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Knowledge and Beliefs of the General Public about Infertility in Osun State, Southwest Nigeria

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Abstract: Infertility is a stigmatized reproductive health morbidity and a major public health issue in Nigeria. Myths, ignorance and misconceptions about the causes and perception of the disease can generate prejudice, stigmatization and fear towards those affected. To assess the knowledge and beliefs of the general public about infertility in Osun State, Southwest Nigeriathis study was carried out in Osun State, South-west, Nigeria. A cross-sectional survey was conducted among 893 men and women living in the State between July and August 2006. Data were collected quantitatively using a structured questionnaire containing both open and close ended questions and qualitatively through participatory methodologies including Focus Group Discussion (FGD) and In-depth interviews (IDI). Results showed that there were misconceptions about the causes of infertility, which invariably affects their perceptions about where to seek treatment and the person responsible for a couple's infertile status. In addition, results showed that infertility is a gendered disease because majority of the male respondents supported taking another wife and having children elsewhere respectively as a remedy for infertility. The study therefore recommends that a community-based education emphasizing on prevention, causes and management of infertility which can bring about the necessary change in the perception of infertility should be implemented in other to reduce the stigma attached to this disease.

Key words: Knowledge · Infertility · Community-based education

INTRODUCTION

The World Health Organization (WHO) defines infertility as the inability of couples of reproductive age to impregnate or conceive and carry a pregnancy to live birth within two years of exposure to the risk of pregnancy and two types were identified Primary infertility is the inability of couples to impregnate/conceive despite cohabitation and exposure to pregnancy (not contracepting) for a period of two years, while secondary infertility is the inability of couples to impregnate/conceive following previous pregnancy, despite cohabitation and exposure to pregnancy (in the absence of contraception, breastfeeding or postpartum amenorrhea) for a period of two years[1]. While, the prevalence of infertility in developing countries is difficult to assess given inconsistencies in defining infertility, between 8 and 12 per cent of couples around the world have difficulty conceiving a child at some point in their lives, thus affecting 50 to 80 million people [2] Majority of those who suffer from infertility live in the developing countries [3, 4]. The prevalence of infertility in Cameroon and Nigeria is high compared to most other African countries for which data are available [5]. From the data, it was reported that the age pattern of infertility is similar in both countries and the prevalence of infertility is associated with a woman's age at first sexual exposure. In Nigeria, for example, the proportion of women infertile at ages 20-24

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reaches 15 percent among those who had intercourse before age 13 and only 4 percent among those who postponed sexual activity until after their 19th birthday. Infertility has been noted to have a connection with HIV/AIDS in both cause and consequence which is a key reason for considering the prevention and treatment of infertility a public health concern[6]. In Nigeria, as in much of sub-Saharan Africa, it is important to explore and clarify the social, cultural and behavioural context of infertility when designing prevention and management strategies because this goes a long way in determining factors that influences it conception[7]. Such concern with the social, cultural and behavioural context has formed the main substance of 'health transition' research in sub-Saharan Africa, which is taken to involve the cultural, social and behavioural determinants of health and additionally the health infrastructure with which people interact and health transition entails a rapid transformation from poor to good health and the understanding of beliefs and practices that account for illness and poor health as well as good health [8, 9]. The central difficulty associated with infertility in developing countries is that it transforms from an acute, private agony into a harsh, public stigma with complex and devastating consequences. When attempting to explore infertility from a social science perspective, it is vital to investigate local perceptions in order to capture a culturally relevant understanding of infertility. People tend to view the event of disease from the perspectives of their particular culture and based in part on these perspectives, they tend to respond to the disease in predictable ways [10, 11]. Although there are various studies that have attempted to address the issue of infertility in Nigeria, there has been little documentation on the knowledge and beliefs of the general population about it. With this backdrop, this study attempts to explore the perception of infertility by people resident in the study area first by a detailed knowledge of their characteristics and through a number of questions on other matters relating to infertility.

