



Infertility and the Christian Attitudes to Assisted Reproductive Technologies in Nigeria: A Psychological Investigation

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Abstract

Infertility, defined as the inability to conceive after at least one year of regular, unprotected sexual intercourse, remains a major psychosocial and spiritual issue in Nigeria, particularly among Christian couples. This study investigates the psychological and religious dimensions of infertility and examines Christian attitudes toward Assisted Reproductive Technologies (ARTs) such as in vitro fertilisation (IVF), intracytoplasmic sperm injection (ICSI), and surrogacy. Using a descriptive survey design, data were collected from 2,572 participants across various Christian denominations in Nigeria. Findings revealed that while awareness of ARTs is high, many Christians still struggle to reconcile their faith with the medical interventions these technologies represent. Anxiety, depression, and social stigma were common among infertile couples, particularly women, who often face cultural blame. Denominational doctrines significantly influence couples' perceptions of ART morality and divine will. However, most respondents believe churches should support couples using ARTs. The study underscores the need for integrating psychological counselling and pastoral care into fertility treatment. It advocates a balanced approach that recognises ARTs as compatible with faith when pursued with informed conscience and emotional support. This integration enhances resilience, reduces stigma, and promotes holistic well-being for couples in faith-based communities.

Keywords: Assisted reproductive technologies, Christian attitudes, Infertility, Nigeria, Pastoral care, Psychology.

1. Introduction

Infertility, the inability to conceive after at least one year of unprotected and regular sexual intercourse involving a man and a woman,¹ is a serious issue in Nigeria since procreation is linked to psycho-social status, identity, and fulfilment, although infertility is also attributed to a deep emotional and psychological condition with a lot of unpalatable experiences such as anxiety, stress, blame games, spiritual crises, and depression, especially among married women that have been tagged as 'barren', 'infertile', or 'childless' in Nigeria,² even in the religious circle. The World Health Organization (WHO) reported in 2023 that about 17.5% of couples globally experience infertility, 12% to 28% experience involuntary childlessness for at least one year, male infertility is responsible for 20–30% of infertility cases, 20–35% are due to female infertility, and 25–40% are due to combined problems in both partners. Unfortunately, 10–20% of cases were classified under 'no cause'.³ The development of advanced procedures named 'assisted reproductive technologies' (ARTs), which include pre-implantation genetic diagnosis (PGD), in vitro fertilisation (IVF), intracytoplasmic sperm injection (ICSI), egg and sperm donations, and surrogacy to address the problem of infertility, has recently helped in achieving major positive results.⁴ Although with ARTs, the natural process of sexual intercourse is bypassed, and fertilisation of the oocytes occurs in the laboratory environment or fertility clinics in Nigeria. Some religious adherents, especially Christians in Nigeria, struggle to link faith-based teachings on divine providence with the socio-religious and psychological issues in the perceived human intervention through ARTs in reproduction. These socio-psychological issues necessitate the need to examine infertility and the Christian attitudes to assisted reproductive technologies (ARTs) in Nigeria.

1.1. Statement of the Problem

The medical solutions to infertility through the use of ART procedures for some Christian couples in Nigeria also resulted in medical and psychological issues for others because of repeated failure of ART treatments despite

¹ Sharon A. Carson and Amanda N. Kallen, "Diagnosis and Management of Infertility: A Review," *JAMA* 326, no. 1 (2021): 65–76, <https://doi.org/10.1001/jama.2021.4788>.

² Serena Burgio, Carmela Polizzi, Gabriele Buzzaccarini, Antonio Simone Laganà, Giovanni Gullo, Giovanni Perricone, Antonio Perino, Giovanni Cucinella, and Marianna Alesi, "Psychological Variables in Medically Assisted Reproduction: A Systematic Review," *Przegląd Menopauzalny* 21, no. 1 (2022): 47–63, <https://doi.org/10.5114/pm.2022.114404>.

³ World Health Organization, "1 in 6 People Globally Affected by Infertility: WHO," news release, April 4, 2023, <https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility>

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the high cost of ART procedures and medications, coupled with the fact that most couples used the procedures based on secret arrangements with the fertility centres in Nigeria; therefore, seeking legal compensation or justice is not an option since such will be in the public domain. The majority of Christian denominations in Nigeria oppose seeking help to reproduce by marrying another wife if the wife is not medically fit to carry a pregnancy; thus, polygamy is not an option for most Christian couples, especially if they do not intend to change denominations or their individual doctrinal stance.⁵ In fact, Gameiro and his colleagues pinpointed that the most common reasons for discontinuation of fertility treatment have been estimated to be postponement of treatment (39%), physical and psychological burden (19%), psychological burden (14%), physical burden (6.32%), relational and personal problems (17%), personal reasons (9%), relational problems (9%), treatment rejection (13%) and organisational (12%) and clinic (8%) problems.⁶ Therefore, the psychological effects of such socio-medical experiences in Nigeria include anxiety, low self-esteem, and depression,⁷ especially for older couples due to social stigma that is linked to their conditions, even in faith communities sometimes. Understanding these psychological dimensions will bring changes or improvement to how the society treats couples facing infertility in Nigeria, educationally and pastorally.

1.2. Objectives of the Study

The study seeks to:

1. Investigate the psychological state of the infertile Christian couples before seeking the use of ART procedures in Nigeria.
2. Examine how denominational doctrines and belief systems influence couples' socio-psychological perceptions and stances concerning the use of ARTs in Nigeria.
3. Explore how some Christian couples integrate faith-based and socio-psychological strategies in their adoption of ART procedures.
4. Identify the contributions of psychotherapists, pastors and family relations in mediating psychological distress involved before, during and after ART procedures.
5. Suggest possible ways of addressing the issues that surround the use of ARTs in Nigeria.

