Pathways to fatherhood: evaluating the priorities of self-identified gay and bisexual men pursuing family building options

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Objective: To assess the priorities and decisions of gay and bisexual men pursuing fatherhood.
Design: Cross-sectional study.
Setting: Internet-based survey.
Patient(s): Gay and bisexual men who were interested in pursuing or had previously pursued family building options.
Intervention(s): None.
Main Outcome Measure(s): This study aimed to assess the attitudes of respondents regarding the following: mode of achieving parenthood and the relative importance of a genetic link to offspring; the relative importance of factors considered when selecting an oocyte donor (OD); and the relative importance of factors associated with selecting a gestational carrier (GC). Access to care and financial considerations were also analyzed.
Result(s): Of the 110 respondents, most (68.2%) desired parenthood via an OD and GC. This was consistent with 53.2% of respondents reporting that a genetic link to a child was "extremely important" or "important." Most couples (86.6%) desired to use sperm from both partners. In addition, 40.5% of respondents reported that a twin gestation would be the most ideal pregnancy outcome. Medical history was considered the most important factor when selecting an OD (83.5%), whereas pregnancy history was considered the most important selection criterion for a GC (86.2%). Furthermore, 89.1% of respondents reported that the fertility services they desired were available to them, although 33.0% reported they would have to travel to another state for care.
Conclusion(s): Understanding the circumstances of gay and bisexual men pursuing fatherhood allows for individualized care. Since several respondents desired twin pregnancies, it is important to counsel patients regarding the risks of multiple gestation and determine the motivations for this preference. (Fertil Steril Rep® 2022;3:91–9. ©2021 by American Society for Reproductive Medicine.)
Key Words: Access to care, assisted reproductive technology, gay, LGBT, third-party reproduction

Attitudes toward gay and lesbian parenting have evolved dramatically over the last several decades. Historically, both social and legal obstacles prevented several gay men from fathering children, whereas bisexual men who fathered children did so through heterosexual relationships (1–3). In recent years, the increased acceptance of same-sex parenting, legalization of gay marriage, and growing prevalence of assisted reproductive technology have afforded gay and bisexual men (GBM) new options in family development. The rising acceptance of GBM as parents coincides with research showing that children of gay male fathers develop and thrive equivalently to children of heterosexual or lesbian parents (4–6). Approximately 1 in 10 gay men identify as fathers, and 8.5% of the 451,494 same-sex male couple households in the United States reported having children in the home as of 2017 (7, 8). From these statistics alone, it is clear that GBM choose to pursue fatherhood with relative frequency. Despite the commonplace nature of this situation, there is a

Received May 25, 2021; revised and accepted September 16, 2021.
B.M.H. has nothing to disclose. M.P.L. has nothing to disclose. H.N.G. has nothing to disclose. D.J.K. has nothing to disclose. J.M.H. has nothing to disclose. P.J.C. has nothing to disclose.
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Fertil Steril Rep® Vol. 3, No. 2S, May 2022 2666-3341

https://doi.org/10.1016/j.xfre.2021.09.003

paucity of information regarding the priorities and perceptions of GBM who pursue parenthood.

Some GBM have children who were conceived in heterosexual relationships, whereas several others have no history of paternity and begin their journey to parenthood either as single men or as part of a same-sex relationship. Unequivocally, adoption and foster parenting remain excellent options for individuals who cannot conceive biologically (9, 10). Increasingly, however, several GBM who desire fatherhood are pursuing third-party reproduction, where embryos are created with the sperm of one or both male partners and an oocyte donor (OD) and then transferred into the uterus of a gestational carrier (GC) (11). Publications have evaluated the decision-making process and motivations for GBM who decide to adopt, but relatively less is known about the priorities of GBM who proceed with third-party reproduction (12).

One of the benefits of pursuing pregnancy via an OD and GC is the opportunity for the intended parents to have a genetic link to the child. In certain studies, this genetic connection was of great importance to gay or bisexual fathers, although this sentiment is not universal within the literature (11). While regulations set forth by the Food and Drug Administration regarding the use of an OD and GC are clear, the factors that GBM actually consider when selecting an OD and GC remain largely unreported (13). In the case of same-sex male couples, decisions regarding which partner's sperm to use for fertilization or which partner's embryo to transfer can also become complex. Some couples choose to divide a cohort of oocytes and use both partners' sperm for fertilization. Other couples choose to only use one partner's sperm for fertilization. Decisions must also be made regarding whether to perform a single or double embryo transfer into a GC. These decisions often occur in the setting of changing practice patterns, where fertility centers are shifting toward single embryo transfers as the standard of care to decrease obstetric risks (14). While single embryo transfers afford undeniable health benefits to the GC and neonate, this strategy may not be appealing to some GBM since a single embryo transfer eliminates the possibility of transferring an embryo from each male partner simultaneously.

