

SELF-HELP TREATMENT METHODS AND AETIOLOGY OF INFERTILITY AMONG COUPLES SEEKING IN-VITRO FERTILIZATION IN A PRIVATE FERTILITY CLINIC, AWKA, NIGERIA

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ABSTRACT

BACKGROUND

Infertility is considered a serious problem in low and middle-income countries due to the premium placed on childbearing.

OBJECTIVES

To determine self-help treatment methods, aetiology of infertility, sources of information for Assisted Reproductive Technology and sources of verbal or physical abuse of women seeking Assisted Reproductive Technology.

MATERIALS AND METHODS

This is a cross-sectional descriptive study. A total of thirty-six couples were recruited for in-vitro fertilization using systematic sampling technique. Structured questionnaires were administered to all the selected subjects in order to extract relevant baseline information on self-help treatment methods and socio-demographic data. Inclusion criteria were subjects consenting to participate in this study, those within age range between 25 and 60 years old, those whose infertility (primary or secondary) is persisting longer than one year and those who have not been receiving antibiotics treatment before the commencement of the study. Subjects were excluded on the basis of being under 25 years old, those receiving antibiotics treatment before the study and those not visiting the clinics for assisted reproduction. Clinical and laboratory techniques were used to determine the causes of the subject's infertility. Sono saline hysteroogram and laparoscopy and dye test were used to reveal the aetiology of female infertility while semen analysis was used to assess the male subjects.

RESULTS

A total of thirty-six women were recruited for in-vitro fertilization and embryo transfer (IVF/ET) procedure. Majority of the subjects 15 (41.7%) had previously self-treated infections with herbal medications only. Fourteen women (38.9%) reported frequent abuse by their family relatives either verbally or physically for their infertility. Blocked fallopian tubes was the commonest aetiology of infertility in females 15

(41.7%) as revealed by laparoscopy and dye test. It was observed that the 21 couples (58.3%) who had previous history of sexually transmitted diseases recorded highest frequency in the distribution of potential risk factors associated with genital bacterial infections. Twenty-three couples (63.9%) reported social media as the most frequent sources of information for Assisted Reproductive Technology (ART).

CONCLUSION

Social media has been reported as the major source of information concerning assisted reproductive technology among couples. Bilateral tubal blockage and poor semen quality are the commonest aetiology of infertility in this study. Majority of the subjects had treated sexually transmitted infections with herbal medications. However, there is urgent need for public education on the contribution of couples to infertility and current treatment methods.

KEYWORDS: Self-help, aetiology, infertility, in-vitro-fertilization, genital tract infections, treatment methods.

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INTRODUCTION

Infertility is considered a serious problem in low and middle-income countries due to the premium placed on child bearing (1, 2). Unfortunately, the blame is on the woman most times (1). Approximately, 1 in 8 women aged between 15 to 49 years receive infertility services (3) and it is the commonest reason for a gynaecological consultation in Nigeria (4). The general state of health in the reproductive environment is gaining increasing attention and clinical relevance (5). Assisted Reproductive Technology is becoming an increasingly popular choice for people living with infertility in South Eastern, Nigeria. According to (6), couples seeking in-vitro fertilization are advanced in age with longstanding infertility. Lack of access to information and treatment affects the health seeking behavior of these couples (1). It has been reported that genital tract infections are of serious public health concern especially in assisted reproduction and some are often asymptomatic (7-8). Previous studies have been done in Nigeria in the area of genital tract

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infections (9-12). Couples who are interested in assisted reproductive treatment are willing to do everything in their power to conceive, in order to avoid failed marriage due to infertility (13). However, knowing self-help treatment methods previously used by couples and clinically diagnosed causes can lead to appropriate solutions in the fields of infertility treatments and can also play an important role in designing treatments programs for couples seeking *in vitro* fertilization in a private fertility clinic, Awka, Nigeria.

MATERIALS AND METHODS

This is a cross-sectional study involving subjects at Life International Hospital, Awka, Nigeria. The hospital is a purpose-built, state of the art fertility hospital designed to provide world class treatment solution to clients. A total of thirty-six couples were recruited for *in-vitro* fertilization and embryo transfer (IVF/ET) procedure. Systematic random sampling technique was employed and structured questionnaires were administered to all the selected subjects.

Couples were asked of their socio-demographic characteristics, clinical history, durations of marriage and infertility, sources of information for Assisted Reproductive Technology (ART), sources of verbal or physical abuse of women, previous treatment and investigations etc. Inclusion criteria were on the basis of subjects consenting to participate in this study, those within age range between 25 and 60 years old, those whose infertility (primary or secondary) is persisting longer than one year and those who have not been receiving antibiotics treatment before the commencement of the study.