Research Questions

1. What are the psychological states of the infertile Christian couples before seeking the use of ART procedures in Nigeria?
2. How can denominational doctrines and belief systems influence couples' socio-psychological perceptions and stances concerning the use of ARTs in Nigeria?
3. How did some Christian couples able to integrate faith-based and socio-psychological strategies in their adoption of ART procedures?
4. What are the contributions of psychotherapists, pastors and family relations in mediating psychological distress involved before, during and after ART procedures?
5. What are the possible ways of addressing the issues that surround the use of ARTs in Nigeria?

2. Theoretical Framework

Cognitive Dissonance Theory: Cognitive dissonance theory in cases of infertility emphasises a psychological phenomenon in which Christian couples in Nigeria have contradictory beliefs or acts concerning the use of assisted reproductive technologies (ARTs). It occurs when confronted with events that expose technical discrepancies, prompting modifications in cognition or actions to alleviate personal discomfort caused during medical procedures and socio-ethical difficulties. Environmental circumstances, such as psychological and physical stress generated by conflicting cultural ideas, social media reporting, and religious stances that challenge existing perceptions concerning the use of ART, have a significant impact on this notion. People attempt to settle conflicts by reframing one side, especially the religious position based on diverse religious dogmas, to make the combination consistent, which is commonly due to beliefs colliding with new information or the need to conceptually address competing infertility conditions.⁸ It also suggests that the effectiveness of psychotherapy and psychological intervention in ARTs is influenced by patients' choice of therapy and therapeutic attempts to resolve cognitive dissonance in Nigeria.⁹

Psychosocial Stress Theory: This theory aims to understand how infertile couples face their socio-medical condition and their decision-making processes in the adoption of Assisted Reproductive Technologies (ARTs) in Nigeria, taking into consideration that infertility undoubtedly leads to serious psychosocial reactions,¹⁰ which are usually negative for the infertile couples and result in depression, stress, social stigma, and physical complications if not quickly addressed.¹¹ These psychological reactions are in three stages, that is, alarm reaction, resistance, and weariness.¹² The alarm reaction causes the body to use psychological resources, while resistance grows until resources are depleted, resulting in anxiety, irritation, poor communication, isolation, and poor judgement or reaction to issues that ought to be treated with the utmost priority based on repeatedly failed IVF procedures and its psychosocial impacts, which can dangerously lead to 'imaginary children', as women may be perceived to be talking to imaginary babies or dolls when angry or depressed due to infertility.

⁵ David O. Ogunbiyi, Adebayo A. Adeyemo, Olajumoke M. Olajugbagbe, and Isaac T. Oyebanji, "Polygamy and Its Implications on Christianity in Southwest Nigeria: A Sociological Perspective," *MAHABBAAH: Journal Religion and Education* 6, no. 1 (2025): 45–69, <https://doi.org/10.47135/mahabbah.v6i1.111>

⁶ Sofia Gameiro, Jacky Boivin, Lucia Peronace, and Christiaan M. Verhaak, "Why Do Patients Discontinue Fertility Treatment? A Systematic Review of Reasons and Predictors of Discontinuation in Fertility Treatment," *Human Reproduction Update* 18, no. 6 (2012): 652–669, <https://doi.org/10.1093/humupd/dms031>

⁷ Alan M. Braverman, Sarah M. Maxwell, and James M. Goldfarb, "Depression, Anxiety, and Quality of Life in Patients Using Assisted Reproductive Technologies: A Global Review," *Fertility and Sterility* 121, no. 3 (2024): 456–468, <https://doi.org/10.1016/j.fertnstert.2023.12.014>

⁸ Eddie Harmon-Jones, ed., *Cognitive Dissonance: Reexamining a Pivotal Theory in Psychology*, 2nd ed. (Washington, DC: American Psychological Association, 2019) 23.

⁹ Joel Cooper, *Cognitive Dissonance: 50 Years of a Classic Theory* (London: SAGE Publications, 2007), 17.

¹⁰ M. Brent Hargrove, Debra L. Nelson, and Cary L. Cooper, "Generating Eustress by Challenging Employees: Helping People Savor Their Work," *Organizational Dynamics* 42, no. 1 (2013): 61–69, <https://doi.org/10.1016/j.orgdyn.2012.12.008>

¹¹ Ruth F. Craven, Constance J. Hirnle, and Sharon Jensen, *Fundamentals of Nursing: Human Health and Function*, 7th ed. (Philadelphia: Lippincott Williams & Wilkins, 2013), 4.

¹² John O. Mitterer and Dennis Coon, *Introduction to Psychology*, 13th ed. (Belmont, CA: Jon-David Hague, 2013), 446–447.

Incorporating psychological theory improves understanding of infertility and ART-related experiences among infertile couples in Nigeria. Bowlby's attachment theory is frequently used to investigate post-ART treatments, conception and delivery, especially in the area of parental-child bonding and restored marital harmony. It indicates that, as long as carers/parents are emotionally present and attentive, safe attachments can form regardless of biological/genetic similarity. Erikson views that the theory of psychosocial development sheds light on the identity crises that infertile people experience, particularly the stage of generativity vs stagnation in Nigeria. All these theories emphasise that infertility and the use of ARTs are not merely socio-psychological and biomedical interventions but deeply personal journeys that deal with mental health, social identity, relationships, and societal values in Nigeria, therefore, emphasises support and advocate for the introduction and inclusion of religious and psychological services such as pastoral counselling, psychotherapy, group discussion and interactions, social advocacy and awareness into the intending couples' fertility journey: pre-treatment, treatments and post-procedural era in Nigeria, which will definitely enhance their emotional resilience, facilitates informed decision-making, and promotes holistic well-being for both parents and children in the society, also correcting and sealing the psychological dimensions of ARTs as a divine will, that reproductive medicine has move beyond success rates reporting to considering and emphasising the quality of lived experiences, social expression, emotional and mental health, and relational integrity of the couples in Nigeria.

3. Research Methodology

3.1. Research Design

The study adopted a **descriptive survey design** to examine psychological dimensions of infertility and the Christian attitudes to assisted reproductive technologies (ARTs) in Nigeria, focusing on quantitative and qualitative data on the perceptions, attitudes, beliefs and emotional experiences related to infertility and ARTs.