While access to care has improved for GBM, some barriers persist. The stigma surrounding same-sex parenting has decreased, but couples and individuals may still perceive some level of discrimination, a shortage of knowledgeable providers, or a lack of inclusive information during the road to parenthood (3, 15). Additionally, the legal ability to proceed with a GC is highly variable depending on where a couple resides (16). The assignment of parenthood is legal in the United States and Canada, whereas in several other countries, two men are not legally allowed to both be assigned as parents after birth via GC. Another significant challenge faced by GBM as they seek fertility services is cost. Both adoption and third-party reproduction can be prohibitively expensive, and while concerns related to cost for this population have been delineated in prior studies, a current understanding of direct patient costs in the setting of a changing health care landscape is lacking (17).

This study seeks to evaluate the priorities and perceptions of self-identified GBM as they relate to the process of family building and serves as the largest reported series of GBM pursuing parenthood. Through an internet-based survey platform, the investigators aim to garner responses regarding the preferred mode of achieving parenthood (adoption vs. foster parenting vs. third-party reproduction) and the relative importance of a biologic connection to offspring. Additionally, the relative importance of factors that must be considered when selecting an OD and GC is assessed. Finally, issues related to access to care and financial considerations are analyzed.

MATERIALS AND METHODS

Study Design

Between April 2019 and May 2020, a 38-question survey consisting of 7 demographic questions and 31 questions regarding family building was made available to respondents via the Research Electronic Data Capture (REDCap) platform (www.project-redcap.org). The REDCap is a secure, browser-based electronic software system designed for the generation and management of clinical and translational research databases (18). The estimated time requirement for a respondent to complete the survey was 15 minutes or less.

The survey was developed by the panel of investigators who have experience in both scientific methodology and the treatment of GBM seeking family building services. To aid in the creation of the survey questions, one of the investigators conducted a separate, prestudy focus group with four gay men who had previously sought third-party reproduction services to gain insight about their decision-making process. This focus group provided the background that allowed for survey questions to be appropriately tailored to the GBM audience. The survey ultimately consisted of a brief introduction followed by detailed instructions regarding how to submit responses electronically.

The seven demographic information questions addressed age, race, highest education level, geographic location, and self-reported sexual orientation. After the demographic portion, the survey consisted of specific yes or no questions as well as questions formatted using a standard 5-point Likert scale. Several questions were left open-ended, allowing respondents to write in a response. For questions regarding factors deemed most important to respondents during the selection process of either an OD or GC, participants were allowed to select more than one response. All responses were optional, and individual questions were allowed to be omitted at the participant's discretion. Omission of specific questions did not invalidate a respondent's survey.

Population of Interest

The population of interest for this questionnaire was adults aged $\geq$18 years who were born with male reproductive organs who self-identify as part of the lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community who were considering or had previously initiated the family building process. Participants were invited to take the survey after seeking care at a fertility center affiliated with the study or through social media groups that focused on parenthood for

GBM. In the case of same-sex male couples, each partner was asked to complete the survey independently. Respondents completed a brief electronic consent form before the completion of the questionnaire, in line with the institutional review board approval for this project (no. CR00193967). Identifying information was included on the consent form to avoid duplicate responses from the same individual, but all responses were deidentified by a single member of the clinical research team before data analysis to maintain respondent confidentiality.

Data Analysis

Information from the questionnaires was automatically entered into the REDCap database. Continuous variables are reported as means and standard deviations. Descriptive statistics, including counts and percentages, were used to analyze categorical variables. The percentages detailed in the following reflect the responses from all 110 participants unless otherwise noted.

RESULTS

Patient Characteristics

A total of 110 participants completed the survey. Demographic information regarding respondents is provided in Table 1. The mean age of respondents was 37.2 ± 6.9 years (range, 24.0–57.0 years). Most respondents were White (72.7%), whereas 11.8% of respondents identified as Latino or Hispanic, 8.2% were Asian, 3.6% were Black, 0.9% were Native American, and 2.7% identified as members of another race. The vast majority of respondents (85.5%) resided in the United States, although residents of 9 other countries were also represented. Within the United States, the Northeast (n = 34) and West (n = 29) on the basis of the 2010 US Census Regions were the most highly represented geographic areas (Table 1).

