REVIEW ARTICLE

Reproductive Donors' Needs and Preferences: A Mixed-methods Systematic Review

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ABSTRACT

Background: Reproductive donation is a challenging task, in which donors' needs are sometimes neglected. To provide reproductive donors with well-structured, evidence-based, and donor-centered care, it is essential to acknowledge their unique needs and preferences. This study aimed to synthesize the current evidence regarding donors' needs and preferences.

Methods: This mixed-methods systematic review (MMSR) was conducted based on the recommended approach for MMSR by the Joanna Briggs Institute (JBI) manual for data synthesis. The databases of Web of Science, PubMed, Cochrane Library, and Scopus were searched by two researchers separately, using keywords such as "egg donor", "sperm donor", "ovum donor", "gamete donor", "embryo donor", desire, expectation, preference, and need without a time limit, up to December 2024. Original research articles regarding reproductive donors' needs, written in English, were included in the study. Reviews, commentaries, letters to the editor, book chapters, and theses were excluded. Quality assessment was carried out by two researchers using JBI tools for cross-sectional, cohort, and qualitative studies. Data were synthesized by the convergent integrated approach by three researchers.

Results: Through data synthesis of 34 eligible articles, six categories of reproductive donors' needs and preferences emerged. These categories included 1) Need for support, 2) Informational needs, 3) Need for counseling, 4) Requirement for financial policies, 5) Preference towards recognition of donors' rights, and 6) Need for preserving donors' dignity and respect.

Conclusion: Various reproductive donors' needs and preferences are not completely met by the current care provided by fertility clinics. Healthcare policymakers and fertility clinics must consider the donors' needs and preferences in policymaking and/or clinical practice to provide the services that donors deserve.

Registration: The protocol of this systematic review has been registered in PROSPERO (CRD42024588821).

Keywords: Embryo donation; Infertility; Ovum donors; Semen donors; Systematic review

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INTRODUCTION

Reproductive donation is an assisted reproduction technology (ART) approach where a third party's gametes (egg or sperm) or embryos are used to conceive a child in a person or couple who are not able to conceive.[1] Worldwide, reproductive donation has led to thousands of childbirths, indicating the involvement of thousands of reproductive donors.[2] Although decades have passed since reproductive donation became a treatment option, there are still clinical, socio-cultural, legal, ethical, and religious concerns about this treatment.[3, 4]

Reproductive donors can experience undesired effects of donation on their health, well-being, quality of life, relationships, as well as family and social life.[5-7] Reproductive donors undergo various medical interventions, including screenings, blood tests, physical examinations, and psychological evaluations. These interventions can be time-consuming and challenging, or adversely affect the donors' physical, mental, or even social health.[8] Therefore, it is important to provide them with client-based care.

Client-based or patient-based care focuses on individual patients by organizing the care around them. The goal is to identify and fulfill the patients' needs and preferences.[9] Clients' needs include medical, social, psychological, and informational needs, which are identified to deliver more comprehensive care.[10] Clients' preferences are another important aspect of medical care. Preference refers to the more desirable or acceptable diagnosis, treatment, and/or care options that an individual can choose among alternatives. Clients' preferences are shaped by individual needs, cultural norms, prior experiences, and clinical contexts, necessitating tailored approaches to care. Respecting clients' preferences can improve health outcomes and strengthen patients' autonomy.[11]

Regarding previous reviews on reproductive donors, it is noteworthy that some systematic reviews have investigated the gamete donors' motivations and experiences.[12-14] Based on the findings of a systematic review on egg donors, although most egg donors were satisfied with their donation experience, some complained about time inconvenience and geographical distances. The review concluded that there was a need for tailored psychosocial evaluation and counselling for donors.[12] Similarly, a systematic review of sperm donors reported that the psychosocial needs and experiences of sperm donors, along with their follow-up and counselling, are often neglected.[13] Another systematic review found that egg donors' attitudes towards donation were positive, and they experienced a well-tolerated medical procedure with excellent post-donation satisfaction.[14] Although these studies provide invaluable information about donors' experiences, they do not specify the donors' needs or preferences.

As mentioned, reproductive donation can adversely affect donors' health, well-being, and quality of life.[8] Although there are some guidelines regarding third-party reproduction, including care provided for donors,[15] studies have reported that reproductive donors' needs are not fully met, and the care provided to them needs to be improved.[7, 15, 16] Therefore, it is important to understand the needs of reproductive donors as a crucial step toward creating needs-based care programs for donors, preparing them for the donation process, and dealing with its possible adverse effects.

