ORIGINAL RESEARCH ARTICLE

Cultural and Ethical Challenges of Assisted Reproductive Technologies in the Management of Infertility among the Yoruba of Southwestern Nigeria

Ayodele S. JEGEDE[1] and Adetona S. FAYEMIWO[2]

[1]Department of Sociology, University of Ibadan, Ibadan, Nigeria; and Center for West African Bioethics, College of Medicine, University of Ibadan, Ibadan, Nigeria; [2]Department of Medical Microbiology, Faculty of Basic Medical Sciences, College of Medicine, University of Ibadan, Ibadan, Nigeria.

***For Correspondence:** Ayodele S. JEGEDE. *E-mail:* sayjegede@yahoo.com.

ABSTRACT

This paper discusses the cultural and ethical issues arising from the use of Assisted Reproductive Health Technologies. Twenty-five In-depth interviews were conducted with 5 couples of reproductive age who have never conceived or brought pregnancy to term after one year of unprotected intercourse, 4 adult males, 4 adult females, a gyneacologist, a nurse, a herbalist and 2 religious leaders in Ibadan, Nigeria. Content analysis was used for data analysis. Legitimacy of children born through ART, religious obligation, patriarchy, polygamy and value of children are cultural issues surrounding ARTs while decision making about it, discrimination against children born through ART, psychological problems and loss of self esteem, side effects of the technologies and the cost of accessing them are the ethical challenges. The findings have methodological implications for conducting infertility research in non-western societies. (*Afr. J. Reprod. Health* 2010; 14[2]: 115-127).

RÈSUMÈ

Défis culturels et éthiques des technologies de la reproduction assistées dans le traitement de la stérilité chez les Yoruba du sud-ouest du Nigéria Cette étude discute les problèmes culturels qui proviennent de l'emploi des technologies de la santé de la reproduction aussi bien que les défis qui en résultent. Nous avons recueilli vingt – cinq interviews en profondeur au sein de 5 couples en âge d'avoir des enfants mais qui n'ont jamais été enceinte ou dont la grossesse n'est jamais arrivée à terme après une année des rapports sexuels non protégés, 4 mâles adultes, 4 femmes adultes, un gynécologue, une infirmière, un herboriste et deux pasteurs à Ibadan, Nigeria. On s'est servi de l'analyse du contenu pour analyser les données. La légitimité des enfants nés à l'aide des TRAs, les obligations religieuses, le patriarcat, la polygamie et la valeur des enfants, sont des problèmes culturels autour des TRAs alors que la prise de décision à son égard, la discrimination contre les enfants nés à l'aide des TRAs, les problèmes psychologiques et la perte de l'amour–propre, les effets secondaires des technologies et le coût de l'évaluation sont les défis éthiques. Les résultats ont des implications méthodologiques pour la recherche sur la stérilité dans les sociétés non occidentales (*Afr. J. Reprod. Health* 2010; 14[2]: 115-127).

KEYWORDS: Reproduction, Technology, Infertility, Africa, Management.

INTRODUCTION

Infertility, the inability of couples of reproductive age to conceive or to bring pregnancy to term after one year of unprotected intercourse[1], is a social problem leading to marriage instability. It is a serious problem in Africa, especially, among the Yoruba of Southwestern Nigeria where high value is placed on children for both economic and social reasons[2].

The global prevalence of infertility varies from 10 to 15 percent of couples of industrial countries who experience primary or secondary infertility. A total of 20 to 25 percent prevalence rate was recorded for secondary infertility in Sub-Saharan African (SSA) countries[3]. Between 20 and 30 percent of couples in Africa experience either primary or secondary infertility[4] and the SSA is referred to as "infertility belt" of Africa[5]. In Nigeria, infertility rates vary across ethnic groups. A prevalence rate of 13.5 to 14.3 percent were reported for Hausa, Fulani and Kanuri of the Northern Nigeria while 14 percent were reported for the Yoruba of Southwest, 10 percent for the Tiv, 10.5 percent for the Nupe and 6.9 percent for the Chambas of the Middle Belt. The range is much higher in the eastern block of Nigeria where 19.1 percent was recorded for the Igbos and 16 percent for other ethnic groups of the Cross Rives State[5].

Infertility is of public health importance in Nigeria and many other developing nations because of its high prevalence and especially due to its serious social implications. A review of the epidemiology of infertility in Nigeria and other parts of the Sub-Saharan Africa showed that the major cause of infertility in Africa is infection—Sexually Transmitted Diseases (STDs), post-abortal and puerperal sepsis[6]. Sexually transmitted diseases remain a major public health problem of major significance in most of the world. Failure to diagnose and treat sexually transmitted infections at an early stage may result in serious complications and sequelae including Pelvic inflammatory diseases, Epididymo-orchitis, Urethral Stricture and In-fertility[7].

Couples suffering from infertility experience stigmatization. Stigma refers to an invisible sign of disapproval, which permits "insiders" to draw a line around the "outsiders" in order to demarcate the limits of inclusion in any group[8]. The demarcation permits "insiders" to know who is "in" and who is "out" and allows the group to maintain its solidarity by demonstrating what happens to those who deviate from accepted norms of conduct[8].