Overall, respondents were highly educated, with 41.8% of survey participants reporting either a doctoral or advanced professional degree. An additional 20.9% of respondents held a master's degree, 24.5% held a 4-year bachelor's degree, and only a small fraction of participants (12.7%) had a 2-year associate's degree or less (Table 1).

While the survey was open to any individual born with male reproductive organs who self-identified as part of the LGBTQ+ community, the vast majority of respondents identified as gay (97.3%).Only 3 participants (2.7%) identified as bisexual. There were no transgender or queer respondents who completed the survey. In terms of relationship status, most respondents (93.6%) were partnered, with 70.9% reporting that they were part of a legally recognized same-sex marriage and 22.7% reporting that they were in a committed relationship. Only 6.4% of participants were single. For those respondents who reported being part of a marriage or committed relationship (n = 103), the mean duration of the relationship was 9.8 ± 6.0 years (range, 0.5–26.9 years). Most participants (78.6%) reported being in a committed relationship for at least 5 years (Table 1).

TABLE 1

Demographic information for survey respondents (n = 110).

Respondent age	Number of respondents (% of respondents)
Less than 30	4 (3.6)
30–34	45 (40.9)
35–39	32 (29.1)
40–44	13 (11.8)
45–49	7 (6.4)
50 or greater	9 (8.2)
Race or ethnicity	
Asian or Pacific Islander	9 (8.2)
Black or African American	4 (3.6)
Latino or Hispanic	13 (11.8)
Native American	1 (0.9)
White or Caucasian	80 (72.7)
Other	3 (2.7)
Respondent country of residence	
Canada	2 (1.8)
China	1 (0.9)
Denmark	1 (0.9)
Israel	1 (0.9)
New Zealand	1 (0.9)
Portugal	1 (0.9)
Spain	2 (1.8)
Sweden	2 (1.8)
United Kingdom	5 (4.5)
United States	94 (85.5)
Northeast (n = 34)	
Midwest (n = 10)	
South (n = 17)	
West (n = 29)	
Region not reported (n = 4)	
Highest level of education of respondent	
Did not finish high school	2 (1.8)
High school diploma or GED	8 (7.3)
Some college or 2-year associate's degree	4 (3.6)
4-year bachelor's degree	27 (24.5)
Master's degree	23 (20.9)
Doctoral or other advanced professional degree	46 (41.8)
Self-described sexual orientation	
Gay	107 (97.3)
Bisexual	3 (2.7)
Relationship status	
Legally married	78 (70.9)
In a committed relationship	25 (22.7)
Single	7 (6.4)
Length of relationship	
Less than 1 year	3 (2.9)
≥1 year but <3 years	5 (4.9)
≥3 years but <5 years	14 (13.6)
≥5 years but <10 years	36 (35.0)
≥10 years	45 (43.6)

Note: The length of relationship was reported for the 103 respondents who were either legally married or in a committed relationship. GED = general educational development.

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Preferred Mode of Achieving Parenthood, the Genetic Link to Offspring, and Pregnancy Preferences

Keeping in mind that the population of interest for this survey consisted of men who desired parenthood, most respondents (55.5%) reported that it was either "easy" (35.5%) or "somewhat easy" (20.0%) to come to the decision to have children.

However, a relatively high percentage of participants (30.0%) noted that it was either "difficult" (2.7%) or "somewhat difficult" (27.3%) to decide to have children. The vast majority of respondents (68.2%) desired to achieve fatherhood by means of third-party reproduction, using an OD and GC, whereas only 20.9% of survey participants preferred to achieve fatherhood via adoption. An even smaller percentage, 3.6% of respondents, opted for foster parenting as the ideal means to achieve parenthood. Despite the fact that a much larger proportion of respondents favored the use of third-party reproduction to build their family, only 50.0% of respondents had already pursued fertility services, whereas the remaining 50.0% had not (Fig. 1A).

Interestingly, 78.2% of respondents stated that their preferred method to achieve fatherhood (OD and GC, adoption, or foster parenting) aligned with the preference of their partner, whereas 11.8% were not in agreement as a couple (Fig. 1B). Although most respondents ultimately decided to pursue OD and GC to become parents, a substantial degree of consideration was given to adoption or foster care as potential parenting options (Fig. 1C), indicating that GBM tend to weigh multiple possibilities before engaging in a more targeted pursuit of family building.