3.2. Population and Sample Size

The study involved 2,572 respondents from various Christian denominations in Nigeria, including Anglicans (40.3%), Pentecostals (34.8%), Catholics (15.2%), and other denominations (9.6%).

3.3. Sampling Technique

The study utilised stratified random sampling to ensure proportional representation of various Christian denominations in Nigeria and demographic groups, ensuring a diverse and representative sample population.

3.4. Instrumentation

A structured questionnaire was administered to collect data. The questionnaire contained both closed-ended and open-ended items covering the following themes:

1. Infertile Christian Couples' Psychological State Before ART Procedures in Nigeria
2. Influence of denominational doctrines on socio-psychological perceptions.
3. Integration of faith-based and socio-psychological strategies in ART adoption.
4. Contributions of psychotherapists, pastors, and family relations in mediating psychological distress.
5. Suggests solutions to issues surrounding ART use in Nigeria.

3.5. Data Collection

The study involved church-based Nigerian respondents who provided voluntary, confidential data through Likert-scale questions and open-ended responses, aiming to understand the country's religio-psychological landscape.

3.6. Data Analysis

The study utilised descriptive statistics and qualitative responses to analyse quantitative data and interpret participants' religio-psychological and medical experiences with ARTs in Nigeria.

3.7. Ethical Considerations

Ethical approval was obtained before data collection. Respondents' consent was sought, and confidentiality of information was ensured. Sensitive questions were handled with care, given the personal and moral nature of infertility and ART usage within religious contexts.

3.8. Data Presentation

Table 1. Demographic Characteristics of the Respondent's Psychological Perspective.

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	1,524	59.3
	Male	1,048	40.7
Age Group (years)	30–39	822	31.9
	40–49	873	33.9
	Others	877	34.2
Marital Status	Married	2,064	80.3
Education Level	University degree	1,412	54.9
	Postgraduate	652	25.3
Denomination	Anglican	1,037	40.3
	Pentecostal	896	34.8
	Catholic	391	15.2
	Others	248	9.6

Table 2. Awareness and Knowledge of Arts among Christians in Nigeria.

Statement	SA	A	U	D	SD	Total (N = 2,572)
I have heard of Assisted Reproductive Technologies (ARTs)	1,825 (71.0%)	330 (12.8%)	145 (5.6%)	154 (6.0%)	118 (4.6%)	2,572 (100%)
I understand the basic procedures involved in ARTs	724 (28.1%)	772 (30.0%)	412 (16.0%)	392 (15.2%)	272 (10.6%)	2,572 (100%)
ARTs are available in Nigeria	1,193 (46.4%)	689 (26.8%)	360 (14.0%)	211 (8.2%)	119 (4.6%)	2,572 (100%)
Information on ARTs is easily accessible in churches/public media	378 (14.7%)	499 (19.4%)	485 (18.9%)	626 (24.3%)	584 (22.7%)	2,572 (100%)

Table 3. Attitudes and Beliefs about ARTs.

Statement	SA	A	U	D	SD	Total
ARTs are a blessing to help infertile couples	1,237 (48.1%)	771 (30.0%)	214 (8.3%)	196 (7.6%)	154 (6.0%)	2,572 (100%)
Using ARTs shows a lack of faith in God	485 (18.9%)	697 (27.1%)	411 (16.0%)	598 (23.3%)	381 (14.8%)	2,572 (100%)
ARTs are acceptable when both partners' gametes are used	1,156 (45.0%)	930 (36.1%)	193 (7.5%)	176 (6.8%)	117 (4.6%)	2,572 (100%)
Use of donor sperm or egg is morally acceptable	261 (10.1%)	486 (18.9%)	386 (15.0%)	724 (28.2%)	715 (27.8%)	2,572 (100%)
Surrogacy is an acceptable form of ART	431 (16.8%)	625 (24.3%)	465 (18.1%)	587 (22.8%)	464 (18.0%)	2,572 (100%)
Churches should support couples using ARTs	1,425 (55.4%)	816 (31.7%)	159 (6.2%)	104 (4.0%)	68 (2.7%)	2,572 (100%)

Table 4. Psychological and Emotional Well-being.

Statement	SA	A	U	D	SD	Total
I often feel anxious or stressed about fertility	889 (34.6%)	860 (33.4%)	386 (15.0%)	278 (10.8%)	159 (6.2%)	2,572 (100%)
I have experienced depression due to childlessness	742 (28.8%)	723 (28.1%)	479 (18.6%)	387 (15.0%)	241 (9.4%)	2,572 (100%)
My faith gives me strength to cope	1,112 (43.2%)	918 (35.7%)	284 (11.0%)	161 (6.3%)	97 (3.8%)	2,572 (100%)
I sometimes doubt God's fairness	465 (18.1%)	671 (26.1%)	412 (16.0%)	596 (23.2%)	428 (16.6%)	2,572 (100%)
I receive adequate emotional support from my church	496 (19.3%)	842 (32.7%)	391 (15.2%)	526 (20.5%)	317 (12.3%)	2,572 (100%)
Infertile women are blamed for marital problems	1,063 (41.3%)	1,046 (40.7%)	176 (6.8%)	164 (6.4%)	123 (4.8%)	2,572 (100%)
ART users are gossiped about in church	1,004 (39.0%)	825 (32.1%)	309 (12.0%)	259 (10.1%)	175 (6.8%)	2,572 (100%)

Table 5. Clergy and Pastoral Support.

