AOGS
Acta Obstetricia et Gynecologica Scandinavica

AOGS ORIGINAL RESEARCH ARTICLE

Low semen quality and experiences of masculinity and family building

RANDI SYLVEST[1], JEANETTE K. FÜRBRINGER[1], ANJA PINBORG[1], EMILY KOERT[2], JEANETTE BOGSTAD[1], KRISTINE LOESSL[1], LISBETH PRAETORIUS[1] & LONE SCHMIDT[3]

[1]*Department of Obstetrics and Gynecology, Fertility Clinic, Hvidovre Hospital, University of Copenhagen, Hvidovre,* [2]*Fertility Clinic, Copenhagen University Hospital Copenhagen, Rigshospitalet, Copenhagen, and* [3]*Department of Public Health, University of Copenhagen, Copenhagen, Denmark*

Key words
Assisted reproductive technology treatment, family formation, infertile men, male factor infertility, masculinity, qualitative study, reproduction, semi-structured interview

Correspondence
Randi Sylvest, Fertility Clinic, Hvidovre, University Hospital of Copenhagen, Kettegård Allé 30, Section 455, 2650 Hvidovre, Denmark.
E-mail: randi.lykke-sylvest@regionh.dk

Conflicts of interest
The authors have stated explicitly that there are no conflicts of interest in connection with this article.

R.S. and J.K.F made equal contributions to authorship.

Please cite this article as: Sylvest R, Fürbringer JK, Pinborg A, Koert E, Bogstad J, Loessl K, et al. Low semen quality and experiences of masculinity and family building. Acta Obstet Gynecol Scand 2018; 97:727–733.

Received: 13 July 2017
Accepted: 10 January 2018

DOI: 10.1111/aogs.13298

Abstract

Introduction. Infertility is a concern for men and women. There is limited knowledge on how male factor infertility affects the couple in fertility treatment. The aim of this study was to explore how severe male factor infertility affects men's sense of masculinity, the couple's relationship and intentions about family formation. *Material and methods.* Semi-structured qualitative interview study at the Fertility Clinic at Copenhagen University Hospital, Hvidovre, Denmark. Ten men with very poor semen quality initiating fertility treatment were interviewed between November 2014 and May 2015. Data were analyzed using qualitative content analysis. *Results.* Three themes were identified: "Threatened masculinity", "Being the strong one: impact on the couple" and "Consideration of family building options: a chapter not willing to start". The men felt that they could not fulfill their role as a man. Some couples had conflicts and discussions because the women in general wanted to talk more about infertility than the men. The men focused on having a biological child. They wanted to focus on achieving biological parenthood and postpone consideration of other family building options such as adoption or the use of semen donation in order to become a parent. *Conclusions.* The consequence of severe male factor infertility was a threatened sense of masculinity. Fertility specialists and nurses should recognize the impact of male infertility and create space to give their patients an opportunity to verbalize their concerns and questions related to male factor infertility and the different challenges that the couple faces during the fertility treatment.

Abbreviations: ICSI, intracytoplasmic sperm injection.

Introduction

Infertility is a concern for both men and women. In all, 56% of infertile couples in developed countries seek medically assisted reproductive technology treatment to conceive (1) and male factor infertility is the main or contributing cause in around 40% of all cases (2). Male factor infertility is a widespread international problem. In Denmark, approximately one in ten children are born

Key message

Men with very low semen quality felt that their sense of masculinity was threatened by infertility, and they wished to be actively included in the couple's fertility care. Awareness among fertility staff may well improve the handling and care of the infertile man and couple.

after fertility treatment, including 5% after assisted reproductive technology treatment.

Fertility treatment is associated with asymmetry in relation to gender. Women bear the burden of treatment given that they have to undergo the majority of the medical investigations and procedures. The role of the man is often reduced to providing a semen sample when required. This is generally the case, even when male factor infertility has been identified as the major cause of a couple's fertility problems (3). Even though men have gained more opportunities to be involved with their children's delivery and upbringing, pregnancy, delivery and breastfeeding are still feminine issues and the majority of the childrearing is often considered the woman's responsibility (4).