In line with the finding that most respondents desired to father a biologic child via an OD and GC, 53.2% of respondents reported that having a genetic link to a child through the use of autologous sperm was either "extremely important" (21.1%) or "important" (32.1%) (Fig. 1D). Moreover, 22.0% of respondents indicated that having a genetic link to offspring was "not important at all." Of the subset of men who preferred to achieve pregnancy via an OD and GC (n = 75), most respondents (86.6%) indicated that they planned to use sperm from both partners whereas only 13.4% planned to use a single partner's sperm to fertilize donor oocytes.

In this study population, a small minority of respondents indicated that their ideal family would consist of only 1 child (9.1%). Most respondents (71.8%) desired at least 2 children (Fig. 1E). Along these lines and likely due at least in part to the high cost associated with the use of both an OD and GC, twin gestations were viewed favorably by respondents. In fact, 40.5% of respondents indicated that a twin pregnancy would be the most ideal pregnancy outcome. While a slightly higher percentage of participants (45.6%) did favor singleton pregnancies, the high proportion of men preferring a twin pregnancy over a singleton pregnancy indicates the widespread acceptability of multiple gestations among respondents (Fig. 1F).

Selecting an OD

To assess the relative importance of various factors that are considered in the decision-making process of selecting an OD, respondents (n = 97) selected multiple traits or characteristics that they felt were most representative of an ideal OD. The most important characteristic of an OD was medical history (83.5%), followed by education (64.9%), family history (64.9%), race or ethnicity (60.8%), personality (52.6%), physical attractiveness (49.5%), height (33.0%), athleticism (27.8%), skin tone (22.7%), career (22.7%), anonymous OD status (18.6%), known OD status (17.5%), hair color (15.5%), eye color (14.4%), religion (5.2%), and blood type (2.1%) (Fig. 2A).

Having an OD who was known (a friend or relative) was not prioritized by respondents in this survey. Of the 106 respondents who answered this question, having a known OD was viewed as "not important at all" by 59.4% of participants, "of little importance" by 6.6%, and neither important nor not important (neutral) by 22.6% and only viewed as "important" (8.5%) or "extremely important" (2.8%) by 11.3% of participants (Fig. 2B).

Selecting a GC

To assess the relative importance of various factors involved in the decision-making process of selecting a GC, respondents (n = 94) selected multiple qualities or characteristics that they felt were most representative of a desirable GC. The most important characteristic of a GC was reported to be pregnancy history (86.2%), followed by medical history (79.8%), personality (69.1%), geographic location (46.8%), education (35.1%), relationship status (28.7%), career (16.0%), and religion (9.6%) (Fig. 3A).

