### **ORIGINAL ARTICLES**

# Between a rock and a hard place: The reasons why women delay childbearing

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#### ABSTRACT

The increasing trend for women to delay childbearing is often met with harsh criticism and judgment, based on the assumption that women are prioritizing their careers over having children. An on-line survey of 500 currently childless Canadian women between the ages of 18 and 38 (M = 28) assessed participants' childbearing intentions and beliefs, and the factors they felt were most important in the timing of childbearing. Although the respondents felt women should ideally have their first child in their late 20s, most expected that they would begin their families in their 30s. The ability to financially support a child was the most strongly endorsed factor in the timing of childbearing, followed by good health, being with a partner who would be an involved and loving parent, and having a proper home in which to raise a child. These findings highlight the values and beliefs that were most salient in participants' decisions about the timing of childbearing.

Key Words: Delayed childbearing, Fertility decision-making, Childbearing intentions, Parenthood timing, Later childbearing

#### **1. INTRODUCTION**

In developed countries worldwide, more women are waiting until their 30s, 40s and even 50s to have children.<sup>[1,2]</sup> In Canada, where this study was conducted, the birth rate for women having their first child in their 30s and 40s has more than tripled over the last 20 years.<sup>[2]</sup> This trend has been attributed to a wide range of social, economic, personal and relational factors. These include changing social norms about the timing of parenthood, the rising costs of raising children, women's educational and career desires and personal readiness, and challenges in finding an appropriate and willing partner with whom to share the responsibilities of parenting.<sup>[3–9]</sup> The increasing availability and acceptability of assisted reproductive treatments (ART) such as in vitro fertilization (IVF) and egg freezing have also been identified as contributing to women's beliefs that they can safely extend their childbearing years,<sup>[10–13]</sup> as have gaps in women's knowledge about the risks associated with delaying childbearing,<sup>[3,14–21]</sup>

Despite significant increases in the last 20 years in the number of mothers of advanced maternal age (AMA), typically defined as 35 years of age or older,<sup>[10]</sup> pronatalistic values still appear to be pervasive in reference to women who "choose" to delay motherhood. Although there are those whose research findings challenge the belief that the decision to delay or postpone childbearing is a "conscious choice"<sup>[5]</sup> (p. 30), women who delay starting a family past their mid 30s are often faced with harsh criticism and judgment. They are viewed as being selfish and irresponsible – of not having

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their priorities straight in focusing on their education and careers rather than on having children during their prime reproductive years.<sup>[22,23]</sup> There is little empathy for those of AMA who experience difficulties conceiving or who require medical assistance in order to conceive (i.e., IVF, donor eggs, etc.), and debate about whether or not they should even have access to ARTs.<sup>[23,24]</sup> This "blame the woman" discourse assumes free choice, and does not acknowledge the competing realities of women's lives, or the very real structural barriers that constrain their decision-making about the timing of having children.<sup>[5,12,22,24,25]</sup>

In this paper we provide a brief overview of the research literature on the reasons women are electing to delay childbearing and the factors that have been identified as being most salient in women's decisions on the timing of childbearing. We then report on the findings of our recent survey of 500 currently childless Canadian women that was focused on determining their childbearing beliefs and intentions, as well as the factors they identified as being most important in their decisions about the timing of childbearing. We conclude with a discussion of the findings, with a particular focus on identifying the health care and policy implications of our findings.

#### 1.1 Literature review

In recent years there has been increased interest in understanding the reasons why women elect to postpone motherhood - often beyond the age they believe is ideal for starting a family. Media portrayals of famous women having children in their mid- to late-40s have been implicated in fueling the belief that women can safely delay childbearing into their 40s.<sup>[26]</sup> This is occurring despite the known risks of delaying childbearing, which include higher rates of infertility, the increased risk of miscarriage, multiples, low birth weight and fetal abnormalities, and higher maternal risks (e.g. gestational diabetes, high blood pressure, caesarean section).<sup>[9-11]</sup> The more wide-spread availability and social acceptance of ARTs and more recently egg freezing, have also been identified as being influential in contributing to the belief that if they cannot get pregnant on their own when they are ready, women can turn to IVF to assist them in becoming pregnant.<sup>[3, 17, 20, 24]</sup> However, despite significant medical advances in technology, ARTs cannot fully compensate for age-related fertility decline.<sup>[27,28]</sup> Given the relatively low success rates of IVF for women in their late 30s and early 40s, and estimated success rates of between 2% and 12% using cryopreserved eggs<sup>[29]</sup> these advanced reproductive technologies may be giving women of AMA false hope about their ability to safely delay childbearing.<sup>[10-13]</sup> Some have suggested that, in relying on ARTs to extend the reproductive