Mixed-methods systematic reviews (MMSRs) combine quantitative and qualitative data from primary studies to offer a comprehensive understanding of the concept under study. These reviews help to confirm or challenge existing evidence and are useful in healthcare to inform policy and practice. By integrating numerical and textual and interpretive data, MMSRs provide more valuable conclusions than reviews based on only one type of evidence.[17]

Therefore, to answer the crucial question of "What are the needs and preferences of reproductive donors?" in a comprehensive way, a mixed-methods systematic review was preferred. This study was conducted to synthesize the current evidence regarding reproductive donors' needs and preferences.

Materials and Methods

This mixed-methods systematic review of quantitative, qualitative, and mixed-methods studies was conducted based on the "Joanna Briggs Institute (JBI) Manual for Evidence Synthesis recommendation on MMSR".[17, 18] The protocol for this systematic review is registered in PROSPERO (CRD42024588821).

Search Strategy and Study Selection

The electronic databases of Web of Science, PubMed, Cochrane Library, and Scopus were searched without a time limit up to 31/12/2024 by two researchers (EI, SEZ). Search strings were created using the keywords "egg donor", "sperm donor", "ovum donor", "gamete donor", "embryo donor", desire, expectation, preference, and need, using Boolean operators (Table 1).

After removing the duplicate articles, the remaining documents were independently assessed for inclusion criteria by two authors (EI, SEZ). All the original articles, including qualitative, quantitative, and mixed-methods studies that had explored reproductive donors' experiences and/or expectations during various stages of the donation process, had focused on the needs of reproductive donors in their findings, and were written in English,

Table 1: Search strategy for databases

No.	Database	Search strategy	Number of retrieved articles
1	Scopus	((TITLE-ABS-KEY ("gamete donor") OR TITLE-ABS-KEY ("egg donor") OR TITLE-ABS-KEY ("sperm donor") OR TITLE-ABS-KEY ("embryo donor") OR TITLE-ABS-KEY ("ovum donor"))) AND ((TITLE-ABS-KEY (desire) OR TITLE-ABS-KEY (preference) OR TITLE-ABS-KEY (need) OR TITLE-ABS-KEY (expectation)))	546
2	PubMed	("egg donor"[All Fields] OR "sperm donor"[All Fields] OR "ovum donor"[All Fields] OR "gamete donor"[All Fields] OR "embryo donor"[All Fields]) AND ("desirability"[All Fields] OR "desire"[All Fields] OR "desires"[All Fields] OR "desiring"[All Fields] OR "desirous"[All Fields] OR ("expect"[All Fields] OR "expectable"[All Fields] OR "expectance"[All Fields] OR "expectant"[All Fields] OR "expectative"[All Fields] OR "expected"[All Fields] OR "expecting"[All Fields] OR "expects"[All Fields] OR "motivation"[MeSH Terms] OR "motivation"[All Fields] OR "expectancies"[All Fields] OR "expectancy"[All Fields] OR "expectation"[All Fields] OR "expectations"[All Fields]) OR ("prefer"[All Fields] OR "preferable"[All Fields] OR "preferably"[All Fields] OR "preferred"[All Fields] OR "preference"[All Fields] OR "preferences"[All Fields] OR "preferred"[All Fields] OR "preferring"[All Fields] OR "prefers"[All Fields]) OR "need"[All Fields])	138
3	Web of Science	1: (((ALL=(desire)) OR ALL=(needs)) OR ALL=(expectation)) OR ALL=(preference) 2: (((ALL=("gamete donor")) OR ALL=("sperm donor")) OR ALL=("egg donor")) OR ALL=("embryo donor") 3: #1 AND #2	170
4	Cochrane library	(desire):ti, ab, kw OR (expectation):ti, ab, kw OR (needs):ti, ab, kw OR (preference):ti, ab, kw (Word variations have been searched) #2 ("egg donor"):ti, ab, kw OR ("ovum donor"):ti, ab, kw OR ("sperm donor"):ti, ab, kw OR ("embryo donor"):ti, ab, kw OR ("gamete donor"):ti, ab, kw (Word variations have been searched) #3 #1 AND #2	23

were included. Reviews, commentaries, letters to the editor, theses, and book chapters were excluded. Articles regarding the needs of recipients and/or the donor-conceived child (DCC), as well as articles with English abstracts and non-English full text, were also excluded.