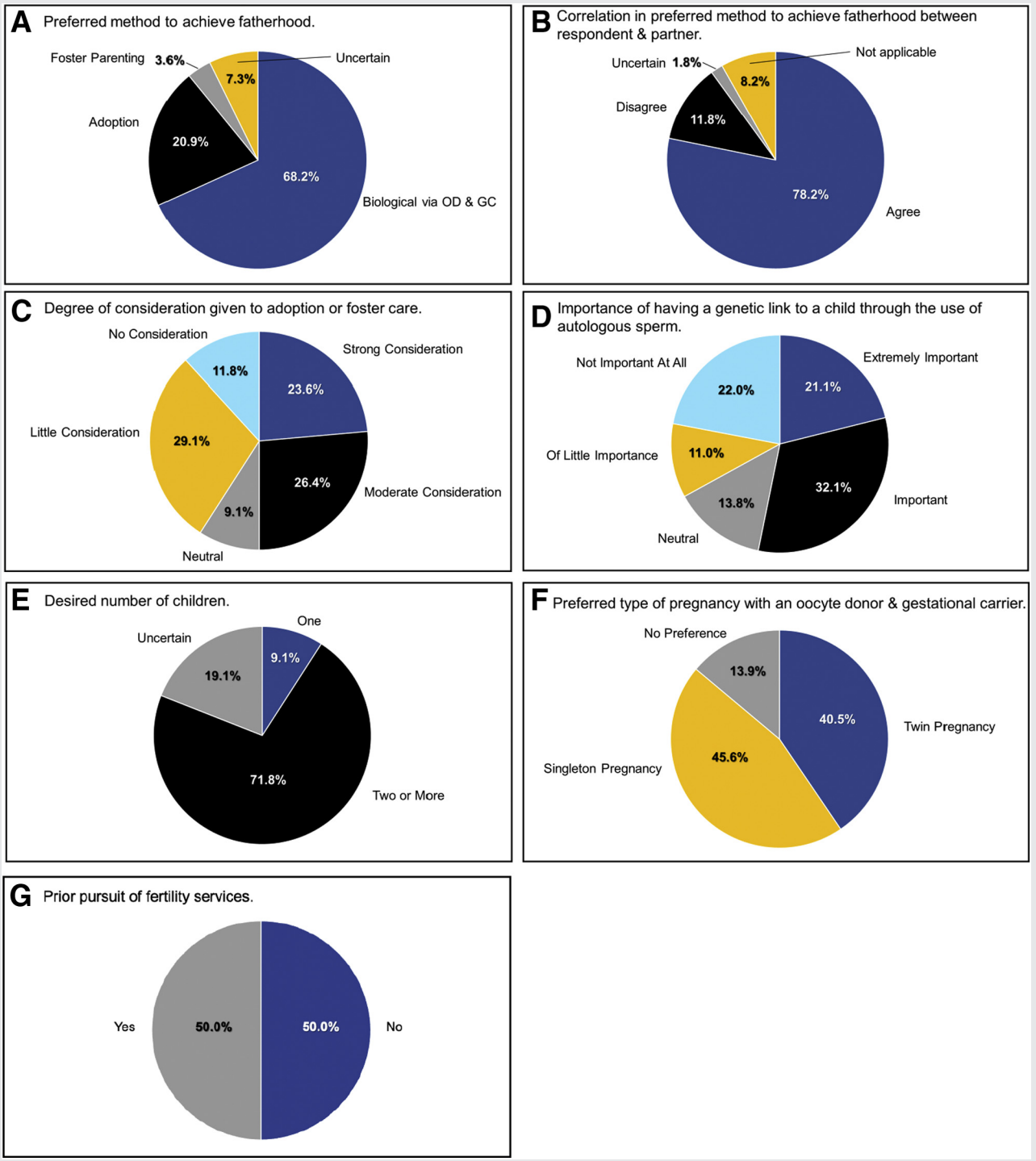
Similar to the findings noted for ODs, having a GC who was known to respondents (a friend or relative) was not a priority in this population. Of the 106 respondents who answered the survey question related to the importance of having a known GC, being a friend or relative of the GC was viewed as "not important at all" by 63.2% of participants, "of little importance" by 7.5%, and neither important nor not important (neutral) by 21.7% and only viewed as "important" (6.6%) or "extremely important" (0.9%) by 7.5% of participants (Fig. 3B).

Access to Care and Financial Considerations

Issues related to access to care and financial considerations were also evaluated. As a result, 89.1% of participants reported that they had access to the fertility services they desired to achieve parenthood. Thirty-four of 103 participants who resided in the United States (33.0%) reported that they had traveled or would have to travel to another state to receive fertility services. This is likely related to the logistic and legal challenges of obtaining a GC in several states, as was demonstrated by the fact that 26 (25.2%) of 103 respondents reported that using a GC to carry a pregnancy was illegal in their state of residence. It should be noted that in states such as New York, legal limitations on acquiring and using a GC rather than a true lack of available fertility practices likely underlie the decision to pursue out-of-state treatment.

Financial considerations were analyzed for this patient population. Given the high cost of using third-party reproduction as well as adoption, it was not surprising that 50 (50.0%) of 100 respondents reported that they had been saving money and setting aside funds specifically to cover the costs associated with achieving parenthood. For those respondents who had been saving money (n = 50), the mean duration of time that had been dedicated to saving funds for family building was 3.6 ± 2.6 years (range, 0.25–12

FIGURE 1



Respondents' preferences regarding the mode by which pregnancy and fatherhood are achieved and respondents' views regarding the relative importance of various facets of family building. GC = gestational carrier; OD = oocyte donor.