According to Goffman, stigma, a special gap between virtual and actual social identities. It occurs when an individual is identified as a deviant, linked with negative stereotypes that engender pre-judiced attitudes, which are acted upon in discriminatory behaviour. He also stated that, the stigmatized persons are reduced from accepted people to discounted ones, thus isolating the individual from self, as well as societal acceptance[9]. Goffman further explained how stigmatised people manage their "spoiled identity" (meaning that stigma disqualifies the stigmatised individual from full social acceptance) before audiences of normal people. He focused on stigma not as a fixed or inherent attribute of a person but rather on the experience and meaning of difference. Infertility may bring difference in the perception of life world. As a result, couples suffering from infertility may experience rejection in the society. This condition may influence them to seek help through different pathways.

Assisted reproductive technology (ART) gives hope to infertile couples even though only a few can afford it. Couples in the higher socioeconomic group who desire their own biological child can have a child through high technology options like *In-vitro* Fertilization (IVF), Gamete Intra Fallopian Transfer (GIFT), Intracytoplasmic Sperm Injection (ISCSI)[10]. Yet adoption of these technologies is still fraught with a number of cultural and ethical challenges.

As good as ARTs are in helping couples to realize their marriage dream, little is known about the ethical and cultural challenges of using the technologies among the Yoruba of south-western Nigeria. While some couples view these technologies as a good option to follow, many people are apprehensive about them due to societal norms and values about natural process of reproduction[10]. Presently, there is no study to determine the reactions of Yoruba people to the technologies. Hence, this study.

Conceptual Framework

Adoption of technology is a social action. It is an act that individual must take one way or the other. An act does not become social unless it involves two or more persons[11]. To discuss the use of ARTs decision making among the Yorubas, it is pertinent to understand the social and cultural dynamics of the issues.

Ethical theories and principles are the foundations of ethical analysis because they are the viewpoints from which guidance can be obtained along the pathways to decision making. For an ethical theory to be useful, it must be directed towards a common set of goals. These goals include beneficence, less harm, respect for autonomy and justice[12]. In Yoruba culture like any other African culture, everything derives from communal values, the common good, the social goals, traditional practices, cooperative virtues and social relationship. Individual does not exist in a vacuum but within a web of social and cultural relationships. This determines how the individual makes decisions on important issues. Communitarianism focuses on which act best promotes community interest and values and not the interest of the individual. In this case, "community-wide agreement forms the basis of acceptable moral rules…"[13]. The basis of relationship is not the individual but the community. Community is the basis of existence for the individual. As a result, it is difficult to understand the individual independent of the community.

Using Mackie's approach, morality can be understood only in terms of social practices that express what the community demands, allows, enforces, and condemns[14]. Individual exhibits community values. This suggests that communitarianism is primarily relational and essentially social. It also means that our personhood cannot be understood apart from our role as citizens and participants in a common life. That is, we are what we are only if we perform the role society expects of us properly. Individuals assume roles in the community through culture. The individual is acting within the context of community traditions and customs from where he/she derives existence. Therefore, it has been argued that "African traditional ethics is essentially interpersonal and social, with religious beliefs and practices having impact on its articulation and inculcation, an African philosophy and unifying worldview is enshrined in the maxim of '*person is person through other persons…*'"[15]. However, communitarianism is essentially an optimistic approach to issues of public policy. While mindful of human tendencies to act in self-interested ways, communitarianists believe that it is possible to build a good society based on the desire of human beings to cooperate to achieve community goals that are based on positive values.

Generally, communitarianism does not provide remedies when the communal decision conflicts with liberal theories and individual autonomy. It is difficult to separate individual interest from community interest whereas the act of denying people from being vaccinated, for instance, contravenes individual rights[16]. It has been argued that a right to health care differs from health care being a privilege, or being provided out of charity[17]. However, to balance individual interest or rights against community interest or public policy "*giving up some measure of privacy serves the common good… Once we accept that privacy is not an absolute value, we must look for the criteria that will guide us*

in making trade-offs in the name of the common good"[18]. For Etzioni, these include tolerance of new limitations on privacy only when there is a compelling need; minimize the entailed intrusion; double check that there is no other way of serving the same purpose; and, minimize the side effects.

Secondly, it does not clarify the concept of "community". Its meaning varies as some people view it as political state like Nigeria Federation. Others see it as smaller communities and institutions with defined goals and role obligations. According to Beauchamp and Childress, *"Some include family as a basic communal unit within which being a parent and being a child involve specific roles and responsibilities"*[13]. Regardless of the interpretation, much of what a person ought to do in communitarian theories is determined by the social roles assigned to or acquired by this person as a member of the community. Therefore, in this discussion community is defined as an ethnically based community with defined custom and traditions. This can be understood within the context of kinship, family and marriage systems, socialization process, belief system, and political system, mode of production, ritual, taboo and inheritance practices.

The infertile person is at the center of decision making which produces negative or positive outcomes. Figure 1 above shows how social institutions and cultural practices may impact on kin group and the health care system producing an outcome for the patient.

The figure shows the dynamics of social and cultural factors in decision making. The person suffering from infertility is at the center of decision making. Social institutions and cultural practices as a derivative of the social system (society) interact and influence the individual family member (kin group) and the health care system. Both the kin group and the healthcare system interact to make decision about patient's condition resulting in two outcomes of use or non-use of ART. However, the process is not as simple in that both the cultural and social variables play significant role in how the kin group and the health care system behave in decision making about the use of ARTs.

