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Assisted reproduction in a cohort of same-sex male couples and single men

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Abstract  To date, there is limited published data on same-sex male couples and single men using assisted reproduction treatment to build their families. The objective of this retrospective study was to better understand treatment considerations and outcomes for this population when using assisted reproduction treatment. A total of 37 same-sex male couples and eight single men (seven homosexual and one heterosexual) who attended the CReATe Fertility Centre for assisted reproduction services were studied. There was a 21-fold increase in the number of same-sex male couples and single men undergoing assisted reproduction treatment since 2003. The mean age was 46 years (24–58). Twenty-eight couples (76%) chose to use spermatozoa from both partners to fertilize their donated oocytes. Most men (32 same-sex male couples and seven single men; 87%) obtained oocytes from an anonymous donor, whereas five couples and one single man (13%) had a known donor. Anonymous donors who were open to be contacted by the child after the age of 18 were selected by 67% of patients. Of all 25 deliveries, eight (32%) were sets of twins. All of the twins were half genetic siblings.

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Introduction

As societal views continue to change with respect to gay rights, the number of gay men and lesbian women who embark on the journey to parenthood is increasing. Gay men seek fatherhood for many of the same reasons that heterosexual men do, such as the desire to raise children,
create families and pass on their genes to offspring (Bigner, 1999; Bigner and Jacobsen, 1989; Greenfeld, 2005, 2007).

Prior to the advent of assisted reproduction, the options for gay and single men looking to have children were to adopt, foster or co-parent with lesbian or heterosexual females (Gates et al., 2007). Historically, negative societal attitudes as well as lack of physicians’ willingness to treat gay men have contributed to fewer gay men having access to treatment. Since the advent of assisted reproduction, lack of knowledge with regards to available fertility options may have contributed to a relatively limited number of men pursuing third-party reproduction (American Society for Reproductive Medicine, 2009). In addition, the significant assisted reproduction and legal costs for this population, who require both a surrogate and an egg donor, could be prohibitive for many.

There is some research that addresses the different needs and options of lesbian and bisexual women in regards the experiences of fertility treatment (Donovan and Wilson, 2008; Ross et al., 2006), but there are very little published data that address assisted reproduction for gay couples or single men (Greenfeld and Seli, 2011). The retrospective study by Greenfeld and Seli recommended that counselling on the medical and emotional demands of having a child with assisted reproduction treatment should be a necessary part of pretreatment preparation for the gay male population. They found that supportive psycho-educational counselling as part of the medical treatment helps gay men to make informed decisions with regards to fertility treatment and their journey to parenthood (Greenfeld and Seli, 2011).

Prior publications on gay parentage for both men and women have addressed the emotional and physical welfare of the offspring, professional practices and current laws (American Society for Reproductive Medicine, 2009). With respect to child welfare, this research has demonstrated that the overall psychological adjustment and wellbeing of offspring from heterosexual couples and gay parents does not differ (American Society for Reproductive Medicine, 2009; Anderssen et al., 2002; Gates et al., 2007; Golombok and Tasker, 1996; Teligator and Patterson, 2008).

The aim of this retrospective study is to better understand the demographics, characteristics, treatment considerations and assisted reproduction outcomes of same-sex male couples and single men seeking third-party reproduction in order to optimize the service provided to this population group.

Materials and Methods

In all, 82 patients were included in this study; this comprised of 37 same-sex male couples and eight single men. Seven of the eight single men indicated that their sexual orientation was homosexual and one was heterosexual. These patients attended the CReAte Fertility Centre, Toronto, Ontario, Canada from January 2003 to December 2011 to have children with the help of an ovum donor and a gestational carrier. In this retrospective study, data were compiled following review of CReAte clinic patient charts, in which the collected data included: demographic information, sperm parentage decisions, type of ovum donor (known versus anonymous), treatment cycle data and pregnancy outcomes. All patients undergoing third-party reproduction, as per the CReAte fertility centre’s policy, are required to attend a psychosocial counselling session prior to any attempts. During a counselling session, a fertility counsellor discusses the emotional, social and psychological implications of using third-party reproduction with ovum donation (anonymous or known) and gestational surrogacy.

Information was compiled from the evaluation of the reports from these counselling sessions. To obtain pregnancy outcome data, as is standard practice at the clinic, a follow-up call is made by a nurse after the expected due date. The data collected included: date of birth, type of delivery, pregnancy complications, number of children born, birthweight and information on minor or major congenital anomalies, stillbirths or neonatal deaths.

