

The relationship between religion, culture, cost, ethics, and husband perception with the decision of women's utilization of Assisted reproductive technology as method of infertility management

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Abstract

Context: Infertility is a global health problem characterized by inability of couple to achieve pregnancy after one year of regular unprotected sexual intercourse; or after 6 months if the woman is older than 35 years of age.

Aims: To examine the effect of determinants on the Utilization of Assisted Reproductive Technology (ART) among women

Setting and Design: This is a cross sectional survey design conducted on women at the Obstetrics, Gynaecology and Fertility clinics in university of Benin Teaching Hospital, Benin-City, Nigeria, 2020.

Material and Methods: This study was conducted among 348 women, selected through stratified probability sampling method, and a self-structured questionnaire was designed, administered and same retrieved.

Statistical Analysis Used: Data collected were analyzed using descriptive statistics, means, standard deviation (SD) and Pearson Correlation Coefficient at 0.05 significant levels.

Results: The mean (SD) of the determinants: religion, culture, cost, ethics, and husband perception were as follows: 2.47 ± 1.28 , 2.34 ± 1.20 , 3.37 ± 1.25 , 2.35 ± 1.09 , 2.33 ± 1.13 respectively. The Pearson Correlation Coefficient, shows significant relationship ($P = < 0.001$, $P = 0.023$) between cost, husband perception and the women decision, while there are no statistical relationship ($P = 0.591$, $P = 0.892$, $P = 0.934$) between religion, culture, ethics and the decision for ART among women.

Conclusion: The cost of ART is a major factor, therefore, there is need for international efforts to facilitate globalization of ART services with special attention to manpower development, subsidization of the running cost and establishment a global partnership as obtained in the Sustainable Development Goals (SDGs).

Keywords: Assisted reproductive technology, Cost, Culture, Ethics, Husband, Religion

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INTRODUCTION

Infertility is the inability to achieve pregnancy after 1 year of regular unprotected sexual intercourse or after 6 months if the woman is older than 35 years of age.^[1,2] Globally, statistics shows that ten in every seventy couples are faced with at least one of different types of infertility in both developed and developing countries.^[3-5] In Africa continent, the incidence of infertility among married couples ranges from 15% to 30% which is totally worrisome.^[6-8] Infertility is a global health problem and a socially threatening condition for couples causing several stigmas and a cause of marital disharmony.^[9,10] Infertility as a reproductive health index is a major gynecological problem in African culture, the main reason for marriage is childbearing, the failure of which results in several matrimonial problems.^[11-13] It is a major psychological and social factor in Africa where childbearing is seen as the blessing of marriage and is highly valued; infertility or delay in childbearing is taking as a curse.^[14,15] Medically infertility is the view as a disease that affects the reproductive system; the incidence of the diseases is almost the same in both male and female.^[16] There are different research studies identifying infertility as a major burden on Nigeria couples and health-care delivery system.^[17-19] In addition, most findings in Nigeria show that infertility is the most common purpose for gynecological consultation.^[20-23] The physiological and psychological burden of infertility in marriage gives rise to diverse health-care-seeking compartments ranging from alternative/traditional health care, spiritual health care, and modern health care such as assisted reproductive technology (ART). ART is one of the best procedures that have been found to be reliable in the treatment of infertility.^[24,25]

ART is a medical technique used principally to treat infertility.^[26] It is referred to handling of sperm, eggs, and embryos outside the body to initiate pregnancy in a woman.^[27] Comparably, couples are turning to ART for help with conceiving and ultimately giving birth to a healthy live baby of their own.^[28] ART has enabled millions of infertile couples worldwide to have children.^[29,30] Moreover, despite this groundbreaking achievement in fertility clinic, thousands of women were still not considering ART as option of treatment.^[31,32] Evidence emergences from past studies show that treatment options are available for infertility, none of the treatment procedures had a better impact on the society as much as ARTs, but despite that, the turnout among developing countries is low when compared with developed countries and this may be associated with different factors such as religion, culture, and cost. Religion, belief, and culture should be recognized in health care as potential sources of moral purpose and personal strength in decision taking about health-care services.^[33,34]

