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DROPOUT OF INFERTILITY TREATMENTS AND RELATED REASONS / FACTORS : A SYSTEMATIC REVIEW

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Abstract

Infertility is a somewhat frequent disorder that can have a variety of causes, including those related to the woman, the man, or both. There is no recognized cause of infertility. The problem of infertility may have a significant impact on married couples who encounter it, including physical, economic, and psychological concerns as well as impacts on the couple's ability to have children. Infertile couples are typically subjected to a lengthy process of diagnosis and therapy, which can be both a psychological and a physical strain on the couple's lives. The reasons and drivers of couple-focused dropout are unclear. Many couples benefit from dropping out. At least one IVF cycle can be a "ritual" in the mourning process of childlessness, a self-imposed act to avoid regretting "not having tried everything to have a child." Current literature lacks this technique. It's possible for partners in a relationship to decide to end their participation in treatment for a number of different reasons, including mental and physical anguish, financial restrictions, or a bleak prognosis. It would appear that educational and support programs on psychological, economic, therapeutic, demographic, and personal issues could be helpful in reducing the number of people who stop going through with their infertility treatment before it is finished. These programs could focus on any of the following areas: infertility, treatment, people, or demographics.

Keyword: *Drop Out; Infertility; Ovulation; Pregnancy*

INTRODUCTION

Infertility is the failure of a couple to get pregnant for at least 12 months by having regular sexual intercourse without contraception. Fecundity is a woman's ability to become pregnant. Population studies state that the chances of a woman getting pregnant each month are around 20-25%. Half of couples who experience infertility will become pregnant in the second and third years, while the rest are included in the group that is difficult to get pregnant.[1,2]

Infertility is a common condition and can be caused by female, male, or both factors. Infertility has no known cause. The problem of infertility can have a big impact on married couples who experience it, both medical and economic problems as well as psychological. Couples who experience infertility will undergo a long process of evaluation and treatment, where this process can be a physical and psychological burden for infertile couples.[3,4]

The incidence of infertility in Indonesia ranges from 6% at the age of 25-49 years with the highest percentage at the age of 20-24 years with a percentage of 21.3%. Reproduction requires interaction and integrity between the female and male reproductive tracts involving (1) the normal release of preovulatory oocytes, (2) adequate production of spermatozoa, (3) transport of gametes to the ampullary portion of the fallopian tube (where fertilization occurs), and (4) transport of the dividing embryo into the endometrial cavity for implantation and development.[5–7]

Due to cost, reimbursement rules, accessibility to infertility therapies, etc., dropout rates between facilities and nations are difficult to compare. Most fertility doctors focus on good outcomes and success rates and neglect or forget about "invisible" individuals who cease therapy. Since passive dropout lowers cumulative success rates, medical professionals generally try to prevent or lessen it. The classification of dropout as passive or active ignores the participatory element of a patient's decision to cease treatment. Fertility therapy dropout is seldom studied.[8]

The reasons and drivers of couple-focused dropout are unclear. Many couples benefit from dropping out. At least one IVF cycle can be a "ritual" in the mourning process of childlessness, a self-imposed act to avoid regretting "not having tried everything to have a child." Current literature lacks this technique. Dropout causes—positive and negative—are little documented. An infertility clinic's lack of a standardized discontinuation tool is surprising.[8] The purpose of this study is to investigate the reasons or factors that lead people to stop undergoing therapy for infertility.

METHODS

Protocol

The author complied with the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 guidelines to ensure that this research was conducted in compliance with the standards cited. This is done to assure the accuracy of the outcomes of this inquiry.

Criteria for Eligibility

By evaluating or analyzing past research on the issue, this literature review tries to analyze the cause / factor on dropout of infertility treatments. The theme of this essay is designed to stress the importance of the highlighted concerns. Researchers who participated in research met the following criteria: 1) To be considered for publication, the paper must be written in English and must focus on the cause / factor for infertility treatment dropout. 2) This evaluation includes publications published after 2017 but before the time period covered by this systematic review. Editorials, submissions without a DOI, already published review articles, and entries that are substantially identical to previously published journal publications are examples of prohibited research.