MATERIALS AND METHODS

The study was a community-based survey conducted between July and August 2006. A three-level Multi Stage Sampling technique was used to select respondents at different stages of this study. With the help of the National Population Commission office at Osogbo, the State capital, the thirty local government councils in Osun State were stratified into three strata based on the population of each of the local government councils. The first stratum comprise of the first three largest localities with populations above two hundred thousand which was identified as the Large Urban Stratum. The second stratum comprises of the other localities in the State with populations between one hundred thousand and two hundred thousand, identified as the medium urban stratum. Rural locality stratum comprises of the localities with populations less than one hundred thousand. Using a systematic random sampling, one local government was chosen from each of the three strata. The systematic sampling exercise produces Osogbo, Irepodun and Ife South local council areas, one from each of the sampled stratum for the study. This was done through the listing of all the local council areas and selections were done systematically. All the local councils listed had equal chances of being selected. From the three local government councils selected, two enumeration areas were chosen randomly from each making six enumeration areas. Eligible respondents were selected after the household listing was done since household was the basic unit of sampling. The number of respondents in each of the selected enumeration area was determined using self- weighted average procedure. 893 respondents both male and female between 15 years and above were successfully interviewed. Data were collected quantitatively using a structured questionnaire containing both open and close ended questions. While, structured interview could usually be employed in tapping information for the major thrust of the research objectives, qualitative methods were used to provide a substantive explanation and to complement the results obtained from the quantitative data. It was especially effective in this study to obtain culturally specific information about the opinions, perceptions and social contexts of infertility. Eleven focus-group discussions were conducted among key informants four with men and seven with women. This was organized by occupation, literacy level and place of residence. This approach was adopted to accommodate the heterogeneous structure of the study location and to be able to obtain a representative pattern of social interaction.

Returned questionnaires were subjected to thorough screening, checking for consistency and finally edited. The precoded nature of the questionnaire facilitated easy entry of the data and statistical analysis. The data collected were subjected to basic analysis with the SPSS software version 11. The statistical analysis of the data was done at the univariate, bivariate and multivariate

levels. At the univariate level, an examination of the distribution of the respondents according to each of the selected characteristics was carried out. Frequency distribution was adopted. Bivariate analysis was carried out to discover existence of relationship between the dependent and independent variables. Information from focus group discussions and in-depth interviews were transcribed and organized under broad headings that depict different aspects of the discussions. The transcribed information were analyzed descriptively (qualitatively) and used to explain results of quantitative analysis where and when necessary.

Statistical Analysis: Statistical analysis was done using the Statistical Package for the Social Sciences (SPSS) version 11. The descriptive variables such as mean, median and standard deviation were used. Pearson Chi-square test was used for finding out significant differences between categorical variables.

RESULTS

Socio-economic Characteristics of Respondents: The socio-economic characteristics of respondents are presented in Table 1 and our study show that majority of the respondents (62.8 per cent) are females, while 37.2 percent were males. One major explanation for this is that women are far more likely to report issues concerning fertility and infertility than men.

Approximately 35.2 percent of the respondents were in the age group 31-40 years, 27.2 percent were in the age group 41.50 years while the remaining 11.9 percent and 10.8 percent were in the age group 21-30 years and above 61 years. The mean age was 43.3 yeas. This distribution shows adequate representation of people relevant to this study and they are knowledgeable on the socio-cultural perception of infertility. Corroborating this finding, it was reported that in a patrilineal society like Africa, women do not take absolute decisions regarding their health. The role of the elderly women, especially aged women (mostly mother-in-laws) is very important in issues related to fertility. The aged women in the extended family usually supervise conception, delivery and childcare and younger women look up to them for advice. As a result, their experiences become very important and valued by many.

It was seen from the survey that majority of the respondents (60.5 percent) were currently married, 19.5 percent are single, 9.9 percent are widows/widowers, while the remaining 5.9 percent and 4.1 percent are divorced and separated, respectively.