There are three ethical principles that provide an ethical basis for the decision of women's utilization of ART as method of infertility management: the principle of liberty, principle of utility, and principle of justice.^[35,36] Medical ethics are based on the moral, religious, and philosophical ideas and principles of the society and are influenced by economics, policies, and law.^[31] This creates tension between the principles of justice and utility, which can result in disparity in the availability of and access to ART services between the rich and the poor.^[37,38] Therefore, this study is aimed at determining the effect of religion, culture, cost, ethics, and husband perception on the decision of women attending a tertiary health institution in the utilization of ART.

MATERIAL AND METHODS

A descriptive cross-sectional survey was conducted in University of Benin Teaching Hospital, Benin City, Nigeria, in 2019, which enabled the researcher to survey hundreds of patients and get private information during the survey. This is the feature of any empirical study in which the goal is to make inferences about a population from that sample.^[39] The subjects were chosen through the probability sampling technique. This gives participants an equal chance or opportunity of being selected. The simple random technique was the sampling frame used since it is the most sensitive and valid type, and participants had homogenous attributes. The clinics, namely obstetrics, gynecology, and fertility clinic, were stratified and proportional allocation of questionnaires was given out to obstetric –266, gynecology –60, fertility clinic –30, with summation of 348. Patients who were willing to participate in the study and women who were registered in any of the three clinics were included in the study, and patients with comorbidities that could limit their ability in participating in the study were excluded from the study.

The minimum sample size required for this study was determined using the Cochran formula, $P = 70.1\%$, error = 5%, and 95% confidence interval.^[39] This present study received permission from the University of Benin Teaching Hospital Ethical Committees where the study took place, with approval reference ADM/E22/A/VOL. VII/14556 on December 14, 2017. The head of the department of obstetrics and gynecology was also informed. In line with the Belmont report above, the researcher strived to do no harm to participants. A consent form was given to the participants to seek written consent, and verbal consent was also obtained before data collection. The research topic is sensitive; therefore, effort was made to ensure that very sensitive and pertinent questions were avoided as much as possible. Patients may be referred to a counselor if the need arises. Participants were not be

exploited financially and physically; therefore, their time of consultation was not encroached into and data collection took place after consultation. Patients who declined inclusion were not penalized.

Data collection instruments were self-structured, closed-ended questionnaire, administered and same retrieved. This allow the researcher to ask the same question, in the same way, sequence, and order, to different people and in different places thus enabling the researcher to reach more participants with divergent opinions at the same time. The questionnaire was prepared with the input of an expert in the field and a statistician to enhance validity of the instrument. Cronbach alpha was used to test the reliability of the instrument, and the reliability coefficient in this study is 0.82.

The data obtained were analyzed on computer through the use of Statistical Package for Social Sciences (SPSS) version 21 software (IBM Corp. released 2012. IBM SPSS statistics for Windows, version 21.0 Armonk, NY, USA: IBM Corp) was used to analyze the data collected using, means, standard deviation (SD), and Pearson’s correlation at the level of 0.05 level of significance.

RESULTS

This study shows the demographic characteristics of respondents. The mean age of the women is 31.72 years (SD = 6.33) which ranged from 18 years to 46 years and above. The educational level of respondents showed that majority 297 (85.30%) had tertiary education, 38 (10.90%) had secondary education, 8 (2.30%) had primary education, while the remaining 5 (1.40%) had no educational level. From the study on the number of times respondents had been pregnant, 10 (3.40%) had been pregnant between 6 and 9 times, 21 (9.60%) had been pregnant 5 times, 28 (21.80%) had been pregnant 4 times, 64 (32.80%) had been pregnant 3 times, 96 (32.80%) had been pregnant 2 times, while 74 (25.30%) had been pregnant once. The number of children alive for respondents shows that 129 (37.10%) had no child, 90 (25.90%) had one child, 86 (24.70%) had two children, 23 (6.60%) had three children, 14 (6.60%) had four children, while 6 (1.70) had 5 children [Table 1].

