

Delayed motherhood

Understanding the experiences of women older than age 33 who are having abortions but plan to become mothers later

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Abstract

Objective To examine the experiences of women who are delaying motherhood by having abortions.

Design Mixed-methods study.

Setting An abortion clinic in Vancouver, BC.

Participants Women presenting for abortion at an urban, free-standing abortion clinic. Interviews were only with women older than 35 years of age.

Methods A chart review was initially performed, followed by a survey of women presenting to the clinic, as well as in-depth interviews that were audiotaped and transcribed.

Main findings Of the 1844 charts reviewed, 550 (30%) were for women 33 years of age and older and 117 (21%) of those had no children (6% of the total 1844). Plans for future pregnancies were reported in only 70 of the 117 charts; 37 (53%) of the women said they wanted children in the future and 20 (29%) said they were unsure. There were 1118 questionnaires completed (response rate of 86%). There were 334 (30%) women 33 years of age and older and 87 (26%) of those had no children (8% of the total 1113). Of these women, 47 (54%) planned to have children in the future and 24 (28%) were unsure. The most common reason these older childless women gave for having abortions was that they were "just not ready" (59%). We used logistic regression to examine predictors for delaying motherhood and the stepwise regression retained only 2 factors: high rating of "stable relationship" ($P=.003$) and a "partner who would be a good parent" ($P=.008$). The most striking themes in the interviews were women's uncertainty about childbearing and their focus on the quality of their relationships.

Conclusion This study contributes additional insight into the uncertainty older nulliparous women experience about childbearing, and it points to women's primary focus on relationships with partners rather than with children as a possible explanation for this trend.

EDITOR'S KEY POINTS

- The proportion of first births occurring among women in their 30s has increased. This trend has many implications, including increased rates of cesarean section, pregnancy-induced hypertension, preterm birth, low birth weight, and infertility.
- The most common reason older childless women gave for having abortions was that they were "just not ready." The most striking themes in the interviews were women's uncertainty about childbearing and their focus on the quality of their relationships.
- With the trend for women older than 35 years of age to still be deciding on whether to have children, family doctors should be prepared to engage in more counseling with respect to age-related fertility.

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La maternité retardée

Comprendre ce que vivent les femmes de plus de 33 ans qui se font avorter tout en prévoyant devenir mères plus tard

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Résumé

Objectif Vérifier l'expérience des femmes qui utilisent l'avortement pour retarder la maternité.

Type d'étude Étude avec méthodes mixtes.

Contexte Une clinique d'avortement à Vancouver, C.-B.

Participant Femmes qui viennent à une clinique urbaine à accès libre pour se faire avorter. Seules les femmes de plus de 35 ans on fait l'objet d'entrevues.

Méthodes Après une revue de dossiers, les femmes qui venaient à la clinique ont fait l'objet d'une enquête, mais aussi d'entrevues en profondeur, lesquelles ont été enregistrées et transcrites.

Principales observations Sur les 1844 dossiers consultés, 550 (30%) appartenaient à des femmes âgées d'au moins 33 ans et 117 (21%) à des femmes qui n'avaient pas d'enfant (6% des 1844 dossiers). On projetait des grossesses futures dans seulement 70 des 117 dossiers; 37 femmes (53%) disaient vouloir avoir des enfants plus tard et 20 (29%) se disaient incertaines. Un total de 1118 questionnaires ont été remplis (taux de réponse 86%). Il y avait 334 femmes d'au moins 33 ans (30%) et 87 d'entre elles (26%) n'avaient pas d'enfant (8% d'un total de 1113). Parmi ces dernières, 47 (54%) projetaient d'avoir des enfants plus tard et 24 (28%) étaient incertaines. La raison la plus fréquemment invoquée par ces femmes plus âgées sans enfant pour se faire avorter était qu'elles n'étaient «tout simplement pas prêtes» (59%). On s'est servi d'une régression logistique pour examiner les facteurs permettant de prédire le désir de retarder la maternité, et la régression par degrés n'a retenu que 2 facteurs: un taux élevé de «relations stables» ($P=,003$) et un «partenaire qui serait un bon parent» ($P=,008$). Les thèmes le plus frappants ressortant des entrevues étaient l'incertitude des femmes concernant la maternité et l'importance qu'elles attribuaient à la qualité de leur relation.