Search Strategy

We used "drop out" and "infertility treatments" as keywords.The search for studies to be included in the systematic review was carried out from February, 18th 2023 using the PubMed and SagePub databases by inputting the words: ("drop"[All Fields] AND "out"[All Fields] AND ("infertiles"[All Fields] OR "infertilities"[All Fields] OR "infertility"[MeSH Terms] OR "infertility"[All Fields] OR "infertile"[All Fields] OR "infertility s"[All Fields]) AND ("therapeutics"[MeSH Terms] OR "therapeutics"[All Fields] OR "treatments"[All Fields] OR "therapy"[MeSH Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "treatment s"[All Fields])) AND (clinicaltrial[Filter] OR randomized controlledtrial [Filter]) used in searching the literature.

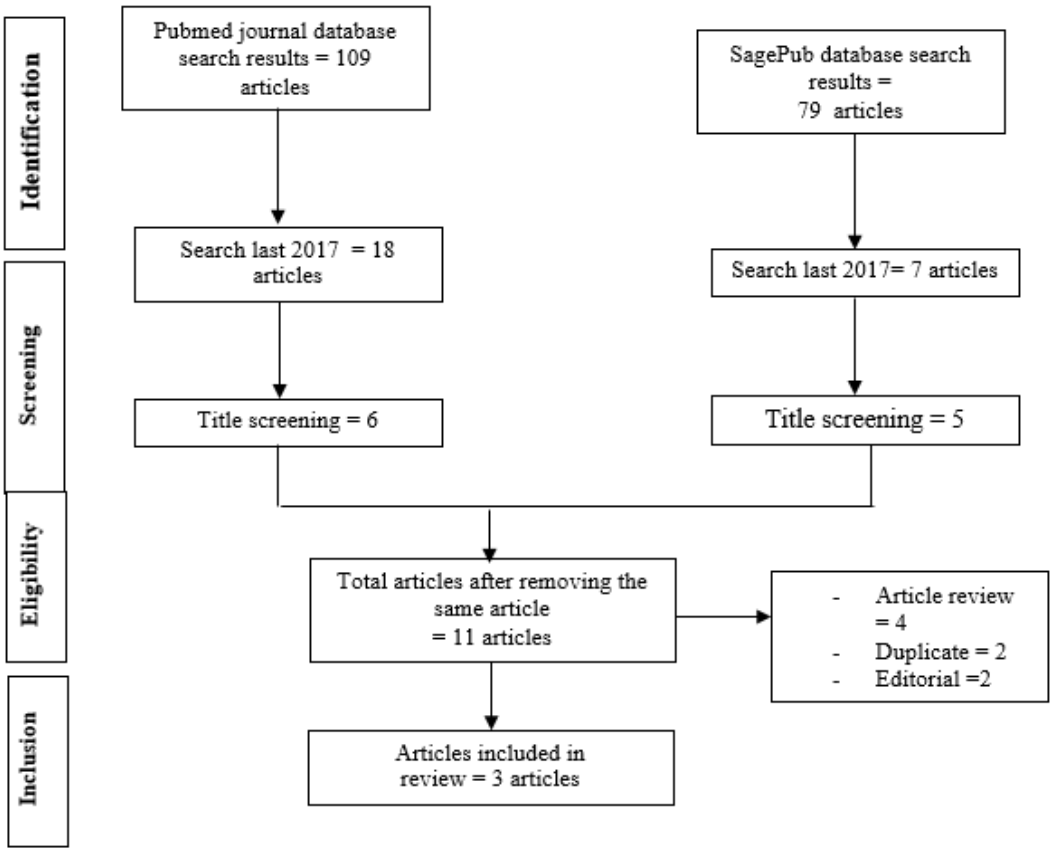

Figure 1. Article search flowchart

Data retrieval

After reading the abstract and title of each study, the authors looked at them to see if they met the criteria for inclusion. Then, the authors chose different studies from the past to use as sources in this article. Reviewing a lot of studies that all showed the same pattern led to this conclusion. All entries must be written in English and have never been published before.