As a control group, this study determined the pregnancy rate in a cohort of heterosexual couples who underwent treatment with both ovum donor and gestational carrier from the same time period (n = 47).

Data was collected in a Microsoft Access database prepared for the study and descriptive statistical analysis was performed. Chi-squared analysis was used to compare pregnancy rates in the study population with the control population. Research ethics board approval for this study was obtained from Sunnybrook Health Sciences Centre, Toronto, Canada (No. 144–2011, approved 9 May, 2012).

Results

A total of 82 men (37 same-sex male couples and eight single men) underwent assisted reproduction treatment in the CReAte Fertility Centre from 2003 to 2011. This study found that there was a steady increase in the number of same-sex male couples and single men who came to the clinic seeking reproductive assistance in the last 5 years. In fact, there was a 21-fold increase when comparing the years 2003–2006 (one couple and one single men) versus 2007–2011 (36 couples and seven single men) (Figure 1).

The population pool came from Canada as well as outside Canada. The countries of residence were as follows: 22 couples and seven single men from Canada; nine couples from Israel; two couples and one single man from France; two couples from the USA; one couple from the UK; and one couple from Australia.

The mean age of the men was 46.1 years (range 24–58). The relationship status of the couples varied: 24.3% (9/37) were legally married, 16.2% (6/37) were in common-law relationships and 59.5% (22/37) were in committed relationships but not legally bound to one another. The mean duration of time that the couples had been together before coming to the clinic was 7.7 years.

Of the study cohort, 15.6% (7/45) had children before approaching the clinic, whereas 84.4% (38/45) came to the clinic having no previous children (Figure 2). In the seven cases where patients already had children before coming to CReAte, four had children from previous heterosexual relationships (for examples, see Table 1, cases 1 and 2), one had stepchildren from a previous heterosexual relationship and two had children from previous assisted reproduction cycles performed at other clinics.

This study looked at whether the same-sex male couples chose to use one partner’s or both partners’ spermatozoa to
inseminate the oocytes. Twenty-eight couples (76%) chose to use spermatozoa from both partners, whereas nine couples (24%) chose one of the partners to provide the spermatozoa. Seven of the nine couples (78%) who chose to use only one partner’s spermatozoa decided to use the older partner’s spermatozoa. The mean age of the inseminating partner was 40.2 years (range 31–47) whereas the mean age of the non-inseminating partner was 36.8 years (range 32–40). For one couple, one of the partners had fathered a child previously, so they decided to use the partner’s spermatozoa who had no prior biological children (Table 1, case 2).

Most of the men in this study, 32 couples and seven single men (87%), chose an anonymous oocyte donor; conversely, five couples and one single man (13%) chose a known donor. Only one couple chose to change from a known to an anonymous ovum donor during a subsequent cycle (Table 1, case 3). All anonymous donors must indicate in their profile whether they are open to contact with any child resulting from their donation once they reach the age of 18 (legal age/age of majority in Canada) or not. This study found that 67.5% of patients chose donors who were open to be contacted by the child after the age of 18.

Ultimately, 21 same-sex male couples and four single men succeeded in achieving a pregnancy. Of these, 16 couples (16/21, 76%) and three single men (3/4, 75%) achieved an ongoing pregnancy in their first fresh transfer cycle. Five couples and one single man (Table 1, case 4) achieved an
Examples of the experiences of same-sex male couples and single men attending the CReATe Fertility Centre.