The PICo in this MMSR was defined as: P (Population of interest): Reproductive donors including egg, sperm and embryo donors; I (Phenomena of interest): The reproductive donors' needs reflected directly or indirectly (through their expectations, desires and preferences with care they received); Co (Context): To identify reproductive donors' needs to the fullest extent, regardless of donor' gender, type of donation (known/anonymous, commercial/altruistic, egg-share), country of donation, as well as financial, political, and/or religious contexts. Types of studies were considered as qualitative, quantitative, and mixed-methods studies.

Quality Assessment

The quality of the included studies was independently assessed by two researchers (EI, SEZ). Quality assessment tools were chosen following the design of the studies. The JBI tools for critical appraisal of cross-sectional/cohort studies (containing eight and 11 questions, respectively) were used for quantitative studies and quantitative parts of mixed-methods studies. For qualitative studies and qualitative parts of mixed-methods studies, the JBI tool for critical appraisal of qualitative research, which includes 10 questions, was used.[17-19] All these tools consist of methodological questions that can be answered with "yes", "no", "unclear", or "not applicable".[18, 19] Although none of these tools has a scoring system in their manual, various studies have used the percentage of "yes" answers to the questions as a scoring method.[20-22] In this MMSR, the same scoring method was used. Furthermore, the studies were categorized based on their scores as follows: above 75% as high quality, between 50-75% as moderate quality, between 25-49.9% as low quality, and below 25% as very low quality. A low or very low quality score (below 50%) was considered as an exclusion criterion.

Data Extraction

Full texts of the included studies were retrieved and reviewed. The "results" section of the studies was thoroughly examined to extract the donors' needs and preferences. Data were extracted by three authors (EI, MA, and SEZ) based on a self-structured and pre-prepared checklist, which included the name of the first author, year of publication, country, study design, participants, donors' needs and preferences, inability to receive desired care, or receiving unsatisfactory services in quantitative or qualitative forms.

Data Transformation

Codes were assigned to the qualitative data from qualitative studies and the qualitative data of the mixed-methods studies. A narrative interpretation or a description was written for the quantitative data of the observational studies or the quantitative part of mixed-methods studies to convert it into qualitative data (i.e., "qualitizing" data).[17, 18] Codes were then assigned to these interpretations or descriptions. The data transformation process was conducted by three researchers (EI, RLR, and SEZ).

Data Synthesis and Integration

The convergent integrated approach was used for data synthesis and integration in accordance with the JBI methodology for MMSR.[17, 18] This approach involves data transformation, which refers to a process of combining extracted data from quantitative (including data from the quantitative component of mixed-methods studies) and qualitative studies (including data from the qualitative component of mixed-methods studies). In this approach, quantitative data is "qualitized", as codifying quantitative data is less error-prone.[17, 18] The MAXQDA 2020 software was used to manage the data.

To do the convergent integration, at first, the codes assigned to the "qualitized" data and the codes assigned to the data from qualitative studies were merged. Then, the assigned codes were categorized by pooling the codes with similar meanings/concepts into the same category. The data synthesis process was performed by three researchers (EI, RLR, and SEZ).

This study was approved by the Local Research Ethics Committee, Mashhad University of Medical Sciences, Mashhad, Iran (Code of ethics: IR.MUMS.NURSE.REC.1401.027). Patients and/or the public were not directly involved in the designing, conducting, or reporting of this research.

RESULTS

In the initial search, 877 studies were identified. After removing the duplicate studies, the titles and abstracts of 668 articles were reviewed. Of these, 621 articles were excluded, leaving 47 articles to be assessed for eligibility. After reviewing the full texts, 13 studies were excluded (in eight studies, the population was not the reproductive donors, three studies had English abstracts with non-English full texts, one was a review article, and one did not report the phenomena of interest, i.e., reproductive donors' needs) (Figure 1).

Finally, 34 documents were included, of which 10 were quantitative (cohort and cross-sectional design),[8, 23-31] 16 were qualitative,[7, 16, 32-45] and eight were mixed-methods studies[46-53] (Table 2). Overall, 3362 reproductive donors participated in these studies, including 1637 Egg donors, 1702 Sperm donors, and 23 Embryo donors. One study did not report the number of participants.[45]

