigrant and refugee women?

Most immigrants to Canada come from developing countries[21] where unmet need for contraception is highly prevalent: (5%-40%) (Table 1). Rates are highest in sub-Saharan Africa, in young women, and in women who have had more than three births.[3,4] Rural, uneducated and poor women are also at higher risk.[4,22] Worldwide, more than one third of pregnancies are unintended, and 50% of these end in abortion.[2,23] Studies from Europe suggest that immigrant and refugee women have higher rates of unintended pregnancy and abortion than native-born women, and more than half of immigrants who seek abortion are not using any form of contraception.[24-29] In a recent US study, foreign-born and native-born women had similar abortion rates, although rates were higher for visible minority and poorer women,

Table 1: Newcomers to Canada by source region[21] 2008, with estimated regional unmet need for contraception for women aged 15–49 years[4]

Source region	Refugees, % n = 21,860[21]	Immigrants, % n = 225,381[21]	Regional rates of unmet contraceptive need among [4] Married women, %	Unmarried women, %
Africa/Middle East	16.4	18.8	10 (24 in sub-Saharan Africa)	9
Asia/Pacific	29.4	49.3	11	Unknown
South/Central America/Caribbean	25.1	9.7	12 (40 in Haiti)	5 (Latin America) 10 (Haiti)
United States, United Kingdom, Europe	29.2	22.0	Unknown	Unknown

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characteristics that are associated with immigrant status in Canada.[30] Immigrant and refugee women are also less likely than the general population to seek counselling for family planning (Table 2).[31]

Does screening or counselling for unmet contraceptive need decrease unintended pregnancy or increase patient satisfaction?

Our research team chose reduction in unintended pregnancy and patient satisfaction as our two most important benefits. Provision of contraceptive services, informed contraceptive choice, and uptake and adherence to contraception were used as intermediate outcomes. We speculated that screening or counselling had some potential for harm if it undermined the provider-patient relationship or caused couple or parent-child discord because of opposing views on contraception.

We found two observational studies of screening for unmet need (Table 2). Some low-quality evidence associates screening with an increase in provision of family planning services (relative risk [RR] 5.96, 95% CI 4.12–8.64).[20] A Guatemalan study provided moderate-quality evidence that screening and counselling are associated with an increase in informed contraceptive choice (RR 3.25, 95% CI 1.55–6.82) and receipt of or referral for a contraceptive method (RR 2.65, 95% CI 1.48–4.74).[19] Two randomized trials and two observational studies[15–18] addressed contraceptive counselling (Table 3). One high-quality randomized trial found that women using medroxyprogesterone who received structured counselling about side effects were

Table 2: Summary of Findings for Contraceptive Screening and Counselling

Clinical action: Contraceptive screening and counselling for preventing unintended pregnancy in immigrant and refugee women of reproductive age

Patient or population: Immigrant and refugee women of reproductive age
Intervention: Contraceptive screening and counselling
Comparison: Usual care
Sources: S1: Francisco Mendez F, Lopez F, Brambila C Burkhart M. Screening family planning needs: an operations research project in Guatemala. BMC International Health and Human Rights 2004, 4:2.[1]S2: Foreit JR., Vernon R, Hamel PR. 2005. "Use of systematic screening to increase the provision of reproductive health services in Bolivia," FRONTIERS Final Report, Washington, DC: Population Council

Outcomes	Absolute effect		Relative effect (95% CI)	No. of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Risk for control group	Difference with screening and counseling (95% CI)				
Informed choice (Mendez) Received assistance in selecting contraceptive method	Medium risk population[2]		RR 3.25 (1.55 to 6.82)[3]	480 (1)	moderate[4]	NNT 11 (4 to 45) Pre-test/post test design. Intervention trained providers to use screening tool to determine unmet contraceptive need for women visiting clinic. Study occurred in a conservative environment with reduced access to family planning services, therefore some concerns about generalizability. RR may be an underestimate, since intervention trained providers to screen, but did not assess how many actually provided screening
	40 per 1000	90 more per 1000 (22 to 232)				
Services per visit for family planning (Foreit)	Medium risk population		RR 5.96 (4.12 to 8.64)	2678 (1)	low	NNT 10 (6-15) Pre-post test design, using screening to promote provision of family planning services
	21 per 1000	121 more per 1000 (66 to 160)				
Harms	No data					

CI: Confidence interval; **RR**: Risk ratio;

GRADE Working Group grades of evidence
High quality: Further research is very unlikely to change our confidence in the estimate of effect.
Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
Very low quality: We are very uncertain about the estimate.

[1] The Steering Committee judged that the results of these studies of populations in Guatemala and Bolivia would apply to immigrant and refugee populations.
[2] Moderate risk for control group taken from study, and considered reasonable for refugee/immigrant women in Canada.
[3] Effect size is likely underestimated since intervention was training on screening, and not all providers would have actually screened
[4] Large effect shown for assisting with decisions and referral for a method (RR 2)

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more likely to continue the method than those who received regular counselling (RR 1.46, 95% CI 1.27–1.7).[15] Another randomized trial provided moderate-quality evidence for individualized counselling and follow-up; women attending a sexually transmitted disease clinic who had individualized contraceptive counselling and follow-up had higher rates of effective contraceptive use at four and eight months than those receiving regular information on options, although the effect diminished over time and by 12 months was not statistically significant (RR 1.22, 95% CI 0.96–1.56).[16] This study also found a non-significant 15% decrease ($p=0.16$) in pregnancy rate in the intervention group (RR 0.83, 95% CI 0.63–1.09). There is low-quality evidence from a cohort study of United States adolescents for the effect of personalized contraceptive counselling. It found a non-significant decrease ($p<0.10$) in pregnancy rates at one year compared with those receiving usual care (RR 0.47, 95% CI 0.16–1.34).[17] The cohort study by Nawar et al of 590 Egyptian women provides moderate-quality evidence that women receiving client-centred care are more satisfied than those receiving usual care (RR 2.17, 95% CI 1.76–2.68).[18] We found no data on harm of screening or contraceptive counselling.

Evidence from systematic reviews, observational studies and guidelines suggests a client-centred approach, giving women their method of choice, providing the contraceptive method on-site and having a good personal relationship improve patient satisfaction and continuation rates.[8,10,12,32,33] Provider pressure to adopt a method has been shown to be associated with method discontinuation.[34] A randomized trial demonstrated better knowledge improvement using a simpler rather than more detailed chart of contraceptive effectiveness.[35] High-quality contraceptive care respects each woman's human and reproductive rights and enables her to make an informed contraceptive choice consistent with her personal values, needs and beliefs.[36]

This care includes consideration of cultural, social, and religious influences, of women's experience of sexual violence or exploitation that can affect their health-seeking behaviours, and of contraceptive choice.