Conclusion Cette étude aide à mieux comprendre l'incertitude que vivent les femmes nullipares plus âgées au sujet de la maternité et elle montre que le fait pour les femmes d'attacher plus d'importance à leur relation avec leur partenaire plutôt qu'avec des enfants éventuels pourrait expliquer cette tendance.

POINTS DE REPÈRE DU RÉDACTEUR

- La proportion des premières naissances qui surviennent chez des femmes dans la trentaine a augmenté. Cette tendance a plusieurs conséquences, incluant un plus haut taux de césariennes, d'hypertension de grossesse, de prématurité, de faible poids de naissance et d'infertilité.
- La raison le plus fréquemment invoquée par les femmes plus âgées qui n'ont pas d'enfant était qu'elles « n'étaient simplement pas prêtes ». Les thèmes les plus frappants ressortant des entrevues étaient l'incertitude des femmes au sujet de la maternité et l'importance qu'elles attachent à la qualité de leurs relations.
- Devant cette tendance qu'ont les femmes de plus de 35 ans de n'avoir pas encore décidé si elles veulent avoir des enfants, les médecins de famille devront être prêts à donner davantage de conseils sur l'influence de l'âge sur la fertilité.

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Women are delaying motherhood.¹ This change has occurred in all industrialized countries. For example, in 2005, the average age at first birth was 29.4 years in Canada, 25.2 years in the United States, 28.7 years in France, and 29.1 years in the United Kingdom.² In Canada, in 1987 only 4% of first births occurred among women aged 35 and older; by 2005, the rate had nearly tripled to 11%.³ At the same time, the proportion of first births occurring among women in their 30s increased from 15% to 26%. This trend has many implications, including increased rates of cesarean section, pregnancy-induced hypertension, preterm birth, low birth weight, and infertility.⁴⁻⁶

In a questionnaire study of 1006 women and 500 men in Canada, 70% recognized that there is a relationship between maternal age and fertility; specifically that older women might have more difficulty conceiving.⁷ This study also investigated the factors that influenced childbearing decisions and found that the 2 most important factors were financial security (85.8%) and “partner suitability to parent” (80.2%). A questionnaire study of 234 women in the United Kingdom examining the use of contraception in nulliparous women older than 33 years of age found that 50% of these women wanted to have children in the future and 71% indicated that they were concerned about their fertility. The findings that related to women’s reasons for delaying childbearing also paralleled a Canadian study, with 74% of women giving “relationship” as a reason for delaying motherhood, and 34% citing “work/school.”⁸

When a woman (or couple) decides to delay parenthood by ending an unintended pregnancy, rather than just by preventing one, the decision might be even more difficult and complex. Approximately 50% of all pregnancies are unplanned and approximately 50% of unplanned pregnancies are aborted.^{9,10} The objective of this study was to assess the characteristics of women who delay motherhood by having abortions after the age of 33 and to compare these with younger women having abortions in order to understand more about the experiences and motivations of these women.

METHODS

We used a mixed-methods design, including chart surveys, questionnaires, and in-depth interviews. In this manner, we were able to look at this issue from different perspectives. We chose to do a chart survey of all women presenting for abortion at our urban, free-standing abortion clinic in order to discover the rates of women having abortions to delay motherhood (ie, they planned to have children in the future). A chart survey is limited to data collected for reasons of patient care, but has the advantage of being free of sampling

and selection bias, as medical information is collected from all patients. We recorded demographic information such as age and ethnicity by surname, obstetric history such as previous births, and plans for having children in the future.