Only studies that met all of the criteria for inclusion were looked at in the systematic review. This limits the search to only show results that are useful. We don't look at research results that don't meet our standards. After this step, the research will be looked at in depth. During the investigation for this study, the following information was found: names, authors, date of publication, location, study activities, and parameters.

Quality Assessment and Data Synthesis

Before deciding which papers to look at in more depth, each author did their own study of the research listed in the title and abstract of the publication. Then, we'll look at all papers that meet the review's criteria for inclusion and are therefore good enough to be included. Then, based on what we found, we'll decide which papers to include in the review. Manuscripts are chosen to be evaluated based on this criterion. To make the process of choosing papers to review as easy as possible. Which previous studies were done, and what parts of those studies make them good enough to be included in the review?

RESULT

Dropout of infertility treatments is a common phenomenon in IVF (In Vitro Fertilization)/ICSI (Intra cytoplasmic Sperm Injection) procedures and many patients avoid continuing infertility treatments. Ghorbani, et al (2020)[9] showed the choice of a couple to discontinue further treatment may have been influenced by a number of circumstances, including the emotional and physical strain, the strain on their finances, and the bad prognosis.

Other study conducted by Arhin, et al (2022)[10] showed the most common reasons for stopping infertility treatment were a lack of support from male partners, looking for alternative treatments, unfulfilled outcome expectations, unsatisfactory medical services, physical distance, social stigma, and moving away from the original treatment center. They asked patients and healthcare providers why infertile people stop fertility treatment before conceiving. It critically analyzes the data with reference to relevant literature to understand the answers, issues, and phenomena.

Table 1. The litelature include in this study

Author	Origin	Method	SampleSie	Result
Ghorbani, 2020[9]	Iran	Mixed method study with sequential exploratory design (systematic review, qualitative and quantitative phase)	420 infertile women	The choice of a couple to discontinue further treatment may have been influenced by a number of circumstances, including the emotional and physical strain, the strain on their finances, and the bad prognosis.
Arhin, 2022[10]	Ghana	Exploratory qualitative design	20 infertile women	The majority of the reasons cited by patients and healthcare professionals for discontinuing infertility treatment in a typical African setting are undocumented in existing studies. Patients and healthcare professionals shared both similar and diverse perspectives on the reasons for discontinuing infertility treatment. This study's findings will aid fertility therapists and policymakers in the formulation of appropriate approaches to encourage maximal compliance and enhance treatment outcomes.
Miller, 2021[11]	New Zealand	Retrospective cohort	974 couple	An actively managed IVF population can achieve a low dropout rate of 10%. This was lower than previously reported, indicating that prognosis, expense, and treatment management are major reasons for dropout in the general IVF population. Couples with several embryos may also require psychological assistance because to treatment weariness or multiple transfers.

Miller, et al (2021)[11] showed there was a low IVF dropout rate between the first and second IVF cycles, with 10% of couples terminating treatment for stress-related reasons. By the completion of therapy, the cumulative live birth rate in this "low dropout" cohort was 59%, ranging from 72% (30 years) to 42% (38-39 years) depending on female age. The majority of patients who stopped due to stress had a positive prognosis, and one-third of them still had embryos in cryostorage. Just 30% of those who stopped using the paid counseling services did so.