Table 1: The socio-economic characteristics of the respondents N = 893

Characteristics	Frequency	Percentage
Sex		
Male	332	37.2
Female	561	62.8
Age group (years)		
21-30	106	11.9
31-40	314	35.2
41-50	243	27.2
51-60	133	14.9
Above 61	97	10.8
Mean age=	43.3 years	
Marital status		
Single	174	19.5
Currently married	540	60.5
Divorced	53	5.9
Separated	37	4.1
Widow/widower	89	9.9
Religion	33	21.7
Christianity	511	52.7
Islam	273	30.6
Traditional	101	11.4
Others	8	0.8
Education		
Literate	587	65.7
Illiterate	306	34.3
Occupation		
Farming	71	7.9
Civil service	389	43.6
Trading	171	19.1
Student	64	7.2
Artisan	131	14.7
Self-employment	67	7.5
Place of residence		
Rural	262	29.3
Urban	631	70.7

Source: Field survey 2006

Majority of the respondents (57.2 percent) are Christians, 30.6 percent were Muslims, while the remaining 11.4 percent and 0.8 percent were traditional religionists and other religions. Out of the 893 respondents, 65.7 percent had some formal education while the remaining 34.3 percent did not. Educational attainment and religion are believed to influence the outlook and perception of people towards issues concerning fertility. Because of this, some socio-cultural beliefs and practices with regards to infertility are often discarded due to enlightenment. From this study, some of the male respondents said it was not likely they would take a second wife if their wives became or was infertile or had only daughters. They opined that marriage was for companionship.

Table 2: Frequency and percentage distribution of the respondents by their knowledge of infertility N = 893

Characteristics	Frequency	Percentage
Cause(s) of infertility		
Promiscuity/abortions	284	31.8
Supernatural causes	237	26.5
Natural causes	41	4.6
Incompatibility	87	9.7
Diseases in men/women	78	8.7
Lifestyle 39	4.4	
Psychological factors	14	1.6
Occupational/environmental hazards	27	3.1
Unexplained issues	86	9.6
Choice of treatment outlet		
Self care 15	1.7	
Orthodox medicine	241	26.9
Traditional Birth Attendants	43	4.8
Faith healers	376	42.4
Spiritualists	111	12.4
Traditional herbalists	96	10.7
Medicine sellers*	11	1.3
Who is responsible for a couple's infertile status?		
A man	87	9.7
A woman	305	34.1
Both	501	56.2

Source: Survey 2006.

Others* include chemists, drug peddlers

The dominant occupation with 43.6 percent of the respondents was civil service 19.1 percent are traders, 14.7 percent are artisans and 7.9 percent are farmers while the remaining 7.5 percent and 7.2 percent are self-employed and students, respectively and more than half of the respondents (70.7 percent) resided/lived in the urban areas while the remaining 29.3 percent lived in the rural areas.

Knowledge of Infertility: A detailed analysis in Table 2 shows that 31.8 percent of the respondents belief that most cases of infertility is caused by being promiscuous which leads to unintended pregnancies and 26.5 percent attributes infertility to the supernatural, 9.7 percent reported that it is caused by incompatibility, 9.6 percent attributes it to unexplained issues, 8.7 percent reported that it is caused by diseases in men and women, 4.6 percent said it is caused naturally, while the remaining 4.4 percent, 3.1 percent and 1.6 percent of the respondents reported that lifestyle, occupational/environmental hazards and psychological factors are the causes, respectively. The findings in this study on the causes of infertility are consistent with the study conducted in Osun State in 1997. Abortion and promiscuity or 'waywardness' during youth were consistently put forward as causes of infertility. A Secondary school teacher reported in the qualitative studies that:

"Most of the cases of infertility we have in Nigeria are as a result of abortions performed illegally during adolescence. For instance, after having series of abortions, it will take some time for the reproductive system to adjust itself for conception again. It's like burning a palm tree, it will take the next four or five years for it to sprout again".

The opinion of a consultant Gynaecologist tends to corroborate that of the man reported:

"Too much D and C's is not good at all. There are so many of these ladies in the tertiary institutions that have had there wombs perforated or worse still, removed. They will not tell anybody. When they eventually get married, they will be running from pillar to post in a desperate bid to conceive. That is when you see them in churches praying for the fruit of the womb. The poor husband is not aware that is the problem".