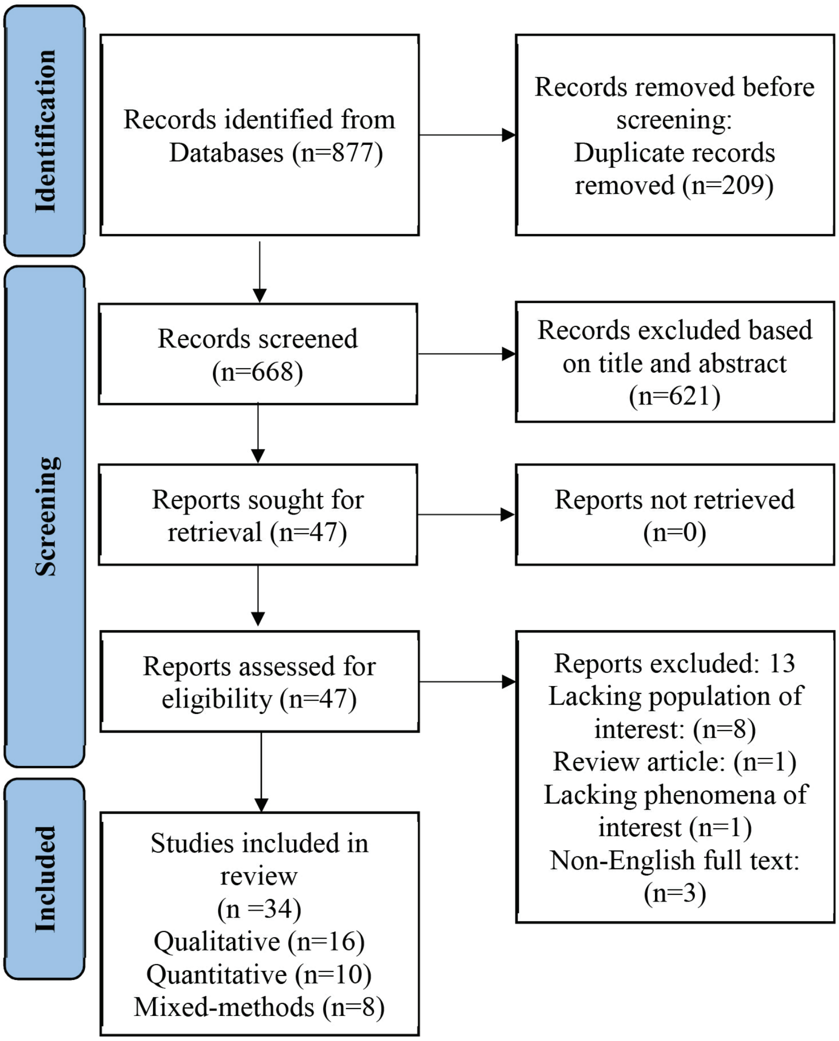

Figure 1: PRISMA version 2020 flowchart of study selection

Table 2: Characteristics of the studies included in the MMSR

Number	Author / Year	Country	Study Design	Sample size	Identified Need	Quality assessment Score
1	Blyth et al. 2017 [46]	United Kingdom	Mixed-methods study	7 Egg donors 65 Sperm donors	Informational needs	55%
2	Byrd et al. 2002 [23]	United Kingdom	Cross-sectional study	113 Egg donors	Informational needs	62%
3	Crawshaw et al. 2007 [38]	United Kingdom	Qualitative study	32 Sperm donors	Requirements for financial policies, Preference towards recognition of donors' rights, Need for professional support	60%
4	Crawshaw et al. 2012 [39]	United Kingdom	Qualitative study	3 Egg donors 3 Sperm donors	Need for professional support	50%
5	Crawshaw et al. 2016 [47]	United Kingdom	Mixed-methods study	5 Egg donors 21 Sperm donors	Need for professional support, Need for psychosocial counseling	55%
6	Gilman 2018 [40]	United Kingdom	Qualitative study	16 Egg donors 8 Sperm donors	Requirements for financial policies	70%
7	Goedeke et al. 2015 [41]	New Zealand	Qualitative study	22 Embryo donors	Preference towards recognition of donors' rights	70%
8	Goedeke et al. 2023 [42]	New Zealand	Qualitative study	21 Egg donors	Preference towards recognition of donors' rights	60%
9	Graham et al. 2016 [43]	United Kingdom	Qualitative study	11 Egg donors	Desire for improvement of socio-cultural beliefs and public stigma, Informational needs, Preference towards recognition of donors' rights	70%
10	Graham 2021 [48]	United Kingdom	Mixed-methods study	168 Sperm donors	Preference towards recognition of donors' rights, Requirements for financial policies, Need for high-quality counseling, Informational needs	66%
11	Gurtin et al. 2012 [49]	United Kingdom	Mixed-methods study	48 Egg donors	Informational needs, Need for professional support	66%
12	Hammarberg et al. 2013 [44]	Australia	Qualitative study	36 Egg donors 6 Sperm donors	Need for professional support, Informational needs, Preference towards recognition of donors' rights Requirements for financial policies	50%