Clinical considerations

Does screening for unmet contraceptive needs occur during migration?

The immigrant medical examination asks applicants if they are pregnant, but there is no process and often limited access to health services to screen or support women who need contraception during migration.

Which women may need special consideration for contraceptive counselling?

No fertility patterns for immigrant and refugee populations have been established.[37] With migration to a more stable environment, fertility rates of refugee women sometimes increase as they choose to rebuild families. Refugee women in their country of resettlement for less than three months appear to have the highest levels of fertility of all resettled populations, although whether these pregnancies are intended or unintended is unknown.[37] Alternatively, desire to prevent pregnancy could increase if women perceive uncertainty and instability with migration.[37,38] Contraceptive needs can fluctuate because of family reunification and ability to visit partners in their home countries.[39] Pregnancy intention, contraceptive options and emergency contraception should, therefore, be discussed early in resettlement and be reassessed as circumstances change.

Unmarried women could be vulnerable to unintended pregnancy if cultural proscriptions on premarital sex conflict with their behaviour. These conflicts could prevent them from identifying and seeking support for their contraceptive needs. The most common reason for not using contraception among sexually active, unmarried women surveyed across all developing regions was low perceived risk of pregnancy because of infrequent sexual activity.[4]

Adolescent risk-taking and experimentation with sexuality put teenagers at risk for unintended pregnancy. Most young people become sexually active between 15 and 19 years of age.[40] In Canada, teenagers who are recent immigrants have lower rates of sexual activity and pregnancy than Canadian-born teenagers.[41] However, other countries of resettlement show the opposite pattern.[42] Like North American–born teenagers, those from the developing world are interested in discussing sexual health concerns with health care providers, although needing to raise the topic, confidentiality concerns, and parental presence often discourage this discussion.[43] Adolescent newcomers sometimes experience conflict between their families' attitudes toward teenagers' sexuality and attitudes in their country of resettlement.[44] The American Academy of Pediatrics recommends that providers emphasize confidentiality with teenagers, undertake a sexual history and provide contraceptive education and counselling, including emergency contraception.[45]

What social and cultural factors influence contraceptive counselling?

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Table 3: Summary of findings for contraceptive counselling for women of reproductive age with unmet contraceptive need

Patient or population: Women of reproductive age with unmet contraceptive need,[15,16,18] adolescents[17]
Settings: Family planning clinics,[15,17] primary health clinics[18] and sexually transmitted diseases clinic[16] in Mexico, Egypt and the United States
Intervention: Contraceptive counselling
Comparison: Usual care
Sources: Canto De Cetina TE, Canto P, Ordoñez Luna M. Effect of counseling to improve compliance in Mexican women receiving depot-medroxyprogesterone acetate. Contraception 2001;63:143-6. Shlay JC, Mayhugh B, Foster M, et al. Initiating contraception in sexually transmitted disease clinic setting: a randomized trial. Am J Obstet Gynecol 2003;189:473-81. Winter L, Breckenmaker LC. Tailoring family planning services to the special needs of adolescents. Fam Plann Perspect 1991;23:24-30. Nawar L, Kharboush I, Ibrahim MA, et al. Impact of improved client–provider interaction on women's achievement of fertility goals in Egypt. FRONTIERS Final Report. Washington (DC): Population Council; 2004. Available: www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Egypt_CPI.pdf (accessed 2010 Mar. 30). Hatcher RA, Trussell J, Stewart FH, Nelson AL, Cates W, Guest F, Kowal D. Contraceptive technology. 18th revised edition. New York: Ardent Media; 2004.

Outcomes	Absolute effect		Relative effect (95% CI)	No. of participants (studies)	GRADE quality of evidence	Comments
	Risk for control group	Difference with contraceptive counseling (95% CI)				
Continuation[15] (Follow-up: mean 12 months)	Medium-risk population*		RR 1.46 (1.27–1.7)	350 (1)	High	NNT 4 (95% CI 3–7) RCT of structured counselling about side effects of medroxyprogesterone vs. regular counseling
	560 per 1000	258 more per 1000 (151 more to 392 more per 1000)				
Effective contraceptive use[16] (Self-reported use of effective method for > 75% of coitus or sexual abstinence; follow-up: mean 12 months)	High-risk population		RR 1.22 (0.96–1.55)	632 (1)	Moderate†	NNT 17 (NS) RCT of women attending a sexually transmitted diseases clinic. Individualized counselling with on-site provision of contraception and assisted early referral to contraception provider vs. usual care (general information on contraceptive options and list of care providers).
	260 per 1000	57 more per 1000 (10 fewer to 143 more per 1000)				
Satisfaction[18] (Measured as number of people who endorsed 10–13 of 13 items related to satisfaction with services; follow-up: mean 7 months)	Medium-risk population		RR 2.17 (1.76–2.69)	590 (1)	Low	NNT 3 (95% CI 2–5) Pre-post design with introduction of intervention to improve client-provider interaction.
	270 per 1000	316 more per 1000 (205 more to 454 more per 1000)				
Unintended pregnancy[17] (Self-report; follow-up: mean 1 year)	Low-risk population		RR 0.47 (0.16–1.33)	255 (1)	Very low‡	Low risk: NNT 63 (NS) High risk: NNT 18 (NS) Controlled before-after study of individualized counselling with follow-up visit at 6 weeks.
	30 per 1000	16 fewer to 1000 (25 fewer to 10 more per 1000)				
	High-risk population					
	104 per 1000	44 fewer (87 fewer to 135 more)				
Unintended pregnancy[16] (Self-report; follow-up: mean 12 months)	Low-risk population		RR 0.83 (0.63–1.11)	632 (1)	Low‡	Low risk: NNT 196 (NS) Medium risk: NNT 57 (NS)
	30 per 1000	5 fewer per 1000 (11 fewer to 3 more per 1000)				
	Medium-risk population					
	104 per 1000	18 fewer per 1000 (38 fewer to 9 more per 1000)				

Note: CI = confidence interval, GRADE = Grading of Recommendations Assessment, Development and Evaluation, NNT = number needed to treat, NS = not statistically significant, RCT = randomized controlled trial, RR = risk ratio.
*Control-group risk of 56% continuation for medroxyprogesterone at 1 year from US national survey of family growth (Hatcher).
†Serious limitations because 30% lost to follow-up, self-reported unintended pregnancy rate, only 45% of women invited agreed to participate, women who declined were older, and method of randomization and blinding not described.
‡Unintended pregnancy data were rated as imprecise because RR was 0.47 (95% CI 0.00–1.34).