lifespan, women may indeed be "sleepwalking into infertility".<sup>[12]</sup>

There is a growing body of literature focused on examining women's knowledge of the risks of delaying childbearing, and concern that women may lack sufficient information to make informed decisions about the timing of childbearing. Certainly there is considerable evidence to indicate there are gaps in women's knowledge about the fertility lifespan, agerelated infertility, maternal and fetal outcomes associated with AMA, and the inability of ART to fully compensate for age-related declines in fertility.<sup>[3,14-21,30]</sup> In a recent Canadian survey of 3,345 childless women who presumed they were fertile and were open to having children in the future, the respondents perceived their fertility and ART knowledge was significantly higher than their actual knowledge. Of 16 questions focused on the fertility lifespan and the costs and success rates of IVF and egg freezing, 50% or more of the women answered only 6 questions correctly.<sup>[17]</sup> Similarly, researchers have identified significant knowledge gaps in women's understanding of the maternal and fetal risks of delaying childbearing.<sup>[9,11,31]</sup> In a qualitative study of 18 childless women 18 to 50 years of age. Lavender and colleagues<sup>[30]</sup> found that even when women were aware of the risks of delaying childbearing, this awareness had little or no influence on their decisions regarding the timing of childbearing. These findings have led researchers and mental health professionals to question whether women are making decisions to delay based on inaccurate information, myths and misunderstandings.<sup>[3, 17, 30, 32]</sup>

Studies suggest that economic factors such as the financial costs of raising a child, the availability of affordable daycare, and the impact of career interruption to have a child, are also important in women's childbearing decisions.<sup>[7,33]</sup> In a Canadian study of 835 women who had recently given birth, 26% said that lack of support for pregnant women in their workplace impacted their decision on the timing of childbearing. Those who had completed a post-graduate degree were 3 times more likely to indicate this factor had affected their decision on when to have a child. Other studies have similarly found that concerns about the costs of raising and supporting a child or children, are particularly important considerations for single women of AMA.<sup>[33]</sup>

Personal beliefs about the ideal and right circumstances in which to have a child, along with a desire to feel personally and emotionally ready to have a child, have also been identified as being important in women's decision-making about the timing of pregnancy.<sup>[6,8,30,34–36]</sup> Many women appear to have a sense of a "correct order" of preparation for parenthood, or "right time" to try to conceive.<sup>[34,35]</sup> In a Danish

qualitative study of 20 currently childless women attending a fertility assessment clinic, results indicated that women had "uncompromising expectations" of childrearing, which included the belief that education and career should precede childbearing.<sup>[35]</sup>

Not surprisingly, several researchers have found a woman's relationship status to be important in determining the timing of motherhood, with the lack of a suitable partner being one of the most commonly cited reasons for delaying childbearing.<sup>[3,6,8,35-38]</sup> A recent study conducted in Sweden examined 356 currently childless men's and women's childbearing intentions and reasons for childlessness across different age groups (i.e., 28, 32, 36, and 40).<sup>[36]</sup> Lack of a partner was the most commonly cited reason for current childlessness, particularly for the older participants. A population based Canadian study of 836 women who had recently given birth to their first child after a planned pregnancy also underscored the importance placed on being in a secure relationship for 97% of the women, in their decisions to start a family. Feeling in control of their life (82%), and feeling prepared to parent (77%) were also identified as important factors in their childbearing decisions.[39]

Relationship status and financial stability have been cited across multiple studies as salient factors influencing the timing of childbearing.<sup>[3,7,8,35,38,39]</sup> Linked to financial security is educational and career attainment.<sup>[7,33,36]</sup> Emotional readiness and personal values also appear to play a role in the decision to delay childbearing.<sup>[6,8,34–36]</sup> Being in good health has also been identified as an important factor in the timing of motherhood.<sup>[5]</sup> Other variables that may be salient but to our knowledge have yet to be examined include: being young enough and having the energy to be an involved parent and being able to stay home to raise a child. All of the above factors were included in our survey.