DISCUSSION

Infertility is the failure of a couple to conceive for at least 12 months by having sexual intercourse in a non-contraceptive setting, this definition is also called primary infertility. The inability of a person to have children or maintain a pregnancy is called secondary infertility. Evaluation and treatment of women >35 years can be done after 6 months of marriage.[12]

Infertility is caused by male and/or female factors. Male and female factors account for about 35% of cases each. Often, there is more than one factor with a combination of male and female factors that account for 20% of infertility. Lifestyle factors associated with an increased risk of infertility include environmental and occupational factors; toxic effects associated with tobacco, marijuana, or other drugs; excessive exercise; inadequate dieting associated with extreme weight loss or gain; and old age.[3,5,12]

The prevalence of primary infertility (57.5%) was greater than that of secondary infertility (42.5%). Female factors accounted for 46.6% of cases, with polycystic ovarian syndrome (PCOS) accounting for 46%. Infertility was observed in both lean and obese PCOS patients. Infectious causes, including pelvic inflammatory disease and TB, were substantially linked to tubal factor infertility ($P = 0.001$).[13]

The causes of infertility altered as the age of marriage rose. Among couples married for less than five years, PCOS was the most common cause of infertility, whereas male factor and unexplained infertility were the most prevalent reasons later on. Male factors accounted for 20% of infertility cases, and both tobacco and alcohol use were substantially linked with abnormal semen reports ($P = 0.001$).[13]

Infertile patients in the first year have an 85% chance of getting pregnant in the second year. Giving clomiphene citrate 50 mg/day for 5 days at the beginning of the cycle with an increased dose of up to 150 mg/day can increase ovulation, pregnancy and live birth rates up to 73%. A long-term randomized Dutch study of patients with a moderate prognosis reported no significant difference in pregnancy rates at 6 months after expectant management or IIU (with stimulation).[5]

The desire to become parents is a powerful motivator for couples who seek treatment at an infertility clinic. Parenting is an essential developmental milestone. Some patients do not complete their therapy despite the staff's best efforts, and the reasons for this are not completely understood. If experts can get an understanding of the phenomena of couples dropping out of fertility therapy, they will be able to assist couples in resolving challenges in decision making and give a more personalised and sympathetic approach to reproductive treatments.[8]

It can aid couples in the decision-making process they go through together to make decisions that are educated and healthy for their particular circumstance. In order to gain a better understanding of the phenomena known as "dropout" in infertility therapy. These reasons were derived from the existing body of research and included the following: the occurrence of a spontaneous pregnancy; the burden of relational or social relationships; the lack of an acceptable choice of treatment; the psychological and physical burdens; the support and expertise of the staff at the fertility center; the financial cost; the woman's age; medical considerations; and an alternative realization of the woman's wish to have a child (e.g. adoption).[8]

Age is a factor that might be viewed as being more sensible in the choice to discontinue therapy for females. In point of fact, there was a favorable correlation between the female age and the female age as a cause to stop therapy. It is highly likely that these women either had personal objections to continuing treatment at their age or that they were counseled by the gynecologist to consider discontinuing therapy. This is due to the fact that the majority of treatment centers in Belgium rarely offer treatment to females who are older than 43.[8]

As compared to the physical burden, the psychological burden was a more significant factor in the decision to discontinue therapy. It would appear that the emotional toll that comes along with reproductive therapy has a significant bearing on the choice that women make to discontinue treatment.[14] Many patients feel a significant amount of psychological load not only while undergoing fertility therapy, but also after receiving a diagnosis of infertility and during the course of the clinical study of infertility.[15]

Many research have sought to determine why individuals cease fertility therapy, with psychological load being listed as one of the most prevalent causes.[8,16] However, in the current study, non-cooperation of male partners was one of the key reasons that caused patients to quit therapy, as reported by patients and healthcare providers. Due to the fact that men and women contribute nearly equally to the causes of infertility,[17] such views on the part of males provide a challenge when assessing and evaluating infertile couples. In spite of these findings, in many areas of the world, both men and women are hesitant to blame infertility to the male partner, a feature considered to contribute to the low number of males seeking fertility therapy.[10,18]