METHODOLOGY

Research Design

Exploratory research design was employed for the study. In-depth interview and case study were the main methods of data collection.

Research Setting

The study was carried out in Ibadan, a major Yoruba traditional community in the Southwestern Nigeria. Ibadan is located in Oyo State (one of the 36 states that make up Nigeria) near the forest grass-land boundary of south-western Nigeria. It lies approximately on longitude 300 51 East of the Green-wich Meridian and Latitude 70231 North of the equator at a distance of about 2145 km Northwest of Lagos State the former capital of the Federal Republic of Nigeria. The average population growth rate is about 3%. The population has steadily grown from 387,133 in 1931 to over 1.2 million in 1991[20] and 5 million in 2006[21]. Yoruba is one of the three major and second most populous ethnic groups in Nigeria. The people occupy the southwestern part of the country stretching from the upland area to the hinter land of the Lagoon. They speak Yoruba language. The people are traditionally farmers, most of whom are now engaging in some white-collar jobs and trading activities. Like other African societies, the people are predominantly traditional worshippers who worship various gods and deities. They have the world view of a supreme being known as Olodumare (God). Like any other African societies, the following five categories of religious practices can be observed, as earlier observed by Mbiti[19]:

1. God as the ultimate explanation of the genesis and sustenance of man and all things;
2. Spirits, made up of superhuman beings and spirits of ancestors;
3. Man, including human beings alive and those not yet born;
4. Animals and plants or the remainders of biological life; and
5. Phenomena and objects without biological life.

In addition to these five categories, there is a vital force, a power or energy, permeating the whole universe. For the Yoruba people, every plant, animal and natural phenomenon is a carrier of the divine. God is the source and the ultimate controller of the vital forces, but the deities are the intermediaries

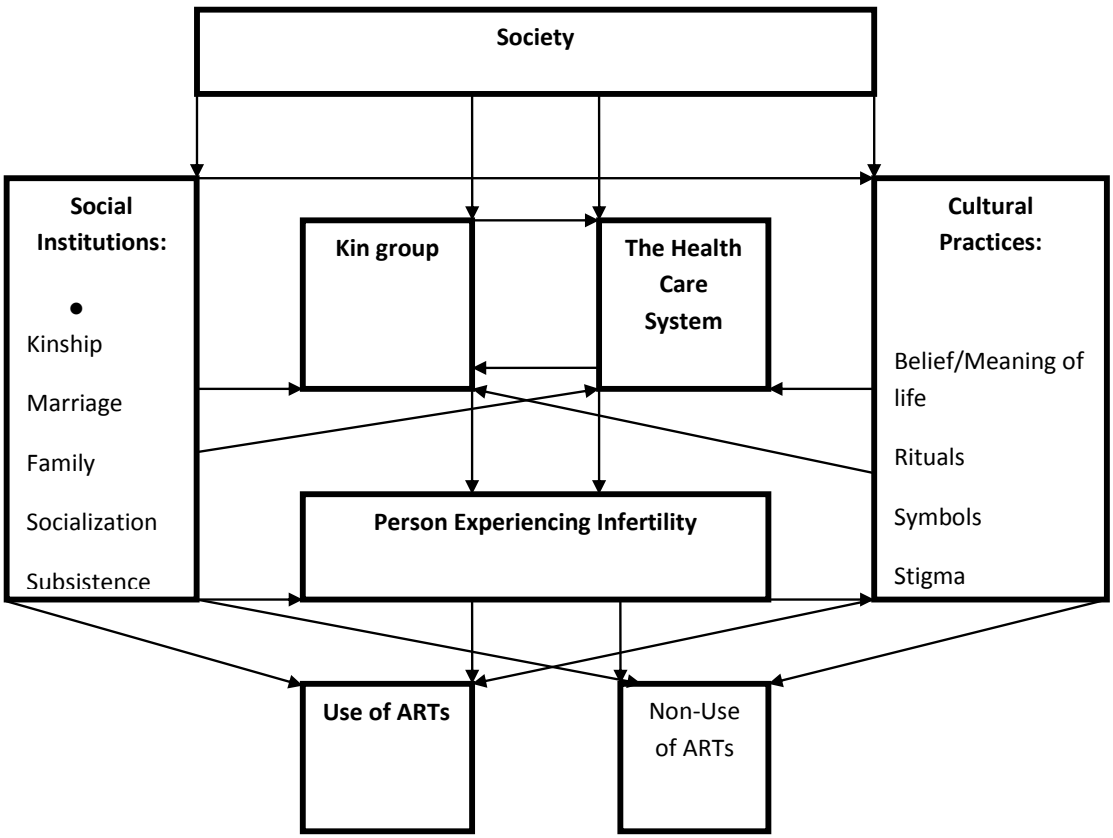

Figure 1. The Social Dynamics of ART Decision Making.

between man and God. A few human beings are endowed with the knowledge and ability to tap, manipulate and use the vital forces, such as the medicine men, witches, priests and rainmakers. Some use it for the good and others for the ill of their communities and fellow human beings. In order to appease the gods, people have to perform rituals and to make sacrifices. There are numeral rituals such as those for fertility for humans, crops and animals; for birth, initiation, marriage and death; for rainmaking, planting and harvesting. For Yoruba people, nature is not an impersonal object or phenomenon: it is occupied with religious significance. The invisible world is symbolized or manifested by visible and concrete phenomena and objects of nature. According to Mbiti[19], the invisible world presses hard upon the visible, and the African people 'see' that invisible universe when they look at, hear or feel the visible and tangible world. The physical and spiritual are the two dimensions of one and the same universe.