Statement	SA	A	U	D	SD	Total
My pastor is knowledgeable about ARTs	287 (11.2%)	638 (24.8%)	482 (18.7%)	691 (26.9%)	474 (18.4%)	2,572 (100%)
I feel comfortable discussing ARTs with my pastor	725 (28.2%)	1,049 (40.8%)	358 (13.9%)	275 (10.7%)	165 (6.4%)	2,572 (100%)
The church should do more to address stigma	1,701 (66.1%)	641 (24.9%)	108 (4.2%)	68 (2.7%)	54 (2.1%)	2,572 (100%)

3.9. Data Presentation

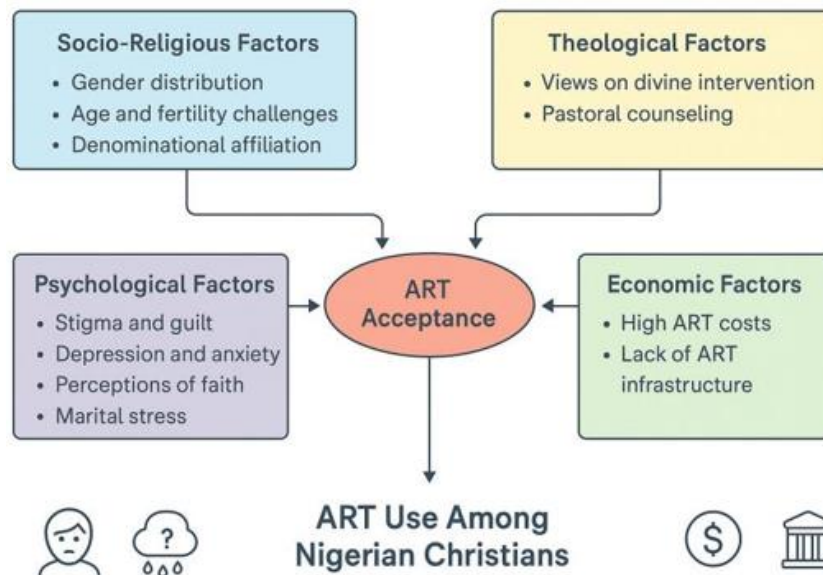
The demographic characteristics of the respondents, as shown in Table 1, indicate that out of the total 2,572 participants, 1,524 (59.3%) were female while 1,048 (40.7%) were male. The age distribution shows that 822 respondents (31.9%) were between 30 and 39 years, 873 (33.9%) were between 40 and 49 years, while 877 (34.2%) fell within other age categories. A majority of the respondents, 2,064 (80.3%), were married. In terms of educational qualifications, 1,412 (54.9%) had a university degree and 652 (25.3%) held postgraduate qualifications. Regarding denominational affiliation, 1,037 (40.3%) were Anglicans, 896 (34.8%) Pentecostals, 391 (15.2%) Catholics, and 248 (9.6%) belonged to other denominations.

Findings on awareness and knowledge of Assisted Reproductive Technologies (ARTs), presented in Table 2, reveal that a large proportion of respondents, 1,825 (71.0%), had heard of ARTs. However, only 724 (28.1%) strongly agreed and 772 (30.0%) agreed that they understood the basic procedures involved, suggesting limited technical knowledge among participants. Furthermore, 1,193 (46.4%) strongly agreed and 689 (26.8%) agreed that ARTs are available in Nigeria, indicating fairly good awareness of their presence in the country. Conversely, only 378 (14.7%) strongly agreed and 499 (19.4%) agreed that information on ARTs is easily accessible in churches or public media, while a significant proportion disagreed, implying restricted access to reliable information on ARTs.

As reflected in Table 3, respondents' attitudes and beliefs about ARTs were generally positive. A total of 1,237 (48.1%) strongly agreed and 771 (30.0%) agreed that ARTs are a blessing to help infertile couples. Opinions were divided regarding faith-related concerns, as 485 (18.9%) strongly agreed and 697 (27.1%) agreed that using ARTs shows a lack of faith in God, while 979 (38.1%) disagreed or strongly disagreed. Acceptance of ARTs was higher when both partners' gametes were used, with 1,156 (45.0%) strongly agreeing and 930 (36.1%) agreeing to its acceptability. However, only 261 (10.1%) strongly agreed and 486 (18.9%) agreed that using donor sperm or eggs is morally acceptable, indicating moral reservations about third-party reproduction. Similarly, opinions on

surrogacy were mixed, with 431 (16.8%) strongly agreeing and 625 (24.3%) agreeing to its acceptability, while 587 (22.8%) disagreed and 464 (18.0%) strongly disagreed. A large majority, 1,425 (55.4%) strongly agreed and 816 (31.7%) agreed that churches should support couples who use ARTs.

Psychological and emotional well-being data in Table 4 indicate notable emotional strain among respondents. About 889 (34.6%) strongly agreed and 860 (33.4%) agreed that they often feel anxious or stressed about fertility, while 742 (28.8%) strongly agreed and 723 (28.1%) agreed that they had experienced depression due to childlessness. Nonetheless, most respondents derived strength from their faith, as 1,112 (43.2%) strongly agreed and 918 (35.7%) agreed that their faith helps them cope. Despite this, 465 (18.1%) strongly agreed and 671 (26.1%) agreed that they sometimes doubt God's fairness. About half of respondents (52%) felt they received adequate emotional support from their church, indicating moderate pastoral care. Stigma was widespread: over 80% agreed that infertile women are blamed for marital issues, and about 71% said ART users face gossip in church. Only 36% believed their pastors were knowledgeable about ARTs, though 69% felt comfortable discussing the issue with them. A strong majority (91%) agreed the church should do more to combat infertility stigma and support ART awareness.



4. Discussion of Findings

Gender Distribution: It was revealed that out of 2,572 respondents, 1,524 (59.3%) were female and 1,048 (40.7%) were male. Female participation is likely due to increased social and emotional pressure on fertility in Nigeria; in fact, it is somehow perceived as a woman's problem. Ogunbiyi asserts that this situation could explain the higher level of female interest or willingness to engage in conversations and counselling on infertility and the available ART options, including their readiness to advocate for doctrinal reconsideration or pastoral support in addressing this social dilemma through medically assisted means.¹³

Selected Study Responses: Study response 1: We've been married for 6 years. After two years of marriage without conceiving, we went to a doctor, who told us there was nothing wrong after running a battery of tests on both of us. The doctor then offered me certain medicines over three months that he claimed would help me ovulate, but we had no results. We went from one doctor to the next until we learnt about ART from a relative. Study response : With the help of churchgoers, my husband and I were able to get access to ART after eleven years of infertility. We continued to hope that traditional medicine and prayer would help us, despite hearing about ART from relatives who had been successful. We were informed that the procedure would cost hundreds of thousands of naira, which we were unable to pay.