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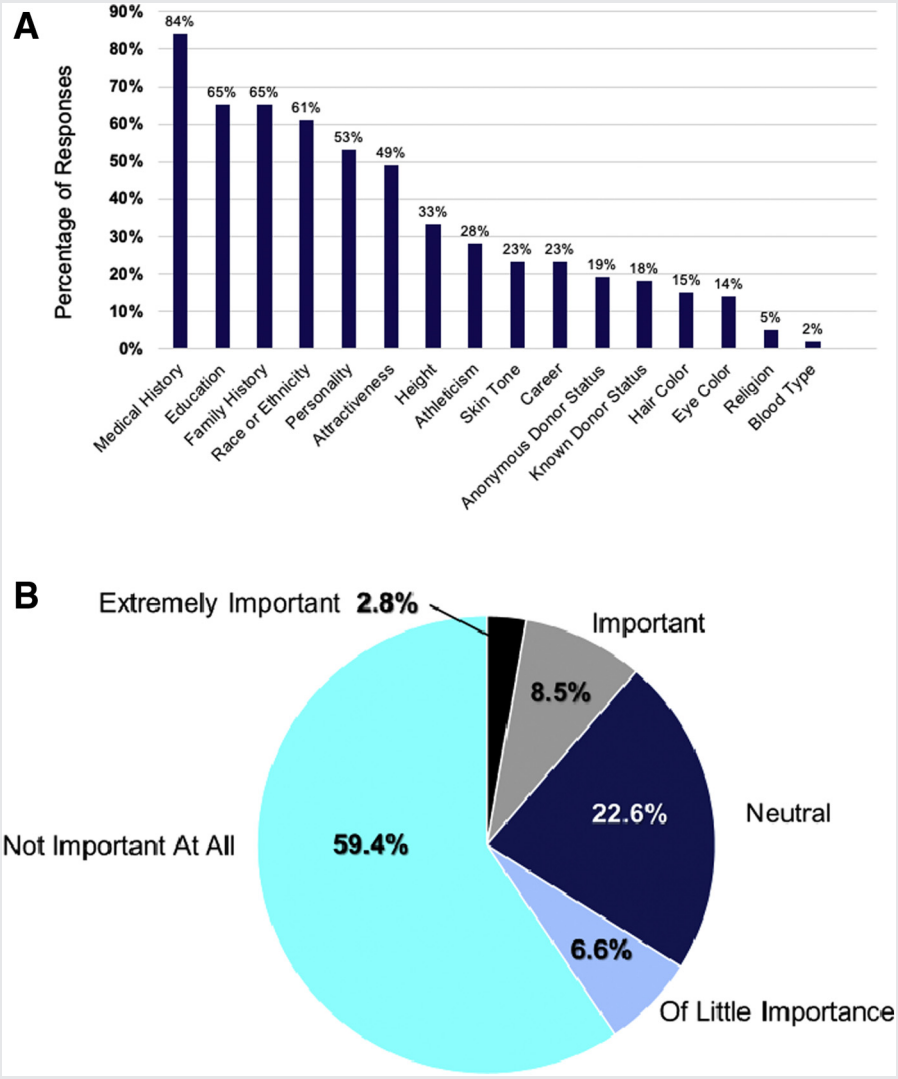
years). When asked about insurance coverage for fertility services, 47 (47.0%) of 100 respondents reported that their health insurance would not cover fertility consultations, diagnostic evaluations, or office visits with a fertility specialist. Similarly, 55 (55.0%) of 100 respondents stated that insurance would not cover any portion of costs associated with in vitro fertilization treatment or third-party reproduction (GC and/or OD costs).

FIGURE 2



(A) The subjective relative importance of various factors associated with oocyte donor selection. (B) The perceived importance of using a known oocyte donor.