Number	Author / Year	Country	Study Design	Sample size	Identified Need	Quality assessment Score
13	Haylett 2012 [45]	USA[a]	Qualitative study	Egg donors (n: not included)	Informational needs, Desire for improvement of socio-cultural beliefs and public stigma, Preference towards recognition of donors' rights	50%
14	Isaksson et al. 2014 [24]	Sweden	Cohort study	126 Egg donors 84 Sperm donors	Need for high-quality counseling	81%
15	Jadva et al. 2016 [32]	India	Qualitative study	25 Egg donors	Informational needs, Desire for improvement of socio-cultural beliefs and public stigma	60%
16	Kenny et al. 2010 [50]	USA	Mixed-methods study	80 Egg donors	Informational needs, Preference towards recognition of donors' rights, Need for change in financial policies	55%
17	Kirkman et al. 2014 [33]	Australia	Qualitative study	6 Egg donors, 36 Sperm donors	Preference towards recognition of donors' rights	70%
18	Klock et al. 1998 [25]	USA	Cross-sectional study	25 Egg donors	Need for psychoeducational counseling	50%
19	Lalos et al. 2003 [51]	Sweden	Mixed-methods study	30 sperm donors	Requirements for financial policies, Need for family support, Need for preserving donors' dignity and respect	66%
20	Lampic et al. 2014 [26]	Sweden	Cohort study	125 Egg donors 80 Sperm donors	Need for psychoeducational counseling Informational needs	81%
21	Lessor 1998 [34]	USA	Qualitative study	14 Egg donors	Preference towards recognition of donors' rights, Informational needs	70%
22	Lindheim et al. 2011 [27]	USA	Cross-sectional study	325 Egg donors	Preference towards recognition of donors' rights, Informational needs	62%
23	Loyal et al. 2022 [16]	United Kingdom	Qualitative study	29 Egg donors	Need for psychoeducational counseling, Need for preserving donors' dignity and respect, Need for Social and professional support	60%
24	Mutlu 2023 [35]	Turkey	Qualitative ethnography study	14 Egg donors	Requirements for financial policies, Desire for improvement of socio-cultural beliefs and public stigma	80%

Number	Author / Year	Country	Study Design	Sample size	Identified Need	Quality assessment Score
25	Nordqvist et al. 2023 [36]	United Kingdom	Qualitative study	25 Egg donors 1 Embryo donor 26 Sperm donors	Preference towards recognition of donors' rights, Informational needs	80%
26	Ping et al. 2011 [28]	China	Cohort study	516 Sperm donors	Preference towards recognition of donors' rights,	81%
27	Samorinha et al. 2020 [52]	Portugal	Mixed-methods study	45 Egg donors 25 Sperm donors	Requirements for financial policies	66%
28	Samorinha et al. 2023 [7]	Portugal	Qualitative study	12 Egg donors 8 Sperm donors	Need for preserving donors' dignity and respect, Preference towards recognition of donors' rights, Informational needs, Need for peer support	70%
29	Skoog Svanberg et al. 2013 [8]	Sweden	Cohort study	165 Egg donors 89 Sperm donors	Need for family support, Informational needs, Need for psychoeducational counseling	81%
30	Thorn et al. 2008 [29]	Germany	Cross-sectional study	63 Sperm donors	Informational needs, Need for legal counseling, Preference towards recognition of donors' rights, Requirements for financial policies	75%
31	Tober et al. 2021 [53]	USA	Mixed-methods study	356 Egg donors	Informational needs, Preference towards recognition of donors' rights, Need for preserving donors' dignity and respect	66%
32	Van den Akker et al. 2014 [30]	United Kingdom	Cross-sectional study	5 Egg donors 21 Sperm donors	Informational needs, Preference towards recognition of donors' rights,	62%
33	Visser et al. 2016 [37]	Nether-land	Qualitative study	25 Sperm donors	Need for high-quality counseling, Informational needs, Preference towards recognition of donors' rights,	60%
34	Wodo-slawsky et al. 2022 [31]	USA	Cross-sectional study	396 Sperm donors	Preference towards recognition of donors' rights,	62%

[a] USA: United States of America

Among the included studies, 12 were from the United Kingdom,[16, 23, 30, 36, 38-40, 43, 46-49], seven from the United States,[25, 27, 31, 34, 45, 50, 53] four from Sweden;[8, 24, 26, 51] two from each countries of Australia,[33, 44] New Zealand,[41, 42] and Portugal,[7, 52] and one study from each country of China,[28] Germany,[29] India,[32] Netherlands,[37] and Turkey[35] (Table 2). The quality assessment scores of the studies ranged from 50% to 81%; therefore, no studies were excluded based on the quality assessment scores.