Surprisingly, financial problems were not given as a reason to stop treatment. When we did our study in Belgium, most of the cost of the medicine to stimulate the ovaries was covered, but the lab costs for IVF/ICSI were not covered and patients had to pay a lot per cycle (about 1,500–2,000 EUR). Couples who think that money will be a problem may never think of fertility treatment as a real option for them. Cost could be a reason why someone doesn't start treatment, but it shouldn't be a big reason why someone stops treatment. Also, for many couples, the goal of getting pregnant and having a baby may be more important than any extra costs.[8]

Studying treatment discontinuation in government-funded IVF can give insight into the psychological and physiological aspects that, in addition to cost, incline patients to drop out of their IVF cycles. This is because the stress of financial responsibility is a primary contributor to cycle dropout. It has been demonstrated that between 12 and 40 percent of couples stop therapy after a first financed IVF cycle, despite the fact that they are eligible for future sponsored treatment. These findings come from studies of care that has been funded by either the government or insurance companies.[11,19,20]

Considering the outcome of the first unsuccessful IVF cycle, the proportion of early abandonment was relatively high (54%) when the initial IVF effort failed (0 or 1 oocyte retrieved and no embryo transfer). When the first stage was successful, there were no discernible variations in early abandonment based on the subsequent steps of a failed IVF treatment (fresh embryo transfer, frozen embryo transfers, pregnancy). The increased dropout rate among women with no or few recovered oocytes is consistent with two prior trials conducted in Britain and France.[20]

Remarkably, the risk of discontinuation rose as the number of frozen embryos grew, despite the fact that a big number of frozen embryos is a positive prognostic indicator. Couples may not undergo a fresh IVF treatment in France if they have embryos from a prior round stored. The increased rate of discontinuation among couples with a large number of frozen embryos may be attributable to a greater degree of burden in these couples as a result of several transfers; however, this only applies to a relatively small number of couples in our study.[20]

The factors that were associated with a higher risk of early discontinuation were also those that are well known to be associated with impaired chances of successful IVF treatment. These factors include an older age of the woman, a longer duration of infertility, and a low ovarian response to hormonal stimulation that led to the retrieval of 0 or 1 oocyte during the first failed attempt at IVF treatment.[20]

Around one quarter of couples who had quit treatment after the first unsuccessful IVF and who participated in the postal follow-up research indicated a view of a bad prognosis or the psychological load of therapy. It is therefore probable that patients' self-diagnosed bad prognoses contribute to an increase in their stress levels, and that both of these variables, patients' self-diagnosed poor prognosis and growing stress, lead to a higher likelihood of early IVF cessation.

Yet, self-diagnosed bad prognosis is a completely distinct idea from ‘medically diagnosed poor prognosis’. In a Canadian research, a significant number of couples who stated a bad prognosis as a reason for ending their relationship had, in fact,

a favorable prognosis.[21] Patients with poor prognostic characteristics are more likely to cease therapy after a first unsuccessful IVF when objective medical variables linked with early IVF cessation are investigated (regardless of the cause for discontinuation).

CONCLUSION

Couples may choose to discontinue therapy for a variety of reasons, including emotional and physical distress, financial constraints, or a dismal prognosis. In order to decrease the number of people who stop going through with their infertility treatment before it is finished, it appears that educational and supporting programs on psychological, economical, therapeutic, demographic, and personal issues might be helpful.

