

Acceptance of Assisted Reproductive Technology Among Women of Reproductive Age in Rivers East Senatorial District of Rivers State

Dr Bob-Manuel, Josephine B.¹ & Prof Azuonwu, Goodluck²

¹Department of Human Kinetics, Health and Safety Education, Ignatius Ajuru University of Education, Rivers State, Nigeria.

²Department of Nursing Science, University of Port Harcourt, Nigeria.

*Corresponding Author: Dr Bob-Manuel, Josephine B.

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Article History	Abstract
Original Research Article	<i>This study investigated the acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State. A cross-sectional research design was adopted with a population of 696,356 women of child bearing age (15-49 years) attending health facilities. The sample size for this study was 824 but 800 questionnaires were properly filled which represent 97% return rate and this number was used for data analysis. Data was collected using a self-develop questionnaire titled: Acceptance of Assisted Reproductive Technology (AART) with a reliability coefficient of 0.79. Data analysis was done with the aid of the IBM Statistical Product for Service Solution (SPSS V-25) using the percentage, mean, standard deviation (ANOVA) at 0.05 alpha level. The result revealed that, there was a high extent of acceptance of ART (2.63±0.95). High acceptability was seen most among those with tertiary education (2.91±1.01), and there was a significant difference in acceptance based on income [$F(3,792) = 1.089, p > 0.05$], educational qualification [$F(3,792) = 13.105, p < 0.05$], religious inclination [$F(2,793) = 4.248, p < 0.05$], and occupation [$F(3,793) = 3.505, p < 0.05$]. It was concluded that women of child bearing age had high extent of acceptance of assisted reproductive technology. It was recommended that, stake holders should be incorporated by community healthcare workers to influence the acceptance of assisted reproductive technology among women of childbearing age.</i> Keywords: Acceptance, Assisted Reproductive Technology, Women.
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Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited. Citation: Bob-Manuel, J. B., & Azuonwu, G. (2026). Acceptance of assisted reproductive technology among women of reproductive age in Rivers East Senatorial District of Rivers State. UKR Journal of Medicine and Medical Research, 2(4), 94-100.	

Introduction

In the recent decade, socioeconomic developments in Nigeria have radically modified conventional birthing habits. A significant number of women have elected to postpone having children for a variety of reasons, including the penalties related with taking time off work and the huge cost of sustaining a youngster. Women are having their first child later than ever before, each year. Whereas birth rates for Nigerian women in their twenties have gradually declined year after year, rates for females in their thirties and forties have climbed (Barker, 2020). Assisted reproductive technology (ART) is a group of modern medical therapies that help in the fertilization of both males and females (Olugbenga et al., 2014).

The usage of ART differs substantially amongst European nations (Messerlian et al., 2017) (Calhaz-Jorge et al., 2016;

Präg & Mladovsky, 2017). The number of ART treatment cycles in Moldova in 2012 was between 1457 per million women aged 15–44 compared to 14 431 per million women aged 15–44 in Denmark in the same age range, according to the most recent release of the European IVF-Monitoring Consortium (EIM) registers for the European Society of Human Reproduction and Embryology (ESHRE) (Calhaz-Jorge et al., 2016). However, the causes behind these differences are not totally understood. Economic development was once assumed to be a primary driving force but it cannot explain the great differences among countries. Wealthier countries had a somewhat higher incidence of ART use, although the correlation is far from perfect, with a number of poorer European countries having significant levels of ART usage. For example, the Czech Republic had 10 473 cycles per million women of

reproductive age in 2012 yet ranks low (51st) in national prosperity as judged by purchasing power parity GDP. The Czech Republic has a similar ART treatment level to Denmark (37th), whereas high-income nations such as Italy (eighth) and the United Kingdom (fifth) reported 5480 and 4918 cycles per million women of reproductive age correspondingly (Praig & Mills, 2017). There is evidence of a high rate of infertility (Akinloye & Truster, 2011) in Nigeria and other Sub-Saharan African nations.

There are presently few therapeutic options accessible for infertile couples. Because of cultural considerations and the lack of particular laws for adoption in the Nigerian legal system, many of them are hesitant to choose adoption as a method of addressing infertility. Infertile couples' drive to overcome their infertility issue has resulted in the patronage of several treatment clinics offering various treatment alternatives. It has been stated that assisted reproductive technology can cure more than half of all infertility cases (Cooke, 2014). All therapies or procedures involving the in vitro (IVF) handling of human oocytes, sperm, or embryos for the intention of generating a pregnancy are referred to as ART.