After the chart survey was completed, questionnaires in English were offered to all women presenting for abortion at the same clinic. The questionnaires were designed to include the issues discussed in the research papers quoted above about reasons older women use contraception and how people make decisions about having children.^{7,8} The questionnaires were pilot-tested with a sample of our patients, and the final version was then handed out in the waiting room by the reception staff, along with the other clinic forms. It was clearly indicated which forms were mandatory (clinic intake) and which were optional (study). In the questionnaires, we asked women about their reasons for having the abortion and, for nulliparous women planning to have children, the reasons for their decision to delay motherhood. We also asked women what factors they considered most important when making the decision to have a child. The questionnaire study has the advantage over a chart survey of allowing for much more information, but there must also be a selection bias, because not all women choose to answer the questionnaire.

In addition, we invited women who were older than 35 years of age and having an abortion but planning children in the future to have in-depth interviews about their decisions. This was a purposive sampling of women who were interested in talking more about this subject. In-depth interviews allow for much richer data from a smaller sample of informants. The interviews were conducted, audiotaped, and transcribed by experienced counselors. Each of the 3 investigators then analyzed the transcripts separately to identify emerging themes and a consensus was reached on the main themes. This analysis was done as the interviews were done so that the information was used in subsequent interviews.

The chart review and questionnaire data were entered into SPSS, version 17, and descriptive statistics were prepared. We chose age 33 for our comparison age groups because we believed that women who were delaying motherhood by having an abortion at 33 would not be giving birth until they were older than age 35—at which time they would be considered high risk. It was also the age used in the UK study of women using contraception.⁸ We compared the chart review and questionnaire groups, as well as the groups of women younger and older than 33 years of age. For the purpose of logistic regression modeling, we defined *delayed motherhood* as women having no children, who planned or were unsure about future children, and were either older than 30 or 33. We carried out bivariate analysis,

cross-tabulating the binary outcome variables by a set of potential predictor variables collected in the questionnaire. Variables that were statistically significant from the bivariate analysis at the 0.1 significance level formed the pool of potential predictor values for logistic regression. All variables were entered into the model and then the backward stepwise elimination method was used. The Research Ethics Board of the University of British Columbia approved this study.

RESULTS

The chart review included 1844 consecutive women having medical and surgical abortions at a free-standing, urban abortion clinic in Vancouver, BC, from January to December 2008. The chart reviews revealed that 550 (30%) were 33 years of age and older (Table 1) and that 117 (21%) of those had no children (6% of the total 1844). Clinic counselors recorded plans for future pregnancies in only 70 of the 117 charts; 37 (53%) of the women said they wanted children in the future and 20 (29%) said they were unsure.

There were 1118 questionnaires completed between May and November 2009. There were 5 questionnaires that had no age coded, so they were not included in the analysis. During the same time period, 1283 women had abortions at the clinic, for a response rate of 86%. There were 334 (30%) women older than 33 years of age and 87 (26%) of them had no children (8% of the total 1113). Table 1 is a comparison of chart review and questionnaire groups and shows that the questionnaire group represents the total group of women presenting for abortion with respect to age and obstetric history (*P* values are .92 and .82, respectively). There were small differences in the ethnic distribution (less than 6%). The mean (SD) number of years of education for women in the questionnaire group was 14.2 (2.7) years; education was not included in the clinical charts.

When we compared the younger and older women, we found that women who were younger than 33 years of age were more likely to plan having children in the future (76% vs 54% of women without children and 44% vs 9% of women with children) (Table 2). Women aged 33 and older without children were less sure about their plans than younger women without children (28%

Table 1. Characteristics of the women presenting for abortion in the chart review and questionnaire groups

CHARACTERISTICS	CHART REVIEW GROUP (N = 1844), N (%)	QUESTIONNAIRE GROUP (N = 1113),* N (%)	P VALUE
≥33 y	550 (30)	334 (30)	.92
No births	1044 (57)	633 (57)	.82
Ethnicity [†]			<.001
• White	893 (48)	465 (42)	
• East Asian	478 (26)	311 (28)	
• South Asian	301 (16)	170 (16)	
• Other	172 (9)	150 (14)	
Plans for future [‡]			<.001
• Wants future pregnancy	305 (46)	582 (53)	
• Unsure	95 (14)	263 (24)	
• No future pregnancy	265 (40)	261 (24)	
Married [§]	NA	352 (32)	NA

NA—not available.