Six categories of reproductive donors' needs and preferences were identified, including 1) Need for support, 2) Informational needs, 3) Need for counseling, 4) Requirements for financial policies, 5) Preference towards recognition of donors' rights, and 6) Need for preserving donors' dignity and respect.

Need for Support

The need for support expressed by reproductive donors included the need for family, professional, and social or peer support. Family support is provided by the donor's partner/spouse, and/or other family members. Gamete donors reported the need to receive support from their families.[8] For sperm donors, support from their spouse/partner played an important role in their decision-making process.[51] Egg donors who did not disclose their donation to the family members reported feeling alone, scared, and unsupported during the donation process.[35]

Professional support is provided to donors by the infertility clinics' staff and counsellors. Assistance and support were important for gamete donors who were asked to leave goodwill messages or pen portraits for the recipient or the DCC.[39] Gamete donors also needed support and intermediary services from care providers or counsellors of fertility centers in case of contact between the donor and the DCC.[38, 44, 47] Some gamete donors preferred not to be directly in contact with the DCC but rather to use intermediary services to initiate and ease the process of making contact.[38, 44] According to egg donors, having good communication and receiving adequate support from the clinic staff were crucial for satisfaction with the donation process.[16, 49]

Social support is received from peers and other social groups. Gamete donors reported a need for peer group support, where donors could exchange experiences and feelings without judgment.[7] Some egg donors tried to seek social support outside the clinic, e.g., through online resources; this was mainly due to the lack of professional support.[16] Donors also faced stigma due to public misconceptions about reproductive donation, leading to selective disclosure. They believed that improvements in socio-cultural beliefs might solve these problems.[32, 35, 43, 45]

Informational Needs

Reproductive donors needed to be informed about the donation process, the clinical procedures, all the possible short-term or long-term side effects, their rights and responsibilities, the possibility of contact with the DCC, and potential practical issues or future consequences.[7, 8, 26, 32, 50, 53] Egg donors emphasized their need to receive all this information upfront and throughout the donation process.[7] They also needed to be informed about the lack of data on the long-term consequences of donation.[53] Most reproductive donors desired to know the result of their donation and receive information about recipients and/or the DCC.[7, 23, 27, 29, 30, 32, 36, 37, 40, 43, 50] Some egg donors did not want to be informed about the medical/genetic problems of the DCC in the future.[27] Sperm donors needed to be informed that the DCC may find them through commercial DNA testing.[48] Additionally, egg-share donors wished to be informed at the beginning of their treatment about egg-sharing.[49] Gamete donors were keen to have access to validated information on fertility clinics' websites.[7]

Need for Counseling

Counseling needs of reproductive donors were expressed as the need for psychosocial, psycho-educational, and legal counseling, as well as a need for high-quality counseling.

Some egg donors reported the need for multiple free psychosocial counselling sessions during or after the donation process.[16, 47] Egg donors believed that it would be useful to have one-on-one psychosocial/psycho-educational counseling sessions and also joint sessions with recipients.[16]

Gamete donors reported the need for psycho-educational counseling at the decision-making stage of donation since financial motivations and ambivalence lower post-donation satisfaction.[8, 25] While some gamete donors thought that it was important to have access to psycho-educational counseling,[26] others reported that psycho-educational counseling was not useful or did not add to their previous knowledge of donation.[16] Sperm donors reported the need for legal counseling.[29]

The quality of counseling was also important. Donors considered access to professional counseling services, both general and therapeutic counseling, to be very important.[24, 37, 47, 48] They also emphasized the importance of improving the quality of counseling and tailoring individualized needs-based sessions.[16]

Requirement for Financial Policies

Gamete donors did not share the same beliefs about payment.[40] While some donors believed that there should be a form of payment for donation, preferably reimbursement of costs,[29, 51, 52] others thought that financial rewards might undermine the altruistic act of donation.[23, 40, 52] Conversely, some commercial egg donors regretted donating as they thought the compensation they received was not worth what they experienced during donation.[50] Some egg donors also felt that the fertility clinics took advantage of their situation -being young, inexperienced, and impoverished-by paying them less than they were supposed to.[35]