Subjects were excluded on the basis of being under 25 years old, those receiving antibiotics treatment before the study and those not visiting the clinics for assisted reproduction. Ethics approval was sought from the Ethics Research Committee of Life International Hospital Awka and Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, Anambra State (REF # NAUTH/CS/66/VOL 11/175/2018/111). Descriptive statistical analysis such as frequency, histogram and pie-chart were used in this study. However, standard error bars were also used to indicate significant differences ($p \leq 0.05$)

RESULTS

A total of thirty-six couples were recruited and accepted for assisted reproductive technology/*in-vitro* fertilization and embryo transfer (IVF/ET) programme (Figure 1). These couples were between age of 25 and 60 years old and had been having regular and unprotected sexual intercourse for at least 1-2 years without achieving a desired pregnancy. The overall distribution of gender and age-range of subjects presented for Assisted Reproductive Technology. Male and female subjects were recorded in the age group between 25 and 60 years old. Most couples presenting for assisted reproductive treatments are within the 30-34 age range accounting for a mean of 30% of the study population. Standard error bars indicated significant differences ($p \leq 0.05$) (Figure 1).

Most couples presenting for therapy had been married for less than four years and accounts for 50% of the study population. Standard error bars indicated significant differences ($p \leq 0.05$) (Figure 2). Blocked fallopian tubes was the commonest aetiology of infertility in females (41.7%) as revealed by Sono saline hysteroogram and laparoscopy and dye test; others include male factor such as poor semen quality 8 (22.2%), genital tract infections 5 (13.9%), endometriosis 4 (11.1%), polycystic ovarian syndrome 3 (8.3%) and idiopathic 1 (2.8%) (Figure 3). The relative distributions of sources of information for Assisted Reproductive Technology (ART) by these thirty-six (36) paired individuals were social media 23 (63.9%), health institutions 6 (16.7%), schools 4 (11.1%) and family or friends 3 (8.3%) (Table 1).

It was observed that majority of couples 15 (41.7%) had previously self-treated infections with herbal medications only, when compared to other methods of treatment used such as herbal mixture and antibiotics 10 (27.8%), self-medication 6 (16.6%), recommended antibiotics 4 (11.1%) and the least, prayers 1 (2.8%) (Table 2).

Fourteen women (38.9%) reported frequent abuse by their family relatives either verbally or physically for their infertility followed by their husbands 10 (27.8%) and in their various work place 10 (27.8%). The least percentage was observed in the church, 2 (5.5%) especially during organizational meetings (Table 3).

