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# **Infertility: Implication for Social Health Promotion**

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## **Abstract**

*Infertility is defined as not being able to get pregnant despite having frequent unprotected sexual intercourse for at least one year or for at least six months if the woman is up to age of 35. Infertility poses some challenges on the social health of the couple. Hence this paper intends to discuss the topic – Infertility. Implication for social health promotion using the following subheadings; pathophysiology, classifications, causes, risk factors and prevention, management; and implication for social health promotion. Also some recommendations were made to help reduce the incidence of infertility and promote the social life of the infertile couples.*

Over the past twenty years, infertility problems have increased dramatically. At least 25 per cent of couples planning a baby will have trouble conceiving, and more and more couples are turning to fertility treatments to help them have a family (Glenville, 2001). It has been observed that the misconceptions regarding the causes of infertility have often resulted in a great deal of social and psychological pressures, gender bias and discrimination, inappropriate interventions and financial wastages (Ikpeze, 2009). According to Smeltzer and Bar (2000), infertility is the major medical and social problems affecting 9 per cent to 25 per cent of the reproductive age population in the United States. Fraster, Cooper and Nolte (2009) stated that infertility in South Africa is a common problem which occurs in 10 to 15 per cent of all married couples.

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Furthermore, Ikpeze (2009) stated that infertility is a global problem and in Nigeria it is the commonest complaint in the gynecological out patient and incidence of between 20 to 30 percent has been reported. Infertility has a profound effect on the socio-economic and psychosexual well being of the couple. It is therefore important for the health care system to develop programmes for prevention and management of infertility and support efforts that mitigate the impact through the option of adoption services. This would include providing appropriate information on prevention and expanding access to quality services by raising community awareness and integrating interventions into reproductive health services. Also by offering linkages with adoption agencies. However, infertility is defined as not being able to get pregnant despite having frequent unprotected sex for at least a year or for at least six months if the woman is age 35 or older (Mayo clinic, 2011). If a couple is infertile, it means that they have been unable to conceive a child after 12 months of regular sexual intercourse without birth control (Guy, 2011) Pub. Med Health (2010) stated that infertility is inability to conceive or unable to get pregnant. Wikipedia (2012) have it that infertility primarily refers to the biological inability of a person to contribute to conception. It may also refer to the state of a woman who is unable to carry a pregnancy to full term. More so, infertility occurs when the couple has not conceived after months of contraceptive-free intercourse if the female is under the age of 34. Reproductive endocrinologists, the doctors specializing in fertility consider a couple to be infertile if:

- The couple has not conceived aft 12 months of contraceptive-free intercourse if the female is under the age of 34 (12 months is the lower reference limited for time to pregnancy (TTP) by WHO.
- The couple has not conceived after 6 months of contraceptive – free intercourse if the woman is over 35 years of age (declining egg quality of females over the age of 35 account for the age based discrepancy as when to seek medical intervention).

Ikpeze (2009) stated that infertility is the inability of a couple to achieve pregnancy despite regular unprotected sexual intercourse for a period of 12 months. It simply refers to the inability of a couple to bear child(ren). It constitutes a major socio-cultural problem for many couples in Nigeria. However, several investigations can be sued to diagnose infertility and the treatment can be medical, surgical or/and nursing, He further stated that management depends on the cause and recently new technologies such as in-vitro fertilization where sperm from the husband or another donor is mixed with the egg from the woman and fertilized outside before it is introduced into the woman's wombs; or surrogacy where a woman donates a womb to carry a pregnancy to term for another couple is practiced to manage infertility. He further stated that recent advances in assisted reproductive techniques (ART) has improved the success rate in the management of infertility, but it is important to approach the evaluation and treatment of infertile couples methodologically, starting with simple techniques and then, if necessary proceed to more complex ones. The

possible aetiology should influence the choice of evaluation and treatment while the age of the female partner and duration of infertility will dictate the pace.

Social health is defined by Powers (2006) in Okafor, (2011) as the development and maintenance of meaningful interpersonal relationship. This results in the creation of a support network of friend and family. Good social health results in feeling of confidence in social interactions and provides one with a feeling of emotional security (Okafor, 2011). Social health is how we interact with people in areas around us and this can affect our physical, mental, emotional and spiritual health. To be socially healthy, one can make friends easily and work with people happily and friendly together in a group (Answers.comm, 2012). Health promotion has been defined by the World Health Organization's 2005 Bangkok Charter for Health Promotion in a Globalized World as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health". American Journal of Health promotion (2009) define health promotion as "the science and art of helping people change their lifestyle to move toward a state of optimal health. From the foregoing one can define social health promotion as a process of enabling people to increase control over their social aspect of health and its determinants, and thereby improving their social health