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Women arriving from developing countries might have insufficient knowledge about reproduction and contraception to make an informed decision about family planning.[4,22,46,47] Increased education and knowledge about reproduction correlate with more positive attitudes and increased use and adherence to contraception.[8] Women of all cultures use social networks for much of their sexual health information, which might therefore be inaccurate or incomplete.[22]

Cultural attitudes toward pregnancy and family planning vary. Providential ("children are God's will") or pronatalist cultures discourage pregnancy prevention.[48,49] In some cultures, women who bear many children are highly esteemed.[48,50] Religious beliefs about the acceptability of contraceptive practices are also influences for some women.[49,51-53] Contraception used to space births is acceptable in most religions. Among women of any particular faith, contraceptive attitudes vary widely. Health care providers should avoid assumptions and assess each woman or couple individually.[4,53] Longer residence in the host country, educational and professional attainment, and youth all favour positive attitudes toward modern contraception.[49,52,54]

A woman might not perceive herself to be the decision-maker for contraception, but could be strongly influenced by her spouse, mother-in-law, sex role, and religious beliefs.[49,53,55] Worldwide, 11%–12% of married women do not use contraception because of opposition from one or more influential parties. In sub-Saharan Africa, this figure is 23%.[4] Recognition of partner influences and his involvement, where appropriate, are important in counselling and supporting women's choices.[56] Some men consider contraception to be their spouse's responsibility, but often this responsibility is shared, and involvement in counselling may be welcomed.[50,56-59] In a population-based study of six African countries, women with supportive male partners were more likely to use modern contraceptives.[56] In some traditional cultures, fathering many children is a sign of masculinity;[50,56] however, perceived economic advantages of smaller families and better future opportunities for children can encourage male support for contraception.[48,50,60]

How acceptable are specific contraceptive methods?

Contraceptive use is increasing worldwide, but the mix and acceptability of contraceptive methods varies (Table 4). The average rate of contraceptive use in married women from low- and middle-income countries is 60%, with highest rates in Latin America and the Caribbean (73%) and in Asia (66%), and much lower rates in sub-Saharan Africa (22%).[61] Effectiveness and freedom from adverse effects are the most important characteristics influencing contraceptive choice.[62] Reluctance to use modern methods can be influenced by culture-specific fear of adverse effects.[49,52] For example, while many North American women choose to eliminate menstrual bleeding, those from African cultures often prefer monthly bleeding.[63,64] Spotting and bleeding associated with some methods are problems for women who have religious and cultural restrictions on intercourse or other activities related to bleeding.[10]

Oral contraceptives: Compared with Canadian-born women, immigrant and refugee women are less likely to use oral contraceptives.[28,31,65] Regardless of ethnic

Table 4: Regional prevalence for use of main contraceptive methods, from most effective (sterilization) to least effective (periodic abstinence) (Contraceptive method; % of women of reproductive age in a marital or other union)[61]

Region	Any method	Sterilization	Intrauterine device	Implant or injection	Oral contraceptives	Condom	Withdrawal	Periodic abstinence
More developed regions	67.4	13.1	9.4	1.0	16.5	13.9	6.8	4.3
Less developed regions	62.4	24.0	16.5	3.7	7.2	4.4	2.3	3.4
Sub-Saharan Africa	21.5	1.5	0.5	6.2	4.2	1.8	1.2	3.8
Asia overall	67.9	27.0	19.6	3.2	6.1	5.3	2.5	3.4
East Asia	87.6	34.3	40.4	0.3	3.5	6.9	0.0	1.2
South Asia	54.2	29.4	3.5	1.9	6.0	5.0	3.1	4.9
West Asia/Middle East	54.5	3.3	15.4	0.7	8.9	5.3	14.9	2.6
Latin America and Caribbean	71.4	29.8	7.4	4.1	15.8	6.8	2.7	3.9
Eastern Europe	63.7	2.3	21.1	0.0	6.5	11.0	12.5	9.4
North America	73.0	32.5	1.9	3.6	17.9	11.9	2.9	1.4

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background or age, many women worry about adverse effects and perceived health risks.[28,66,67] These concerns are more common in East Asian, sub-Saharan African and Eastern European women.[55,66,68-70] Dispelling misconceptions with accurate information about the safety and actual risks of hormonal contraception might allow women to consider this option.

Condoms: Condom use is increasing in developing countries but remains low in many countries.[41] Twenty-one percent of sexually active Canadian women aged 15–44 years use condoms for contraception.[71] Some women are reluctant to use condoms because of the need for partner cooperation.[28,72] Like the general Canadian population, most newcomers are familiar with condoms. A 1994 survey of sexually active male and female newcomers to Canada of South Asian, Caribbean and Latin American origin found that 85% had used condoms at one time.[73] In some source countries such as Hong Kong, Japan and Singapore, condoms are the main method of contraception.[61] Condom use is associated with users' perception that it is a normal or desired behaviour within their socio-cultural group.[74,75] In communities where educational and HIV-prevention programs have been prevalent, condom use can be more popular.[58] However, in many African and Latin American populations, condom use has connotations of infidelity, promiscuity, extramarital relationships or sexually transmitted infection.[58,67,72,76-78]

Intrauterine devices: Although used by only 1%–2% of North American women aged 15–44 years, the intrauterine device is the most commonly used and most effective reversible contraceptive method worldwide.[61,71,79] Immigrants often find it to be a familiar and acceptable contraceptive option; for example, in a New Zealand study, immigrant women were three times more likely than native-born women to use an intrauterine device.[31]

Injectables: Immigrant women might be more familiar with injectables like medroxyprogesterone than women in the general Canadian population, who rarely use them.[71] In sub-Saharan Africa, about 25% of women practising contraception use injectables.[54] Many women prefer the convenience and privacy of injections every three months, which can also enable contraceptive use without the knowledge of a disapproving partner or family.[54]

Traditional methods of birth control: Though generally less effective, many women find withdrawal, calendar methods or lactational amenorrhea more acceptable than modern contraceptive methods.[70] Exploring a woman's concerns about modern methods and her priorities for family planning will establish whether traditional methods adequately meet her needs.