Infertility is recognized as a serious life crisis. There is evidence that the psychological effects of infertility are similar to those of cancer, heart disease and HIV/AIDS (5,6). Along with divorce and death of a loved one, adjustment to infertility is described as one of the most stressful experiences a person can undergo (7,8). Existing literature in the infertility field has disproportionately focused on women's experiences. However, there is increasing recognition that infertility can have a negative impact on men, and those with male factor infertility may be even more vulnerable to negative consequences (4).

In men who perceive fatherhood as an important part of their masculinity, male factor infertility can have significant negative effects on their sense of masculinity. According to Connell's theory of masculinity (9), this is due to the existence of different forms of masculine identities with some more valued than others. "Hegemonic masculinities" are the ideal masculinities reflecting what is culturally valued (for example, virility, heterosexuality, strength) and "subordinate masculinities" are opposite to those ideals (for example, sterility). Men who are unable to embody these ideal attributes may experience suffering and discomfort (10). Research on men and infertility supports these claims. For example, Dooley et al. found that men may experience an assault on their male psyche if they are unable to impregnate their partner (11). A review study showed that male factor infertility is a severe stressor among men in fertility treatment (12).

The aim of this study was to explore how severe male factor infertility affects men's sense of masculinity, the couple's relationship, and intentions about family formation.

Material and methods

This qualitative semi-structured interview study was conducted at a public fertility clinic at Copenhagen University Hospital, Hvidovre, Denmark. All fertility treatment costs related to first pregnancy, up to a maximum of three oocyte retrievals with fresh and/or frozen–thawed embryo transfers are covered by the National Health Care Service System in Denmark, except expenses for medication. Psychosocial support and services by mental health workers including psychologists are not provided at Danish public fertility clinics.

Inclusion criteria included: a) diagnosis of severe male factor infertility (defined as ≤ 1 million total motile sperm count after processing), b) planning for intracytoplasmic sperm injection (ICSI)-treatment, and c) having no children with their current partner. There were no restrictions based on educational or training level.

All participants were consecutively invited from the waiting list. A total of 15 men were initially contacted by letter and telephone to aim for Sandelowski's suggested sample size of 10 participants (13). We assumed that some men may opt not to participate. Ten men agreed and were interviewed. Data collection was stopped and no additional recruitment was pursued after these interviews were held because data saturation had been reached. Half of the participants ($n = 5$) participated in the follow-up interview. Those who declined participation in the follow-up interview indicated that they did not want to participate for the following reasons: fertility treatment was too stressful, illness, or a desire to postpone the interview until after their partner became pregnant.

The interviews were performed individually given the sensitive nature of the interview.

We developed semi-structured interview guides with open-ended questions for the first and follow-up interviews. The first interview had the intention of addressing family formation intentions, expectations of fertility treatment, and thoughts regarding severe low sperm quality. The follow-up interview focused on family formation intentions, thoughts regarding severe low sperm quality and sense of masculinity, desire for information and how the clinical staff could improve their way of addressing and taking care of infertile men's needs. Findings related to expectations of fertility treatment and desires and suggestions for information and support during fertility treatment have previously been published (14). The interview guides were constructed on the basis of previous studies about infertile couples and infertile men (2,3,15–18).

The interviews were held at the Fertility Clinic, Hvidovre Hospital or in the participant's own home depending on men's preferences. The interviews lasted about 47 min (range 23–80 min). The transcripts were audiotaped and anonymized when transcribed.

Transcripts were analyzed according to qualitative content analysis (19). Interview transcripts were read

Table 1. Example of analysis; condensed quotation, code and theme.