<table>
<thead>
<tr>
<th>Case</th>
<th>Experience</th>
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<tbody>
<tr>
<td>1: M, a single gay man</td>
<td>M has a daughter from a previous heterosexual relationship but had the desire to expand his family. In his counselling session with a social worker at the CReATe Fertility Centre, M disclosed that he has a strong support network. Two embryos were transferred into the gestational carrier and she subsequently gave birth to a boy.</td>
</tr>
<tr>
<td>2: E and Y, a same-sex couple</td>
<td>The couple has been in a committed relationship for 8 years. Y has a son from a previous heterosexual relationship. E had no children of his own. The couple decided to use E’s spermatozoa to inseminate the oocytes because he had never fathered a child. One embryo was transferred into the gestational carrier and 10 embryos were frozen for future use. Although this pregnancy was not successful, the couple has returned to the clinic to continue trying.</td>
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<tr>
<td>3: A and S, a same-sex couple</td>
<td>The couple is married and has been together for 8 years. When they came to the clinic, they did not have any children. In the couple’s first cycle, they decided to use a known ovum donor. The couple had also decided that both partners’ spermatozoa would be used to inseminate the oocytes. Unfortunately, the cycle was not successful and there were no surplus frozen embryos. One year later, the couple returned to the clinic to have a second fresh cycle; however, this time they chose to switch to an anonymous ovum donor. Again, both partners’ spermatozoa were used to inseminate the oocytes. Two embryos were transferred into the gestational carrier, each created using spermatozoa from each partner and she gave birth to twin girls who are half genetic sisters to one another.</td>
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<tr>
<td>4: S, a single gay man</td>
<td>S was in his thirties and approached the CReATe Fertility Centre in order to have children. He did not have children prior to his initial consultation. He discussed with the counsellor that he felt comfortable with the idea of being a single father and that he has a strong support network. In his first cycle, he chose to have an exclusive cycle with an anonymous ovum donor. Two embryos were transferred into the gestational carrier and four embryos were frozen for future use. The cycle was not successful. S proceeded to have two frozen cycles. The first resulted in a pregnancy but the carrier had a miscarriage. For the second frozen cycle, S decided to make a change in gestational carriers, but this cycle was not successful. Approximately 4 months later S had a second fresh cycle with another anonymous ovum donor. In this cycle, two embryos were transferred to the carrier and four embryos were frozen. The carrier gave birth to healthy twins, one boy and one girl.</td>
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There are 12 couples and three single men who have not yet had a successful pregnancy; about half of these are currently undergoing further attempts whilst four couples and one single man have not returned following their first cycle. The overall cumulative ongoing pregnancy rate of patients who completed their treatment was 83% (25/30). Of all pregnancies, 8/25 (32%) were twin pregnancies. All seven sets of twins in same-sex male couples were half genetic siblings. The birthweight of all singleton babies was greater than 2500 g, whereas for twins, 56.3% (9/16) weighed 2000–2500 g and 31.3% (5/16) weighed less than 1999 g. There were no major or minor congenital anomalies, stillbirths or neonatal deaths.

Discussion

There has been a notable increase in the number of gay men seeking assisted reproduction treatment at CReATe in recent years. Some of this increase is likely attributable to the fact that the CReATe Fertility Centre has taken public steps to make it known that the clinic welcomes persons of diverse sexual orientations and marital status. The clinic partakes in outreach events to the lesbian, gay, bisexual, transgender and queer (LGBTQ) community. The increase in the number of gay men seeking fertility treatment in Canada appears to be coincident with the legalization of same-sex marriage in Canada, beginning with the province of Ontario in 2003 and spreading progressively to all other Canadian provinces and territories by 20 July, 2005 when the Federal Civil Marriage Act was passed into law (Hurley, 2005).

This study found that a majority of the same-sex male couples chose to use both partners’ spermatozoa to inseminate embryos. However, there were nine couples who chose to only use one of the partner’s spermatozoa. In these cases, it appeared that age may be a factor, since in the majority of them the older partner tended to be the one chosen to be the genetic parent. This finding raises the question of whether the older partner may feel that their time is running out or it could be that the older individual may feel stronger about having a genetic connection to their child than their younger partner. Another reason why one partner is chosen to be the genetic parent may be that one of them has children from a previous heterosexual relationship or a second child from the same couple. This study group is in the process of starting a prospective study to further delve into these types of questions.

The results of this study show that a larger number of individuals chose an anonymous egg donor as opposed to a known egg donor. This result raises some interesting questions as to whether this choice had to do with lack of access to a known donor or do these men prefer not to know or have a relationship with the ovum donor while childrearing. When obtaining eggs from an anonymous donor, most of the men chose a
Donor who was open to contact after 18. Was this variable a deciding factor in choosing the donor or was it simply another variable among others to be considered? These questions are part of ongoing prospective studies.

In conclusion, the number of same-sex male couples and single men that have come to the clinic for assisted reproduction assistance to have a family has been increasing over time. Single men are also increasingly using assisted reproduction treatment for family building. Most same-sex male couples chose to use spermatozoa from both partners to inseminate the eggs and transferred one embryo from each to the surrogate. As a result, all twins from this group were half genetic siblings. High success can be attained in this population particularly for those men who are persistent in trying to achieve a pregnancy through subsequent frozen and fresh embryo cycles if the initial attempt was unsuccessful. Thus, the majority of the men who came to the CREATe Fertility Centre were successful at realizing their dreams of fatherhood. As far as is known, this study represents the largest published cohort of same-sex male couples and single men seeking assisted reproduction treatment care to date and this information would be helpful to consider when providing reproductive assistance for same-sex male couples as well as single homosexual or heterosexual men.

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References


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