*Not all respondents answered all questions.

[†]Ethnicity was by self-report in the questionnaires and by surname in the chart review.

[‡]There were 1179 charts reviewed that did not have future plans documented.

[§]Marital status was not recorded in clinical charts.

Table 2. Comparing the future plans for children of younger and older women having abortions: Participants were asked the question, Do you intend to have any children in the future?

PARTICIPANTS*	ANSWERS			P VALUE
	WANT MORE CHILDREN, N (%)	UNSURE, N (%)	WANT NO MORE, N (%)	
Women with children				<.001
• <33 y, n = 230	100 (44)	74 (32)	56 (24)	
• ≥33 y, n = 242	22 (9)	57 (24)	163 (67)	
Women without children				<.001
• <33 y, n = 546	413 (76)	108 (20)	25 (5)	
• ≥33 y, n = 87	47 (54)	24 (28)	16 (18)	

*Five women in the ≥33 y category and 3 women in the <33 y category did not give future plans.

vs 20%). **Table 3** shows the ethnic differences of the women presenting for abortions. Among those younger than 33 years of age having abortions, 60% of the South Asian women, 20% of the East Asian women, and 25% of the white women had at least 1 child ($P < .001$). Among those aged 33 and older, 96% of the South Asian women, 81% of the East Asian women, and 59% of the white women had at least 1 child ($P < .001$).

When asked about their reasons for having the abortion, younger women without children were most likely to answer “just not ready” (79%), “not finished school or career preparation” (45%), and “not enough money” (30%). Older women without children were most likely to say “just not ready” (57%), “relationship concerns” (33%), and “not enough money” (23%) (**Table 4**).

We measured women’s attitudes toward having children on a 4-point Likert scale, asking whether they agreed or disagreed with various statements. Older

women without children were more likely than younger nulliparous women to strongly agree with the items indicating that they would be likely to feel “fulfilled” or “satisfied” without children (55% vs 24% and 45% vs 17%, $P = .001$).

We asked women to rank 6 factors (from most important to least important) that they took into consideration when making the decision to have a child. There were 130 women who did not answer this section and 514 answered incorrectly by ranking fewer than all 6 factors or by stating more than 1 factor as most important. We analyzed the ranking lists of the 983 women and found that the most important factors were “being in a stable relationship” (35%), “having a partner who would be a good parent” (30%), “financial security” (29%), and “feeling emotionally prepared for motherhood” (28%). The least important decision-making factors were “effect on my career goals” (16%) and “age or physical health”

(21%) (**Table 5**). Older women with children were more likely to cite “age or physical health” than older women without children (64 of 176 [36%] vs 19 of 80 [24%], $P = .03$). From the bivariate analysis, we found 6 significant predictors: ethnicity ($P = .006$), concern about relationship ($P = .001$), “finished family” ($P = .001$), “don’t want children” ($P = .05$), high rating of “stable relationship” ($P = .007$), or “partner who would be a good parent” ($P = .013$). Using logistic regression, the stepwise regression retained only 2 factors: high rating of “stable relationship” ($P = .003$) and “partner who would be a good parent” ($P = .008$). Our model does

Table 3. Comparing ethnicity of younger and older women having abortions

PARTICIPANTS	ETHNICITY				P VALUE
	WHITE, N (%)	EAST ASIAN, N (%)	SOUTH ASIAN, N(%)	OTHER, N (%)	
Women with children					<.001
• <33 y, n=231	84 (36)	40 (17)	73 (32)	34 (15)	
• ≥33 y, n=243	74 (31)	85 (35)	54 (22)	30 (12)	
Women without children					<.04
• <33 y, n=543	256 (47)	166 (31)	49 (9)	72 (13)	
• ≥33 y, n=87	51 (59)	20 (23)	2 (2)	14 (16)	

Table 4. Reasons older and younger women gave for having abortions when they were asked, What are your reasons for ending this pregnancy? (check all that apply): A) Reasons for younger and older women with children; B) Reasons for younger and older women without children.