Breastfeeding is commonly used in low- and middle-income countries to control fertility. In the first six months postpartum, it is 98% effective if the woman is amenorrheic and exclusively or nearly fully breastfeeding.[80] However, many women are unaware of when to initiate an alternative back-up method.[81,82]

Female and male sterilization: Worldwide, many couples depend on tubal ligation for contraception. Some religions prohibit sterilization, and in many countries, tubal ligation remains illegal or spousal consent is required.[83] Vasectomy prevalence is low in most developing regions, especially in Africa, at about 0.3%.[84] Men might be more receptive to vasectomy if they understand the procedure and the harmful effects of multiple pregnancies on their partners.[51,60]

Emergency contraception: Most women from developing countries are unaware of emergency contraception. Among women in family planning and refugee camp settings in Kenya, only 11%–15% had ever heard of emergency contraception.[85] Among women who know about it, many have misconceptions that it causes abortion or is unsafe.[51,86]

Abortion: Availability of legal abortion varies greatly around the world, as does its cultural acceptance. Internationally, rates are falling as women have better access to more effective contraception. Abortion rates are highest in Eastern Europe and Central Asia, where historically contraceptive options have been limited and abortions freely available.[87]

Medical considerations relevant for contraception

Generally accepted contraindications to specific contraceptives apply to immigrant and refugee women. Condom use should be encouraged for women at risk for sexually transmitted infections, irrespective of additional contraception use. More common in immigrant and refugee women, HIV and sickle cell anemia bear special consideration. Guidelines suggest that hormonal methods can be safely used by HIV-positive women. Although serum levels of contraceptive hormones can be reduced by some antiretroviral medications, the clinical implications are unknown.[36,88] Intrauterine devices are considered safe for women with HIV who are immunocompetent.[36] Pregnancy is risky for women with sickle cell anemia. Although combination hormonal contraceptives are considered reasonably safe for women with sickle cell anemia,[36,88] progestin-only contraceptives

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like medroxyprogesterone have the added benefit of reducing sickle cell crises.[89,90]

What are potential implementation issues?

Lack of familiarity with the Canadian health care system can limit immigrant and refugee women's access to contraceptive care. In some communities of origin, the husband's accompaniment or written consent is required to obtain contraception.[91] In others, hormonal contraception is available in pharmacies without a prescription. Many newcomers have limited experience with preventive health care and do not know they can seek contraception from a primary caregiver. Thus, opportunistic screening for contraceptive need should be considered at visits for other concerns, and not only during scheduled preventive health visits.

The caregiver's gender is important for women in many cultures,[6,10] and particularly for refugee women, who frequently have histories of sexual assault and abuse.[23,37] The advantages of ethnic and sex matching must be weighed against research suggesting a preference for "Canadian" professionals by immigrant and refugee women.[92,93] Unnecessary medical barriers, such as examinations, blood tests, and Papanicolaou smears, and a lack of culturally appropriate teaching aids are additional obstacles to contraceptive use.[10,51]

The Interim Federal Health Program covers the cost of contraceptives for Convention refugees, refugee claimants and protected persons. Newcomers without health insurance can be guided to publicly-funded sexual health clinics that provide services and low-cost contraceptives, regardless of health insurance status. The Society of Obstetricians and Gynaecologists of Canada also has a "Compassionate Contraceptive Assistance Program" that assists women in financial need (http://www.sogc.org/compassionate/pdf/compassionate_form_e.pdf).

Last, language barriers are common for many newcomers and are perceived by health care providers to be the greatest barrier to providing effective family planning services.[94] A trained female translator who is sensitive to the importance of confidentiality and nonjudgmental communication when discussing sexual health issues is the preferred support.

Other recommendations

The 1996 United States Preventive Services Task Force recommended periodic counselling to prevent unintended pregnancy in teenagers and women of reproductive age based on information taken from a sexual history.[13] However, subsequent Task Force guides do not include this recommendation. In 2009, the Institute for Clinical Systems Improvement gave unintended pregnancy prevention counselling a Level III recommendation (incomplete evidence and action left to judgment of group or clinician).[95] The American College of Obstetricians and Gynecologists in 2006 recommended evaluation and counselling in the periodic health assessment to prevent unintended pregnancy in female patients aged 13 to menopause.[96] The National Institute for Health and Clinical Excellence in 2007 recommended one-on-one counselling to prevent unintended pregnancy in vulnerable youths 18 years and younger.[14]

The cases revisited

As a fertile, married woman not interested in further child-bearing and with no identified method of contraception, Zainab appears to have an unmet need for contraception. She might not identify a need because of infrequent contact with her husband and her cultural beliefs about childbearing. A female caregiver is likely to be important for Zainab, especially for sexual health issues. The caregiver should identify Zainab's experience with traditional methods (which she may not identify as "birth control"), risks for pregnancy and options for contraception, but must remain sensitive to the influence of her culture, beliefs and family on her decisions. At Zainab's discretion, involving her husband could be appropriate. Information about emergency contraception and abortion could also be provided.

Screening Ying Dan for contraceptive need is warranted; however, her mother's presence is likely to inhibit this discussion. Cultural values of Ying Dan's parents and her developing attitudes toward sexuality could conflict. The caregiver should facilitate an opportunity to explore sexual health issues independently at a future visit, reassuring Ying Dan about confidentiality. Information about emergency contraception should be given.

Conclusion and research needs

Immigrant and refugee women are at high risk for needing help with contraception and prevention of unintended pregnancy. In refugee populations, the risk for pregnancy can be highest in the first three months of resettlement. Screening for contraceptive need and contraceptive counselling assists women to achieve their reproductive health goals. Providers should screen and counsel during initial visits and should revisit the issue as needs fluctuate. Contraceptive counselling should be personalized, be patient-centred and provide information

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about the chosen method, including expected side effects and plans for follow-up. For immigrant and refugee women, personal, cultural and social influences on contraceptive decisions often vary from those on women of the dominant culture.

Many gaps exist in the research evidence. Little is known about the effect of specific counselling interventions on rates of unintended pregnancy or patient satisfaction in the general population; there is no evidence for specific interventions in immigrant and refugee populations. Neither is there evidence for possible harms of screening or counselling in this population, which could require different clinical approaches. More knowledge concerning effective interventions relevant to immigrant and refugee women is needed to enable development of culturally appropriate and accessible family planning services.