#### 1.2 Purpose of the study

In this cross-sectional, prospective Canadian study we assessed: 1) women's childbearing intentions, 2) their beliefs about the ideal age to bear a child versus the age they expect to be if/when they try to become pregnant, and 3) the relative importance of 9 factors in the timing of becoming a mother (relationship stability; partner willingness and suitability; financial stability; completed education; established in career/job; suitable home; youth and energy; good health; stay at home parent). We also wanted to determine whether age, relationship status, or household income would significantly differentiate between the fertility intentions and beliefs, or the salient factors affecting the timing of childbearing for the women in the study. Finally, we hoped the findings would point to possible health care and policy implications.

### 2. METHOD

#### 2.1 Measures

Based on a review of the salient literature the authors developed an on-line survey loosely patterned on the on-line Fertility Awareness Survey (FAS) that was developed to assess childless women's fertility beliefs and intentions, and knowledge about later childbearing and ART.<sup>[17]</sup> Our survey included 5 questions to assess participants' childbearing intentions, 2 questions regarding their beliefs about the timing of motherhood, and 1 question asking them to rank the importance of 9 factors in the timing of becoming a parent. The survey also included 7 demographic questions addressing age, sexual orientation, current relationship status, ethnicity, education, household income, and employment status. For anonymity and convenience to participants, and ease of data collection, the survey was only available on-line and could only be submitted when answers were provided to all of the questions. No data were available on incomplete surveys.

#### 2.2 Recruitment

This study received approval by the Behavioral and Research Ethics Board at the University of British Columbia. To ensure a geographically diverse sample across the 10 Canadian provinces and Northwest Territories, a national survey company was employed to gather data from a sample of 500 childless Canadian women between the ages of 18 and 38 years who believed they were fertile and were open to the possibility of having children in the future. The age criteria was set to include younger women who were still in their prime fertile years, as well as women in their 30s for whom the issue of delaying childbearing might be more salient. The upper limit of 38 was set because of the reduced likelihood of a viable pregnancy and increased risks of poorer maternal and fetal outcomes for women of more advanced age.<sup>[40]</sup> The participants were self-selected from the survey company's pool of respondents. Women who met the inclusion criteria and were interested in responding to our survey were invited to log on to our site and complete the questionnaire. We stopped collecting data once we reached our target of 500 respondents.

#### 2.3 Participants

A total of 500 childless women from 18 to 38 years of age (M = 28.5; SD = 5.33) submitted the completed survey on-line. This geographically diverse sample included respondents from across Canada (see Table 1). Significantly more of the older women in the sample were partnered (p < .001), better educated (p < .002), employed full or part-time (p < .005), and reported a higher household income (p < .001).

#### 2.4 Analysis

Using SPSS, descriptive statistics were computed for each question (i.e., means, standard deviations and proportions). *T*-test comparisons were run by age (18-28: 60.6% vs. 29-38: 39.4%), relationship status (currently single: 58.2% vs. married/common law or separated: 36.2%), and household income (less than \$71,000: 57.6% vs. \$71,000 plus: 42.4%) to determine whether these demographic factors significantly differentiated between the fertility intentions, beliefs, and factors the women felt were important in the timing of having their first child.

