KNOWLEDGE AND UTILIZATION OF ASSISTED REPRODUCTIVE TECHNOLOGY AMONG WOMEN IN OBIO/AKPOR LOCAL GOVERNMENT AREA OF RIVERS STATE

Igu Ebophni-Vera Vincent[1] and [2]Udechukwu J.O. (Ph.D)[2]

Department of Human Kinetics, Health and Safety Education, Ignatius Ajuru University of Education, Port Harcourt.

Correspondence Email: veravincent98@yahoo.com, jonathan4udochukwu@gmail.com

ABSTRACT: *The aim of this study was to investigate the knowledge and utilization of assisted reproductive technology (ART) among women in Obio/Akpor Local Government Area in Rivers State. A descriptive survey design was adopted as the research design for this study, with a population comprising all the 237,647 women of reproductive age in Obio/Akpor Local Government Area. A multi stage sampling procedure was used to select a sample size of 438 women for the study. A structured questionnaire with a reliability index of k0.75 was used for data collection. Data was analyzed using frequency, percentage, Pearson's correlation, Chi-square, and binary logistic regression for relevant variables. The findings of the study revealed that the level of knowledge on ART among women was high (71.9%) whereas the level of utilization was low (18.2%). The findings of the study show that educational status was significant related with ART (p<0.05) and utilization ART (p<0.05). It was concluded that the level of knowledge on ART among women was high while the level of utilization was low. Therefore, special health facilities should be built by the Government Areas for easy access and use.*

KEYWORDS: Assisted reproductive technology, women, utilization, Obio/Akpor.

INTRODUCTION

Assisted reproductive technology was made a substantial contribution to the alleviation of the burden of infertility, which has been a global phenomenon. Moreira, Fall, Dieng, Fall, Diouf, and Moreau (2008) noted that, it is commonly accepted that infertility affects more than 80 million people worldwide. In general, one in ten couples experience primary or secondary infertility, but infertility rates vary amongst countries from less than 5% to more than 30%. Report from the Reproductive Health Outlook (2010) showed that, in sub-Saharan Africa, about one-third of couples are reported to account for about 55% of infertility cases, male factor for about 30–40% of cases and unexplained infertility accounted for the remaining 5–15%. Most of those who suffer from infertility live in developing countries where infertility services in general and assisted reproductive technology provides infertile women a wide range of reproductive possibilities. According to Hammerberg, Stafford-Bell and Everingam (2015), assisted reproductive technology (ART) offers a lot of people the opportunity to have a child.

However, the utilization of ART is low in many developing countries compared to the rate of infertility. According to Carlson (2008), the utilization of assisted reproductive technology to assist in conception is not suitable, as this treatment is not only expensive but is also associated with higher rates of health complications and mortality for both mothers and babies. As many as 1 in 16 babies are now born through ART in some countries and not all couples have access to this technology due to cost or religious reasons. Though, ART is available in Nigeria, infertile women scarcely use them because of misconceptions and lack of knowledge on its efficacy.

Knowledge about assisted reproductive technology is inadequate in many parts of the world. A global survey of almost 17,500 women (mostly of childbearing age) from 10 countries revealed that knowledge regarding fertility and biology of reproduction was poor (Sohrabvand & Jafarabadi, 2005). Poor knowledge about infertility can be surrounded by many mistaken beliefs about its causes, such as witchcraft and possession by evil spirits, and these negatively affect its management, which include the utilization of ART to expedite the chances of pregnancy. Increasing the level of knowledge about ART may help wider societies to get rid of the misconceptions about how it works and understand its significance in the management of infertility among women. Similarly, Sohrabvand and Jafarabadi (2005) stated that knowledge of infertile couples about assisted reproductive technology is a fundamental parameter to optimize its use as infertility treatment and conduct it cooperatively.

STATEMENT OF THE PROBLEM

Although infertility may not be a public health priority in many countries, it is a central issue in the lives of the individuals who suffer from it. The personal suffering of the infertile woman is exacerbated in some society where womanhood is defined through motherhood and can lead to unstable marriage, domestic violence, stigmatization and even ostracism. The desire to bear children is almost a universal one in Nigeria and most part of sub-Saharan Africa. While infertility is not a life-threatening condition, its negative social and mental impact on individuals are life threatening. It is mostly women who suffer adverse effects including stigmatization and feelings of low self-esteem. However, knowledge about infertility is generally limited in the population and a lot of misconceptions about the utilization of assisted

reproductive technology and myths are prevalent in the society. Hence, this study is aimed at investigating the knowledge of assisted reproductive technology among women in Obio/Akpor Local Government Area of Rivers State.

Objectives of the study

Four specific objectives were achieved on the study. They include:

1.   To investigate the level of knowledge about ART among women in Obio/Akpor Local Government Area of Rivers State.

2.   To find out the utilization of ART among women in Obio/Akpor Local Government Area of Rivers State.

3.   To examine the relationship between educational status and knowledge of ART among women in Obio/Akpor Local Government Area of Rivers State.