Age and Fertility Challenges: The largest age group was 40-49 (33.9%), followed by 30-39 (31.9%). This suggests that the majority of responses are in the reproductive and early midlife phases. It was observed by Ogunbiyi that depression and other psychological issues are prevalent among Nigerian youths,¹⁴ often due to relationship stress, genetic predisposition, work, educational transitions, and infertility. Infertility is perceived by some of the participants as a generational (genetic) or spiritual problem and sometimes individualistic in nature; therefore, it has to be addressed spiritually rather than through medical means, noting that spirituality has a lot to do with psychological mindset, which can easily activate positive mental health in the lives of the intending couples when adopting ART procedures for fertility in Nigeria. Unfortunately, untreated depression due to the social stigma and medical condition of infertility can lead to scholastic failure, substance addiction, and suicidal thoughts and increase the chances of failure of ART procedures; therefore, early detection and intervention are very crucial.¹⁵ The success rate of assisted reproductive technologies (ART) in women aged 40 and above is significantly lower compared to younger women. While ART offers a chance for older women to conceive, the likelihood of a successful pregnancy and live birth is considerably reduced. As women age, the quality and quantity of their eggs decrease, impacting fertilisation and embryo development.¹⁶ Older eggs are more likely to have chromosomal

¹³ David O. Ogunbiyi, *Socio-Religious Issues in the Use of Assisted Reproductive Technologies among Church Members in Lagos Mainland Diocese (Anglican Communion)* (PhD Thesis, Redeemer's University, Ede, 2025), 112-113.

¹⁴ David O. Ogunbiyi, Isaac T. Oyeboji, and Olajumoke M. Olajugbagbe, "The Sociological Impact of Youth Restiveness on Christianity in Mushin, Lagos State," *African Journal of Religious and Theological Studies* 3, no. 1 (2025): 15-34, <https://doi.org/10.62154/ajrts.2025.03.010618>

¹⁵ David O. Ogunbiyi, Adebayo A. Adeyemo, and Olajumoke M. Olajugbagbe, "Ethical Concerns of Depression among Youths: A Socio-Religious Implication in Contemporary Nigeria," *African Journal of Religious and Theological Studies* 3, no. 1 (2025): 65-84, <https://doi.org/10.62154/ajrts.2025.03.010687>

¹⁶ A. Aflatoonian, M. Eftekhari, F. Mohammadian, and F. Yousefnejad, "Outcome of Assisted Reproductive Technology in Women Aged 40 Years and Older," *Iranian Journal of Reproductive Medicine* 9, no. 4 (2011): 281-284.

abnormalities, which can lead to miscarriage or developmental problems in the foetus. The risk of miscarriage is significantly elevated in older women, even with ART. Older women are more prone to developing health conditions like uterine fibroids and endometriosis, which can affect fertility.¹⁷ Although their success rates are lower than those of younger men, men over 40 who are seeking assisted reproductive technologies (ART) still do so. "Clinicians should advise couples with advanced paternal age (40+) about increased risks of adverse health outcomes for their offspring," according to the American Society for Reproductive Medicine. Some studies indicate that as paternal age increases, pregnancy and live birth rates decrease, while other studies find no discernible effect. While changes in sperm concentration with age are less consistent, some studies suggest a decrease in sperm concentration with age.¹⁸ Other studies have reported increases in sperm concentration with age. The study also identified that the older men grow, the more the damage to their sperm DNA and the higher the chances of passing genetic diseases such as diabetes, etc., although their experiences as individuals living in communal environments are very core since they are projected as gatekeepers of traditional heritage and doctrinal values, but their ageing mindset may lead to scepticism or resistance toward modern technologies such as digitalisation, artificial intelligence (AI) and ARTs, which can be tagged as interfering with divine providence. This age distribution suggests that socio-religious engagement with assisted reproductive technologies (ARTs) among Christians in Nigeria is likely to be most dynamic among younger and middle-aged adults, who are navigating the pressures of infertility within a faith-based community.¹⁹

Marital Status, Education, and Denominational Affiliation: It was also discovered that 2,064 respondents (80.3%) were married, indicating that the problem of infertility and the urgent need to seek the use of ARTs largely affects married Christians, although it is almost impossible for unmarried individuals to seek the use of ARTs within the Christian circles since the majority of denominational dogma emphasises sexual abstinence for all unmarried believers. The sample was well-educated, with 1,412 (54.9%) having a Nigerian university education and 652 (25.3%) holding postgraduate degrees. This suggests they are capable of understanding medical and ethical issues. Anglicans made up 40.3% of the membership, Pentecostals 34.8%, Catholics 15.2%, and others 9.6%, representing Nigeria's major Christian traditions. The majority of the young Nigerian population attends and worships at Pentecostal churches; infertility and the urgency for the use of ARTs may likely be linked to these churches more than to the mainline denominations. This survey revealed that some young Nigerian couples are declining attendance at mainline churches due to feelings of guilt, unworthiness, and unappealing liturgy. This has led many to seek Pentecostal groups for more inclusive, flexible, and emotionally evocative worship expression and experiences,²⁰ although the mainline denominations still seem to be much more organised in showcasing their theological stances on the issues of infertility and ARTs. Therefore, the psychological perspective of ART usage among church couples may have a stronger impact on the Pentecostal ministries than on mainline churches, as they are predominantly attended by young Nigerians.