Condensed quotation	Code	Theme
"*No, it doesn't do any good to sit and cry and think that life is shit, because you got to get back on the horse and move on. But of course it's a shame that it's a bit more difficult to have children.*"	Struggling	Threatened sense of masculinity
"*In this process, we've had to talk a lot about all kinds of feelings and attitudes about all kinds of things; and what if we can't have children.*"	Effects on the relationship	Being the strong one: impact on the couple
"*But I actually think I will rather adopt than something with donor semen, because with donor semen I would imagine some guy standing somewhere.*"	Donor semen	Consideration of family building options: a chapter not willing to start

carefully to develop a sense of the content. Constellations of words, sentences or paragraphs related to the aim of the study were identified and divided into meaning units and meaning units were condensed and labeled with a code. The codes were sorted into themes based on similar meaning, and attention was given to similarities and differences. Examples of condensed meaning units, codes and themes are given in Table 1. Selected quotations are presented in the text to represent the range of views for each theme.

Ethical approval

The study followed the principles of the Declaration of Helsinki II for Medical Research. Written informed consent was obtained from all participants. Interviews were anonymized and sensitive data were kept in a separate document. The Danish Data Protection Agency approved the study (H-4-2014-FSP). According to Danish legislation, interview studies do not require permission from the Scientific Ethics Committee.

Results

Sociodemographic characteristics and reproductive history of the men are shown in Table 2. The majority of the men reported that their fertility problems were due to male factor infertility ($n = 7$) as opposed to mixed male and female factor ($n = 3$). Almost all of the men ($n = 9$) reported that their first cycle of ICSI treatment did not result in a pregnancy. More men had short-term education (1–3 years of theoretical content; $n = 6$) than long-term education (4 or more years of theoretical training; $n = 4$).

Table 2. Sociodemographic characteristics and reproductive history.

Number	Age (years)	TIme with partner (years)	Time trying to conceive (years)
1	38	5	2
2	38	6	2
3	34	4	2
4	40	2	2
5	33	6	1
6	32	5	2
7	36	2	2
8	40	2	–
9	33	3	2
10	40	4	2

We identified the following themes: "Threatened sense of masculinity", "Being the strong one: impact on the couple" and "Consideration of family building options: a chapter not willing to start".

Threatened sense of masculinity

To reproduce was considered an essential part of life and the men expressed that they felt like a failure because of their low semen quality. It bothered them a lot because they were passionate about having a baby.

> "*Now I'm just throwing in the towel and saying; in the tradition of Darwin, I'm not the most fit.*" (Participant 10)

The participants felt less masculine because they were unable to achieve two common expectations of men: they were unable to impregnate their partner and unable to become a father. These dual failures made them feel worthless as men and threatened their sense of masculinity.

> " *... I think it affects your self-image as a man a little bit ... One of the things you're supposed to be able to do as a man – you're supposed to be able to f–k a girl and get her pregnant, so it's nothing I am proud of.*" (Participant 2)

As an example, one of the men shared how good it had felt to tell his family and friends that they had conceived naturally.

The participants found it extremely difficult to discover that their semen quality was very low. They viewed their low sperm count as a task that needed to be solved to achieve parenthood. The men focused on their goal of fulfilling their wish of their own family instead of the negative impact of infertility.

> "*No, it doesn't do any good to sit and cry and think that life is shit, because you got to get back on the horse and move on. But of course it's a shame that it's a bit more difficult to have children.*" (Participant 1)

That said, the men shared that despite trying to focus on other things, they spent a lot of time thinking about their fertility problems.

> "*. . .nothing I use much energy on. It comes up several times in the course of a day, but it's not something I go around thinking about. . .*" (Participant 8)

The men felt it was unfair that the time was right and they had the right partner but their low semen quality obstructed their plans: "*. . .then my life plan is destroyed*". The men felt their fertility problems were a private matter. Although most had disclosed to someone they could trust, like their closest relatives and best friends, the men did not disclose how bad it actually was or that they were the cause of the fertility problems. It was a topic that was very difficult for the men to talk about.

> "*. . .Not everybody wants to sit around and talk about sperm and human tragedy. And the lack of starting a family. . .*" (Participant 10)

A few of the participants regretted disclosing to their friends and family when they had to share that their ICSI treatment had been unsuccessful.