Preference towards Recognition of Donors' Rights

Some gamete donors felt a responsibility towards the DCC and wished to have power in choosing the recipients. They wanted the recipients to be thoroughly screened. Gamete donors also wanted to know what would happen to the surplus embryos created with their gametes.[38, 41, 43, 45, 46]

Gamete donors had different needs about contact with the DCC; some wished to reveal their identity, some believed that a donor's identity should only be revealed if they wanted to, and others believed that any attempts from the DCC to make contact were a violation of donors' rights.[29, 31, 43, 44, 48] In this regard, some donors assumed their rights and desires were ignored. They thought that in cases of mandatory identity release, only the rights of the DCC were considered.[42, 48] Gamete donors noted that releasing their identity or being linked with the DCC could be a life-changing experience for them.[30] Although some sperm donors completely agreed with the release of information and identity, they thought that donors' biological children should also have the right to know their half-siblings (the DCC).[36]

Gamete donors were concerned about potential changes in laws/legislations that could have a negative/unwanted retrospective effect on them. They wanted to be protected by policies and laws and reassured that future revisions would not affect them.[44, 48] Some sperm donors wished for more flexible policies, as their needs might change over time.[38]

Need for Preserving Donors' Dignity and Respect

Based on donors' experiences, some of them felt judged, used, mistreated, misled, disrespected, and uncared for by healthcare providers.[7, 16, 50, 51, 53] For reproductive donors, it was important to be treated with attentive, available, and careful behaviour. Donors wanted to be treated as a person and to be seen as fertility treatment clients.[7, 8, 34] Donors wished for a more coordinated, less time-consuming, consistent, individualized, and needs-based care during and after donation.[7, 30, 33, 53] They have also emphasized that the recipients should understand what they go through and recognize that the donors are just as important as the recipients.[34]

Discussion

This MMSR attempted to provide a summary of reproductive donors' needs and preferences, which include the need for support, informational needs, need for counseling, requirement for financial policies, preference towards recognition of donors' rights, and need for preserving the donors' dignity and respect.

One of the important demands of reproductive donors in this review was the need for support. According to a systematic review, support groups are vital for donors to feel confident in their decisions and to be fully informed of the donation consequences.[12] These supports should be provided both professionally and by peer groups.[7] Various studies have highlighted the importance of support for donors in cases of intentional/unintentional disclosure of donation to their families or contact with the DCC.[46, 54, 55] In line with our findings, a qualitative study reported that donors who are not provided with adequate support would use alternative means to access support, more often online.[56] It is notable to understand that donors sometimes do not receive enough support since they hide their donation from family/friends due to fear of judgment, which results from negative views of people towards donation in society. These negative views are often linked with the belief that donors are engaged in donation for wrong/immoral reasons, such as financial purposes or being urged to procreate.[57]

Informational needs were another important category of donors' needs. Reproductive donors highlighted the need to be informed about the donation process, clinical procedures, possible short-term or long-term side effects, their legal rights and responsibilities, and possible practical issues or future consequences of donation.[7, 8, 26, 32, 50, 53] Various studies have identified the need for longitudinal studies on donation side effects to improve information provision to donors.[14, 37, 53] Since some donors may feel misled by the fact that fertility clinics do not disclose the limitations of knowledge on future consequences of reproductive donation, depicting it as a simple and harmless procedure,[58] so it is important that informed consent forms be transparent regarding this knowledge limitation, especially for egg donors.[59] There are guidelines that recommend providing detailed information.[15]

Similar to our findings, multiple sources, including three systematic reviews, highlighted the need for and importance of professional counseling in reproductive donors.[12, 13, 15, 55] According to the systematic reviews conducted on the experiences of gamete donors, their need for counseling, especially follow-up counseling, is neglected.[12, 13] Counseling is vital for ensuring donors feel confident in their decisions.[12] Reproductive donors may experience multiple issues, including secrecy, disclosure, emotional adaptation, and interpersonal development, that require professional counseling.[55] There are guidelines that recommend post-donation counseling.[15]

Regarding financial policies, our findings suggest that reproductive donors had different opinions about compensation/payment. The financial aspect of donation is a highly controversial topic.[60] Researchers, care providers, and policy-makers have different opinions on this topic. Some consider payment, especially with no limitation, a necessary means to recruit donors.[61] Others believe that these morally inappropriate forms of payments lead to the commodification of donors, an increase in the treatment cost, and eventually inequality in access to treatment among infertile patients.[58, 61] In line with the findings of this study, payments can lead to the exploitation of socio-economically vulnerable groups since those in poverty may not be able to make an informed decision and find themselves forced to donate their gametes.[62]