Although Christianity and Islam have replaced traditional religious practices, people's thoughts about and attitude to life are still shaped by the held worldview. Both Christianity and Islam support patriarchy and promote male domination in decision making. Although both religion supports patriarchy they do not support ART. For instance Islam is of the view that "using sperm donors is classified as being the equal to committing adultery and is therefore regarded as a grievous crime and a great sin…."Similarly, Islam viewed sperm cryopreservation as "…illegal as long as the couple is still within the marriage contract, however, the storing of the husband's sperm for the purpose of impregnating the wife in the event of his death is regarded as illegitimate. Similarly, the Catholic injunction does not support ART. The church accepts the duty of pro-creation, as, just as in Judaism in the Old Testament God commends Adam and Eve to have children. For the church, morally a child is the fruit of marriage, premarital sex is not allowed, and the Catholic Church condemns having a child outside the institution of marriage. The new-

born has to embody the love between a husband and his wife and is considered the symbol of their eternal union. The Vatican has a clear position against assisted reproduction, ever since 1956, Pope Pius XII, defined artificial fecundation as immoral and illegal, because it affects human lives by separating procreation and sexual normal function. Defending and promoting human being's fundamental rights to life and dignity and person's moral responsibility to God the church was of the view that modern medical techniques used in assisted reproduction like: IVF, ET, surrogate mothers, and embryo cryopreservation are not acceptable. Although the Protestants like Anglican differs a little but generally Christian doctrine does not allow interference with God's territory usually referred to as "playing God".

Urbanization and globalization has little or no effect on the use of ART. There is no difference between rural and urban dwellers due to poor knowledge about ART. As a result, culture and religion play important role in their perception, attitude and practice of procreation.

This, however, they exhibit in their day-to-day interpersonal interactions, within and outside the church and mosques.

Ibadan was purposively selected for the study because of its status as the colonial headquarters of the Yoruba nation. As a result, it attracts Yoruba immigrants from the other Yoruba towns and villages. Hence, it is a melting point for the Yoruba race. It shares common cultural characteristics with other Yoruba communities.

Research Participants

In-depth interviews were conducted with 5 couples who have never conceived or bring pregnancy to term after one year of unprotected intercourse, 4 adult males, 4 adult females, a geneacologist, a nurse, a herbalist and 2 religious leaders in Ibadan, Nigeria making a total of 25 informants. The age range of the couples who participated in the study was between 20 and 35 years for wives and 25 and 40 years for husbands. Two of the couples (wives and husbands) have less than secondary education. Another two had secondary education and one had tertiary education. Two couples (wives and husbands) were Christians, while three were Muslims. Also, two couples (wives and husbands) had married for two years while two other couples (wives and husbands) had married for five years and one for more than five years. The age range of the community respondents was between 25 and 70 males and 20 to 45 for females. 40% of them (males and females) were Christians while 50% were Muslims and 10% practiced traditional religion. 30% of the respondents had less than secondary education, 40% had secondary, 20% higher education and 10% no formal education.

Data Collection

Participants were recruited after thorough screening. The participants were volunteers and freely consented after the researcher had explained their role and discussed the study procedures, problems and potential benefits with them. They were intimated with the objectives of the study so as to provide useful information that could help in improving policies and programmes on ART delivery. They were informed that questions would be asked from them and that they should feel free to answer the questions frankly as there are no rights or wrong answers and that all comments were welcome and would be kept strictly confidential. The interviewers also informed them that a note taker would record their responses on tapes and in writing. The case study took place after the in-depth interview was concluded. Participants for the case study were identified during the in-depth interviews and the couples were contacted for the studies. They gave informed consent to participate in the study. Five visits were made to their homes at agreed hours of the day, mostly after working hours. In-depth interviews and non-participant observation methods were used to gather information from them.

Fieldwork

The fieldwork was conducted by the researcher who is a trained and experienced ethnographer. He was assisted by one research Assistant who recorded responses. Both the researcher and the note taker are Yorubas and residents of the study area. The interviews were conducted in Yoruba Language spoken by the interviewees. Data collection lasted one month.

Data Management

In order to ensure proper handling of data received, all tapes were reviewed at the end of each session to ensure that the recording was good. Notes taken were also reviewed after every interview to be sure that correct responses were recorded by going through some of the questions randomly with the respondents or participants. This exercise lasted for about 5 minutes. All tapes were transcribed verbatim. To ensure the reliability of the transcription, 5% of the tapes were re-transcribed by another person to ascertain the correctness of the information obtained.