### **Pathphysiology**

For conception to occur there must be fertilization of an ovum; the vagina, fallopian tube, cervix and uterus must be patent; and the mucosal secretions of the cervix must be receptive to sperm (Fraser, cooper & Nolte, 2009). According to Guy (2011) five important hormones stimulate the reproductive system of a woman viz, gonadotropin releasing hormone (GnFH), luteinizing hormone (LH), follicle stimulating hormone (FSH), oestrogen and progesterone. First the hypothalamus, a region in the brain releases a hormone called GnRH which causes the pituitary gland to produce two more hormones –LH and FSH. These two hormones in turn stimulate the ovaries to release estrogen and progesterone. Progesterone and estrogen work together to thicken and prepare the lining of the uterus for a fertilized egg. An egg is usually fertilized by sperm within the fallopian tubes, but only if the woman has sex with a man around the time the egg is released. The sperm must penetrate the egg to fertilize it.

However, men have four primary hormones involved in reproduction viz gonadotropin-releasing hormone (GnRH), follicle stimulating hormones (FSH), luteinizing hormone (LH) and testosterone. The brain's hypothalamus first releases GnRH: which stimulates the pituitary gland to produce two hormones – FSH and LH. These two hormones regulate the production of sperm and the release of the male hormone testosterone, all of which take place in the male testes, located in the scrotal sac. To become pregnant, the complex processes of ovulation, sperm production and

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fertilization need to work just right. When these fail, infertility results. Several factors may be the cause.

### **Classification of Infertility**

Two classifications of infertility include primary and secondary infertility.

- **Primary infertility:** According to Ikpeze (2009) primary infertility is when no previous pregnancy has occurred and the cause is due to natural sterility, that is, the testis is unable to produce viable spermatozoa or the ovary is unable to produce a viable egg. It refers to a couple who has never had a child.
  
- **Secondary infertility:** Secondary infertility results when there has been a prior pregnancy, regardless of its outcome. It means that at least one conception has occurred but currently, the couple cannot achieve a pregnancy. Secondary infertility may be due to complications of abortion (both natural and induced) and complicated deliveries (Ikpeze 2009).

### **Causes of Infertility**

According to Guy (2011), most infertility results from physical problems in a man or woman's reproductive system.

- About 35 per cent of all cases of infertility arise from problems in the man's system.
- About 35 percent arise from abnormalities in the woman's system
- About 20 per cent of the time, the man and woman both have fertility problems.
- In 10 per cent of cases, no cause can be found.

### **Causes of Infertility in Females**

The most likely causes for female infertility include pelvic inflammatory disease (PID); polycystic ovary syndrome (PCOS); endometriosis, other STIs (e.g genital herpes); ovary problems; hormonal problems; immune system problems; luteal phase defect; fibroids; other uterine muscle problems; poor quality cervical mucus; illness (e.g diabetes, kidney disease, hypertension); medications (such as hormones, antibiotics, antidepressants, pain killers); premature menopause; and other causes (e.g excessive exercise, stress, anorexia); fallopian tube damage or blockage; elevated prolactin (hyper prolactinemia); and pelvic adhesions (Guy, 2011); Mayo clinic, 2011 & Pub Med Health, 2010). According to Fraser, Cooper and Nolte, (2009) and Glenville (2011) the female infertility causes include endocrine disorders (dysfunction of hypothalamus, pituitary, adrenals and thyroid); systemic diseases (diabetes mellitus, celiac disease, renal failure); physical disorders (obesity, anorexia nervosa, excess exercise) autoimmune disorders (antiphospholipid syndrome);

clotting disorders; defects of the uterus and cervix (myomas or fibroid, polyps, birth defects); heavy use of alcohol; ovarian disorders (hormonal, ovarian cysts or tumours, etc); defective transport of ovum (due to tubal obstruction, infection, previous tubal surgery); fimbrial adhesions, defective sperm transport (due to psycho-sexual problems, infection, congenital anomaly); cervical trauma or surgery; hostile mucus; antisperm antibodies in mucus; defective implantation (due to hormonal imbalance, congenital anomalies, fibroids, infection); reproductive tract infections (following unsafe abortion, miscarriages and puerperal sepsis); gynaetresia (abnormal narrowing of the vagina resulting from female genital mutilation); congenital abnormalities (e.g chromosomal disorders like Turne's syndrome etc); and anatomical problem (e.g retroversion of the uterus).