As a result, even in severe situations when traditional therapy may suffice, the potential influence of new technologies on Nigeria and other African countries is undeniable. Shreffler et al. (2001) revealed that persons with liberal social-political beliefs are less likely to express ethical concerns about ART than their conservative counterparts. Similar outcomes have been observed in embryonic stem cell research (Hudson et al, 2015), abortion, reproductive genetic testing (Kalfoglou et al., 2014), and postmortem reproduction. These results correspond to the underlying principles that separate political parties: traditionalists cherish the traditional family structure, while scientists are frequently more liberal on reproductive health concerns.

Having children is viewed as having not just biological implications but also social consequences. They are based on the cultural assumption that a partnership is fulfilled and productive if the husband and wife are able to create children and the maternal potential and position of women are recognized. Motherhood is associated with social and economic productivity in Nigeria. It is also perceived as the only means of enhancing women's status in terms of resource allocation in the family and community. Motherhood in Rivers State, South-South Nigeria has an extra societal significance. In communities in Rivers State,

motherhood status is a major factor as it provides a means for upward socioeconomic mobility and improved status for the woman in the family and society, which translates into security in old life. Hence the necessity to investigate the acceptance of ART among women. Therefore, this study examined the acceptance of Assisted Reproductive Technology among Women of child bearing age in Rivers East Senatorial District in Rivers State. The following research questions guided the investigation.

1. What is the extent of acceptance of Assisted Reproductive Technology among women of child bearing age in Rivers East Senatorial District of Rivers State?
2. To what extent does educational qualification influence the acceptance of ART among women of child bearing age in Rivers East Senatorial District of Rivers State?

The hypothesis below was tested at 0.05 level of significance:

1. There is no significant difference in the acceptance of Assisted Reproductive Technology in Rivers East Senatorial District of Rivers State based on socio-demographic variables.

Methodology

A cross sectional research design was utilized with a population of 696,356 women of child bearing age (15-49 years) attending health facilities in Rivers East Senatorial District of Rivers State during the period under study made up of public health facilities. The study sample size was 824 but 800 questionnaires were correctly filled which reflect 97% return rate and this number was used for data analysis. The sample was selected by means of a multistage sampling technique. Firstly, the district was grouped into 4 regions based on cultural resemblance (Etche and Omuma), (Ikwerre and Emohua), (Obio/Akpor and Port Harcourt) and (Okrika and Ogu-Bolo). One LGA was selected from each cluster using basic random sampling. Thirdly, in each selected LGA, 206 women of child bearing age (15-49years) were recruited making a total of 824 respondents from the 4 selected LGAs. Data was obtained using a self-constructed questionnaire titled Acceptance of Assisted Reproductive Technology (AART) with a reliability coefficient of 0.79. Data were analyzed using the IBM Statistical Product for Service Solution (SPSS V-25) utilizing percentage, mean, standard deviation (ANOVA at 0.05 alpha level).

Results

The results of the study are shown below:

Table 1: Extent of acceptance of assisted reproductive technology among women of child bearing age

Acceptance of ART	Mean	S.D.	Decision
1. Will use egg donation If my personal eggs are not viable	3.17	0.89	High

2. Will only accept sperm donation only when partner is sterile	2.95	0.92	High
3. Don't need to know about the health status of a donor before using his or her eggs or sperm	1.77	0.94	Low
4. Will use ART if the cost is totally borne by the government	2.61	1.03	High
5. Will use ART because the benefits outweigh the risk	3.11	0.95	High
6. It is likely that an egg donor would later regret her decision to donate her eggs for psychological reasons	2.70	0.91	High
7. Thinks ART treatment should be accepted by anyone who want to determine the sex of the child	2.65	0.96	High
8. Might regret choice of sperm donor for psychological reasons	2.77	0.90	High
9. Artificial incest can occur with sperm donation, so use of ART should not be recommended	2.39	0.95	Low
10. Delivery outcome of ART is usually through operation (CS) so one should not use it	2.44	1.01	Low
11. Will never accept sperm donation because the children will be denied right of inheritance by their uncle	2.10	1.06	Low
12. Will use ART because its outcome is twin or triplet, to regain my lost years of waiting for children	2.90	0.99	High
Grand Mean	2.63	0.95	High

Criterion mean = 2.5

Table 1 showed the extent of acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State. The result showed that the grand mean of 2.63 ± 0.95 was higher

than the criterion mean of 2.5 indicating a high extent of acceptance. Thus, high extent of acceptance was seen among the respondents.

