

Awareness of infertility amongst women of reproductive age in southern Nigerian study

Dan-Jumbo A ¹, Eli S ^{2,*}, Okagua KE ², Owhonda G ³, Wakama IE ⁴, Iwo Amah RS ², Ocheche U ⁵, Ozigbo CJ ⁶ and Inimgba NM ⁵

¹ Department of Family Medicine, Rivers State University Teaching Hospital, Nigeria.

² Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital, Nigeria.

³ Department of Community Medicine, Rivers State University, Nigeria.

⁴ Department of Surgery, Rivers State University Teaching Hospital, Nigeria.

⁵ Department of Obstetrics and Gynaecology, Pamo University of Medical Sciences, Nigeria.

⁶ Paediatrics, Department, Bayelsa Medical College, Yenagoa, Bayelsa State, Nigeria.

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Abstract

Infertility is a medical and social problem which poses a serious public health problem worldwide. Women of reproductive age with infertility have social and psychological distress due to inability to achieve social role of motherhood. The rate of infertility in Africa was documented to be between the range of 8.6 to 21.5%.

Aim: To determine the awareness of infertility amongst women of reproductive age in Rivers State Nigeria.

Method: It was a cross sectional study of women of reproductive age who attended enlightenment campaign by the Mother and Baby Care Global Foundation. Information were coded and analysed using SPSS version 25.

Results: Two hundred and fifty (250) subjects were enrolled for the study. The mean age was 24 ± 4 years. One hundred and fifteen (46%) were between ages 20 – 29 years, 30 – 39 years represented 85 (34%) of the, respondents 50 (20%) were between ages 40 – 49 years. The respondents aware of infertility were 113 (45%). The educational status of the respondents were made up of tertiary and secondary levels of education 200 (80%) and 50 (20%) respectively. The highest level of awareness infertility was amongst women between ages 20 to 29 years represented by 66 (26.3%) respondents.

Conclusion: The study showed the level of awareness infertility among women of reproductive age as 45%. This was below average. Awareness campaign on infertility should be carried out by the government and non-governmental organisations on infertility and its impact on reproductive health especially as it affects the mental, physical, emotional and financial aspects of couples.

Keywords: Awareness; Infertility; Reproductive age; Nigeria

1. Introduction

Infertility is a medical and social problem which poses a serious problem world wide.[1-5] Generally, a couple is considered clinically infertile when there is no pregnancy occurring after a minimum of twelve months of regular

*Corresponding author: Eli S

unprotected sexual activity.[1-3]The rate of infertility in Africa was documented to be between the range of 8.6 to 21.5%.[1,2]

There is inadequate awareness for young people about preconception health and future risks for primary or secondary infertility as a result of age-related fertility decline.[1] Sub-saharan Africa where Nigeria is situated, has one of the highest prevalence of infertility for less developed countries. Data has suggest that the prevalence of infertility among married couples may be around the range of 20-25%.[1,2] Considering the relative importance of children in Nigeria, couples who are considered childless are faced with a lot of social, emotional, psychological and financial trauma in the quest of having children.[1,4]

Fertility declines due to reproductive age; this begins in the mid-twenties for females, with a remarkable decline in the mid-thirties.[1,2]Some global determinants may affect fertility rate such as introduction of contraception and advent of assisted reproduction.[3,4] It is important to address fertility awareness and intention among women of reproductive age.[1-4] For this reason it is imperative that couples especially women of reproductive age due to their educational career are more likely to post-pone marriage and parenthood, are more subjected to infertility problems.[1-3]

Researchers have pointed out that fertility awareness has been described as an individual's knowledge of male and female reproductive anatomy as well as their physiological perceptions as it relates to their reproductive health.[1,5] In addition fertility awareness covers an understanding of their fertility potential at the different phases of their lives and their predisposition to communicate about fertility issues together as a couple and with health professionals.[2-4]

Researchers have shown that there is marked influence by the age distribution.[1,2]This explains why after the age of menarche, potential to reproduce rises with age and plateaus in the twenties.²⁻⁴ These age of reproduction in humans declines after twenties at an accelerated pace until menopause.[1,2] However, there is age variations of fertility rate in different populations.[2,3]

Even though there is health risk associated with every pregnancy, delaying the first pregnancy to the age 18 years have shown improve pregnancy outcomes for both the mother and her baby. [2-4]In addition to this, physiologically that as men and women age, their ability to have children decreases, even though the exact time when this happens varies from person to person.[1,2] It is well proven fact that not all women of advanced age who wish to conceive have problems with infertility, majority of them have successfully have their children in their late 30s and early 40s.[2-4]

Worthy of note that women and men younger than 35 years and 45 years across all populations have better chances of having children compared to their counter parts above this age limits.[2-4]

Though the reproductive age for women ranges from 15 years to 49 years, female fertility declines after the age of menopause in the presence of regular ovulatory cycles.[1-3] Furthermore, a woman who conceives at an advanced maternal age is at greater risk of having pregnancy complication such as miscarriage, labour dystocia, caeserian birth, maternal and infant morbidity and mortality.¹⁻³

This study is a peculiar study in our environment based on the myriad of challenges women of reproductive age encounter with infertility. Thus the awareness of infertility amongst women of reproductive age in Rivers State, Nigeria conducted by the Mother, Baby and Adolescent Care Global Foundation.

Aim

To determine the awareness of infertility amongst women of reproductive age in Rivers State Nigeria.