Being the strong one: impact on the couple

The men described a desire to protect and support their partner throughout fertility treatment. This included a desire to take the blame for the fertility problem so as to relieve some of the psychosocial pressure on their partners.

> "*. . .actually happy about it, because I know it would make my wife really sad if she knew it was her. I would rather protect her. I would rather have it on me to think about than it is on her.*" (Participant 2)

This allowed them to feel like the "strong one" in the relationship, and to re-build their sense of masculinity by taking care of their partner.

One of the men expressed that he felt stronger than his partner, because it was harder for the woman compared with the man to go through fertility treatment. However, another man expressed that his partner was the strong one in the couple, and he was the weak one.

Before the first ICSI treatment the men felt guilty because they were the reason for the couples' infertility; however, this pattern changed after the first ICSI treatment. The men shared how the sense of blame shifted to their partners, with their partners experiencing guilt over not being able to conceive or losing a pregnancy. The men did not want their partner to feel guilty. The men felt uncertain about the cause of the failed treatment cycle. They felt it was not good for their partner to think too much about the failed treatment cycle. They felt unsure regarding the impact of stress on pregnancy chances.

> "*. . .Maybe it was her fault, maybe it was because she worked too much and stressed too much, that's probably where it gets to be taboo for what we can talk about and what we can't talk about.*" (Participant 2)

One of the men said that it was more important for him that his wife was okay than they had a child.

> "*I would also just like to be able to be there for K [partner].*" (Participant 6)

The men shared that their partners generally wanted to talk about fertility treatment and their attempts to conceive more than them and this could lead to conflicts and discussions within the couple. One of the men said about his partner "*she takes more and more*", and as a consequence he became angry.

> "*But I really don't feel like hearing about it all the time. It stresses me out and annoys me and I feel sorry for her, and then maybe she starts crying and then I feel sorry for her because I get mad and the claws come out.*" (Participant 3)

Most of the men did recognize the importance of some discussion about their fertility problems. One of the men thought that it had affected their relationship in a positive way, because they had been forced to talk more about their emotions and their future in this process.

Consideration of family building options: a chapter not willing to start

To be in fertility treatment was a "*huge thing*" and "*hard process*". It came as a surprise for the men that it felt as a "*sorrow*" when the treatment did not succeed. The men and their partners "*worked themselves through it*". They had to "*deal with it as it comes*". One man was concerned:

> "*. . .It'll work. It will. If it doesn't work right here and right now, it will work somewhere else. It'll work. It'll work. It HAS to.*" (Participant 7)

If fertility treatment would not succeed then it would be a new situation, which they only wanted to deal with if it became a reality. They imagined that it would be worse and harder if they experienced another non-successful

fertility treatment. If they did not succeed then it would be "*another agenda*". Then they had to "*change direction*" and "*swallow it*" as one man expressed, as he thought that he would be able to have a good life also without children. But at the same time he said that it would "*break him*" if he could not have his own biological children. The men expressed that their future children should come from "*my blood*", and they wanted one who "*looked like me*".

Adoption and use of semen donation were other options to become fathers and create a family. The men in the study did not want to be open about adoption or use of a sperm donation. One thought it would produce some "*complications and challenges*" to adopt. Of those open to other family building options, most were more positive toward adoption compared with use of semen donation. They expressed that in an adoption they would be more equal in relation to the child as none of the parents would be genetically related to the child. However, another man was more open to sperm donation because it would allow their partner to have a biological child.

> "*I won't accept it the day I find out, because then I'll be totally shut down and then I'll be sad and mad at myself. . .at some point you get used to it.*" (Participant 4)

One told that he in principle would accept using donor sperm, and he assessed their chances of pregnancy would be greater, but he still preferred being a biological father. Several of the men rejected the use of donor sperm, and one said that it would affect his sense of "*masculinity*". They had a difficult time reconciling that another man would be involved in the conception of their child and the donor would always be "*standing somewhere*". All of the men preferred not to think about other family building options at this stage in treatment. Pursuing adoption or use of sperm donation was seen as a different chapter in their lives, a chapter they did not want to start yet.