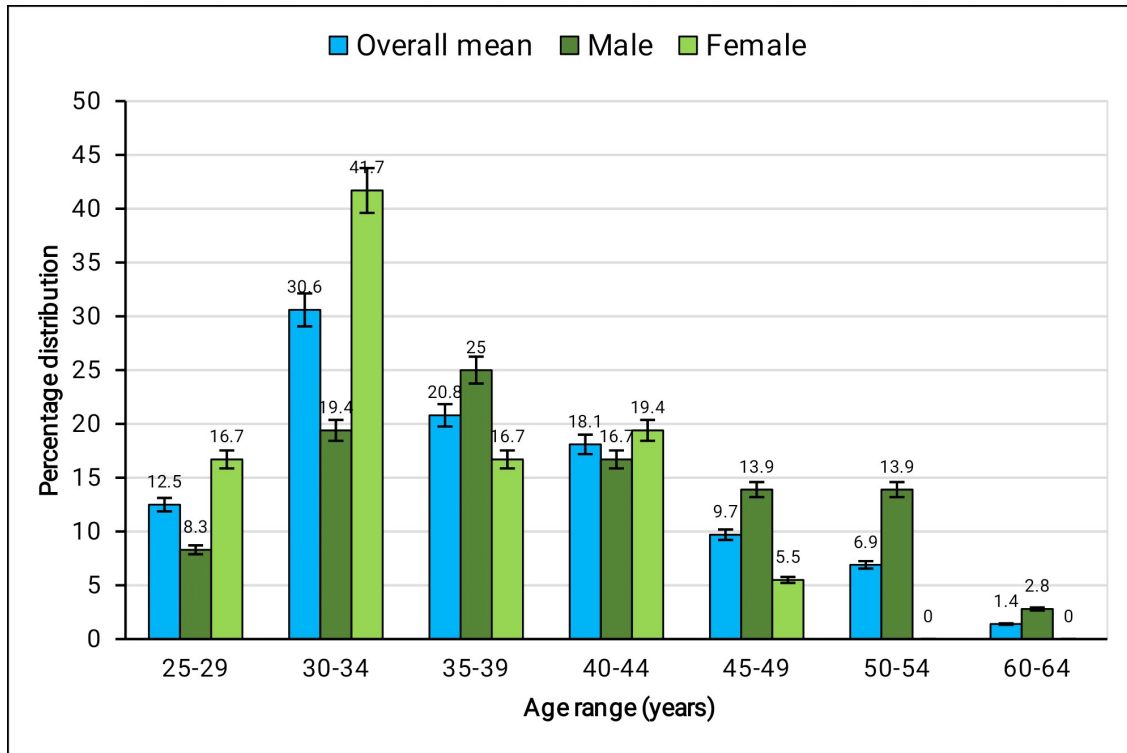


Figure 1: Overall distribution of gender and age-ranges of subjects for ART. Standard error bars indicated significant differences ($p \leq 0.05$).

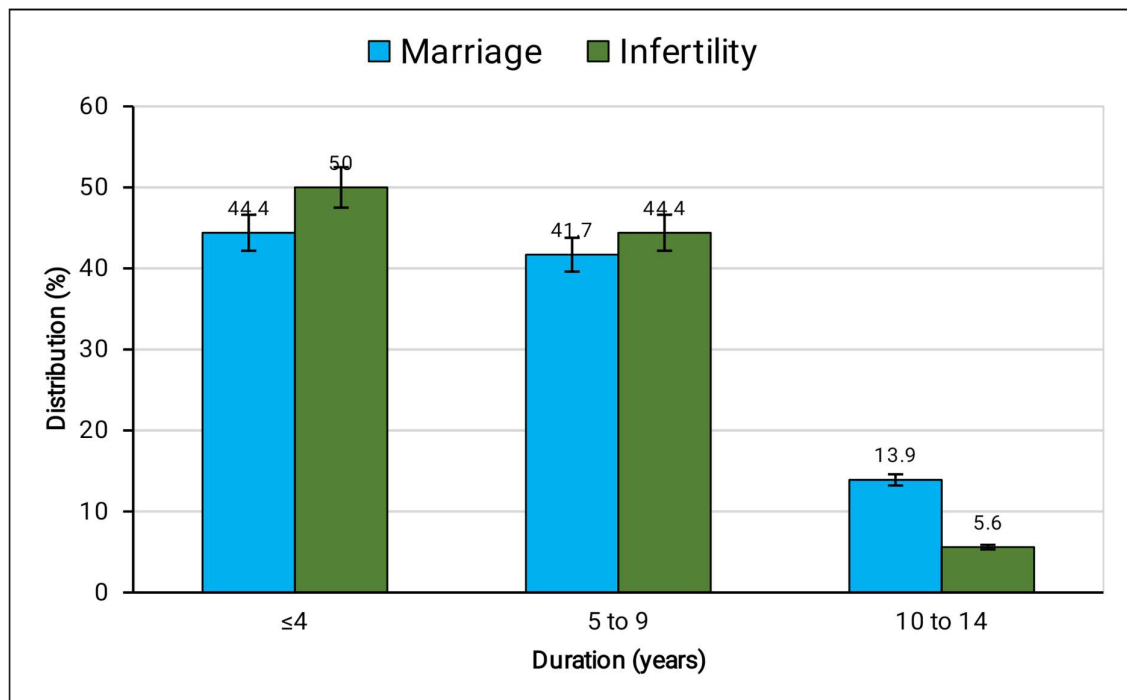


Figure 2: Durations of marriage and infertility among subjects presented for ART. Standard error bars indicated significant differences ($p \leq 0.05$).