Table 1. Demographic information (N =	= 500)
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Demographic	Percentage (n)	
Age (Mean, SD)	28.5 (5.33)	
<b>Relationship Status</b>		
Single	58.2 (291)	
Married/Common Law	35.4 (177)	
Separated	0.8 (4)	
Other	5.6 (28)	
Income (Mean, range)	\$71,168 (\$15,000-\$200,000)	
Education		
High School	23.8 (119)	
College/University	60.8 (304)	
Post-graduate	12.2 (61)	
Employment		
Full time	54.2 (271)	
Part time	15.0 (75)	
Student	19.8 (99)	
Unemployed	9.6 (48)	
Sexual Orientation		
Heterosexual	89.8 (449)	
Lesbian	3.8 (19)	
Bisexual	6.4 (32)	
Ethnicity		
White/Caucasian	68.4 (342)	
Chinese	11.8 (59)	
Asian/South Asian/South East Asian	8.2 (41)	
Arab/West Asian	3.4 (17)	
Latin American	2.2 (11)	
Black	1.8 (9)	
Aboriginal	1.8 (9)	
Other	4.6 (12)	

#### **3. RESULTS**

#### 3.1 Women's childbearing intentions and beliefs

The majority of women (93.4%) indicated a desire to have 1 to 3 children (M = 2.15), and expected to have their first child around age 31 (range 20-46). The women set the ideal

age for a first pregnancy at 27.38 years (range 20-38), and an expected age for a last pregnancy at 35 years. It is noteworthy that the younger women in the sample (age 18-28) felt they should ideally have their first pregnancy at a younger age than the older women (age 29-38) (26.77 vs. 28.33; p< .001), and actually expected to have their first child on average 6 years earlier than the older women in the study (28.63 vs. 34.71; p < .001). The younger women also expected to complete their families 4.5 years before the older respondents (32.96 vs. 37.55; p < .001). The younger women set a mean of age of 39.63 as the latest age a woman should bear a child, while the older women indicated a mean age of 42 as the upper limit (p < .001). As a group, the women felt it would take on average 6.87 months to get pregnant once they started trying, with the older women expecting it to take on average only 1 month longer when they began trying to conceive (6.47 vs. 7.50; p < .03).

## 3.2 Important factors in the timing of becoming a mother

On a scale from 1 to 4 with 1 being "not important", 2 being "somewhat important", 3 being "very important", and 4 being "extremely important" participants were asked to rate 9 factors in terms of their importance in the timing of becoming a mother (see Table 2). The ability to financially support a child was the most strongly endorsed factor in the timing of becoming a mother (96.6%), followed by good health (93%), being with a partner who would be an involved and loving parent (92%), and having a proper home in which to raise a child (92%). Being able to stay home to raise a child was the least endorsed factor in the timing of becoming a mother (45.4%). Having a proper home, being able to stay at home and raise their child, having finished their education, and being established in their career were significantly more important to the younger women in the sample (p < p).02). Being able to financially support a child and having completed their education were significantly more important to single women in the study (p < .02). Educational achievement was also more important to higher income women (p < .05), while being able to stay at home to raise their child was more important to women in the lower income group (p<.04).

#### 4. DISCUSSION

Similar to the findings of other studies,<sup>[17,26,33,35,36]</sup> although the respondents in the current study felt women should ideally begin their families in their late 20s, the majority anticipated that they would likely need to delay childbearing until their early 30s. This suggests that women are aware that the biological ideal often conflicts with the social and structural realities of their lives, given the expectations that the current generation of mothers will likely be required to economically contribute to supporting their children. This may explain why the younger women in the study were significantly more

concerned with having completed their education and being established in their careers prior to having children.

Factors	% Not	% Somewhat	% Very	% Extremely	Mean	SD
	Important	Important	Important	Important		
Being able to financially support a child	0.4	3.0	23.2	73.4	3.70	0.54
Being with a partner who would be an involved and loving parent	2.0	6.0	26.6	65.4	3.55	0.70
Having a proper home in which to raise a child	0.2	7.8	42.2	49.8	3.42	.64
Being in good health	0.4	6.6	44.2	48.8	3.41	0.63
Being in a stable relationship	2.6	12.8	27.4	57.2	3.39	0.81
Being young enough / having energy to be an involved parent	1.6	25.2	44.2	29.0	3.01	0.78
Being established in my job / career	3.0	25.0	42.0	30.0	2.99	0.82
Having completed my education	3.8	27.6	37.2	31.4	2.96	0.86
Being able to stay home and raise my child	14.6	40.0	31.4	14.0	2.45	0.91
N = 500						