Method of Data Analysis

Data collected were transcribed from tapes and entered into computer. Responses were tagged and coded subject to similarities. After coding, data were analyzed using the Atlas ti software. Those who collected the data from the field and other members of the research group participated in the discussion of the data before the analysis and report writing. To achieve the objective of the study research participants were asked to discuss the cultural ethical issues surrounding the use of ART. For the cultural dimension issues addressed include legitimacy of children born through ART, religious obligation, patriarchy, polygyny and value of children. On the ethical dimension, the following issues were discussed extensively with participants namely; decision making about the use of ART, discrimination against children born through ART, psychological problems and loss of self esteem resulting from the use of ART, side effects of the technologies and the cost of accessing their content, phenomenological and narrative methods of analysis are employed to interpret the data.

RESULTS

Data reveal that ethical and cultural issues are pertinent to the discussion of the use of ART. As a result, the cultural issues confronting the use of the technologies is first presented. This is followed by the ethical challenges of using the technologies.

Cultural Issues

Respondents were asked to discuss the cultural issues surrounding the use of ART. Frequently mentioned issues include legitimacy of children born through ART, religious obligation, patriarchy, polygyny and value of children.

Legitimacy of a child is paramount to marriage stability in Yoruba culture. As a result, every family wants to proof that a child is their direct offspring. So, it becomes abominable for a family to go out of wedlock to have children. It was argued that this can lead to the problem of identity in the lineage. Data revealed that every family wants to guide against anti-social behaviours in their linage because of the communal pattern of living. It is believed that a child born out of wedlock may not have similar behaviour pattern like other members of the lineage. According to the respondents, sometimes these type of children may bring lineage to disrepute. According to a male respondent *"if a child is not directly conceived through the normal process such a child will not resemble other members of the family. And this is a problem for society"*. A female respondent shared the same view saying "*It does not speak well of a woman to have a child through mechanical process and it has implication for the future of such a child"*. Another male respondent indicated that *"since infertility is considered to be a curse, having babies through artificial means is a more serious problem and it is unacceptable by the culture".*

Religious obligation forbids people to have children through artificial process. For a Christian leader *"child bearing is the work of God and it is not proper for man to take up this responsibility"*. Quoting a verse from the Bible, he said, *"children are the heritage of God and the fruit of the womb is the gain"*. This was corroborated by the Islamic leader who said *"it is a sin for man to compete with God in the business of creation. God has not given man that responsibility"*. There was divergent opinion among the community members. While a majority (70%) of them said that their religions will not allow them to use ART a considerable proportion (30%) felt comfortable using it. For a female Muslim respondent, *"it is difficult for me to advice people to use ART because my religion does not support it"*. Similarly, a Christian male respondent indicated that *"one must have faith in God. There is nothing God can not do. If one prays to God, He will bring surprises to men. Faith is needed in such a circumstance not what man can do"*. A Christian wife corroborated the view saying *"God is the giver of life and at the appropriate time He will answer our prayers. I believe in what God can do. I don't want to limit His power in my life. I have faith that He will do it one*

day". A husband was of the opinion that *"only things that comes from God can last. When one bye passes God it can lead to disaster".* On the other hand, a few respondents were of the opinion that nothing is wrong with the use of ART. According to them, God gives man the knowledge to alleviate his problem. This view was more common among Christians than Muslims. According to a Christian male respondent, "*I don't think anything is wrong using ART because if God does not want us to use the knowledge He would not have revealed it to man in the first instance".* A female Christian respondent corroborated this view saying *"God says that we shall know the truth and the truth shall set us free. The knowledge is from God to give answer to human suffering".*

Participants were of the opinion that patriarchy is a major cultural factor when making decision about whether or not to use ARTs. According to a majority of them (80%), men dominate decision making about reproduction. A woman said, "*there is little a woman can do about child bearing. All decisions belong to our husbands. In this culture, men are to be heard even when they are not the one providing for the family*". A man corroborated this view saying, "*children belong to the father in this culture. It will be an aberration for a woman to take absolute decision about children. Final decision rests with fathers. Any man who is not performing this duty as expected is considered to be weak or charmed by his wife*". In fact, the herbalist was of the opinion that if nothing is wrong with a man spiritually, the wife should not be playing his role. According to him, "*it should not be heard that women should play men's role. When this happens, the man's family should respond to rescue their son*". However, some respondents felt that women should play more active role in decision making about child bearing because they are at the receiving end when things are not working well like the case of infertility. According to a woman, *I don't think that it is good for men to feel that they have absolute decision making about what to do in case of infertility because women are always blamed for this condition and not men".* This view was also shared by a couple who indicated that it should be a joint decision between husband and wife. According to the husband "*I and my wife have been going to places together in search of solution to the problem. We both discuss it and I can understand how she feels about it. I don't need to hurt her further".*

Participants were of the view that there are three reasons why women may not be able to bear children. First, it is believed that she may be suffering from the spiritual attack of the enemy. This may be from her family or that of her husband's. This view was popular especially among the herbalist, religious leaders and a majority of the couples and community members. According to the herbalist, "*enemies can cause a woman to be unable to bear children if they want to punish her. This is why a woman must undergo some ritual for cleansing (Iwese) before entering the husband's house on the night of her wedding to ward off all the attacks of the enemy*" Christian and Muslim leaders share this view but both differed on the ritual as solution. They both believe in prayers. Closely related to this is that participants argued that a woman may suffer infertility if she acts against a taboo of her husband's family or that of her family or if her parents had done something wrong in the past or if they curse her. According to the woman, "*if a woman does not pay good attention to the taboos of her husband's house she may have problem of infertility*". A man was of the view that "*it can be a curse from her family".* In fact, some participants concluded that *"infertility is hereditary. That is why one must enquire very well about the family of her/his spouse before going deep into relationship*". A woman corroborated this assertion. Lastly, it was a common opinion that a woman may not be able to bear children if she has committed abortion before she got married.