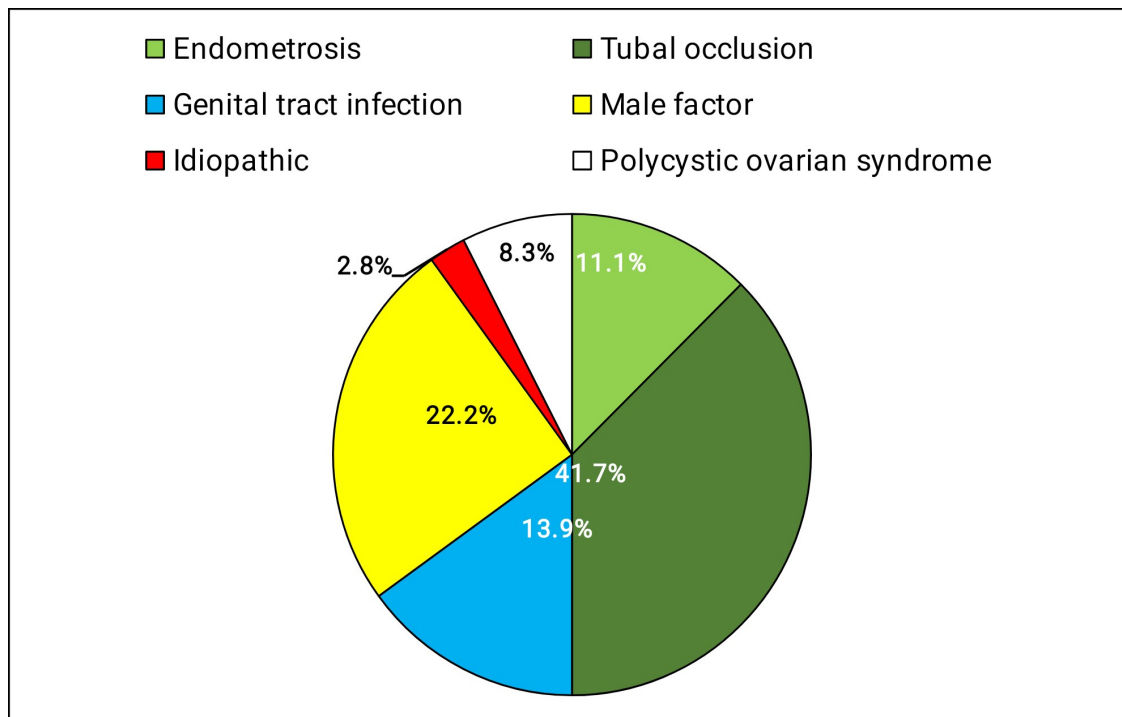


Figure 3: Aetiology of infertility among the subjects presented for Assisted Reproductive Technology.

Table 1: Distribution of sources of information on Assisted Reproductive Technology by subjects

Sources of information on ART	Frequency	(%)
Family or friends	3	8.3
Health institutions	6	16.7
Schools	4	11.1
Social media	23	63.9
Total	36	100.0

Table 2: Distribution of previous treatment methods among subjects seeking Assisted Reproductive Technology

Sources of previous treatment methods	Frequency	(%)
Herbal Mixture and Antibiotics	10	27.8
Herbal medications only	15	41.7
Self-Medication	6	16.6
Prayers	1	2.8
Recommended Antibiotics	4	11.1
Total	36	100.0

Table 3: Distribution of sources of verbal or physical abuse of women for Assisted Reproductive Technology

Sources of abuse	Frequency	(%)
Church	2	5.5
Family relatives	14	38.9
Husband	10	27.8
Work place	10	27.8
Total	36	100.0

DISCUSSION

Infertility is a major public health problem with untold psychological disorders on the couple especially the women (1, 2). In vitro fertilization is a highly technical medical intervention that cannot be performed with instruments that one finds in a kitchen. The exorbitant expenses of assisted reproductive treatment prevent its widespread usage in low-income countries like Nigeria, where infertility is a major problem (14).

Male subjects (25.0%) in this study had the highest age range within the age group 35-39 years while female subjects (41.7%) had the highest age range within the age group 30-34 years. However, due to the fact that female fecundity declines with age, immediate IVF procedure may be considered as a first-line treatment in women older than 35 years. Although success rate varies by age and diagnosis, accurate diagnosis and effective therapy along with shared decision-making can facilitate achievement of fertility goals in many couples treated for infertility (3). Early presentation of couples seeking for assessment and assisted reproductive treatment was common in this study as 44.4% of the subjects presented within 0-4 years as duration of infertility. This is comparable to the previous report of (15) who recorded 2-5 years as the highest (68.8%) in relation to duration of infertility. This could be explained by the high premium placed on childbirth among Igbos in Nigeria (1).

The major source of information for assisted Reproductive Technology among couples selected in this study was social media. Other sources of information include health institutions, schools, family or friends. This may be attributed to the increased availability of Assisted Reproduction Technology clinics across the country and wider access to social media. It could also be due to the fact that previous studies involved mostly older women and rarely males. The high awareness of assisted reproductive technology through social media in this study is in consonance with (16) and (17) who recorded 65.71% and 73.0% in Sokoto and Benin, Nigeria respectively. This result is in conformity with (18) who reported that most common source of awareness of assisted reproductive technology (ART) was the social media (63.3%). This study was amongst a much younger age bracket well abreast with social media thereby accounting for the current finding of increased awareness via this source. It plays a major role in today's society.