Table 2. Factors influencing decisions	about the timing of having children
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Indeed, the ability to financially support a child was the most strongly endorsed reason for delaying childbearing for all of the women in the study (96.6%), and in particular the single women. Reflecting a similar theme, the women endorsed the importance of having a proper home in which to raise a child (92%). Educational and career attainment are important building blocks to ensuring economic stability, which is required to ensure a stable and secure home environment. These findings suggest that, rather than being "obsessed with their careers" as women of AMA are often portrayed in the media,<sup>[22,23]</sup> these findings suggest that women's strong sense of responsibility to ensure they are able to adequately support and provide a home for a child, before bringing a child into the world, may be an important factor in women's decisions to delay childbearing past their "ideal".

The women strongly endorsed the importance of being in a stable relationship (84.6%), with a partner who was committed to being an involved and loving parent (92%), before bringing a child into the world – even if this meant they needed to postpone starting their families until sometime in their 30s. Indeed, the inability to find a suitable and willing partner with whom to have and raise a child, has been repeatedly cited as one of the most common reasons women delay childbearing past the time they would prefer to start their families, and often past the age when their fertility is declining and the maternal and fetal risks of childbearing are increasing.<sup>[3–8,38]</sup> This underscores women's awareness of the very real demands of childrearing, and the value women place on trying to ensure their future children have two lov-

ing parents who are equally invested in their care. Given that most women of the current generation will be faced with the task of balancing childrearing and periods of full- or part-time employment outside the home, finding a partner who will be an involved and loving parent may be a way of distributing the childrearing responsibilities and managing the demands and responsibilities of work and family.

Two factors that have not received much attention in the literature to date, which were rated as being important to the women in the study in determining the timing of childbearing, were health and youth/energy. Being in good health was endorsed by a majority of the women (93%) as an important criterion for having and raising children. Similarly, being young enough, and having the energy, to be an involved parent was identified as an important factor in the women's childbearing decisions (73.2%). Contrary to the popular discourse portraying women who delay childbearing as being "selfish" and narcissistic, these findings appear to reflect a valuing of being an engaged and involved parent, as well as an awareness of the health and energy required to bear and raise children.<sup>[23,24]</sup> We can speculate that these beliefs may well serve to increase the pressure women feel as they head into their fourth decade, if they have not yet realized their financial, career, and relational goals, or achieved the stability they feel needs to be in place before bringing a child into the world.

In discussing our findings, it is noteworthy that the younger women expected to have their first child an average of 6 years earlier than the older women, and to complete their families 4.5 years sooner. This may reflect expectations based on women's beliefs about the ideal timing for having and raising children. However, if the current trends in age at first birth prevail, these expectations may not translate into reality or action, depending on how their lives unfold, requiring them to adjust their expectations as they enter their 30s. Previous research has found that women necessarily revise their fertility intentions as they age – adjusting their expectations about the conditions that they believe must be in place before they have children, and tending to reduce their ideal number of children as they continue to postpone childbearing.<sup>[41]</sup>

In terms of differences based on income, being able to stay home and raise their child – a factor endorsed by only 45.4% of the respondents – was more important in the timing of childbearing for the women in the lower income group. This finding is consistent with not having to give up or side-line a successful or high-powered career to take time out to have a child, as would be the case for many of the women in the higher-income group. It may also reflect differences in both opportunities and priorities when it comes to educational attainment and career aspirations between the women in the higher versus lower income groups.

#### 5. CONCLUSION

In considering the implications of these findings it is important to note they are limited by the on-line nature of the data collection, and our use of a professional survey company to recruit the participants. It is impossible to know how many women in the survey company's pool who met the inclusion criteria, declined to complete the survey. Being a sample of primarily Caucasian and well-educated, Canadian women also limits the generalizability of the findings. Finally, the nature of the survey with specific forced choices drawn from the salient literature, circumscribed the alternatives and choices available to respondents.