Value of children is another cultural issue mentioned by a majority (90%) of the partici-

pants. According to a woman, "*marriage is for children. Marriage does not become fruitful without children*". A man indicated that "*one child is enough to sustain a marriage.* The respondents supported this argument with a Yoruba adage saying "*Eni ti o ni omo kan kuro ni agan*" meaning "*he who has a child is better than a childless person*". *Agan* is the Yoruba word for bareness. The word "*gan*" may interpret to mean "*stigma*" or "*discrimination*" and the syllable "*a*" may mean "*someone*" or "*who*". This means "*who is stigmatized or discriminated against*". For all the participants, bareness is abhorred and undesirable. A case study summarizes the findings highlighted above.

Case Study

Mr and Mrs A, aged 48 and 34 year respectively, married 13 years ago. The couple did all it takes to have a child of their own but no luck. According to them, "*we have visited gyneacologists several times without positive result. People have advised us on many occasions to try herbalists and diviners. We have tried to sustain our faith as Christians but temptation kept on coming. We were victims of fake prophets and sooth Sayers apart from many family members who used our condition to exploit us. Family pressures kept on coming from right and left with suggestions to marry another wife or husband. The Church used to organize special prayers for barren women. The prayer exposed women to ridicule as if the problem of bareness lies with them. Despite the prayers and all efforts there was no pregnancy. We thought of adoption but we dumped it because of societal reaction. Then we opted for in vitro fertilization (IVF). We pursued this option and have a baby two years ago"*. Husband suggested the option and it was jointly decided that we should go for it. We tried to keep it from family members.

Ethical Challenges

Respondents were asked about the ethical challenges that may arise from the use of ART in Yoruba culture. In response to the question the following issues were mentioned namely decision making about the use of the technologies, discrimination against children born through ART, psychological problems and loss of self esteem, side effects of the technologies and the cost of accessing them.

Decision making about the use of ART is a critical issue discussed with respondents. It was not clear who among the couples should initiate discussion about the use ART. There was a general consensus among the respondents that husband should initiate discussion about it. According to a wife "*this is a sensitive issue to discuss by any woman suffering from infertility. The husband may misunderstand her. It is better to allow such a discussion to come from the man himself*". This was corroborated by a male participant saying "*It is not a good thing for a woman to initiate such a discussion. Husband is the head of the family and he should be the one to say what should be done*". In contrary, the Gynecologists and the Nurses were of the opinion that such a discussion should be done jointly by both husband and wife. On whether couples experiencing infertility have ever discussed the option of using ART, 90 percent of the couples interviewed said that they have never done so. According to a husband, "*it is not an option that is easy to discuss in our culture because infertility is a sign of weakness on the part of both the wife and husband. As a result, anybody having this problem would try to proof that he or she is able to bear children*". Similarly, a wife indicated that "*such an issue is not easily discussed by couples because there is always a suspicion that the woman is at fault. As a result, both husband and wife will continue to seek solution to proof themselves. Most of the time, this may lead to extra marital affairs especially when there is suspicion that one is at fault*". For the community members, it is not something that should be discussed because the culture does not support it.

Children born through ART may face discrimination in the society. Most of the respondents were of the view that such a child may not enjoy equal recognition as those born through the natural process. According to a wife, "*the best thing is that people should not know. It is difficult to hide such a thing in our society where everybody is part of the problem affecting their siblings. So, if one wants to go and do such a thing it will be resisted*". An adult male community member indicated that "*the issue of paternity is very important in this culture. Therefore, if a couple should have a child outside the natural process such a child may have problem of identity in the extended family and the society may look at such a child with reservation*". A female community member said "*if a woman should have a baby through ART in polygamous union, such a woman will be a laughing stock and the child may be denied access to inheritance of his/her father. The message that is giving is that the woman is weak and cannot bear children. Such a woman is called "ako aja*". This view was supported by both Christian and Muslim priests both of who are of the opinion that "*the right to give children belongs to God and not man. He gives children according to his will*".

Another frequently mentioned issue by respondents as problem associated with the use of ART is psychological feelings that may arise from it. Most of the respondents may not be happy about the condition. According to a male community member "*whenever the parents see the child they may not be happy because they know that he/she is not a product of natural reproductive system. They may not even believe that the child is their true offspring*". A female respondent corroborated this view saying that "*such a child may not receive equal love if eventually the father has children from other women*". This view was corroborated by a male community member saying that "*some men do have children through other women so that they can satisfy themselves*". A gyneacologist indicated that "*it is difficult to manage the psychological trauma resulting from childlessness. Most women do come down with this problem often especially where husbands feel that they are not the source of the problem*". For the nurse, *"it usually results in low self esteem within the marital union and in the immediate community"*.