2. Material and methods

2.1. Method

This was a cross sectional study of women of reproductive age who attended enlightenment campaign by the Mother and Baby Care Global Foundation. Information were coded and analysed using SPSS version 25.

2.2. Sample size estimation

The sample size of 250 was calculated using the Kish Leslie formula for cross-sectional studies calculated, based on 20% prevalence rate by Araoye MO et al and a confidence level of 95%. $n = Z^2Pq/d^2$. Where n is the desired sample size.

Z is the standard normal deviate usually set at 1.96, which corresponds to the confidence interval P is the proportion of patients with infertility which in this case is 20% q is complementary proportion equivalent to two (1), that is 1 - 0.2% equal to 0.8%, d is the degree of accuracy desired which is 5.0% (0.05%) $n = 1.96^2 \times 0.2 (1 - 0.8) / 0.05^2 = 245$.

This was rounded up to the nearest whole number, the reason for using 250 as the sample size.

2.3. Inclusion criteria

Women who consented for the study

2.4. Exclusion criteria

- Women less than 15 years of age
- Women above 49 years of age

3. Results

Two hundred and fifty (250) subjects were enrolled for the study. The mean age was 24 ± 4 years. One hundred and fifteen (46%) were between ages 20 – 29 years, 30 – 39 years represented 85 (34%) of the, respondents 50 (20%) were between ages 40 – 49years. The respondents aware of infertility were 113 (45%). The educational status of the respondents were made up of tertiary and secondary levels of education 200 (80%) and 50 (20%) respectively. The highest level of awareness infertility was amongst women between ages 20 to 29 years represented by 66 (26.3%) respondents .

Table 1 Summary of Research

Number of Subjects	250
Mean Age	24 + 4 years
Awareness of Infertility amongst Reproductive Age Women	113 (45%)
Educational Status Tertiary	250 (100%)

Table 2 Distribution of the educational status of the women

Level of education	Number (n)	Percentage (%)
Primary	nil	nil -
Secondary	50	20
Tertiary	200	80
Total	250	100

Table 3 Distribution of level of awareness of types of infertility amongst the women of reproductive age

Age (years)	Number (n)	Percentage (%)
20 - 29	66	26.3
30 - 39	26	10.3
40 - 49	21	8.4
	113	45

Table 4 Distribution of level of awareness of types of infertility amongst the women of reproductive

Infertility	Number (n)	Percentage (%)
Cannot differentiate	20	8.0
Aware of primary & secondary	93	37.0
	113	45.0

4. Discussion

This study revealed the awareness of infertility as 45% among women of reproductive age in Rivers State Nigeria (see table 1). This was slightly lower than the research findings by Sarria-Santamera A et al in Kazakhstan where they revealed the awareness of infertility amongst 236 respondents as 46.7%.³ However, a study conducted by Lino K et al in Japan among 2084 Japanese women a total of 338 (21.9%) of women were of the opinion that women aged >45 years could get pregnant.^[3] In addition to this that approximately 40% of the women had possible subclinical infertility.³ These findings were lower than that gotten from our study which was 45% (see table 1 and 2).

In the research by Oluwole DO et al in Ibadan, Nigeria descriptive cross-sectional survey conducted among 338 adult males in late 2019 in selected communities.^[5] The study revealed the awareness of infertility was less than 48%.^[5] This was approximately similar with that of our study which was 45%. Though all respondents from their study had tertiary level of education compared with our study with 80% of our respondents with tertiary level of education.

This 80% of the respondents who had tertiary level of education and 20% secondary level of education respectively (see table 2), might have contributed to the level of awareness infertility which were 45% (table 1). This follows the same trend in Kazakhstan with 97% of respondents with high school degree and awareness rate of 46.7% of infertility.^[3] Our study further revealed that the level of awareness of infertility among the reproductive age women was highest in the age bracket of 20 to 29 years at 26.3% (see table 3). In addition to this this study revealed that 37% of the respondents were aware that infertility could be classified into primary and secondary respectively (see table 4).

In some recent but isolated studies in some parts of the world, fertility awareness in reproductive population have reported the lack of accurate knowledge about fertility and assisted reproductive technologies (ART) among women who are trying to conceive.^[4] The proportion of women having accurate knowledge about fertility is particularly low in countries like Japan compared to other developed countries.^[4,5] In addition, the number of websites or applications disseminating information on fertility have rapidly increased in the last decade.^[4,6] Furthermore, , there are many application internet services that inform the users about the approximate ovulation day from the menstrual cycle, the number of users are on the increase in our present day.^[4,5] However, the merit of using this information about reproductive health from websites or smart phone could be limited among women who use these , the use of daily self-timing therapy with these application services would be more convenient.^[4,5,7-10]

5. Conclusion

The study showed the level of awareness infertility among women of reproductive age as 45%. The highest awareness of infertility was amongst reproductive age women between the ages 20 to 29 years. This was below average. Awareness campaign on infertility should be carried out by the government and non-governmental organisations on infertility and its impact on reproductive health especially as it affects the mental, physical, emotional and financial aspects of couples.

Recommendation(s)

This study should be conducted in rural communities of Nigeria with wider sample size.

Compliance with ethical standards

Acknowledgments

Mother, Baby and Adolescent Care Global Foundation

Disclosure of conflict of interest

Authors have declared no conflict of interest.

Statement of ethical approval

Permission for the study was granted by the office of the Director of Public Health of the Rivers State Ministry of Health in line with the Helsinki Declaration (2013 revised).

Statement of informed consent

This was a retrospective study.

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