That said, the findings add to our understanding of women's attitudes and beliefs about the timing of childbearing, and

the factors that are important to women in this sample in deciding when to become a mother. Overall, they are consistent with a recent UK report suggesting that less "selfish" or "narcissistic" values than is commonly assumed by the general public, may well be driving the decision to delay childbearing.<sup>[42]</sup> The findings highlight the structural and social barriers to older childbearing and underscore the "rock and a hard place" women who hope to one day become mothers may be between when faced with the social, economic, and relational realities of their lives. Although women may value having children when they are younger and more fertile and have more energy to be involved parents, they may feel unable to do so because of the burden of student loans, a lack of affordable housing, or the inability to find a suitable partner who is equally invested in being an involved parent. Structural and policy changes (e.g., subsidized day care; family friendly work policies) are needed if we are to support women in achieving their childbearing goals. In addition, women should be provided with accurate information on the fertility lifespan and the full range and success rates of fertility options (e.g., fertility testing, fertility preservation) to inform their decisions on the timing of childbearing.

The findings have important health care implications. Those who work with women who are trying to negotiate the timing of childbearing with the parameters and constraints of their lives and relationships, need to be cognizant of their own attitudes, beliefs, and biases about women's motivations to delay childbearing. Health care providers need to take a non-judgmental stance, and appreciate the "rock and hard place" bind in which women often find themselves. It is important to recognize and acknowledge that within the current context, the concept of choice is relative.<sup>[5]</sup> Women who consciously delay childbearing based on their beliefs and values about the optimal conditions within which to raise a child, deserve our support rather than our criticism.

#### **CONFLICTS OF INTEREST DISCLOSURE**

The authors declare there is no competing interests.

#### REFERENCES

- Office of National Statistics. Births in England and Wales 2014. 2015. Available from: http://www.ons.gov.uk/ons/dcp171778\_410 897.pdf
- [2] Statistics Canada. Family life age of mother at childbirth. 2016. Available from: http://well-being.esdc.gc.ca/misme-iow b/.3ndic.1t.4r@-eng.jsp?iid=75
- [3] Benzies K, Tough S, Tofflemire K, et al. Factors influencing women's decisions about timing of motherhood. Journal of Obstetric Gyneco-

logic and Neonatal Nursing. 2006; 35: 625-633. https://doi.or g/10.1111/j.1552-6909.2006.00079.x

- [4] Cooke A, Mills TA, Lavender T. 'Informed and uninformed decision making'- Women's reasoning experiences and perceptions with regard to advanced maternal age and delayed childbearing: A metasynthesis. International Journal of Nursing Studies. 2010; 47: 1317-1329. https://doi.org/10.1016/j.ijnurstu.2010.06.001
- [5] Cooke A, Mills TA, Lavender T. Advanced maternal age: Delayed childbearing is rarely a conscious choice. A qualitative study of

women's views and experiences. International Journal of Nursing Studies. 2012; 49: 30-39. https://doi.org/10.1016/j.ijnu rstu.2011.07.013