A) REASONS WOMEN WITH CHILDREN GAVE FOR HAVING ABORTIONS*	WOMEN'S AGE		P VALUE
	<33 Y (N=233), N (%)	≥33 Y (N=246), N (%)	
Finished family	53 (23)	130 (53)	<.001
Relationship or marriage concerns	46 (20)	30 (12)	.03
Just not ready	113 (49)	54 (22)	<.001
Not finished school or career preparation	39 (17)	13 (5)	<.001
Not enough money	54 (23)	31 (13)	.003
B) REASONS WOMEN WITHOUT CHILDREN GAVE FOR HAVING ABORTIONS*	WOMEN'S AGE		P VALUE
	<33 Y (N=544), N (%)	≥33 Y (N=87), N (%)	
Want no children ever	17 (3)	10 (12)	.002
Relationship or marriage concerns	91 (17)	29 (33)	.001
Just not ready	429 (79)	51 (57)	<.001
Not finished school or career preparation	248 (45)	16 (18)	<.001
Not enough money	162 (30)	20 (23)	.12

*Women often gave more than 1 reason for having abortions. One woman ≥33 y of age and 2 women <33 y of age did not give reasons for abortions.

Table 5. Factors women ranked as most important when women were asked, How important are each of these factors for you to consider when deciding if or when you are ready to have children?: A) Factors ranked as most important by women with children; B) Factors ranked as most important by women without children.

A) WOMEN WITH CHILDREN*	WOMEN'S AGE		P VALUE
	<33 Y (N = 190), N (%)	≥33 Y (N = 188), N (%)	
Being in a stable relationship	76 (40)	72 (38)	.83
Having a partner who would be a good parent	69 (36)	62 (33)	.65
Financial security	69 (36)	52 (28)	.09
Effect on my career goals	37 (19)	27 (14)	.22
Age or physical health	36 (19)	64 (34)	.89
Feeling emotionally prepared for motherhood	57 (30)	55 (29)	>.99
B) WOMEN WITHOUT CHILDREN*	WOMEN'S AGE		P VALUE
	<33 Y (N = 505), N (%)	≥33 Y (N = 81), N (%)	
Being in a stable relationship	201 (40)	38 (47)	.27
Having a partner who would be a good parent	162 (32)	35 (44)	.05 [†]
Financial security	160 (32)	26 (32)	.80
Effect on my career goals	96 (19)	14 (18)	.76
Age or physical health	115 (23)	19 (24)	.89
Feeling emotionally prepared for motherhood	174 (34)	28 (35)	.99

*Women often ranked more than 1 factor as most important.

[†]Statistically significant.

not have a high predictive value (the pseudo R^2 was less than 10%) for either women younger than 30 years of age or younger than 33 years of age. In women 33 years of age and older, the models are not helpful partly owing to the number defined as delaying motherhood (71 women).

In-depth interviews

In-depth interviews were conducted with 10 women. All were older than 35 years of age, were having an abortion, and said they wanted children in the future. The most striking theme was that all the women were uncertain about their decision to have children in the future and discussed more negative than positive aspects of parenting (such as too much work or loss of freedom). "I don't know how much I can handle. I don't know. Yeah, like it [having a child] would be a huge life change." (35-year-old participant)

The second most prominent theme was the women's concern about the quality of their relationships. "I'm more relationship focused. I need to have a good stable working relationship before I can even consider having a child." (38-year-old participant)

The theme we had expected to see based on a previous report⁷ and found to be missing from each interview was worry about lack of fertility or complications with the pregnancy, birth, or fetal health owing to maternal age. "I would certainly consider it [having a child], you know. Maybe in the next—what am I ... turning 39? So maybe 3, 4, 5 years."