4.1. Theological Position

According to Genesis 1:27–28, God commanded Adam and Eve to "be fruitful and multiply." He intended for them to populate the planet with people, which is why He gave them the physical capacity to procreate. They were able to conceive and have children without any problems since their bodies were as perfect as human bodies can be (Genesis 4:1–2). Infertility was not an issue in God's ideal world. Only later, as the earth became defiled by sin and brokenness, did infertility become an issue. Abraham and Sarah's infertility is the first case of infertility mentioned in the Bible (Genesis 11:30). Even in their earlier years, Sarah had failed to conceive, but they were past childbearing age. However, God promised a son to this couple (Genesis 15:1–5; 17:15–16). When God gave them a son, Isaac, in their old age, Sarah's age and infertility served as the setting for a miracle (Genesis 21:1–2). God established a nation via that son that would benefit the entire world (Genesis 12:1–3; 18:18). God has intentions for our children before they are even conceived, as evidenced by the fact that God intervened in Abraham's life to provide him a son. Children are a gift from God, and He expects parents to value them as He does (Psalm 127:3–5). He also has compassion on those who are barren, and the Bible records several instances of His intervention to "open the womb" of infertile women. In addition to Sarah, God opened the wombs of Rebekah (Genesis 25:21), Leah (Genesis 29:31), Rachel (Genesis 30:22), Samson's mother (Judges 13), Hannah (1 Samuel 1), and Elizabeth, mother of John the Baptist (Luke 1). Under the Old Covenant, God promised fertility to the Israelites if they obeyed His commands and honored Him as their God (Exodus 23:26). Also, the Lord has commanded the believer to take care of his body to the best of his ability, given that his body belongs to God (1 Cor 3:16–17; 6:12–20). The concept of the stewardship of the body allows and, in some cases, demands that ethical means be applied in the treatment of bodily dysfunctions. Since infertility is nothing more than a bodily dysfunction in the reproductive system of one or both individuals seeking to have a child, it is appropriate to use medicine and technology to overcome infertility.

Awareness and Perceptions of Assisted Reproductive Technologies (ARTs): The study discovered that 84% of respondents had heard of assisted reproductive technologies (ARTs), but just 58% comprehended the fundamental techniques. 73% believed ARTs were available in Nigeria, but just 34% thought information was freely accessible through church or public channels. 78% thought that ARTs are a Godsend for infertile couples, whereas 46% believed that utilising ARTs demonstrated a lack of faith in God. When both partners' sperm and eggs were used, 81% agreed to ART, suggesting marital integrity. This survey also discovered that 87% of couples believe church should support ART use. 68% experience anxiety or stress about fertility. 57% experience depression due to childlessness. 79% feel faith provides strength. 44% doubt God's fairness. 52% feel adequate emotional support. 82% agree infertile women are blamed for marital problems. 71% believe ART users are gossiped about. Some couples struggle to stop treatment despite poor prognoses. This has the potential to give ART providers a difficult

¹⁷ Ikechukwu V. Ezeome, Chukwuemeka C. Nwafor, and Alexander C. Ndukuba, "Perceptions of Key Ethical Issues in the Use of Assisted Reproductive Technologies among Christians in Nigeria," *Nigerian Journal of Clinical Practice* 24, no. 7 (2021): 1002–1010, https://doi.org/10.4103/njcp.njcp_351_20

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¹⁹ Ogunbiyi, *Socio-Religious Issues in the Use of Assisted Reproductive Technologies*, 123.

²⁰ David O. Ogunbiyi and Babatunde A. Adedibu, "Redefining Contemporary African Pentecostalism: Church of Nigeria (Anglican Communion) in Sociological Retrospect," *African Journal of Religious and Theological Studies* 5, no. 1 (2025): 32–53, <https://doi.org/10.62154/ajrts.2025.05.013>

decision of whether to continue or refuse treatment. Some assisted reproductive technologies have the potential to be harmful to both the mother and the child, posing a psychological or physical health risk, which may affect the ongoing use of these treatments. In Israel, there is research supporting using ART, including recycled lab materials from the IVF process, to help women work through some of these mixed emotions.

Psychological and Social Dimensions of ART Use: The study highlights the psychological perspective on Assisted Reproductive Technologies among Nigerian Christians, providing a critical lens for understanding the socio-emotional, cognitive, and relational experiences of individuals and couples coping with infertility.²¹ In fact, in most communities, having children is highly valued and viewed as an indication of adult and marital success; therefore, infertility usually causes prolonged grief, anxiety, feelings of failure, and low self-esteem among infertile couples. Unfortunately, these socio-psychological situations usually grew worse due to social stigmatisation and unsolicited enquiries by some family relations, fellowship members and office colleagues, especially in Yoruba and Igboland, which serve as constant reminders of the alleged incapacity to fulfil normative reproductive expectations in Nigeria. While ARTs provide hope for many patients, they do not always alleviate psychological distress. Instead, they typically bring with them a new set of interpersonal and emotional challenges. The recurring medical procedures associated with ARTs, including egg harvesting, embryo transfer, and ovulation stimulation, can be emotionally and physically demanding. According to Peterson and his colleagues, cycles of hope can turn into sorrow, remorse, and helplessness, especially in cases of repeated ART failures.²² 76% said it is better to keep ART use secret to avoid judgement. 91% felt that the church should do more to address stigma. 36% felt pastors are knowledgeable about ARTs. 69% said they would feel comfortable discussing ARTs with their pastor.