- [6] Maheshwari A, Porter M, Shetty A, et al. Women's awareness and perceptions of delay in childbearing. Fertility and Sterility. 2008; 90: 1036-1042. https://doi.org/10.1016/j.fertnstert.2 007.07.1338
- [7] Mills M, Rindfuss RR, McDonald P, et al. Why do people postpone parenthood? Reasons and social policy incentives. Human Reproduction Update. 2011; 17: 848-860. https://doi.org/10.1093/hu mupd/dmr026
- [8] Proudfoot S, Wellings K, Glasier A. Analysis why nulliparous women over age 33 wish to use contraception. Contraception. 2009; 79: 98-104. http://dx.doi.org/10.1016/j.contraception .2008.09.005
- [9] Tough S, Tofflemire K, Benzies K, et al. Factors influencing childbearing decisions and knowledge of perinatal risks among Canadian men and women. Maternal and Child Health Journal. 2007; 11: 189-198. https://doi.org/10.1007/s10995-006-0156-1
- [10] Bayrampour H, Heaman M, Duncan KA, et al. Advanced maternal age and risk perception: A qualitative study. BMC Pregnancy and Childbirth. 2012; 12: 1-13. https://doi.org/10.1186/1471-2 393-12-100
- [11] Benzies KM. Advanced maternal age: Are decisions about the timing of child-bearing a failure to understand the risks? Canadian Medical Association Journal. 2008; 178: 183-184. https: //doi.org/10.1503/cmaj.071577
- [12] Lemoine ME, Ravitsky V. Sleepwalking into infertility: The need for a public health approach toward advanced maternal age. American Journal of Bioethics. 2015; 15: 37-48. https://doi.org/10.108 0/15265161.2015.1088973
- [13] Zoll Miriam. Cracked open: Liberty fertility and the pursuit of high tech babies. Northampton: Interlink Books. 2013.
- [14] Bunting L, Boivin J. Knowledge about infertility risk factors fertility myths and illusory benefits of healthy habits in young people. Human Reproduction. 2008; 23: 1858-1864. https://doi.org/10.109 3/humrep/den168
- [15] Bunting L, Tsibulsky I, Boivin J. Fertility knowledge and beliefs about fertility treatment: Findings from the International Fertility Decision-making Study. Human Reproduction. 2013; 28: 385-397. https://doi.org/10.1093/humrep/des402
- [16] Bretherick KL, Fairbrother N, Avila L, et al. Fertility and aging: Do reproductive-aged Canadian women know what they need to know? Fertility and Sterility. 2010; 93: 2162-2168. https://doi.org/10 .1016/j.fertnstert.2009.01.064
- [17] Daniluk JC, Koert E, Cheung A. Childless women's knowledge of fertility and assisted human reproduction: Identifying the gaps. Fertility and Sterility. 2012; 97: 61-63. https://doi.org/10.1016/ j.fertnstert.2011.11.046
- [18] Lampic C, Svanberg AS, Karlstrom P, et al. Fertility awareness intentions concerning childbearing and attitudes towards parenthood among female and male academics. Human Reproduction. 2006; 21: 558-564. https://doi.org/10.1093/humrep/dei367
- [19] Lundsberg LS, Pal L, Gariepy AM, et al. Knowledge attitudes and practice regarding conception and fertility: population based survey among reproductive-age United States women. Fertility and Sterility. 2014; 101: 767-774. https://doi.org/10.1016/j.fertnste rt.2013.12.006
- [20] Peterson BD, Pirritano M, Tucker L, et al. Fertility awareness and parenting attitudes among American male and female undergraduate university students. Human Reproduction. 2012; 27: 1375-1382. http://dx.doi.org/10.1093/humrep/des0111382