REFERENCE

[1]. ASRM. Definitions of infertility and recurrent pregnancy loss: a committee opinion. Fertil Steril. 2013;99(1):63.
[2]. Kamath M, Bhattchraya S. Best Practice & Research Clinical Obstetrics and Gynaecology. Am Coll Obstet Gynecol. 2012;729–38.
[3]. Cunningham FG; et al, Cunningham FG; Leveno KJ; Bloom SL; et al, F. Gary Cunningham, Kenneth J. Leveno, Steven L. Bloom, Catherine Y. Spong, Jodi S. Dashe BLH. Williams Obstetri. 25th ed. New York: The McGraw-Hill Companies; 2020.
[4]. Simionescu G, Doroftei B, Maftei R, et al. The complex relationship between infertility and psychological distress (Review). Exp Ther Med. 2021;306(3):198–202.
[5]. Himpunan Endokrinologi Reproduksi dan Fertilitas Indonesia (HIFERI), Perhimpunan Fertilisasi in Vitro (PERFITRI), Ikatan Ahli Urologi Indonesia (IAUI), Perkumpulan Obsetri dan Ginekologi Indonesia (POGI). Konsensus Penanganan Infertilitas. Jakarta: HIFERI; 2019.
[6]. Carson SA, Kallen AN. Diagnosis and Management of Infertility. JAMA Netw. 2021;362(1):65–76.
[7]. Lindsay J, Vitrikas KR. Evaluation and Treatment of Infertility. Am Fam Physician. 2015;91(5):308–14.
[8]. Van den Broeck U, Holvoet L, Enzlin P, Bakelants E, Demyttenaere K, D'Hooghe T. Reasons for Dropout in Infertility Treatment. Gynecol Obstet Invest [Internet]. 2009;68(1):58–64. Available from: https://www.karger.com/DOI/10.1159/000214839
[9]. Ghorbani M, Hosseini FS, Yunesian M, Keramat A. Dropout of infertility treatments and related factors among infertile couples. Reprod Health [Internet]. 2020;17(1):192. Available from: https://doi.org/10.1186/s12978-020-01048-w
[10]. Arhin SM, Mensah KB, Agbeno EK, Azize DA, Henneh IT, Agyemang E, et al. Pharmacotherapy of infertility in Ghana: Why do infertile patients discontinue their fertility treatment? PLoS One [Internet]. 2022 Oct 17;17(10):e0274635. Available from: https://doi.org/10.1371/journal.pone.0274635
[11]. Miller LM, Wallace G, Birdsall MA, Hammond ER, Peek JC. Dropout rate and cumulative birth outcomes in couples undergoing in vitro fertilization within a funded and actively managed system of care in New Zealand. Fertil Steril [Internet]. 2021;116(1):114–22. Available from: https://www.sciencedirect.com/science/article/pii/S0015028221000625
[12]. ASRM. Endometriosis and infertility: a committee opinion. Fertil Steril. 2012;98:591–8.
[13]. Kella AA; Despande SB. Pulmonary surfactants and their role in pathophysiologi of Lung Disorders. Indian J. 2013;5–22.
[14]. Domar AD. Impact of psychological factors on dropout rates in insured infertility patients. Fertil Steril. 2004;81(2):271–3.
[15]. Eugster A, Vingerhoets AJJM. Psychological aspects of in vitro fertilization: a review. Soc Sci Med. 1999;48(5):575–89.
[16]. Domar AD, Smith K, Conboy L, Iannone M, Alper M. A prospective investigation into the reasons why insured United States patients drop out of in vitro fertilization treatment. Fertil Steril. 2010;94(4):1457–9.
[17]. Deshpande PS, Gupta AS. Causes and prevalence of factors causing infertility in a public health facility. J Hum Reprod Sci. 2019;12(4):287.
[18]. Dhont N, Luchters S, Ombelet W, Vyankandondera J, Gasarabwe A, Van de Wijgert J, et al. Gender differences and factors associated with treatment-seeking behaviour for infertility in Rwanda. Hum Reprod. 2010;25(8):2024–30.
[19]. Gameiro S, Verhaak CM, Kremer JAM, Boivin J. Why we should talk about compliance with assisted reproductive technologies (ART): a systematic review and meta-analysis of ART compliance rates. Hum Reprod Update. 2013;19(2):124–35.
[20]. Troude P, Guibert J, Bouyer J, de La Rochebrochard E, Group D. Medical factors associated with early IVF discontinuation. Reprod Biomed Online. 2014;28(3):321–9.
[21]. Malcolm CE, Cumming DC. Follow-up of infertile couples who dropped out of a specialist fertility clinic. Fertil Steril. 2004;81(2):269–70.