4.   To examine the relationship between education and the utilization of ART among women in Obio/Akpor Local Government Area in Rivers State.

Hypotheses

The following null hypotheses stated were tested at 0.05 alpha level:

1.   There is no significant relationship between educational status and knowledge of ART among women in Obio/Akpor Local Government Area in Rivers State.

2.   There is no significant relationship between educational status and utilization of ART among women in Obio/Akpor Local Government Area in Rivers State.

METHODOLOGY

Research Design: The research design adopted for this study is a descriptive survey design.

Population of the Study: The study population comprised all the two hundred and thirty-seven thousand, six hundred and forty seven (237,647) women of reproductive age in Obio/Akpor Local Government Area.

Sample Size and Sampling Technique: A sample size of 438 was determined using the Taro Yamane formula. A multi-stage sampling procedure was used to select the respondents.

Instrument for Data Collection: The instrument for data collection was a structured questionnaire titled "Questionnaire on Knowledge and Utilization of Assisted Reproductive Technology (QOKUART)" consisting of three sections: A, B, and C. Section A addressed the socio-demographic characteristics of the respondents. It consisted of seven (7) items with the multiple response format. Section B addressed the knowledge of ART with then "Yes or No" response format, and section C elicited response on the utilization of ART.

Validity of the Instrument: The validity of the instrument was established by the project supervisor in the Department of Human Kinetics, Health and Safety Education, Ignatius Ajuru University of Education, Port Harcourt.

Reliability of the Instrument: The instrument has a reliability index of 0.75.

Method of Data Analyses: The data collected were analysed using the statistical package for social sciences (SPSS) version 20.0 and data were presented using frequency count, percentage and chi-square at 0.05 alpha level.

Results: The results of the study are presented in Table 1–4.

Table 1: Knowledge of Assisted Reproductive Technology (ART) among Respondents

Knowledge*	Score	F	%
Poor	≥ 15	114	28.1
Good	1–14	291	71.9
Total	**18**	**400**	**100**
Mean knowledge = 15.47±1.97			

Non responses excluded.

Table 1 reveals the knowledge score of respondents. The finding of the study shows that 291 (71.9%) of the respondents scored 15 and above, which was assumed to be good knowledge and 114 (28.1%) scored less than 15, which was assumed to be poor knowledge. With the mean knowledge of ART = 15.47; therefore, the knowledge level of ART among women was high (71.9%).

Table 2: Level of Utilization of ART among Respondents

Items	Yes F(%)	No F(%)
Ever taken any form of treatment of aid conception	72(18.2)	323(81.8)
Methods of ART used by respondents*		
Artificial insemination	-	-
In-Vitro Fertilization (IVF)	10(2.5)	395(97.5)
Surrogacy	10(2.5)	395(97.5)
Zygote intra-Fallopian Transfer	20(4.9)	385(95.1)
Gamete Intra-Fallopian Transfer	10(2.5)	395(97.5)
Intra-cytoplasmic sperm injection	20(4.9)	385(95.1)
Ovulation induction (use of pregnancy hormones)	42(10.4)	363(89.6)
Donor eggs		

*Multiple responses

Table 2 reveals the level of utilization of ART among women in Obio/Akpor. The result shows that the level of utilization of ART was low (18.2%). The most common method of ART used by the respondents was ovulation induction (use of pregnancy hormones) (10.4% each), while 2.5% each have used In-Vitro Fertilization (IVF), Surrogacy and Gamete Intra-Fallopian Transfer.

Table 3: Chi-square Test Showing the Relationship between Educational Status and Knowledge of ART

| Education | Knowledge | | Total | df | X^2-Value | P-values | decision |
	Poor	Good					
None	20(64.5)	11(35.5)	31(100)	3	58.163	.000	Rejected
Primary	10(23.8)	32(76.2)	42(100)				
Secondary	42(51.2)	40(48.8)	72(100)				
Tertiary	42(16.8)	208(83.2)	250(100)				
Total	114(28.1)	291(71.9)	405(100)				

The null hypothesis states that there is no significant relationship between status and utilization of ART among women in Obio/Akpor Local Government Area. The finding of the study revealed a significant relationship between education and knowledge (p<0.05, df = 3, x^2 = 58.163). The null hypothesis was therefore rejected (Table 3).

Table 4: Chi-square Test Showing the Relationship between Educational Status and Utilization of ART

| Education | Ever used any ART | | Total | df | X^2-Value | P-values | decision |
	Yes	No					
None	10(32.3)	21(67.7)	31(100)	3	14.319	.003	Rejected
Primary	10(23.8)	32(76.2)	42(100)				
Secondary	20(27.8)	52(72.2)	72(100)				
Tertiary	32(12.8)	218(87.2)	250(100)				
Total	72(18.2)	323(81.8)	395 (100)				

The null hypothesis states that there is no significant relationship between status and utilization of ART among women in Obio/Akpor Local Government Area. The finding of the study revealed a significant relationship between education and knowledge (p<0.05, df = 3, x^2 = 14.319). The null hypothesis was therefore rejected (Table 4).