Discussion

The present study identified that the men felt less like a man; they felt like a failure because they were not able to fulfill one of a man's most important life goals. Not being able to impregnate a woman can be perceived as a threat to the masculine identity, closely related to stigmatization (20). Fertility and sense of masculinity seem to be closely related and to play an important role in male identity. It is not only women whose biological capacities are related to their worth and sense of femininity, but this study suggests that men's fertility links to their sense of masculinity as well. Dolan et al. found something similar in their study, and they found that men may not express or act on their desires in the same way as women (21). Male factor infertility is considered to be a taboo. Impotence and male factor infertility are often conflated because male factor infertility is culturally associated with impotence, loss of virility and an indication of abnormal sexual function in males (3,22). Dolan et al. found that men with severely low semen quality are forced to re-construct embodied notions of themselves as men (21). Consistent with our findings, Mikkelsen et al. found that around 28.8% of 210 Danish men in fertility treatment perceived that the reduced sperm quality affected their sense of masculinity and adversely affected their sense of well-being (17). However, Peronace et al. found in their longitudinal cohort study based on questionnaires that men with male factor infertility did not suffer more than men with infertility due to other causes (23). These diverging results may be due to men responding differently regarding their emotional well-being in questionnaires compared with qualitative interviews (2).

The men felt more comfortable sharing more generally that they were undergoing fertility treatment as a couple rather than disclosing that they were the cause of the fertility problem. Tjørnhøj-Thomsen found that sexuality and reproductive performance were linked in emotional handling of infertility, whereas separation between sexuality and fertility treatment was culturally accepted (3).

The men in this study did not want to tell everyone about their situation. Despite trying to avoid thinking about their fertility problems, it was frequently on their minds. Babore et al. found that a lack of openness with others seemed to be a predictor of depression (24). The men in this study tried to focus on the positive as a strategy to maintain the identity they had before the "disease" (16). They focused on maintaining their sense of masculinity by being the protective and strong one in their relationship, Connell's theory of masculinity suggests that this may have been a way to reduce feelings of distress related to a sense of "subordinate masculinity" due to their infertility (9,10). Dolan et al. show that men's sense of masculinity is not static. The men redefine masculine values to face infertility as a couple. Manliness is demonstrated through attentiveness, selflessness and unity with their partners (21). Men have been shown to build their sense of masculinity through acts of bravery (25), which was also shown in our study. The men sacrificed their own feelings to focus on the needs of their partner (26). Although our findings suggest that men were willing and received some benefit for being the "*strong one*" and supporting their partner, other studies have shown that men often feel less entitled to their own stress reactions and feel pressured to play a constantly supportive role for their partner (27,28).

In this study some of the men had conflicts in their relationship because of different needs during fertility

treatment. Previous research found that 25% of men reported that male factor infertility had an impact on their relationship with their partner (15). Some men in our study shared that the fertility treatment also became an opportunity to talk with their partner. Schmidt previously found that male participants believed that the fertility treatment process brought them closer to their partner in some aspects (18). Peterson et al. found that 27.3% of men being in unsuccessful fertility treatment reported high amounts of marital benefit 5 years after treatment initiation (29).

The men did not want their partners to feel guilty about a failed fertility treatment cycle. At the same time they were uncertain about the reason for their infertility and wondered if it could be due to their partner worrying too much, wanting the pregnancy too much or because she was stressed. Bell advocated that for some men, their infertility became so disconnected to the fertility treatment that they blamed women's stress for their condition (25).