Regarding the donors' rights, congruent with our findings, there are guidelines that recommend donors' access to information about the DCC.[15] However, the issue of donors' access to identifying information about DCC has been widely opposed within the reproductive medicine community since there are many ethical and psychological concerns surrounding the release of such data.[63] There are also recommendations regarding the fertility centers' responsibility to respect donors' wishes to set conditions for their donated gametes/embryos, as long as these conditions are not against the non-discriminatory treatment guidelines.[15]

Regarding preserving the dignity and respect of all parties involved in donation, multiple guidelines emphasize this issue;[15] however, reproductive donors' desire for respectful care[7, 8, 16, 34, 50, 51, 53] may indicate that in practice, these guidelines are not fully followed. Contrary to our findings, two systematic reviews on egg donors reported that they were satisfied with their donation experience.[12, 14] This discrepancy may be attributed to the possibility that egg donors are unaware of their rights and the clinics' responsibility towards donors. Also, it is possible that the retrospective evolution of the donation experience is accompanied by recall bias. However, other studies suggest that unless fertility clinics view reproductive donors as their clients, a respectful and ethical care that preserves donors' dignity and humanity will not be provided.[7, 64] The negative treatment of donors is also seen in fertility centers or other healthcare centers.[7, 16, 51, 53] Only when the reproductive donors are considered as patients/clients by the fertility clinics, their needs and expectations become a necessary component of care.[7, 8]

In practice, it is highly recommended that fertility clinics should prioritize the development of tailored, donor-based care programs that address the emotional, psychological, and informational needs of donors. Offering professional counseling and peer support, ensuring transparency in the donation process, and adhering to guidelines regarding donor rights are essential steps toward improving the donor experience. Moreover, financial policies surrounding compensation must be carefully considered to avoid exploitation while ensuring that donors are not pressured into donation due to financial need. It is also crucial to address the sociocultural stigma surrounding reproductive donation to foster a more supportive and respectful environment for donors.

To conclude, it is noteworthy that despite the availability of a handful of guidelines/recommendations regarding management and care of reproductive donors, in practice, donors' needs are not fully met.[15] This suggests a significant gap between policy and practice. Therefore, further research is needed to identify the barriers to providing donor-based care to reproductive donors.[7, 58]

To the best of our knowledge, this study is the first on the topic of reproductive donors' needs. This study contributes valuable insights into the improvement of donor care, providing a foundation for policymakers, fertility clinics, and researchers to work towards a more ethical and supportive framework for reproductive donation globally. Another strength of this study is using a mixed-method approach that helped to combine findings from quantitative, qualitative, and mixed-methods studies. On the other hand, this study has some limitations that may impact the interpretation and generalizability of the findings. First, most of the studies included in this review were conducted in developed countries, which may limit the applicability of the results to regions with different socio-cultural, legal, and religious contexts. Differences in these contexts may influence the needs and experiences of reproductive donors. Second, the search for relevant studies was restricted by language, which may exclude relevant research published in languages other than English. Additionally, although extensive search was conducted, some studies may have been unintentionally missed due to the search criteria and the limitations of the databases used. Finally, the quality of the studies varied, and while quality assessment tools were used, some included studies had limitations in their design, such as small sample size or methodological biases, such as self-reporting or recall bias, which could influence their findings.

CONCLUSION

This study highlights the diverse and multifaceted needs and preferences of reproductive donors across several dimensions, including support, information, counseling, financial policies, recognition of donor rights, and the preservation of dignity and respect. The current care provided to reproductive donors does not adequately meet these varied needs. To develop evidence-based, donor-centered care programs and clinical interventions that truly serve the needs and preferences of donors, health policymakers and fertility clinics must address these gaps and ensure that donor needs are prioritized.

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Authors' Contribution

EI, RLR, and SEZ contributed substantially to the conception of the study. EI and SEZ performed the database search and study selection and prepared Figure 1 and Table 1. EI, RLR, and SEZ performed the quality assessment. EI, MA, and SEZ performed the data extraction and prepared Table 2. EI, RLR, and SEZ performed data transformation and data synthesis. EI was involved in drafting the manuscript. RLR and SEZ critically revised their content. All the authors read and approved the final manuscript and agreed to be accountable for all aspects of the work, ensuring that issues related to the accuracy or completeness of any part of the work are properly investigated and resolved.

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Conflict of Interest

The authors declare no conflict of interest.

Declaration on the Use of AI

Artificial intelligence was neither used to conceptualize and conduct the different parts of this study nor to draft the manuscript.

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