Key points

- Screening for unmet contraceptive needs for immigrant women should begin soon after their arrival in Canada. Women from developing countries are often unaware of emergency contraception.
- Acceptability of contraception and method preferences varies across world regions and should be considered in counselling (e.g., intrauterine device use is predominant in Asia and Latin America). In some communities, condoms have connotations of infidelity, promiscuity or sexually transmitted infection, or are used only with nonmarital partners.
- Giving women their method of choice, providing the contraceptive method on-site and having a good personal relationship improve outcomes.

Box 2: Grading of Recommendations Assessment, Development and Evaluation Working Group grades of evidence (www.gradeworkinggroup.org)

High quality: Further research is very unlikely to change our confidence in the estimate of effect.
Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and could change the estimate.
Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
Very low quality: We are very uncertain about the estimate.

REFERENCES

1. Programme of Action of the United Nations International Conference on Population and Development (ICPD); 1994 Sept. 5–13; Cairo (Egypt). New York (NY): United Nations Department of Public Information; 1995.
2. Glasier A, Gulmezoglu AM, Schmid GP, et al. Sexual and reproductive health: a matter of life and death. Lancet 2006;368:1595-607.
3. Ross JA, Winfrey WL. Unmet need for contraception in the developing world and former Soviet Union: an updated estimate. Int Fam Plan Perspect 2002;28:138-43.
4. Sedgh G, Hussain R, Bankole A, et al. Women with an unmet need for contraception in developing countries and their reasons for not using a method. New York (NY) and Washington (DC): Guttmacher Institute; 2007. Available: www.policyarchive.org/handle/10207/5945 (accessed 2010 Mar. 30).
5. Brown SS, Eisenberg L, editors. *The best intentions: unintended pregnancy and well-being of children and families*. Washington (DC): Committee on Unintended Pregnancy, Institute of Medicine; 1995.
6. Rosenberg KD, Gelow JM, Sandoval AP. Pregnancy intendedness and the use of periconceptional folic acid. *Pediatrics* 2003;111:1142-5.
7. Tugwell P, Pottie K, Feightner J, Welch V, Greenaway C, Swinkels H, et al. Evaluation of evidence-based literature and formulation of recommendations for Clinical Preventive Guidelines for Immigrants and Refugees in Canada. Can. Med. Assoc. J., Jun 2010; doi:10.1503/cmaj.090313
8. Moos MK, Bartholomew NE, Lohr KN. Counseling in the clinical setting to prevent unintended pregnancy: an evidence-based research agenda. *Contraception* 2003;67:115-32.
9. Higgins JPT, Green S, editors. *Cochrane Handbook for Systematic Reviews of Interventions.* Version 5.0.2 [updated 2009 Sept.]. The Cochrane Collaboration, 2009. Available: www.cochrane-handbook.org. (accessed 2010 Mar. 30).
10. Paine K, Thorogood M, Wellings K. The impact of the quality of family planning services on safe and effective contraceptive use: a systematic literature review. *Hum Fertil (Camb)* 2000;3:186-93.
11. Halpern V, Grimes DA, Lopez L, et al. Strategies to improve adherence and acceptability of hormonal methods for contraception [review]. *Cochrane Database Syst Rev* 2006;(3):CD004317
12. Becker D, Koenig MA, Kim YM, et al. The quality of family planning services in the United States: findings from a literature review. *Perspect Sex Reprod Health* 2007;39:206-15.
13. U.S. Preventive Services Task Force. Counseling to prevent unintended pregnancy. In: *Guide to clinical preventive services*. 2nd ed. Rockville (MD): Agency for Healthcare Research and Quality; 1996. p. 739-53.
14. One to one interventions to reduce the transmission of sexually transmitted infecti*ons (STIs) including HIV, and to reduc*e the rate of under 18 conceptions, especially among vulnerable and at risk groups. *NICE public health intervention guidance 3*. London: National Institute for Health and Clinical Excellence; 2007. Available: *http://www.nice.org.uk/PHI003 (accessed 2010 Mar. 9.*)
15. Canto De Cetina TE, Canto P, Ordoñez Luna M. Effect of counseling to improve compliance in Mexican women receiving depot-medroxyprogesterone acetate. *Contraception* 2001;63:143-6.
16. Shlay JC, Mayhugh B, Foster M, et al. Initiating contraception in sexually transmitted disease clinic setting: a randomized trial. *Am J Obstet Gynecol* 2003;189:473-81.

DOI 10.1503/cmaj.090313. Copyright © 2011 Canadian Medical Association or its licensors.

17. Winter L, Breckenmaker LC. Tailoring family planning services to the special needs of adolescents. *Fam Plann Perspect* 1991;23:24-30.

18. Nawar L, Kharboush I, Ibrahim MA, et al. *Impact of improved client–provider interaction on women's achievement of fertility goals in Egypt*. FRONTIERS Final Report. Washington (DC): Population Council; 2004. Available: www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Egypt_CPI.pdf (accessed 2010 Mar. 30).

19. Mendez F, Lopez F, Brambila C, et al. Screening family planning needs: an operations research project in Guatemala. *BMC Int Health Hum Rights* 2004;4:2.

20. Foreit JR, Vernon R, Hamel PR. *Use of systematic screening to increase the provision of reproductive health services in Bolivia*. FRONTIERS Final Report. Washington (DC): Population Council; 2005. Available: www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Bolivia_Screen.pdf (accessed 2010 Mar. 30).

21. Facts and Figures—immigration overview: permanent and temporary residents 2008. Ottawa (ON); Citizenship and Immigration Canada; 2009.

22. Lindstrom DP, Hernandez CH. Internal migration and contraceptive knowledge and use in Guatemala. *Int Fam Plan Perspect* 2006;32:146-53.

23. *Facts on induced abortion worldwide*. Geneva (Switzerland): WHO; New York (NY) and Washington (DC): Guttmacher Institute; 2007. Available: www.who.int/reproductivehealth/publications/unsafe_abortion/abortion_facts.pdf (accessed 2010 Mar. 30).

24. Helström L, Zätterström C, Odlind V. Abortion rate and contraceptive practices in immigrant and Swedish adolescents. *J Pediatr Adolesc Gynecol* 2006;19:209-13.

25. Helström L, Odlind V, Zätterström C, et al. Abortion rate and contraceptive practices in immigrant and native women in Sweden. *Scand J Public Health* 2003;31:405-10.

26. Wolff H, Epiney M, Lourenco AP, et al. Undocumented migrants lack access to pregnancy care and prevention. *BMC Public Health* 2008;19:93.

27. Addor V, Narring F, Michaud PA. Abortion trends 1990-1999 in a Swiss region and determinants of abortion recurrence. *Swiss Med Wkly* 2003;133:219-26.