The men wanted to focus on becoming a biological parent before they were ready to consider other family building options. Similarly, Mikkelsen et al. found that more than half of the participants in their study who were childless would only accept biological offspring, and one-third of the men considered biological fatherhood to be crucial (17). In the present study we found diverging attitudes towards adoption and use of donor sperm, with adoption more acceptable than sperm donation at this early stage of fertility treatment. Johansson et al. found that the difficulty and uncertainty entailed in the choice to start a family by sperm donation or adoption occupied a major part of the men's thoughts (26). Schmidt showed that some participants wanted to discuss alternatives to fertility treatment, for example, adoption or permanent childlessness, with the doctors (18).

Our findings indicate that the fertility staff should be sensitive when addressing these topics given that men may experience different degrees of openness to these options. Fertility staff offer the men an opportunity to talk and pose questions to determine their degree of readiness for other family building options.

To ensure trustworthiness of the findings, Lincoln and Guba's (30) concepts of credibility, transferability, dependability and confirmability were applied to the analysis along with the COREQ (31) standards for qualitative health research. Credibility was established through rich descriptions of the themes using participants' words, recruitment until data saturation was met (first interview), prolonged immersion in the data and discussion of the analysis in several stages among the study authors. Details about the research context, the participants and the analytic process were provided so that transferability of the findings could be determined. Although the findings reflect a small group of men's experiences of severe male factor infertility, men with low semen quality may well experience a similar threat to their sense of masculinity. Dependability was obtained through tracking the analytic process and documentation in an audit trail. Confirmability was addressed by including all of the study authors in the analytic process to reduce bias and subjectivity. Although data saturation was not met in the follow-up interview because only half the men agreed to participate, we believe that this emphasizes the emotional nature of the topic of severe male factor infertility, which may have impacted their willingness to participate.

Conclusion

The consequence of severe male factor infertility was a threatened sense of masculinity. Men would prefer to have their own biological children. They avoided thinking about other family building options because they saw this as a chapter they were not ready to consider at an early treatment stage. Fertility specialists and nurses should create a space and give their patients an opportunity to verbalize their concerns and questions related to male factor infertility and the different challenges the couple will face during fertility treatment.

Funding

The Research Foundation at Hvidovre Hospital funded this study. RS received a PhD grant from Rosa Ebba Foundation and The Danish Health Insurance Fund (J.nr. 15-B-0095). EK was funded by an ESHRE Travel/Training Fellowship in Collaboration with ReproUnion.

References

1. Boivin J, Bunting L, Collins JA, Nygren KG. International estimates of infertility prevalence and treatment-seeking: potential need and demand for infertility medical care. Hum Reprod. 2007;22:1506–12.
2. Schmidt L. Psykosociale konsekvenser af infertilitet og behandling [Psychosocial consequences of infertility and treatment]. (PhD Dissertation). Copenhagen, Denmark: FADL's Publisher's, 1996 [in Danish].
3. Tjørnhøj-Thomsen T. Tilblivelseshistorier. Barnløshed, slægtskab og forplantningsteknologi i Danmark. [Genesis. Childlessness, kinship and reproductive technology in Denmark]. (PhD Dissertation). Copenhagen, Denmark: University of Copenhagen, 1999 [in Danish].
4. Martins MV, Basto-Pereira M, Pedro J, Peterson B, Almeida V, Schmidt L, et al. Male psychological adaptation to unsuccessful medically assisted reproduction