They reported that the belief in supernatural causes of infertility is widespread, bordering on uniformity. A 45-year old, church-based TBA said that:

"We have seen cases of women who have been afflicted with childlessness supernaturally. They either have their uterus turned upside down or blocked so that conception will not take place, but to the glory of God, we have conquered such forces and they have been able to conceive and delivered safely".

It is apparent from the opinion expressed by both men and women during the in-depth studies that there are different explanations on the socio-cultural context of infertility in the society. It is equally important to say that while Nigerians see fertility as gift and prerogative of God, they also recognize the role of natural causation, that is, they recognize the fact that infertility could be a biomedical problem However, diseases in men and women as a cause of infertility were however, underreported. This is consistent with findings in the study conducted in 1997. It was reported that discussants mentioned that infections (notably sexually transmitted infections) could cause infertility; many people feel that the immorality of waywardness is responsible rather than the infections.

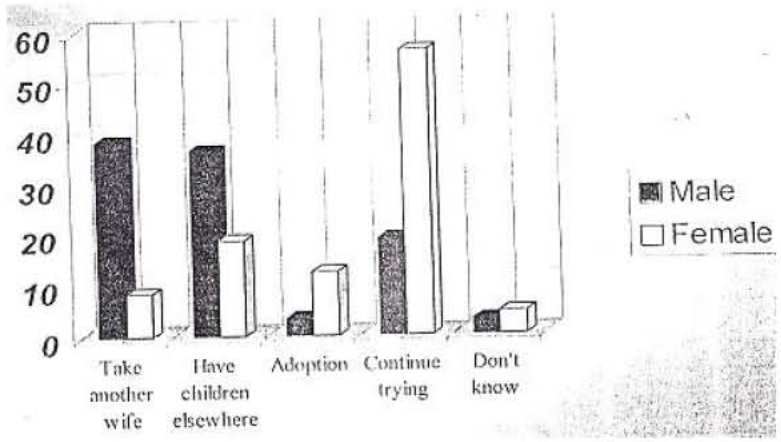

Fig. 1: Percentage distribution of respondents by the remedy for infertility

The choice of treatment outlet for infertility as perceived by the respondents is presented in the second panel of Table 2. Nearly one-half (42 percent) of the respondents reported that treatment should be sought from faith healers and about one-third (26 percent) said treatment should be from Orthodox medicine. The other 12.4, 10.7, 4.8, 1.7 and 1.3 percent said that treatment should be from spiritualists, traditional herbalists, Traditional birth attendants and self care and medicine sellers, respectively. There are overlapping in the choice of treatment providers in Nigeria [15]. The responses of the respondents on who they perceive as been responsible for a couple's infertility are presented in the last panel of Table 2. More than half of the respondents (56.2 percent) reported that both male and female are responsible. The remaining 34.1 and 9.7 percent of the respondents reported that women and men are responsible, respectively. It was observed from the study that there was a high awareness that both partners could be responsible for a couple's infertility. This can be attributed to the literacy level of most of the respondents. They are the class of the general population who have more access to the electronic mass media and other source of information which can enlighten them on issues such as this.

Beliefs about the Remedy for Infertility: The responses of the respondents on their beliefs about the remedy for infertility are presented in Figure 1. As shown in the figure, 38.3 percent of the male respondents and 8.4 percent of the female respondents reported that the remedy for infertility should be that a man takes another wife or vice versa. While, 36.4 percent of the male respondents and 18.7 percent of the female respondents supported having children elsewhere. 3.4 percent of the male respondents and 12.3 percent of the female respondents reported that adoption should be the remedy. 18.9 percent of the male respondents and 56.1 percent of the female respondents reported that they should continue trying while the remaining 3.0 percent of the male respondents and 4.5 of the female respondents reported that they don't know what the remedy should be.