Table 2: Extent to which educational level influence the acceptance of ART among women of child bearing age in Rivers East Senatorial District

Acceptance of ART	Primary (n=79) Mean $\pm$ S.D.		Secondary (n=375) Mean $\pm$ S.D.		Tertiary (n=322) Mean $\pm$ S.D.		Others (n=24) Mean $\pm$ S.D.	
Will use egg donation If my eggs are not viable	3.29	0.92	3.27	0.87	3.04	0.91	2.91	0.71
Will only accept sperm donation only when my partner is sterile	3.01	1.04	2.94	0.93	2.96	0.89	2.75	0.73
Don't need to know about the health status of a donor before using his or her eggs or sperm	1.58	0.91	1.87	0.96	1.66	0.90	2.25	1.11
Will use ART if the cost is totally borne by the government	3.13	1.07	2.68	1.04	2.40	0.96	2.54	0.93
Will use ART because the benefits out weight the risk	3.34	0.99	3.14	0.92	3.02	0.96	2.91	0.97
It is likely that an egg donor would later regret her decision to donate her eggs for psychological reasons	3.18	0.92	2.69	0.91	2.60	0.87	2.75	0.84
Think ART treatment should be accepted by anyone who want to determine the sex of the child	2.88	1.01	2.69	0.96	2.57	0.93	2.20	0.83
Might regret my choice of sperm donor for psychological reasons	3.26	0.88	2.74	0.93	2.70	0.85	2.58	0.88

Artificial incest can occur with sperm donation, so I won't recommend the use of ART	2.89	1.05	2.44	0.95	2.21	0.88	2.33	0.81
Delivery outcome of ART is usually through operation (CS) so I will not use it	2.96	1.07	2.47	1.06	2.28	0.90	2.50	1.06
Will never accept sperm donation because my children will be denied right of inheritance by their uncle	2.41	1.18	2.12	1.06	1.99	1.04	2.25	0.79
Will use ART because its outcome is twin or triplet, so will regain my lost years of waiting for children	3.00	1.10	2.96	0.97	2.82	0.98	2.62	1.01
Grand Mean	2.52	0.92	2.66	0.96	2.91	1.01	2.54	0.88

Table 2 showed the extent to which educational qualification influence the acceptability of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State. The result revealed that based on educational qualification, high acceptability of ART was found most among respondents

with tertiary level of education (2.91 ± 1.01), followed by those with secondary level of education (2.66 ± 0.96), respondents with other level of education (2.54 ± 0.88), and respondents with primary level of education (2.52 ± 0.92). Hence, based on educational qualification, high acceptance was seen most those with tertiary education.

Table 3: ANOVA showing significant difference in the acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on educational qualification

Source of variance	Sum of Squares	df	Mean Square	F-value	p-value	Decision
Between Groups	11.411	3	3.804	13.105	0.00	Rejected
Within Groups	229.889	792	0.290			
Total	241.301	795				

*** Significant**

Table 3 showed the ANOVA of significant difference in acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on educational qualification. The result showed that there was a significant difference [$F(3,792) = 13.105$, $p < 0.05$]. Thus, the null hypothesis

which stated that there is no significant difference in acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on educational qualification was rejected.

Table 4: ANOVA showing significant difference in acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on income

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	0.991	3	0.330	1.089	0.353	Accepted
Within Groups	240.309	792	0.303			
Total	241.301	795				

*** Not Significant**

Table 4 revealed the ANOVA of significant difference in acceptance of ART among women of child bearing age based on income. The result showed that there was no significant difference [$F(3,792) = 1.089$, $p > 0.05$]. Thus, the null hypothesis which stated that there is no significant

difference in acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on income was accepted.

Table 5: ANOVA showing significant difference on the acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on religious inclination

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	2.558	2	1.279	4.248	0.015	Rejected
Within Groups	238.743	793	0.301			
Total	241.301	795				

*** Significant**

Table 5 showed the ANOVA of significant difference in acceptance of ART among women. The result showed that there was a significant difference [$F(2,793) = 4.248$, $p < 0.05$]. Thus, the null hypothesis which stated that there is

no significant difference of religious affiliation on the acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State was rejected.

Table 6: ANOVA of significant difference in acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on occupation

Source of variance	Sum of Squares	df	Mean Square	F-value	p-value	Decision
Between Groups	3.161	3	1.054	3.505	0.015	Rejected
Within Groups	238.139	792	0.301			
Total	241.301	795				

*** Significant**

Table 6 showed the ANOVA of significant difference in acceptance of ART among women based on occupation. The result showed that there was a significant difference [$F(3,793) = 3.505$, $p < 0.05$]. Thus, the null hypothesis which stated that there is no significant difference on the acceptance of assisted reproductive technology among women of child bearing age in Rivers East Senatorial District of Rivers State based on occupation was rejected.

similar to that of Sohrabvand and Jafarabadi (2005) which showed high extent of acceptance of assisted reproductive technology.