Furthermore, the issue of side effect of ART was mentioned by the respondents. These include physical, social and psychological injuries that may arise from the use of ART. It was argued that error may occur in the process of the operation. For many respondents, this may lead to permanent deformity on the part of both the wife and the husband. For instance, a wife was of the opinion that "*it is still part of the agony of childlessness. It is not a good experience to be childless because one will go through several trials hoping to get solution from them. There is nothing as good as natural process of child bearing*". A female respondent indicated that *"women are mostly affected because they are to carry the pregnancy and one is not sure that such a process cannot lead to complication*s". On the contrary, the gyneacologist was of the opinion that *"the level of risk of ART is minimal and it is nothing to be feared except for the social and the psychological problem associated with it"*. The nurse corroborated this view saying that "*people still have misconception about ART and this should not be so*".

Finally, ARTs are still very expensive to use in Nigeria. This raises the question about the cost and accessibility of the technologies. For a wife, "*it is not easy to access it because it is very expensive*". This was corroborated by a husband. A major issue in the cost is who pays for the use of ART. Respondents were of the view that the husband should be the one to pay for it since he is the head of the family. This raises the question of how readily are the husbands willing to pay for this kind of service. According to respondents, because of the cultural value it may be difficult for women to access ART. A

female respondent was of the view that "*as long as the cost of receiving the service is high and the cause of infertility is still associated with women it will be difficult for families to use it. This is because women who are mostly affected do not have enough resources to demand for the service*". This was corroborated by a husband who argued that "*women have no right to make such decision alone without involving the husband who will pay for it. Many women cannot afford the cost of such services. Even if they can afford it the culture does not permit them to do so. They still need to go through their husbands*".

DISCUSSION

The use of ART threatened the autonomy of couples in making decisions about their reproductive life. Respect and protection of autonomy, rights and dignity of users are major ethical challenges in patriarchal societies where male dominance is the order of the day. Decision making about whether or not to use ART should be a joint decision of a couple but data revealed male dominance. This shows that the decision to use or not to use ART is at the instance of the husband. This challenges the autonomy of the wife who will carry the pregnancy. Individual users must do so voluntarily and based on informed consent. How this can be achieved in patriarchal societies where female gender cannot take independent decision is a major concern. Inability to make autonomous decision means that women are not able to make informed decision about the use of the technologies despite their side effects[22,23]. It is well established that infants conceived following *in vitro* fertilization (IVF) and intracytoplasmic sperm injection (ICSI) are more likely to have been delivered prematurely, with low birth weight (LBW) or from a multiple gestations than spontaneously conceived infants[24-26]. It is not clear whether a woman experiencing infertility will want to go for ART services if well informed about the side effects she may need to cope with as a caregiver.

Kinship is the organizing principle of society. It stipulates relationship, marriage choices and family patterns. It is the basis of economic, religious and political organization as well as social control. Therefore, it will be difficult to understand who should be involved in decision making about a patient without understanding the kinship system. So also, cultural practices must be understood in relation to the individual patient. Rituals, for instance, provide some security and some supra-individual means for taking action against the fact that for all that symbolically matters to humane[27]. A study among the Dinka people reported a ritual procedure associated with healing saying: "The patient is led to focus upon one among possibly many latent elements in his experience or the experience of his kin which give rise equally to bodily sickness and uneasy conscience. Confession, by the wrongful acts of the self are made present to it and to the community, is therefore often part of Dinka way of dealing with sickness. When the effective condition is imagined in power, both its grounds and the reason for it become manifest not only to him but those who care for him, and his experience is represented in a form in which it can be publicly understood and shared"[27].

Lack of knowledge about ART is a major issue affecting how they are perceived by the participants. Knowledge is power, where this lack of cultural beliefs and religious injunctions tend to fill the gap. Due to the fact that ART is relatively new in Nigeria many people are not aware of it as a measure for alleviating infertility problem. Therefore, little is known about how it works. This experience is similar to health technologies like immunization that had limited acceptance due to lack of adequate knowledge about it in the 1980s. The issue of acceptance of innovation has been widely discussed and principles about adoption of innovation have been propounded.

The complexity of social existence needs to be understood in respect of individual patient to be able to provide adequate care.

It has been argued that "misrepresentation caused by lack of cultural sensitivity and skills can lead to unwanted or inappropriate clinical outcomes and poor interaction with patients and their families at critical junctures as life comes to a close"[27,28]. Sometimes this can lead to litigation which may disrupt physician/patient relationship. Concluding their work, Meisel et al[28] argued that sometimes ethics, clinical judgment, and the law may conflict. Patients (or families) and physicians can find themselves considering clinical actions that are ethically appropriate, but raise legal concerns.

CONCLUSION

Generally, the research participants demonstrated lack of knowledge about ART and their use. This vacuum is filled with cultural beliefs and practices thereby constituting major obstacles to the use of the technologies. Even though some individuals may not have problem adopting the technologies as an option, these cultural believes and practices hinder decision making about whether or not to adopt ARTs. These findings may have two important methodological implications for conducting research on infertility especially as regards the use of ARTs. First, attention must be paid to the role of social structure while setting up infertility research in non-western societies as this may influence the process and outcome of such studies significantly. Second, there is need to explore the concept of infertility for conceptual clarification in order to be able to access the actual indices of the phenomenon due to varied conceptualization. Further research on the subject will provide more insights into the obscured issues requiring adequate attention for Africa to benefit immensely from the promise of the technologies.

ACKNOWLEDGEMENT

The author acknowledges all those who spared their time to participate the interviews that resulted in this paper. The authors declare no conflict of interest.