The fact that a significant proportion of the male respondents supported taking another wife or a husband and having child elsewhere was not unexpected. Having children is considered more important than companionship. The husband of a barren woman often marries another wife or wives in order to prove that he is capable of having children who will continue the lineage. The society's obsession with the continuity of the lineage was manifested to the extent that, if a man was impotent, a potent relative was always readily available to produce children for him. Nowadays, women do take another husband in a desperate bed to have a child or get themselves impregnated by another man with or without the husbands' knowledge.

When asked about their opinions on adoption and Assisted Reproductive Technologies (ART) as a form of treatment, they differed in their responses. Some of the respondents were of the opinion that adoption was socially acceptable, while others think it was not. One of the respondents stated thus:

"Let us be truthful with ourselves, Omo l'omo ko se s'omo (meaning that you can not make someone else's child your own). Even if you love and care for the child as if you were the biological parents, one day people living around the parents will tell her stories of her true existence"

(A-38-year old, church member)

Another interviewee expressed his own opinion on the matter as follows:

"It is better for the childless couples to take either their nephew or niece to live with them or a relation. This is better than taking a child that you do not know his/her origin, or the circumstances surrounding his/her birth".

Adoption is generally not acceptable in the African context. This adage above describes the importance of having a child of your own. It is not surprising that the demand for Assisted Reproductive Technologies (ART) is growing in all regions due to the social stigma of infertility, which can have far-reaching consequences. ART was not a strange topic to the respondents, but they were aware of the cost implication. They knew that only a few can afford it. A case was mentioned of a wife of a prominent person in the community who has been childless for over ten years and has just had a baby this year. She was said to have opted for the ART. Evidence from these interviews were quite revealing as to the types of treatment available for infertility in the society.

DISCUSSION

In the present study, we observed that the responses given for the causes of infertility shows that respondents attribute most cases of infertility to promiscuity/abortion. Evidences from similar studies found that tubal factor infertility plays a predominant role in female factor infertility in sub-Saharan Africa. The major of cause of tubal factor infertility is pelvic inflammatory disease (PID) resulting from an infection either from sexually transmitted disease (STDs), such as gonorrhea and Chlamydia, or from complications following induced abortion [20, 21]. However, unlike the observation in the survey which showed that between 21 and 48% of infertile African couples suffered from male infertility, a low level of knowledge about this was observed among the respondents. This explanation for this from the FGD is that a man's ability to have an erection is equated to virility.

Our study showed that majority of the respondents (42.4%) chose the faith healers as their option for the management of infertility. This was not unexpected. Indeed, it has been widely reported that the importance of faith-healing in the Nigerian health care system is growing [15, 22, 23]. Moreover, the choice of a particular treatment outlet depends on the perceived cause of the infertility, not only by the infertile persons but also by their family members and the society at large. The perceived cause of infertility by the respondents in this study was statistically significant to their perceived choice of treatment outlet. Infertility is often attributed to the supernatural and if otherwise, the adherents of the faith-healing treatment outlets still believed that "God can give" them children. The services of the faith-healing treatment outlets cut across the whole spectrum of users, both rich and poor [15].

It was evident from the findings of this study that there are more gender differences than similarities in the perception of infertility and this was confirmed by the Pearson Chi-square test. The perceived choice of a treatment outlet for infertility is statistically significant with whether a respondent is a male or a female in the study population.

There are limitations to this study. Since the perception of individuals that are fertile were examined, it is likely that there were some degree of bias or misreporting since infertility is problematic and stigmatizing. Other limitations include the sample which may not likely to be truly representative of the whole and limited data on the consequences and implications of infertility were collected. Despite these limitations, this study corroborates the problematic and stigmatizing nature of infertility in a patriarchal setting such as Nigeria.

In conclusion, infertility is often cited as a major reason for divorce by those writing about marriage in sub-Saharan Africa. The primary importance of marriage is for childbearing. Cultural norms dictate that this should take place soon after marriage and married couples and members of the family become apprehensive when there is a considerable delay in the arrival of the first child soon after marriage. It is important to increase the knowledge about issues surrounding infertility through community-based education and the media as this will help dispel the myths, misconceptions and negative beliefs about the causes of infertility prevalent in the study population. In addition, this will help in reducing the stigma against infertile people.

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