Effect of religion, culture, cost, ethics, and husband perception on the utilization of assisted reproductive technology

Table 2 shows that religion, culture, cost, ethics, and husband perception were factors influencing women’s decision on the utilization of ART, with mean and SD scores of 2.47 ± 1.28, 2.34 ± 1.20, 3.37 ± 1.25, 2.35 ± 1.09, and 2.33 ± 1.13, respectively.

Relationship between factors influencing women’s decision and the utilization of assisted reproductive technology

The correlation between the determinant factors responsible for the utilization of ART’s services were determined. Through the Pearson Correlation Coefficient and shows that there is significant relationship ($P \leq 0.001$, $P = 0.023$) between cost, husband and the utilization of ART. The null hypothesis was therefore rejected [Table 3].

DISCUSSION

Infertility is a major psychological and social implication for couples and especially for women in a setting where fertility is highly valued, and ART was found to be one of the best methods in treatment of the diseases, but the statistics shows low turnout. This study is aimed at determining the effect of religion, culture, cost, ethics, and husband perception on the decision of women attending a tertiary health institution in the utilization of ART.

Table 1: Demographic characteristics (n=348)

Variables	Attributes	Frequency, n (%)
Age group (years)	18-25	51 (14.70)
	26-35	226 (64.90)
	36-45	58 (16.70)
	46 and above	13 (3.70)
	Mean±SD	31.72±6.33
Marital status	Single	30 (8.60)
	Married	316 (90.80)
	Widow	2 (0.60)
	Religion	Christianity
Level of education	Islam	6 (1.70)
	None	5 (1.40)
	Primary	8 (2.30)
	Secondary	38 (10.90)
Ethnic group	Tertiary	297 (85.30)
	Bini	124 (35.60)
	Igbo	59 (17.00)
	Esan	50 (14.40)
	Yoruba	28 (8.00)
	Urhobo	18 (5.20)
	Owan	17 (4.90)
	Others	52 (14.90)
	Duration of marriage (years)	0-1
2-5		167 (48.00)
6-10		70 (20.10)
Above 10		21 (6.00)
Number of times pregnant		1
	2	96 (32.80)
	3	64 (21.80)
	4	28 (9.60)
	5	21 (7.20)
	6-9	10 (3.40)
Number of children alive	0	129 (37.10)
	1	90 (25.90)
	2	86 (24.70)
	3	23 (6.60)
	4	14 (4.00)
	5	6 (1.70)

SD: Standard deviation

Effect of religion, culture, cost, ethics, and husband perception on the utilization of assisted reproductive technology

This present study found that religion, culture, cost, ethics, and husband to be major factors responsible for the decision of women in the use of ART. This is in agreement with a study carried out in 2014 on factors affecting the utilization of modern medicine including religious beliefs, awareness, misconception, knowledge, accessibility, effect of cost, success rate of IV, knowledge, religious belief, and sociocultural beliefs, as well as spousal support in the participation of ART by couples.^[40] This is further supported by a cross-sectional study aimed at seeing if increased awareness and reduction of cost of assisted reproductive technologies foster positive attitudes and acceptance among women was carried out by a researcher and he observed in his study that women with increased awareness of ART had significantly greater attitudinal favorability towards ART.^[41] Furthermore, a study was also conducted on the influence of ethical, social, and religious on ART and found that numerous ethical, social, and religious questions have been raised associated with the treatment of infertility with ART.^[42] Issues also established as regards ART and infertility is that the technology brings about some challenges for the society to deal with.^[43] One of those challenges that connect all others is how to make ART more available, accessible, and affordable in developing countries.^[44,45] Cultural and religious beliefs, including economic and infrastructural development of health-care facilities, influence the level of ART services provided in any country.^[46] Efficient ART services are mostly provided by the private sector, making infertility services accessible to a few mainly the middle and upper class.^[47] In addition, health-care centers and physicians providing ART are often located in megacities, making it difficult for individuals from remote areas to access the services.^[30]