- [21] Sabarre KA, Khan Z, Whitten AN, et al. A qualitative study of Ottawa university students' awareness knowledge and perceptions of infertility infertility risk factors and assisted reproductive technologies (ART). Reproductive Health. 2013; 10: 41. https://doi.or g/10.1186/1742-4755-10-41
- [22] Daly I. The inconvenient truth of fertility decline. Bionews 713. 2013. Available from: http://www.bionews.org.uk/page\_323531.a sp
- [23] Shaw RL, Giles DC. Motherhood on ice? A media framing analysis of older mothers in the UK news. Psychology and Health. 2009; 24: 221-236. https://doi.org/10.1080/08870440701601625
- [24] Wyndham N, Marin Figueira PG, Patrizio P. A persistent misconception: Assisted reproductive technology can reverse the "aged biological clock". Fertility and Sterility. 2012; 97: 1044-1047. https://doi.org/10.1016/j.fertnstert.2012.02.015
- [25] Daniluk JC. "Sleepwalking into Infertility": The need for a gentle wake-up call. American Journal of Bioethics. 2015; 15: 52-54. https://doi.org/10.1080/15265161.2015.1088990
- [26] Mills TA, Lavender R, Lavender T. "Forty is the new twenty": An analysis of British media portrayals of older mothers. Sexual and Reproductive Healthcare. 2015; 6(2): 88-94. https://doi.org/ 10.1016/j.srhc.2014.10.005
- [27] Leridon H. Can assisted reproduction technology compensate for the natural decline in fertility with age? A model assessment. Human Reproduction. 2004; 19: 1548-1553. https://doi.org/10.109 3/humrep/deh304
- [28] ESHRE Capri Workshop Group. Fertility and ageing. Human Reproduction. 2005; 11: 261-276. https://doi.org/10.1093/hu mupd/dmi006
- [29] Human Fertilisation and Embryology Society. Freezing and storing eggs. 2015. Available from: http://www.hfea.gov.uk/46.html
- [30] Lavender R, Logan J, Cooke A, et al. "Nature makes you blind to the risks": An exploration of women's views surrounding decisions on the timing of childbearing in contemporary society. Sexual and Reproductive Healthcare. 2015; 6(3): 88-94. https://doi.org/ 10.1016/j.srhc.2015.04.006
- [31] Tough S, Benzies K, Newburn-Cook C, et al. What do women know about the risks of delayed childbearing? Canadian Journal of Public Health. 2006; 97: 330-334. PMid: 16967756. Available from: http://journal.cpha.ca/index.php/cjph/art icle/viewFile/742/742
- [32] Friese C, Becker G, Nachtigal R. Rethinking the biological clock: Eleventh hour moms miracle moms and the meanings of agerelated infertility. Social Science & Medicine. 2006; 63: 1550-1560. https://doi.org/10.1016/j.socscimed.2006.03.034
- [33] Metcalfe A, Vekved M, Tough SC. Educational attainment perception of workplace support and its influence on timing of childbearing for Canadian women: A cross-sectional study. Journal of Maternal and Child Health. 2014; 18: 1675-1682. https://doi.org/10.1007/ s10995-013-1409-4
- [34] Olafsdottir HS, Wikland M, Moller A. Reasoning about timing of wanting a child: A qualitative study of Nordic couples from fertility clinics. Journal of Reproductive and Infant Psychology. 2011; 29: 493-505. https://doi.org/10.1080/02646838.2011.635298
- [35] Petersen KB, Sylvest R, Nyboe Andersen A, et al. Attitudes towards family formation in cohabitating and single childless women in their mid-to late thirties. Human Fertility. 2016; 19: 48-55. https://doi.org/10.3109/14647273.2016.1156171
- [36] Schytt E, Nilsen ABV, Bernhardt E. Still childless at the age of 28 to 40 years: A cross-sectional study of Swedish women's and men's reproductive intentions. Sexual and Reproductive Healthcare. 2014; 5: 23-29. https://doi.org/10.1016/j.srhc.2013.11.001

- [37] Dion KK. Delayed parenthood and women's expectations about the transition to parenthood. International Journal of Behavioral Development. 1995; 18: 315-333. https://doi.org/10.1177/016502 549501800208
- [38] Zabin LS, Huggins GR, Emerson MR, et al. Partner effects on a woman's intention to conceive: 'Not with this partner.' Family Planning Perspectives. 2000; 32: 39-45. PMid: 10710705. https://doi.org/10.2307/2648147
- [39] Tough SC, Vekved M, Newburn-Cook C. Do factors that influence pregnancy planning differ by maternal age? A population-based survey. Journal of Obstetrics and Gyneacology Canada. 2012; 34: 39-46. https://doi.org/10.1016/S1701-2163(16)35132-5
- [40] Schmidt L, Sobotka T, Bentzen JG, et al. Demographic and medical

consequences of the postponement of parenthood. Human Reproduction Update. 2013; 18: 29-43. https://doi.org/10.1093/humu pd/dmr040

- [41] Berrington A. Perpetual postponers? Women's men's and couple's fertility intentions and subsequent fertility behaviour. Population Trends. 2004; 117: 9-19. Available from: http://webarc hive.nationalarchives.gov.uk/20160105160709/http: //www.ons.gov.uk/ons/rel/population-trends-rd/popu lation-trends/no--117--autumn-2004/index.html
- [42] British Pregnancy Advisory Service. Becoming a mother: Understanding women's choices today. 2015. Available from: https://www.bpas.org/media/1698/becoming-a-mothe r-understanding-womens-choices-today.pdf