Infertility can lead to various psychological side effects, including anxiety, sleep disruptions, and irritability in women. However, these side effects have not been reported in men. Other medications for infertility may cause depression, mania, irritability, and difficulty in concentration. Letrozole, an oestrogen receptor blocker, can cause severe headaches, dizziness, fatigue, sleeplessness, breast pain, or an abnormal cycle. Lupron, another drug commonly used in infertility treatment, has been linked to mood swings, depression, anxiety symptoms, vaginal dryness, acne, joint pain, and decreased sex drive in some women. It is challenging for patients and clinicians to distinguish between psychological and medication-induced responses.²³

All researched psychological traits are influenced by both genes and environment, to varying degrees. These two sources of influence are often confounded in observational research of individuals and families. An example of this confounding can be shown in the transmission of depression from a depressed mother to her offspring. A theory based on environmental transmission would hold that an offspring, by virtue of their having a problematic rearing environment managed by a depressed mother, is at risk for developing depression. On the other hand, a hereditary theory would hold that depression risk in an offspring is influenced to some extent by genes passed to the child from the mother. Genes and environment in these simple transmission models are completely confounded. A depressed mother may both carry genes that contribute to depression in her offspring and also create a rearing environment that increases the risk of depression in her child.²⁴

Cost Analysis of ART Procedures: Even if local healthcare professionals assert otherwise, creating low-cost IVF programmes appears to be a low priority,²⁵ despite the fact that over 78% of the population in Nigeria cannot afford IVF due to its high cost or a lack of IVF clinics. In fact, surrogacy usually costs between ₦15 million and ₦30 million, while more complicated situations may result in greater fees. The current IVF expenditures, which range from ₦3 million to ₦7 million, are a contributing factor in this estimation. Medical treatments, legal fees, surrogate remuneration, and agency fees, if any, are all included in the overall cost of surrogacy. Remember that these are only approximate prices; actual expenses may vary greatly based on your particular circumstances, the clinic you select, and any issues that may come up. The billing shows that all clients must go through compulsory consultation and registration at the cost of ₦100,000 before any test or treatment begins. After consultation, required tests are carried out to determine the appropriate treatment and total cost for each client. Basic tests and assessments include β -HCG, ovulation or follicular tracking, and couple fertility assessment, with costs ranging from ₦20,000 to ₦300,000. These tests help identify fertility status and guide treatment options. Intrauterine Insemination (IUI) costs ₦850,000. In Vitro Fertilization (IVF) varies depending on the client's age and whether a donor egg is used. IVF with own egg below 35 years costs ₦3,200,000, above 35 years costs ₦3,500,000, and with donor egg costs ₦4,500,000. The ICSI option, which is an additional procedure, costs ₦1,000,000. Combined IVF and ICSI treatments range from ₦4,200,000 to ₦5,500,000 depending on age and egg source. Male fertility treatments include poor sperm treatment or sperm augmentation for ₦975,000 (10 weeks), sperm aspiration (TESA, MESA, TESE) for ₦1,500,000, sperm freezing for ₦300,000, and donor sperm for ₦150,000. These treatments focus on improving sperm quality or providing alternatives when sperm is not viable. Surrogacy is the most expensive procedure. Surrogacy with own egg costs ₦12,500,000, while surrogacy with donor egg costs ₦12,700,000. Each additional child costs ₦500,000. This reflects the complexity and extensive medical support involved in surrogacy. Premarital fertility screening for couples costs ₦350,000. Male fertility screening including testosterone test costs ₦150,000, and female screening including AFC, AMH, and HSG tests costs ₦250,000. Treatments for menstrual problems such as dysmenorrhea and amenorrhea each cost ₦450,000. Fibroid ablation therapy, ovarian cyst management, and endometriosis or adenomyosis treatment each cost ₦850,000 for a three-month period. PCOS management costs ₦600,000. Delivery through caesarean section (C/S) costs ₦1,000,000 for

²¹ Rushda Roomaney, Zintle Mangxaba, and Kogielambal Pillay, "A Scoping Review of the Psychosocial Aspects of Assisted Reproductive Technologies in African Contexts," *Reproductive Health* 21, no. 1 (2024): 50–64, <https://doi.org/10.1186/s12978-024-01856-9>

²² Brennan D. Peterson et al., "The Relationship between Coping Strategies and Infertility-Related Distress in Infertile Men and Women," *Journal of Psychosomatic Obstetrics & Gynecology* 29, no. 2 (2008): 89–97, <https://doi.org/10.1080/01674820801942817>

²³ George Simionescu et al., "The Complex Relationship between Infertility and Psychological Distress (Review)," *Experimental and Therapeutic Medicine* 21 (2021): 306, <https://doi.org/10.3892/etm.2021.9737>

²⁴ Vijay Tirumalaraju et al., "Risk of Depression in the Adolescent and Adult Offspring of Mothers with Perinatal Depression," *JAMA Network Open* 3, no. 6 (2020): e208783, <https://doi.org/10.1001/jamanetworkopen.2020.8783>

²⁵ Tawanda M. Chiware et al., "IVF and Other Assisted Reproductive Technologies in Low- and Middle-Income Countries: A Systematic Review of Availability, Quality, and Outcomes," *Reproductive Health* 17, no. 1 (2020): 1–12, <https://doi.org/10.1186/s12978-020-00949-6>

a single baby and ₦1,500,000 for multiple births. Gender selection for a male child costs ₦10,000,000. Vitrification (egg or embryo freezing) costs ₦1,000,000 at the start and ₦300,000 quarterly for storage. The data shows that costs increase according to the complexity of the procedure. Basic tests and consultations range from ₦20,000 to ₦300,000, moderate treatments cost between ₦450,000 and ₦975,000, advanced fertility treatments such as IVF and ICSI range from ₦3,000,000 to ₦5,500,000, and surrogacy or gender selection procedures are above ₦10,000,000. This means each client's total bill depends on medical diagnosis, treatment plan, and type of procedure required. Although a consistent power source is a prerequisite for the IVF lab, it is not readily available in many African nations, resulting in frequent, even daily, power outages and variations. Standby generators, batteries, and robust UPS systems are necessary to ensure ideal laboratory conditions for a successful IVF programme. This undoubtedly adds to the expenses.²⁶