Social media is increasingly becoming an avenue for promoting preventive and intervention strategies for public health and efforts must be enhanced for the utilization of modern communication media. Interestingly, the high awareness expressed by the subjects in this study was an improvement on 37.6% reported in fertility clinics in Okija, Nigeria over a decade ago (19). The study areas Awka and Nnewi are urban areas and thus contain greater population of social media savvy individuals and consequent high level of IVF awareness. Previous study by (2) reported a significant correlation between socio-demographic variables and level of awareness of IVF. Sadly, over a decade after the first IVF procedure in Anambra State, there is still no dedicated tertiary health institution with IVF center.

Majority of subjects (41.7%) had previously self-treated infections with herbal medications when compared to other methods of treatments such as use of recommended antibiotics (11.1%). The reasons why the subjects relied on different herbal mixtures or even combine it with antibiotics could be as a result of possible social stigma associated with infertility as most people refrain from discussing issues related to infections publicly. Accusation of marital infidelity, poverty, lack of awareness and poor access to free medical care may have contributed to their behaviour. It could be as a result of poor counseling, sensitization and public enlightenment among couples seeking assisted reproductive treatment. These findings are lower than estimates in a Ugandan study where herbal medicines were utilized by 76.2% of women (20). Some couples sought unauthorized herbal vendors for assistance during fertility therapy, potentially delaying their inability to conceive (21). Previous study recorded highest level of incidence of aflatoxin in herbal traditional medicines from selected vendors (84.21%) in Abakiliki, Ezzra-North, Ikwo in Ebonyi State, Nigeria (22). This demonstrated that unorthodox medications are associated with increased infertility cases and evidence exists of an association between lifestyle behaviours towards infertility in both men and women (23, 24).

Unsurprisingly, fourteen women (38.9%) reported frequent abuse by their family relatives either verbally or physically for their infertility. The findings in this study that women are abused especially from family relatives agrees with the results of some previous studies that these classes of women are verbally or physically abused in their own homes,

deprived of their inheritance and sent back to their parents (25, 26). There is constant pressure from relatives of the husband in a childless union to marry another wife (1,13). It was observed that IVF treatment especially in Southeast, Nigeria is still shrouded in secrecy and stigma due to misconceptions, ignorance and religious sentiments. (27) opined that marital counseling, besides infertility counseling, should be conducted for couples by medical experts.

Blocked fallopian tubes (41.7%) was the commonest aetiology of infertility in females. This could be as a result of genital bacterial infections, uterine fibroids, past ectopic pregnancy, past abdominal surgery, endometriosis and pelvic inflammatory diseases. This concurs with the reports of (6,15, 28-29) that 49.0%, 12.2%, 40.0% and 70.0% tubal pathologies respectively were recorded in the management of female infertility. Previous hysterosalpingographic findings among infertile women at a Tertiary Health Care Institution in Newi, Southeast, Nigeria recorded 38.8% for tubal pathology (30). However, semen abnormalities and obstruction of the fallopian tubes has been reported to impair human implantation (30).

Poor semen quality was the commonest aetiology of infertility in males as revealed by semen analysis investigations. According to (31), male infertility is an important but neglected reproductive issue but it appears to contribute significantly to aetiology of infertility in our environment. The reason could be as a result of stigma associated with infertility due to religious and cultural beliefs. This causes male patients not to open up in most cases and share their problems. Problem of infertility is further compounded by a variety of factors such as sexually transmitted infections, genito-urinary tract infections/inflammations and deficiencies of dietary antioxidant nutrients, thereby increasing male-factor contribution to infertility in Nigerian population (23, 32). It has been reported that co-infections are also suspected to be responsible for impairment of sperm quality, motility, and mobility (33, 34).

Previous studies have reported male factor such as poor sperm quality (oligospermia and azoospermia) as the commonest aetiology of male infertility and this confirmed the fact that there is still high rate of male factor infertility in South East, Nigeria (31, 32, 35). It is known that male genital tract infection is an important morbidity factor (36). Assisted Reproductive Treatment has been regarded as one of

the most effective infertility interventions which can overcome severe tubal and male factor infections (37).

LIMITATIONS OF THE STUDY

The limitations of our report include our inability to recruit more couples seeking *in vitro* fertilization procedure due to secrecy, stigma, misconceptions, and religious sentiments among the populace.

CONCLUSION

Social media has been reported as major source of information concerning assisted reproductive technology among couples. Blocked fallopian tubes and poor semen quality are the commonest aetiology of infertility in this study. Herbal medications were commonest self-help treatment methods used by most participants to treat infections. Women seeking assisted reproductive treatment were frequently abused most times by their family relatives. The results from this study have provided evidence on self-help treatment methods and some causes of infertility among couples seeking in-vitro fertilization in a private fertility clinic, Awka, Nigeria.

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