28. Rasch V, Knudsen LB, Gammeltoft T, et al. Contraceptive attitudes and contraceptive failure among women requesting induced abortion in Denmark. *Hum Reprod* 2007;22:1320-6.

29. Wolff H, Stalder H, Epiney M, et al. Health care and illegality: a survey of undocumented pregnant immigrants in Geneva. *Soc Sci Med* 2005;60:2149-54.

30. Jones RK, Finer LB, Singh S. Characteristics of US abortion patients, 2008, New York: Guttmacher Institute, 2010.

31. Mirza T, Kovacs GT, Crei F, et al. The use of family planning services by non-English speaking background (NESB) women. *Aust N Z J Obstet Gynaecol* 1999;39:341-3.

32. Pariani S, Heer DM, Van Arsdol M. D. Jr. Does choice make a difference to contraceptive use? Evidence from East Java. *Stud Fam Plann* 1991;22:384-90.

33. Moreau C, Bouyer J, Gilbert F, et al. Social demographic and situation characteristics associated with inconsistent use of oral contraceptive; evidence from France. *Perspect Sex Reprod Health* 2006;38:190-6.

34. Kalmuss D, Davidson AR, Cushman LF, et al. Determinants of early implant discontinuation among low-income women. *Fam Plann Perspect* 1996;28:256-60.

35. Steiner MJ, Dalebout S, Condom S, et al. Understanding risk: a randomized controlled trial of communicating contraceptive effectiveness. *Obstet Gynecol* 2003;102:709-17.

36. *Medical eligibility criteria for contraceptive use*. Geneva (Switzerland): Reproductive Health and Research WHO; 2004. Available: http://whqlibdoc.who.int/publications/2004/9241562668.pdf (accessed 2010 Mar. 30).

37. Gagnon A, Merry L, Robinson C. A systematic review of refugee women's reproductive health. *Refuge: Canada's Periodical on Refugees* 2002;21:6-17.

38. Busza J, Lush L. Planning reproductive health in conflict: a conceptual framework. *Soc Sci Med* 1999;49:155-71.

39. Sargent CF. Reproductive strategies and Islamic discourse: Malian migrants negotiate everyday life in Paris, France. *Med Anthropol Q* 2006;20:31-49.

40. Wellings K, Collumbien M, Slaymaker E, et al. Sexual behaviour in context: a global perspective. *Lancet* 2006;368:1706-28.

41. Maticka-Tyndale E, Barrett M, McKay A. Adolescent sexual and reproductive health in Canada: a review of national data sources and their limitations. *Can J Hum Sex* 2000;9:41-65.

42. Singh S, Darroch JE, Frost JJ, et al. Socioeconomic disadvantage and adolescent women's sexual and reproductive behavior: the case of five developed countries. *Fam Plann Perspect* 2001;33:251-8, 289.

43. Merzel CR, Vandevanter NL, Middlestadt S, et al. Attitudinal and contextual factors associated with discussion of sexual issues during adolescent health visits. *J Adolesc Health* 2004;35:108-15.

44. Desantis L, Thomas JT, Sinnett K. Intergenerational concepts of adolescent sexuality: implications for community-based reproductive health care with Haitian immigrants. *Public Health Nurs* 1999;16:102-13.

45. American Academy of Pediatrics Committee on Adolescence. Blythe MJ, Diaz A. Contraception and Adolescents. *Pediatrics* 2007;120:1135-48.

46. Garces-Palacio IC, Altarac M, Scarinci IC. Contraceptive knowledge and use among low income Hispanic immigrant women and non-Hispanic women. *Contraception* 2008;77:270-5.

47. David M, Borde T, Kentenich H. Knowledge among German and Turkish women about specifically female bodily functions, contraception, preventative medical examinations and menopause. *Ethn Health* 2000;5:101-12.

48. Tober DM, Taghdisi MH, Jalali M. Fewer children, "better life" or "as many as God wants"? Family planning among low-income Iranian and Afghan refugee families in Isfahan, Iran. *Med Anthropol Q* 2006;20:50-71.

49. Degni F, Koivusilta L, Ojanlatva A. Attitudes towards and perceptions about contraceptive use among married refugee women of Somali descent living in Finland. *Eur J Contracept Reprod Health Care* 2006;11:190-6.

50. Sadeghipour Roudsari HR, Sherafat-Kazemzadeh R, Rezaeie M, et al. Reproductive health knowledge, attitudes and practices of Iranian and Afghan men in Tehran province. *East Mediterr Health J* 2006;12:862-72.

51. Campbell M, Sahin-Hodoglugil NN, Potts M. Barriers to fertility regulation: a review of the literature. *Stud Fam Plann* 2006;37:87-98.

DOI 10.1503/cmaj.090313. Copyright © 2011 Canadian Medical Association or its licensors.