Relationship between identified factors influencing women’s decision and the utilization of assisted reproductive technology

This study also shows that there is a relationship between women’s decision in the utilization of ART and the cost

of ART, husband’s opinion for or against, culture, religion, educational background and others.^[31,38,44] Considering the relationship between the identified variables, the study found that women’s choice of adopting ART is most predicted by the cost and husband perception of the procedure which gave $P \leq 0.001$ and 0.023 , respectively. This implies that the cost of ART is the strongest factor that prevents the women from using ART. This is in agreement with a study where many states are starting to mandate coverage and the rate of utilization of ART has recorded threefold increases in states with complete coverage, while German Federal Government provides a subsidy of 25% to the cost.^[44] Another similar study that supports this finding is that of Fabamwo and Akinola in 2013 who reported that religious belief, fear of side effects, failure, and cost of ART among other factors are significant factors in this part of the world.^[48] The study shows that cost of ART and husband’s role are significant factors that influence the utilization of ART among women attending obstetrics, gynecology, and fertility clinics.

CONCLUSION

Infertility remains a major reproductive health and social issue confronting married couples in developing countries. While a majority of the couples in this study were willing to utilize and recommend ART services as an option of care available, a sizeable number of the respondents were willing to embrace it. This is mainly as a result of prohibitive financial accessibility outside the reach of the couples most of whom are in the middle social class. The government needs to subsidize this service to increase financial access, especially for indigent couples. Similarly, the government needs to intensify campaign or jingle over the radio and television to health educates men on the importance of ART as a major treatment of infertility.

Finally, the study was faced with some limitations such as information about clients’ disease condition and ART procedures are confidential to these clients. Thus, they would want to keep their “secrets” secret. Infertility as a stigmatized health condition is a challenge to elucidating facts from these clients.

Table 2: Factors influencing the utilization of assisted reproductive technology

Items	SA	Agree	Undecided	Disagree	SD	Mean±SD
My religion will not allow me use ART	36 (10.3)	38 (10.9)	74 (21.3)	104 (29.9)	96 (27.6)	2.47±1.28
My culture will not allow me use ART	28 (8.0)	32 (9.2)	66 (19.0)	128 (36.8)	94 (27.0)	2.34±1.20
Cost will not allow me use ART	71 (20.4)	112 (32.2)	77 (22.1)	52 (14.9)	36 (10.3)	3.37±1.25
Ethics will not allow me use ART	12 (3.4)	41 (11.8)	95 (27.3)	110 (31.6)	90 (25.9)	2.35±1.09
My husband will not allow me use ART	17 (4.9)	36 (10.3)	89 (25.6)	110 (31.6)	96 (27.6)	2.33±1.13

SA: Strongly agree, SD: Strongly disagree, SD: Standard deviation, ART: Assisted reproductive technology

Table 3: Relationship between identified factors influencing women's decision and the utilization of assisted reproductive technology

Factors	r	P
Religion	0.03	0.591
Culture	0.01	0.892
Cost	0.22	<0.001**
Ethics	0.00	0.934
Husband	0.12	0.023**

** = sig. at 0.05 levels

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

Eunice Amaechi Osian Contributed with concept development and data collection. Ngozi Rosemary Osunde, Lawrenta Ateso Tope-fakua, and Omolayo Ololade Fadipe contributed with the literature search, manuscript editing and design. Olaolorunpo Olorunfemi contributed with the definition of intellectual content, data analysis, manuscript preparation, statistical analysis, manuscript review and supervised the work.

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