Artificial Intelligence (AI) and ART Integration: The recent inclusion of artificial intelligence (AI) during the medical diagnosis, data analysis of infertile couples' health status and ART treatment options has improved the clinical results, accuracy and efficiency of ART procedures in Nigeria, especially in the area of ovarian stimulation, sperm and embryo selection, treatment success prediction and workflow management through AI algorithms, although it is not also without issues, such as data privacy breaches, algorithmic bias, etc., despite its positive impacts. Ogunbiyi and Olajugbagbe studies on AI and its religio-ethical issues raises tension between technological advancement such as ARTs and AI and religious identity and stances in Nigeria, since Nigerian Christians are already facing critical issues in linking faith-based convictions and solutions with scientific innovation, trending AI generated religious contents vs authentic expression of faiths, traditional spirituality vs technological possibility, in fact, for Christians who are to remain socio-ethically vigilance in order to be able to preserve the faith heritage, religious identity and prevent cultural and moral distortion, this require a broader discourse on how technology interacts with religious consciousness.²⁷

Psychological and Ethical Implications of ARTs: The psychological effects of ARTs are long-lasting, particularly after a successful pregnancy. Some of the respondents also claimed that while ART-conceived children develop cognitively and emotionally similarly to traditionally conceived children, their parents—especially mothers—often worry more during pregnancy and the first few years of parenthood. This is because becoming a parent comes with a lot of emotional strain and work, which can lead to over-protectiveness, hyper-attachment, or perfectionistic parenting. Even if these actions aren't always bad, they might need to be addressed to preserve emotional control and good family relationships. There are particular ethical and psychological issues with donor gametes, surrogacy, and embryo donation. It can be difficult for parents to deal with concerns about genetic continuity, confidentiality or disclosure to the child, and feelings of ambivalence or detachment. In order to help people navigate their relationship and identity issues, psychological counselling is necessary both before and after treatment because of these complications.

4.2. Religious Cognition and Pastoral Counselling

Religious cognition, social stigma management, conflict resolution, pastoral care and counselling are very important in building the right attitudes concerning the use of ARTs among couples, especially Christian couples, since it will improve the success rates and social understanding of the issues that surround infertility and ART procedures in Nigeria. Churches and Christian organisations are therefore enjoined to promote compassionate understanding and informed theological reflection on this discourse.²⁸ Fortunately, individuals' ART experience has been identified as contributing greatly to creating social awareness, reducing guilt, enhancing greater openness to socio-medical help, and improving couples' emotional wellbeing during the crisis stage of infertility and successes of ARTs recently. Such an approach would empower clergy and laity to support couples navigating infertility with empathy, reduce stigma, and foster healthier attitudes toward ARTs within the Christian moral landscape. The transient nature of earthly existence: infertile couples often grapple with the tension between accepting divine sovereignty and pursuing medical intervention. When the church emphasises the believer's identity as a pilgrim on earth, it can foster resilience and hope amid reproductive challenges, helping couples frame their struggles within the broader narrative of faith, perseverance, and divine purpose. Yet, if misapplied, this theology may also lead to passive fatalism—discouraging legitimate scientific efforts to overcome infertility.²⁹ It should be noted that religious authority becomes a decisive factor in shaping believers' decisions, sometimes producing guilt, fear, or internal conflict between trusting divine intervention and seeking medical assistance. Consequently, clerical power and scriptural hermeneutics significantly influence how couples perceive and respond to infertility treatments.³⁰

5. Conclusion and Recommendations

The psychological experiences of infertile couples and those who have used ARTs for procreation show how serious the issue of faith, culture and medical science is in our contemporary age. Infertility affects mental health, social identity and spiritual growth. In fact, it triggers Christian couples to sometimes question the supremacy of God, but they somehow find solace also in the scripture and in the support of the faith communities in their quest to have children mostly genetically linked to them. That is, that is the reason why child adoption is always being treated as the final solution if confronted again with the issue of failed ART procedures. The study enables the faith communities to always render support to the infertile couples, assist fertility experts through proper counselling of

²⁶ David O. Ogunbiyi, "The Sociological Effects of Cashless Policy on Church Income in Surulere Archdeaconry, Diocese of Lagos Mainland (Anglican Communion)," *MAHABBAH: Journal of Religion and Education* 6, no. 2 (2025): 100–119, <https://doi.org/10.47135/mahabbah.v6i2.118>

²⁷ David O. Ogunbiyi and Olajumoke M. Olajugbagbe, "AI and Colour Symbolism in Nigerian Religions: A Religio-Ethical Study," *African Journal of Religious and Theological Studies* 5, no. 1 (2025): 105–124, <https://doi.org/10.62154/ajrts.2024.05.01017>.

²⁸ David O. Ogunbiyi, "Socio-Religious Issues in Alcoholic Consumption among Christians in Selected Orthodox Churches in Surulere Lagos Government, Lagos State," *RERUM: Journal of Biblical Practice* 4, no. 1 (2024): 38–66, <https://doi.org/10.55076/rerum.v4i1.518>

²⁹ David O. Ogunbiyi and Babatunde A. Adedibu, "'Strangers and Aliens on Earth' (Hebrews 11:13b): A Socio-Exegetical Inquiry into Christians' Rite of Passage," *Kwaghe International Journal of Arts, Humanities and Religious Studies* 2, no. 3 (2025): 130–152, <https://doi.org/10.58578/kijahrs.v2i3.7344>

³⁰ David O. Ogunbiyi, "Socio-Exegetical Interpretation of 1 Kings 17:13b within the Context of Nigerian Economic Vulnerability and Clerical Authority," *Kwaghe International Journal of Arts, Humanities and Religious Studies* 2, no. 2 (2025): 61–84, <https://doi.org/10.58578/KIJAHRS.v2i2.6354>.

patients in order to make their work easy and recognise ARTs as part of holistic healing procedures for couples seeking the use of it.

The Church's approach to ARTs should be to establish a biblically grounded position on ARTs. Organise clergy training on Christian bioethics, infertility, and reproductive technologies. Establish counselling units for reproductive health and pastoral care. Launch educational campaigns to reduce stigma and promote dialogue on ARTs. Advocate for ethical policies aligning with Christian values and human dignity. Encourage interdisciplinary dialogue among various fields to address ARTs from multiple perspectives.

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