The similarities between the two studies may be explained by their sampling of respondents who were not unusually infertile. This study's finding is not in consonant to that of Stoebel-Richter et al. (2012) which indicated low amount of acceptance of assisted reproductive technology. This variance can be attributed to the fact that the prior study was targeted primarily at infertile couples who are actually in need of such services while the present study was focused on women of reproductive age, which included both those who may be infertile and those who are fertile. The investigated hypothesis indicated that there was no significant difference in attitude based on age [$F(4,791) = 1.960$, $p > 0.05$]. The positive attitude was more among respondents between 31-40 years of age. This finding of the study is in line with that of Omokanye et al. (2017) whose study on assisted reproductive technology services in Ilorin, Nigeria demonstrated the use of assisted reproductive technology among whom the respondents were old with a mean age of 36.1 ± 6.6 years.

High acceptance was also found more among respondents earning between 201-300 thousand naira (2.85 ± 0.96) but, there was no significant difference in acceptance based on income [$F(3,792) = 1.089$, $p > 0.05$]. The finding of this study is in keeping with that of Mahey et al. (2018) which

Discussion of findings

The findings of the study were discussed below:

The study showed that majority of the respondents accepted that they will use egg donation If my personal eggs are not viable, will only accept sperm donation only when partner is sterile, will use ART if the cost is totally borne by the government, will use ART because the benefits out weight the risk , It is likely that an egg donor would later regret her decision to donate her eggs for psychological reasons, thinks ART treatment should be accepted by anyone who want to determine the sex of the child, Might regret choice of sperm donor for psychological reasons, and that will use ART because its outcome is twin or triplet, to regain my lost years of waiting for children with a mean scores of 3.17, 2.95, 2.61, 3.11, 2.70, 2.65, 2.77 and 2.90 which far greater that the criterion mean of 2.5. a grand mean of 2.63 ± 0.95 was obtained indicating that women of child bearing age in Rivers East Senatorial District has high extent of acceptance of ART. The finding of this study is

showed that concern about assisted reproductive technology was more among respondents in the middle class according to the categorization of the socio-economic status of the respondents. High acceptance was seen more among respondents who were Muslims (2.94 ± 0.94) and there was a significant difference in acceptance based on religious affiliation [$F(2,793) = 4.248$, $p < 0.05$]. Religiosity remains an important influence on how people interpret, think about and act on health-related issues such as infertility and reproductive health problems. The results of this study corroborate the claim by Erinosho (2016) that the major religions, especially Christianity and Islam, provide spiritual explanations, emotional support, and coping strategies for people facing the uncertainties of life, illnesses, and reproductive related issues. Although science and modern medicine have made great strides in the diagnosis and treatment of infertility and other reproductive health issues, religious beliefs and practices still play a significant role in the way that healthcare decisions are made, as well as in the psychological comfort of many people. In Nigeria and other African nations, religious institutions still provide counselling, therapeutic services and social assistance that supplement biomedical approaches. The findings also concur with the position articulated in the *Safe Motherhood Fact Sheet* (SMHFS, 2010) which states that some Islamic doctrines forbid medical consultations with male physicians in respect of female patients and vice versa. But these religious rituals can unintentionally hinder women suffering from infertility from getting access to reproductive health services in a timely fashion, especially in locations with limited female health care providers. Therefore, religious beliefs continue to be an important factor in the healthcare seeking behaviour, treatment choices and coping methods of people and couples with fertility problems.

Conclusion

Based on the findings of the study, it was concluded that women of child bearing age in Rivers East Senatorial District of Rivers State had high extent of acceptance of assisted reproductive technology. Factors such as educational qualification, religion and occupation were found to have statistically significant difference in the acceptance of assisted reproductive technology.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Stake holders should be incorporated by community healthcare workers to influence the acceptance of assisted reproductive technology among women of childbearing age.

2. Health care workers should not discriminate women based on their age during their visit to any fertility clinic to seek for help through the use of assisted reproductive technology.
3. Reproductive health programme planners should give special consideration to the educational status of women when designing programmes to promote the use of assisted reproductive technology among women.
4. Religious leaders should be incorporated by the health care management in any effort to promote assisted reproductive technology among women of childbearing age as religious affiliation was a significant factor.

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