REFERENCES

1. WHO. Task Force on diagnosis and treatment of infertility, infections, pregnancy and infertility. World Health Organization, Geneva, 2002.
2. Isiugo-Abanihe UC, Fertility differentials in Nigeria: an examination of demand, supply and control factors. *NASA J.* 1994, 3: 38 – 58.
3. Okonofua FE, Infertility and women's reproductive health in Africa. *Afr. J. Reprod. Health*, 1999, 13(1): 7 – 8.
4. Larsen U & Ragger N, Levels and trends in infertility in sub-Saharan Africa. In J. T. Boerma & Z. Mgala (eds.) *Women and infertility in sub-Saharan Africa. A multidisciplinary perspective*, Amsterdam. Royal Tropical Institute KIT Pub. 2001, 27 – 69. Ibid 7 – 8.
5. Araoye MO, Epidemiology of infertility: social problem of infertile couples. *West Afr. J. Med. 2002,* 22(1): 190 -196.
6. Mayaud P & Mabey D. Approaches to the control of sexually transmitted infections in developing countries: old problems and modern challenges. *Sexually Transmitted Infections*, 2004, 80: 174 – 182.
7. WHO, *Prevalence and incidence of canalde of curable STIs.* World Health Organization, Geneva, 2001.
8. Falk G, *STIGMA: How We Treat outsiders*. Prometheus Books. 2001. http//www buffalostate.edu/sociology/falk. [Accessed: Thursday 18 Sept., 2008].
9. Goffman E. *Stigma. Notes on the Management of Spoiled Identity* Prentice Hall, New Jersey: Englewood. 1963.
10. Widge A, *Sociocultural attitudes towards infertility and assisted reproduction in India*. In E. Vayena, P. J. Rowe & P. D. Griffin (eds.) Current Practices and Controversies in Assisted Reproduction Report of a meeting on "Medical, Ethical and Social Aspects of Assisted Reproduction" held at WHO Headquarters in Geneva, Switzerland 17–21 September 2001.pp 60 - 74.
11. Weber M. *The social System.* London, Taviskos 1951
12. Pensular R, *Research ethics: cases and materials*. Bloomington: Indiana University Press, 1995. A. Ridley, *Beginning bioethics*. New York: St. Martin's Press, 1998.
13. Beauchamp TL & Childress JF, Principles of biomedical ethics (5th edn.) New York: Oxford University Press, 2001: 163.
14. Mackie JK, *Ethics,* quoted in Beauchamp TL and Childress JF, *Principles of biomedical ethics* (5th edn.) New York: Oxford University Press, 2001: 365.
15. Ayantayo K, African Traditional Ethics and Transformation: Innovation And Ambivalence

Involved, And Modification Necessary For Sound 21st Century African Intellectual Scholarship, https://academia.leidenuniv.nl/retrieve/ [Accessed: Monday 21 Sept. 2008] UN, Fundamental Human Rights, General Assembly resolution 217 A (III) of 10 December 1948.
16. Francis LP, M. P. Battin, J. A. Jacobson, C. B. Smith & J. Botkin, How infectious diseases got left out – and what this omission might have meant for bioethics. *Bioethics*, 2005, 19(4):307-322.
17. Etzioni A *The Limits of Privacy.* New York, NY: Basic Books, 1999
18. Mbiti JS, *African Religions and Philosophies*, New York: Doubleday, 1970.
19. Ayeni *Ibadan Metropoli*s. Ibadan: Macmillan Publishers 1994.
20. NPC 2006 *Population Census*. National Population Bureau, Abuja
21. Hansen M, Kurinczuk JJ, Bower C and Webb. The risk of major birth defects after intracytoplasmic sperm injection and in vitro fertilization. *N Engl J Med* 346, 2002, 725–730.
22. Fauque P et al Assisted Reproductive Technology affects developmental kinetics, H19 Imprinting Control Region methylation and H19 gene expression in individual mouse embryos. BMC Developmental Biology 2007, 7:116 doi:10.1186/1471-213X-7-116. [Accessed: Monday 22 Sept., 2008]
23. Beral V & P. Doyle, Births in Great Britain resulting from assisted conception, 1978–87 (MRC Working Party on Children Conceived by In Vitro Fertilization). *Br. Med. J.* 1990, 300,1229–1233.
24. Helmerhorst FM, Perquin DAM, Donker D and Keirse MJNC. Perinatal outcome of singletons and twins after assisted conception: a systematic review of controlled studies. 2004; *Br Med J*. doi:10.1136/bmj.37957. 560278.EE. http://theology-today.Ptsem.edu/jan1985/v41-4article6.htm. [Accessed: Friday 19 Sept. 2008].
25. RA Jackson, KA Gibson, Wu YW & M. S Croughan, Perinatal outcomes in singletons following in vitro fertilization: a meta-analysis. *Obstet. Gynecol.* 2004, 103, 551–563
26. Rapparport RA, Ritual and religion in the making of humanity. Cambridge: Cambridge: University Press, 1999.
27. Liendhardt RG, Divinity and experience, in Williams RC, Ritual, Drama, and God in black Religion Theological and anthropological views. http://theologytoday.Ptsem.edu/jan1985/v41-4 article6.htm. [Accessed: Saturday 20 Sept. 2008].