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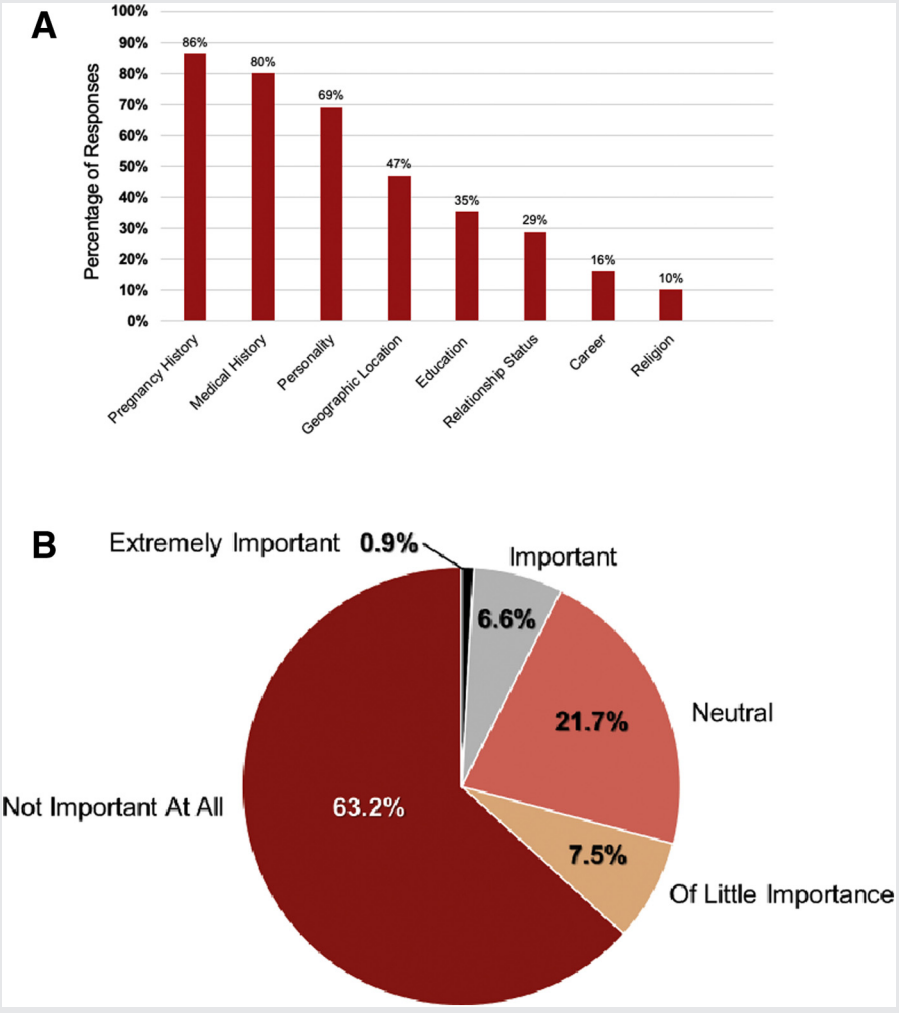
DISCUSSION

In the current study, most respondents favored the use of an OD and GC as the ideal modality to achieve fatherhood over adoption and foster parenting. This finding is reflective of a general trend toward the increased use of assisted reproductive technology. While the exact reasons for this trend are not well defined, the increased acceptability of gay marriage, improved access to care, high treatment success rates, growing number of providers caring for GBM, and increased media representation may all play a role. In the United States, the percentage of women aged 15–44 years who had ever used assisted reproductive technology or infertility services rose from 9% in 1982 to approximately 12% between 2006 and 2010 (19). While it is assumed that the trends observed in women translate to the male population as well, there are little data available regarding the specific rates of the use of assisted reproductive technology among GBM. However, it is likely that increased accessibility and familiarity with modern fertility treatments have resulted in higher rates of GBM pursuing third-party reproduction than in the past (6, 11). Furthermore, reassuring behavioral data gathered from children raised by GBM and the similarities in the overall rates of family well-being irrespective of the sexual orientation of parents likely contribute to the growing trend toward GBM parenting via third-party reproduction (6, 20, 21).

While the use of third-party reproduction has resulted in another option for GBM as they pursue fatherhood, it has also increased the level of complexity that accompanies the decision-making process. Through the use of an OD and GC, GBM have the ability to share a genetic link with their children and create biologic siblings. However, when the high

FIGURE 3



(A) The subjective relative importance of various factors associated with selecting a gestational carrier. (B) The perceived importance of using a known gestational carrier.

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cost of third-party reproduction is coupled with a desire for more than one child, requests for double embryo transfers and the acceptability of twin gestations become more common. This dilemma is reflected in the current study by the large proportion (40.5%) of respondents who preferred a twin gestation over a singleton pregnancy. The risks of a multiple gestation are well documented. A recent study by Swanson et al. (22) highlights these risks, reporting that multifetal gestation among GCs was associated with increased odds of both neonatal morbidity and preterm birth. Similarly, the highest rates of prematurity, low-birth-weight infants, and Cesarean section are reported after double embryo transfers, whereas these negative consequences can be dramatically reduced through a single embryo transfer (23). The performance of a double embryo transfer with the intent of achieving a twin pregnancy yields a greater frequency of adverse perinatal outcomes, substantially increases overall health care spending, and has led to an unfortunate phenomenon where the infants of gay and bisexual fathers are commonly admitted to the neonatal intensive care unit after birth (23, 24).