52. Hennink M, Diamond I, Cooper P. Contraceptive use dynamics of Asian women in Britain. *J Biosoc Sci* 1999;31:537-54.
53. Srikanthan A, Reid RL. Religious and cultural influences on contraception. *J Obstet Gynaecol Can* 2008;30:129-37.
54. Seiber EE, Bertrand JT, Sullivan TM. Changes in contraceptive method mix in low and middle income countries. *Int Fam Plan Perspect* 2007;33:117-23.
55. Remennick LI, Amir D, Elimelech Y, et al. Family planning practices and attitudes among former Soviet new immigrant women in Israel. *Soc Sci Med* 1995;41:569-77.
56. Stephenson R, Baschieri A, Clements S, et al. Contextual influences on modern contraceptive use in sub-Saharan Africa. *Am J Public Health* 2007;97:1233-40.
57. Sable MR, Campbell JD, Schwarz LR, et al. Male Hispanic immigrants talk about family planning. *J Health Care Poor Underserved* 2006;17:386-99.
58. Rasch V, Lyaruu MA. Unsafe abortion in Tanzania and the need for involving men in poastabortion contraceptive counselling. *Stud Fam Plann* 2005;36:301-10.
59. Gupta N, Katende C, Bessinger R. Associations of mass media exposure with family planning attitudes and practices in Uganda. *Stud Fam Plann* 2003;34:19-31.
60. Grady WR, Tanfer K, Billy JOG, et al. Men's perceptions of their roles and responsibilities regarding sex, contraception and childrearing. *Fam Plann Perspect* 1996;28:221-6.
61. *World contraceptive use 2007*. New York (NY): United Nations, Department of Economic and Social Affairs Population Division; 2007. Available: www.un.org/esa/population/publications/contraceptive2007/contraceptive_2007_table.pdf (accessed 2009 Aug. 24).
62. Grady WR, Klepinger DH, Nelson-Wally A. Contraceptive characteristics: the perspectives and priorities of men and women. *Fam Plann Perspect* 1999;31:168-75.
63. Glasier AF, Smith KB, van der Spuy ZM, et al. Amenorrhea associated with contraception—an international study on acceptability. *Contraception* 2003;67:1-8.
64. den Tonkelaar I, Oddens BJ. Preferred frequency and characteristics of menstrual bleeding in relation to reproductive status, oral contraceptive use, and hormone replacement therapy use. *Contraception* 1999;59:357-62.
65. Wilkins K, Neutel CI, Johansen HL, et al. Oral contraceptive use in Canadian women aged 15 to 49: 1996/97 data. *Stats Can Health Rep* 2000;11:25-35.
66. Lee J, Jezewski MA. Attitudes toward oral contraceptive use among women of reproductive age: a systematic review. *ANS Adv Nurs Sci* 2007;30:E85-103.
67. Karavus M, Cali S, Kalaca S, et al. Attitudes of married individuals towards oral contraceptives: a qualitative study in Istanbul, Turkey. *J Fam Plann Reprod Health Care* 2004;30:95-8.
68. Wiebe ER, Henderson A, Choi J, et al. Ethnic Korean women's perceptions about birth control. *Contraception* 2006;73:623-7.
69. Wiebe ER, Sent L, Fong S, et al. Barriers to use of oral contraceptives in ethnic Chinese women presenting for abortion. *Contraception* 2002;65:159-63.
70. Wiebe ER, Janssen PA, Henderson A, et al. Ethnic Chinese women's perceptions about condoms, withdrawal and rhythm methods of birth control. *J Obstet Gynaecol Can* 2004;26:881-5.
71. Fisher W, Boroditsky R, Morris B. The 2002 Canadian contraception study: part 1. *J Obstet Gynaecol Can* 2004;26:580-90.
72. Salabarria-Pena Y, Lee JW, Montgomery SB, et al. Determinants of female and male condom use among immigrant women of Central American descent. *AIDS Behav* 2003;7:163-74.
73. Maticka-Tyndale E, Godin G, LeMay G, et al. Canadian ethnocultural communities facing AIDS: overview and summary of survey results from phase III. *Can J Public Health* 1996;87(Suppl 1):S38-48.
74. Kocken PL, Van Dorst AG, Schaalma H. The relevance of cultural factors in predicting condom-use intentions among immigrants from the Netherlands Antilles. *Health Educ Res* 2006;21:230-8.
75. Godin G, Maticka-Tyndale E, Adrien A, et al. Understanding use of condoms among Canadian ethnocultural communities: methods and main findings of the survey. *Can J Public Health* 1996;87 Suppl(1):S33-7,S36-41.
76. Bond V, Dover P. Men, women and the trouble with condoms: problems associated with condom use by migrant workers in rural Zambia. *Health Transit Rev* 1997;7(Suppl):377-91.
77. Chikovore J, Lindmark G, Nystrom L, et al. The hide-and-seek game: men's perspectives on abortion and contraceptive use within marriage in a rural community in Zimbabwe. *J Biosoc Sci* 2002;34:317-32.
78. Lazarus JV, Himedan HM, Ostergaard LR, et al. HIV/AIDS knowledge and condom use among Somali and Sudanese immigrants in Denmark. *Scand J Public Health* 2006;34:92-9.
79. Martin K, Wu Z. Contraceptive use in Canada: 1984-1995. *Fam Plann Perspect* 2000;32:65-73.
80. Van der Wijden C., Kleijnen J, Van den Berk T. Lactational amenorrhea for family planning [review]. *Cochrane Database of Syst Rev* 2003;(4):CD001329 2003.
81. Hight-Laukaran V, Labbok MH, Peterson AE, et al. Multicenter study of the Lactational Amenorrhea Method (LAM): II. Acceptabilty, utility and policy implications. *Contraception* 1997;55:337-46.
82. Kennedy KI, Labbok MH, VanLook PFA. Consensus statement: lactational amenorrhea method for family planning. *Int J Gynaecol Obstet* 1996;54:55-7.
83. Boonstra H. Islam, women and family planning: a primer. *Guttmacher Rep Public Policy* 2001;4:4-7.
84. Bunce A, Guest G, Searing H, et al. Factors affecting vasectomy acceptability in Tanzania. *Int Fam Plan Perspect* 2007;33:13-21.
85. Muia E, Fikree FF, Olenja J. Enhancing the use of emergency contraception in a refugee setting: findings from a baseline survey of Kakuma refugee camps, Kenya. Nairobi and New York (NY): The Population Council; 2000. Available: http://www.popcouncil.org/pdfs/kenyaEC.pdf (accessed 2010 Mar. 30).
86. Muia E, Blanchard K, Lukhando M, et al. Evaluation of an emergency contraception introduction project in Kenya. *Contraception* 2002;66:255-60.
87. Sedgh G, Henshaw SK, Singh S, et al. Legal abortion worldwide: incidence and recent trends. *Int Fam Plan Perspect* 2007;33:106-16.
88. American College of Obstetricians and Gynecologists. Use of hormonal contraception in women with coexisting medical conditions. ACOG Practice Bulletin No. 73. *Obstet Gynecol* 2006;107:1453-72.
89. Legardy JK, Curtis KM. Progestogen-only contraceptive use among women with sickle cell anemia: a systematic review. *Contraception* 2006;73:195-204.

DOI 10.1503/cmaj.090313. Copyright © 2011 Canadian Medical Association or its licensors.

90. Manchikanti A, Grimes DA, Lopez LM, et al. Steroid hormones for contraception in women with sickle cell disease [review]. *Cochrane Database Syst Rev* 2007;(2):CD006261.

91. Cleland J, Bernstein S, Ezeh A, et al. Family planning: the unfinished agenda. *Lancet* 2006;368:1810-27.

92. Mulvihill MA, Mailloux L, Atkin W. *Advancing policy and research responses to immigrant and refugee women's wealth in Canada*. Winnipeg (MB): The Centres of Excellence in Women's Health; 2001.

93. Gastaldo D, de Lima J, Chakir F, et al. *Immigrant women, reproductive and sexual health, and religion: How Muslim immigrant women perceive the quality of health care they receive in Quebec?* Montréal (QC): CESAF; Rapport final de recherche, Centre d'excellence pour la santé des femmes—Consortium Université de Montréal; 1998.