DISCUSSION OF FINDINGS

The finding of this study in Table 4.1 shows that the knowledge level of ART among women was high (71.9%). The finding of this study is similar to that of the Fotopoulou, Chasiakou, Alexandros Gryparis and Baka (2015) which showed a high level of knowledge among respondents. This similarly could be explained by the fact that the previous study was conducted among medical students who must have gotten much information on assisted reproductive technology in the course of their study, and the present study was conducted among women who probably have had such information in the course of their visit to the health facilities sampled. The finding of this study is at variance with that of Stoebel-Ritcher, Geue, Borkenhagen, Braehler and Weidner (2012) which showed that only very few respondents had a good knowledge of assisted reproductive technology. The difference found in the two studies might be due to the fact that the previous study used a nationally representative sample whereas the present study used a smaller sample size. The finding of this study is also at variance with that of Sowjanya (2011) which showed that only a very small proportion of the respondents had adequate knowledge of assisted reproductive technology. The difference in the study design adopted might be implicated for the difference in the two studies. The finding of this study is also at variance with that of Sohrabvand and Jafarabadi (2005) which showed a lesser percentage of the respondent, and Braehler and Weidner (2012) which showed a low utilization of assisted reproductive technology. The similarity found between the two studies could be due to the fact that they both sampled respondents who were particularly infertile. The finding of this study is different from that of Sohrabvand and Jafarabadi (2005) which showed that about sixty-four percent of the respondents have never utilized assisted reproductive technology. This high level of utilization found in the previous study unlike the present one could be explained by the fact that the previous study was targeted only at infertile couples who are really in need of such services. The findings of this study revealed that the most common methods of ART used by respondents were Ovulation Induction (use of pregnancy hormones) (10.4%), followed by Zygote Intra-Fallopian Transfer and Intra-cytoplasmic Sperm Injection (4.9% each), while 2.5% each have used In-Vitro Fertilization (IVF), Surrogacy and Gamete Intra-Fallopian Transfer. This finding is at variance with that of Abolfotouh, Alabdrablnabi, Albacker, Al-Jughaiman and Hassan (2013) which showed that the most commonly used assisted reproductive technology was the IVF. The variation found in the present study and the previous ones is due to the fact that the target population of the both studies were different.

The table showed that 51.2% and 16.8% of the respondents who had secondary and tertiary education respectively had good knowledge of ART. The result of the study further shows a low relationship between educational status and knowledge of ART (r-value=0.285). The finding of the study revealed a significant relationship between education and knowledge (p<0,05, df = 3, X^2 = 58.163). The finding of this study is similar to that of Sohrabvand and Jafaradi (2005) which showed that with levels III and IV of education were knowledge in 74.60% of ART cases than respondents in other educational levels, and that knowledge of ART was significantly related with education (p<0.0001). The finding of this study is also similar to that of Sowjanya (2011) which showed that there was a statistically significant association found between knowledge and demographic variable, such as education. The finding of this study is also similar to that of Stoebel-Richter, Geue, Borkenhagen, Braehler and Weidner (2012) which showed that there was a significant relationship between being knowledgeable about assisted reproductive technology and education as a way of complementing knowledge of an individual in all spheres of life.

The findings of this study in Table 4.6 show that 24.8% and 12.8% of the respondents who had secondary and tertiary education respectively have ever used ART. The result of the study shows a very low relationship between educational status and knowledge of ART (r-value=0.169). The finding of the study revealed a significant relationship between education and utilization ($p<0.05$, df=3, X^2=14.319). The findings of this study is in line with Sohrabvand and Jafarabadi (2005) which showed that 64.5% of the respondents have never used ART with a positive outcome, among which 3.2% had advanced education, and that the utilization of ART was significantly related to education ($p<0.05$). The finding of this study is similar to that of Adesiyun, Ameh, Avidime and Muazu (2011) which showed that only few respondents utilized assisted reproductive technology among which more of them had secondary education as seen in the present study. The same was seen in the study of Stoebel-Richter, Geue, Borkenhagen, Braehler and Weidner (2012) which showed more of the respondents who utilized ART to have had secondary education. The finding of this study is similar to that of Abolfotouh, Alabdrabalnabi, Albacker, Al-Juhaiman and Hassan (2013) which showed that most of the respondents who used assisted reproductive technology had secondary education. The similarity found between the present study and the previous ones might be due to the fact that education has a way of the present study and the previous ones might be due to the fact that education has a way of enhancing behavioural change and positive health outcomes.

CONCLUSION

Based on the findings, it was concluded that the level of knowledge on ART among women was high whereas the level of utilization was low. The most common method of ART used by respondents was Ovulation Induction (use of pregnancy hormones).

RECOMMENDATIONS

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

1. Special health facilities should be built by the Government and such facilities should be distributed across the different Local Government Areas for easy accessibility.

2. The Government should promote reproductive technologies through legislative and financial measures.

3. Health professionals should make information about assisted reproductive technology available to the public through campaigns.

4. Nurses and other health personnel working in infertility clinics should concentrate on the benefits of assisted reproductive technology to encourage its utilization.

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