When the interviewer specifically asked questions about the risks of having children when older than age 35, she got responses such as the following:

"There is a bit of a bias against ... people choosing to have kids later in life. Thirty-five is like the magic age, and while I know that there are more health risks over that age, there's still tons of healthy babies being born." (38-year-old participant)

DISCUSSION

The most important finding of this study was that 82% of the nulliparous women 33 years of age and older having abortions were still either planning to have children in the future or were unsure about having children in the future. Few of these women were concerned about their age and health with respect to having children later in life. The most important factor used in their decision making was the quality of their relationships.

We know that about half of unintended pregnancies end in abortion and the rest in births.^{9,10} We also know that about 100 000 women in Canada have abortions each year.¹¹ This is the first report about older women delaying motherhood by having abortions. The women in this study were similar to those in the UK study of women older than age 33 using contraception, in that about half planned to have children in the future.⁸ Their reasons for delaying motherhood were also similar: they were concerned about their relationships and, despite their age, believed they were not yet ready to have children.

In our study, more of the older women with children were concerned about the effect of their age or health when deciding to have another child. The older women without children appeared more ambivalent

about having children and less focused on needing to make the decision before a certain age. When giving reasons for the abortion, 80% of the younger women and 56% of the older women said they were “just not ready.” In other cultures and in our culture in previous decades, women chose to have children when they were young. In the interviews, women elaborated on this issue of not being ready and talked about all the difficulties and adjustments they foresaw with having children.

One of this study’s most striking findings was the older women’s uncertainty. Older women without children were more uncertain than younger women about becoming mothers (28% vs 20%). Through the interviews, we were able to gain insight into this uncertainty. Although every woman gave external reasons for the abortion and for delaying motherhood (such as their relationships or money), none of the women talked about possessing a strong desire for children. For women who experience a strong desire to have children, these external barriers might only be seen as minor problems to overcome in order to fulfill an ultimate goal of motherhood; for women who do not have a strong desire to have children, these problems might appear insurmountable.

Limitations

The errors made on the questionnaire in ranking the 6 factors that women thought were important in making the decision to have children might have been due to subject error, or to the women’s belief that some of the factors were irrelevant to them or were overlapping.

By using the chart reviews and the questionnaires, we were able to ensure that we had a representative sample of women having abortions. There was no difference in age or obstetric histories between the demographic characteristics found in the chart review and the demographic characteristics reported in the questionnaire. There was a statistical difference in ethnicity, but this was only a few percent. This difference is partly due to the methods used to obtain ethnicity data; in the chart survey, the ethnicity was coded by surname, whereas in the questionnaire study it was categorically self-reported.


With regard to the effect of ethnicity, we found that South Asian women were more likely than other women to have their children earlier, less likely to be child free by choice, less concerned about relationships, and more certain about their childbearing and abortion decisions. East Asian women were similar to white women in terms of having children later, but more likely to have at least 1 child. The results from this study are similar to a recent report from the United States.¹² We know from our previous studies with our Chinese and Korean patients,^{13,14} and from our need for translators

and translated materials in our clinic, that most of our Asian patients are recent immigrants. As a result, we can expect that they often hold the traditional values of their countries of origin.

Conclusion

A register-based study in Norway found that “the induced abortion rate has been relatively stable in all age groups over time,” suggesting a limited influence of induced abortions on the postponement of childbearing.¹⁵ Women older than 33 years of age have been having abortions for decades, but with the delay of onset of childbearing, it is a new phenomenon that women older than 33 are having abortions and still planning to have their first child in the future.