94. Newbold KB, Willinsky J. Providing family planning and reproductive healthcare to Canadian immigrants: perceptions of healthcare providers. *Cult Health Sex* 2009;11:369-82.

95. *Preventive services for adults* (Guideline). 15th ed. Bloomington (MN): Institute for Clinical Systems Improvement; 2009.

96. American College of Obstetricians and Gynecologists Committee on Gynecologic Practice. Committee Opinion No. 357. Primary and preventive care: Periodic assessments. *Obstet Gynecol* 2006;108:1615-21.

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Clinical preventive guidelines for newly arrived immigrants and refugees

This document provides the review details for the CMAJ CCIRH Contraception paper. The series was developed by the Canadian Collaboration for Immigrant and Refugee Health and published at www.cmaj.ca.

Appendix 1: Figure 2

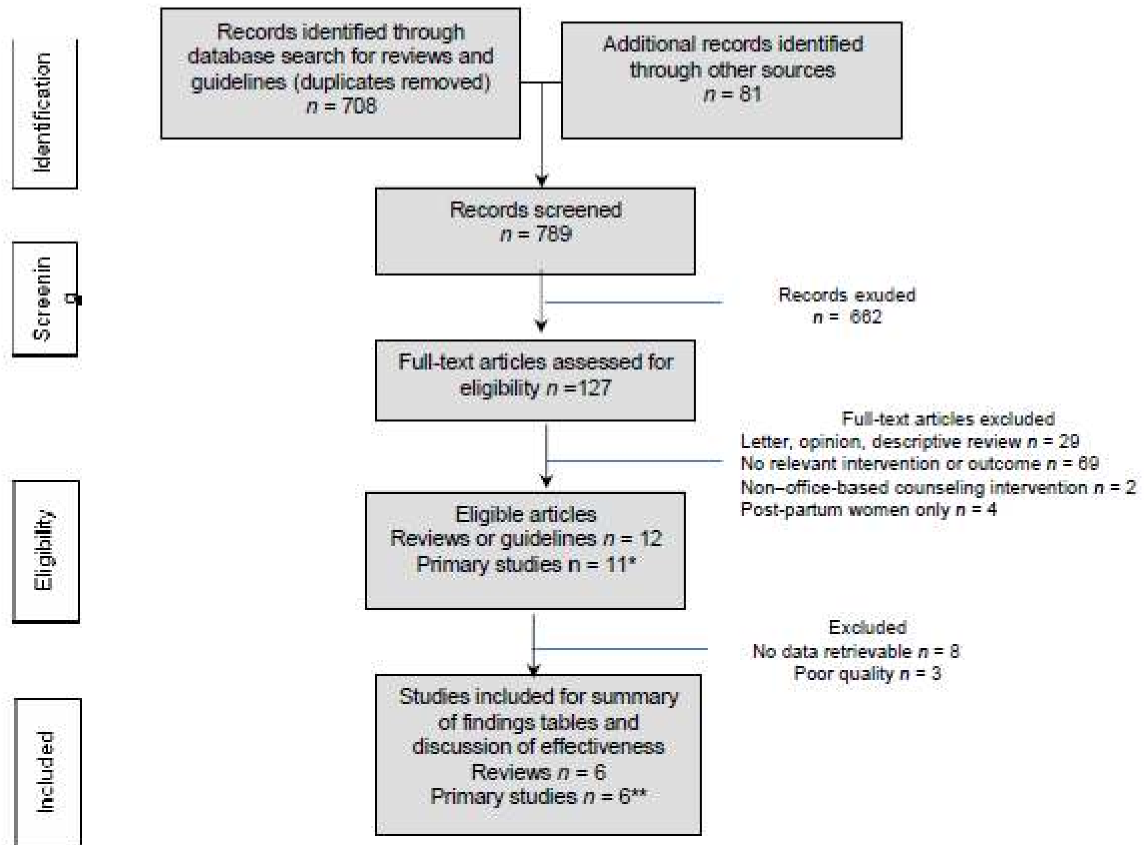

Figure 2: Search and selection flow sheet for reviews, guidelines and primary studies on effectiveness of contraception screening and counseling.

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Appendix 2: Contraception Evidence Based Clinician Summary Table

Screen women of reproductive age for unment contraceptive needs and provide culturally sensitive, patient-centred contraceptive counselling to decrease unintended pregnancy and promote patient satisfaction.

Prevalence: Immigrant women have higher rates of unmet need for contraception, unintended pregnancy and abortion than native-born women. Immigrant women are also less likely than the general population to seek counselling for family planning.

Burden: Worldwide, more than one third of pregnancies are unintended, and 50% of these end in abortion. Unintended pregnancy can also lead to failure to adopt healthy pregnancy recommendations, and limitation of women's ability to achieve educational, employment and economic goals.

Access to Care: Unnecessary medical barriers, such as examinations, blood tests, and Papanicolau smears, and a lack of culturally appropriate teaching aids can create obstacles to contraceptive use. Attitudes toward contraception, specific contraceptives and the influence of partner, religious, and social factors vary among immigrant groups. Longer residence in the host country, educational and professional attainment, and younger age all favour more positive attitudes toward modern contraception. A woman might not perceive herself to be the decision-maker for contraception, but might be strongly influenced by her spouse, mother-in-law, sex role and religious beliefs.

Key Risk Factors: Risk for unintended pregnancy can be highest early in resettlement. Uneducated and poor women and those migrating from rural areas are also at higher risk.

Screening Test: Health care providers should screen for unmet need early in resettlement and provide contraceptive counselling that is sensitive to the many factors (personal, socio-cultural, religious, medical) that influence contraceptive decision-making.

Treatment: Discussion of pregnancy intention, contraceptive options and emergency contraception should therefore occur early in resettlement, with reassessment as circumstances change.

Special Considerations:

- Screening should begin soon after a woman's arrival in Canada. Women from developing countries are often unaware of emergency contraception.
- Acceptability of contraception and method preferences vary across world regions and should be considered in counselling (for example: intrauterine device use is predominant in Latin American and the Caribbean, condoms in Japan, Singapore, and Hong Kong)
- In some communities, condoms have connotations of infidelity, promiscuity and sexually transmitted infection or are used only with nonmarital partners.
- Giving women their method of choice, providing the contraceptive method on-site and having a good interpersonal relationship improve contraceptive-related outcomes.

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