To decrease the rates of double embryo transfer within the GBM population, issues of access to care and cost must be addressed. As this study shows, several GBM patients are financially planning and saving for years to afford fertility treatments. Additionally, the high level of education reported by respondents likely reflects the fact that only those individuals and couples who have reached a certain level of financial security can realistically pursue third-party reproduction. Therefore, it is understandable that these men desire a "two-for-one" approach in the form of a double embryo transfer and a twin pregnancy to achieve their desired family size. Nevertheless, the risks in this situation likely outweigh the benefits, and it is incumbent on fertility practices to counsel patients appropriately regarding the adverse outcomes associated with a multifetal gestation. Universal single embryo

transfer protocols have been shown to decrease multiple birth rates with no significant decreases in clinical live birth rates and should be strongly encouraged when GBM present for in vitro fertilization treatment (25). However, it must be recognized that single embryo transfer protocols are likely to be perceived negatively by some GBM who are specifically seeking twin pregnancies or those who are unfamiliar with the risks of a multifetal gestation.

One of the challenges that GBM continue to face as they pursue fatherhood is the legal status of obtaining a GC in several states. In the current study, over 25% of respondents who resided in the United States reported that obtaining a GC was illegal in their home state. At the time of survey completion, four states did not recognize gestational surrogacy (New York, Nebraska, Michigan, and Louisiana), and surrogacy/GC contracts were considered illegal in those locations (26). The state of New York recently lifted the ban on gestational surrogacy, allowing several LGBTQ+ couples or individuals to proceed with family building using a GC (27). However, the high cost of fertility services, lack of insurance coverage, and other legal hurdles continue to impact several GBM who desire children.

While this study serves as the largest series of GBM to be evaluated with regard to family building goals, the survey population may not necessarily be representative of the LGBTQ+ community. By surveying only those individuals specifically seeking care at fertility centers, this study likely fails to capture the perceptions and priorities of GBM who do not view fertility treatment as a realistic or financially viable option. Additionally, there are innate limitations to survey research in general. The fact that respondents were self-selected and that several components of the survey were omitted by individual respondents generates potential gaps within the data. To this point, the population of respondents was largely comprised of GBM who identified as White, and respondents were overall highly educated and living primarily in the Northeast and West. Therefore, the responses may not reflect the perceptions and experiences of GBM who identify as another race or those who are less educated or live in areas with poorer access to care. Those individuals may face other challenges to care that are not adequately represented in the population of GBM surveyed. Furthermore, respondents were in different stages of the family planning process. It is certainly a challenge to generate a single survey that is applicable to all GBM who are interested in family building. Half of the respondents reported they had previously sought out fertility services, indicating that they had prior experiences with reproductive health care providers and may have greater knowledge of the process for pursuing third-party reproduction and may have encountered barriers to treatment. The perspectives of those men just beginning the process are undoubtedly very different from the opinions of individuals who have more experience with the process. This variation in the level of experience may have affected the findings of the current study. Finally, although the overwhelming majority of respondents indicated that they were in a relationship, a small subset of respondents (6.4%) reported that they were single. Single GBM may have differing priorities and family building goals compared with coupled GBM, but our survey did not capture a large enough number of men in this group to appropriately draw conclusions about their preferences. Future study on the perceptions of single GBM specifically would be beneficial.

Going forward, it is significant to continue to compile data regarding the fertility goals and pregnancy outcomes of GBM. While this study documents a small cross-section of the gay and bisexual community, the exact number of GBM or same-sex male couples pursuing adoption, foster parenting, and third-party reproduction annually within the United States remains unknown. Furthermore, the overall use of third-party reproduction among GBM compared with that among heterosexual couples is unclear on a national scale. As health insurance coverage for infertility services improves for several heterosexual couples, it is uncertain whether this expanded coverage will also extend to GBM and third-party services. As more information becomes available, issues related to access to care should be clarified to provide more comprehensive, individualized care for patients.

CONCLUSION

To our knowledge, this study is the largest series of GBM pursuing parenthood to date. The standardized survey tool in this study specifically assesses the needs of GBM, which can facilitate an individualized approach to treatment and measure access and barriers to care. Going forward, efforts should be made to counsel GBM regarding the benefits of single embryo transfers for both GCs and neonates. Additionally, while access to fertility services has improved and stigma has decreased over the last several years, improvements can still be made to ensure that cost and legal obstacles do not become excessively prohibitive.

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