With the trend of older first-time mothers, family doctors will be dealing with more pregnancy-related complications. With the trend for women older than 35 years of age to still be deciding on whether or not to have children, family doctors should be prepared to engage in more counseling with respect to age-related fertility.

It is important to understand the changes in Canadian society that have led to our decreasing birth rate and the older average age of first-time mothers. There have always been women older than age 35 having children; however, it is a new trend to start childbearing at that age. This study contributes additional insight into the uncertainty older nulliparous women experience around childbearing and points to their primary focus on relationships with partners rather than with children as a possible explanation for this trend. More research is needed to fully examine why we are seeing a weakening desire to have children, as it is demonstrated by women’s childbearing decisions. 

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Contributors

All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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References

1. Statistics Canada. *Births, 1998 to 2005. The Daily*. 2008 Sep 24. Available from: www.statcan.gc.ca/daily-quotidien/080924/dq080924a-eng.htm. Accessed 2012 Sep 12.
2. United Nations Economic Commission for Europe. *UNECE countries in figures 2009*. Geneva, Switz: United Nations; 2009.
3. Bushnik T, Garner R. *The children of older first-time mothers in Canada: their health and development*. Catalogue no. 89-599-M, no. 005. Ottawa, ON: Statistics Canada; 2008. Available from: www.statcan.gc.ca/pub/89-599-m/89-599-m2008005-eng.pdf. Accessed 2012 Sep 12.
4. Tough SC, Newburn-Cook C, Johnston DW, Svenson LW, Rose S, Belik J. Delayed childbearing and its impact on population rate changes in lower birth weight, multiple birth, and preterm delivery. *Pediatrics* 2002;109(3):399-403.
5. Hull MG, Fleming CF, Hughes AO, McDermott A. The age-related decline in female fecundity: a quantitative controlled study of implanting capacity and survival of individual embryos after in vitro fertilization. *Fertil Steril* 1996;65(4):783-90.

6. Joseph KS, Allen AC, Dodds L, Turner LA, Scott H, Liston R. The perinatal effects of delayed childbearing. *Obstet Gynecol* 2005;105(6):1410-8.
7. Tough S, Benzie K, Fraser-Lee N, Newburn-Cook C. Factors influencing childbearing decisions and knowledge of perinatal risks among Canadian men and women. *Matern Child Health J* 2007;11(2):189-98.
8. Proudfoot S, Wellings K, Glasier A. Analysis why nulliparous women over age 33 wish to use contraception. *Contraception* 2009;79(2):98-104.
9. Henshaw SK. Unintended pregnancy in the United States. *Fam Plann Perspect* 1998;30(1):24-9, 46.
10. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health* 2006;38(2):90-6.
11. Statistics Canada. *Induced abortion statistics, 2005*. Ottawa, ON: Statistics Canada; 2008. Available from: www.statcan.gc.ca/pub/82-223-x/2008000/5202132-eng.htm. Accessed 2012 Sep 12.
12. Livingston G, Cohn D. *Childlessness up among all women; down among women with advanced degrees*. Washington, DC: Pew Research Center; 2010. Available from: www.pewsocialtrends.org/2010/06/25/childlessness-up-among-all-women-down-among-women-with-advanced-degrees/. Accessed 2012 Sep 12.
13. Wiebe ER, Henderson A, Choi J, Trouton K. Ethnic Korean women's perceptions about birth control. *Contraception* 2006;73(6):623-7.
14. Wiebe ER, Janssen PA, Henderson A, Fung I. Ethnic Chinese women's perceptions about condoms, withdrawal and rhythm methods of birth control. *Contraception* 2004;69(6):493-6.
15. Vlietman M, Sarfraz AA, Eskild A. Induced abortion: a means of postponing childbirth? Changes in maternal age at induced abortion and child birth in Norway during 1979-2007. *Acta Obstet Gynecol Scand* 2010;89(12):1564-70. Epub 2010 Nov 5.

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