treatments: a systematic review. Hum Reprod Update. 2016;22:466–78.
5. Domar AD, Zuttermeister PC, Friedman R. The psychological impact of infertility: a comparison with patients with other medical conditions. J Psychosom Obstet Gynaecol. 1993;14:45–52.
6. Ranga G, Saleh A, Nelson DR, Agarwal A. Sexual dysfunction in men undergoing infertility evaluation. Fertil Steril. 2003;79:909–12.
7. Baram D, Tourtelot E, Muechler E, Huang KE. Psychosocial adjustment to infertility and its treatment: male and female responses at different stages of IVF/ET treatment. J Psychosom Obstet Gynaecol. 1998;9:181–90.
8. Holter H, Anderheim L, Bergh C, Moller A. The psychological influence of gender infertility diagnoses among men about to start IVF or ICSI treatment using their own sperm. Hum Reprod. 2007;22:2559–65.
9. Connell RW. Masculinities. Berkeley, California: University of California Press, 1995.
10. Dudgeon MR, Inhorn MC. Gender, masculinity, and reproduction: anthropological perspectives. Int J Men's Health. 2003;2:31–51.
11. Dooley M, Dineen T, Sarma K, Nolan A. The psychological impact of infertility and fertility treatment on the male partner. Hum Fertil. 2014;17:203–9.
12. Fisher JR, Hammarberg K. Psychological and social aspects of infertility in men: an overview of the evidence and implications for psychologically informed clinical care and future research. Asian J Androl. 2012;14:121–9.
13. Sandelowski M. Sample size in qualitative research. Res Nursing Health. 1995;18:179–83.
14. Sylvest R, Fürbringer JK, Schmidt L, Pinborg A. Infertile men's needs and assessment of fertility care. Ups J Med Sci. 2016;121:276–82.
15. Hammarberg K, Baker HW, Fisher JR. Men's experiences of infertility and infertility treatment 5 years after diagnosis of male factor infertility: a retrospective cohort study. Hum Reprod. 2010;25:2815–20.
16. Madsen SA. Men as patients: understanding and communicating with men. Trends Urol Men's Health. 2015;6:22–6.
17. Mikkelsen AT, Madsen SA, Humaidan P. Psychological aspects of male fertility treatment. J Adv Nurs. 2012;69:1977–86.
18. Schmidt L. Infertile couples' assessment of infertility treatment. Acta Obstet Gynecol Scand. 1998;77:649–53.
19. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 2004;24:105–12.
20. Moore LJ. Killer sperm: masculinity and the essence of male hierarchies. In: Inhorn MC, Tjornhoj-Thomsen T, Goldberg H, la Cour Mosegaard M (eds). Reconceiving the second sex: men, masculinity, and reproduction. New York: Berghan Books, 2009.
21. Dolan A, Lomas T, Ghobara T, Hartshorne G. "It's like taking a bit of masculinity away from you": towards a theoretical understanding of men's experience of infertility. Sociol Health Illn. 2017;39:878–92.
22. Throsby K, Gill R. It′s different for men. Men Mascul. 2004;6:330–48.
23. Peronace LA, Boivin J, Schmidt L. Patterns of suffering and social interactions in infertile men: 12 months after unsuccessful treatment. J Psychosomat Obstet Gynecol. 2007;28:105–14.
24. Babore A, Stuppia L, Trumello C, Candelori C, Antonucci I. Male factor infertility and lack of openness about infertility as risk factors for depressive symptoms in males undergoing assisted reproductive technology treatment in Italy. Fertil Steril. 2017;107:1041–7.
25. Bell AV. Overcoming (and maintaining) reproductive difference: similarities in the gendered experience of infertility. Qualitat Sociol. 2015;38:439–58.
26. Johansson M, Hellström A-L, Berg M. Severe male infertility after failed ICSI treatment – a phenomenological study of men's experiences. Reprod Health. 2011;8:4.
27. Carmeli YS, Birenbaum-Carmeli D. The predicament of masculinity: towards understanding the male's experience of infertility treatments. Sex Roles. 1994;30:663–77.
28. Cousineau TM, Domar AD. Psychological impact of infertility. Best Pract Res Clin Obstet Gynaecol. 2007;21:293–308.
29. Peterson B, Pirritano M, Block JM, Schmidt L. Marital benefit and coping strategies in men and women undergoing unsuccessful fertility treatments over a 5-year period. Fertil Steril. 2011;95:1759–63.
30. Lincoln YS, Guba EG. Paradigmatic controversies, contradictions, and emerging confluences. In Denzin NK, Lincoln YS (eds). The handbook of qualitative research (2nd edn). Beverly Hills, CA: Sage, 2000, 163–88.
31. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19:349–57.