### **Causes of Male Infertility**

The most common cause of male infertility is a problem with the sperm either low sperm count or sperm with poor quality. Sperm with poor quality cannot move rapidly enough or in the right direction, or may be abnormally shaped. Some conditions that many contribute to sperm problem include; under-developed tests (usually arising after a mumps infection, a hernia surgery, or an injury or birth defect); swollen veins in the scrotum; underscended testes; infections (e.g.s gonorrhoea, tuberculosis); exposure to metals (leads, chemical-pesticides); certain medications (tagament, phenytoin, methotrexate, sulfasalazine, corticosteroids, cytoxan, cyclophosphamide); injury to testicles; chronic prostate infections; autoimmunity, retrograde ejaculation; sexual difficulties (impotence, premature ejaculation, painful intercourse); genetic defects; and hormone difficulty (Guy 2011). Moreover, Mayo Clinic (2011) stated that male infertility can be caused by abnormal sperm production or function, problems with the delivery of sperm due to sexual problems; health issues; certain genetic disease like cystic fibrosis; structural problems like blockage of the part of the testicles that contains sperm-epididymis; general health and life style issues (e.g.s poor nutrition, obesity, use of alcohol, tobacco and drugs); over exposure to certain environmental factors (such as pesticides); frequent exposure to heat; damage related to cancer and its treatment; and age – men older than age 40 may be less fertile than younger men.

Pub Med Health (2010) and Fraser-cooper and Nolte (2009) identified the causes of male infertility to include; dysfunction of hypothalamus, pituitary, adrenals and thyroid; systemic disease (e.g.s diabetes mellitus, celiac disease, renal disease); testicular disorders like trauma; congenital problems like hydrocele; occupational factors (funaceman, long distance lorry driver); acquired (varicocele, tight clothing, cancer treatment; obstruction or absence of seminal ducts; impaired secretions from prostate or seminal vesicles; psychosexual dysfuncitons; physical inability; physical anomalies (hypospadias, epispadias)' reproductive tract infection like orchitis, epididymitis, chromosomal disorder like klinefelter's syndrome and surgical

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vasectomy. Fairmax Media (2011) added that diet contributes to infertility, too much eating of junk food, too many drinks and cigarettes can reduce sperm quality and quantity. A lack of iron, vitamin D, selenium, omega 3, or iodine can also cause infertility. Use of prescribed drugs such as cimetidine, spironolactone and nitrofurantoin.

### **Risk Factors and Prevention**

According to Guy (2011) easily treated illnesses or life style habits that may contribute to infertility include; heavy use of alcohol, tobacco or drugs: starvation diets or anorexia in the woman; tight underwear or pants in the men; and stress which can cause irregular periods in a woman and reduce sperm count in a man. Mayo Clinic (201) stated that the risk factors for infertility include; age; overweight or underweight; and too much exercise.

### **Prevention**

May Clinic (2011) stated that male infertility can be prevented by; avoiding drug and tobacco use, excessive alcohol consumption, hot tubs and steam baths. For couples, having intercourse two to three times a week may improve fertility because too frequent ejaculation can lessen sperm quality; and a woman can increase her chances of becoming pregnant in a number of ways such as moderate exercise; avoid weight extremes (overweight or underweight), avoid alcohol, tobacco and street drugs; limit caffeine; and limit medications. More so, Guy (2011) indicated that most of these problems of infertility can be solved with medical treatment or lifestyle changes such as wearing boxer shorts; avoiding a sexual lubricant or trying some simple stress reduction methods such as physical exercise or relaxation techniques; changing the timing of sex and the couple's sexual techniques may also increase the chance of pregnancy; sometimes the semen from the man fails to reach the woman's cervix, placing a pillow under the woman's hips after intercourse may help prevent spillage of semen.

Fairfax Media (2011) stated that infertility may be prevented by avoiding; bad fats like trans fats found in processed, packaged and fried foods, biscuits and cakes which can keep a woman from ovulating; rather consume the good fats found in extra virgin olive oil, avocados; and nuts and seeds; white sugar and flour – because they create hormonal imbalance in women; cigarettes because they cause severe low sperm count and sperm motility; alcohol – reduces the production of progesterone; and also avoid coffee. Pub Med Health (2010) added that infertility can be prevented by; proper treatment of STI's practice of safer sex behaviours; get a mump vaccine in men to prevent mumps and its complication – orchitis and resultant sterility; and maintain a healthy diet, weight and lifestyle to optimize woman's chances of getting pregnant and having a healthy pregnancy.

## **Management**

This includes medical, surgical and nursing management including education and counseling.

## **Medical Management**

Infertility is often difficult to treat because it frequently results from a combination of factors still medicine offers some positive results. Therapy may require use of drugs (pharmacologic) or use of assisted reproductive technology.

- Pharmacologic therapy; This involves the use of drugs such as clomid, pergonal, metrodin, chroionic gonadotropin, bromocriptine, carbegoline, danazol, ceftriazone injection, and progesterone (Fairfax Media, 2011 & Pub med Health, 2010).

Glenville (2011) observed the use of supplements in treatment of infertility examples, folic acid, zinc, selenium, essential fatty acids, vitamin E, vitamin C, L-Arginine, L-Carnitine, and vitamin A.

- Assisted Reproductive Technology (ART). Examples are; in vitro fertilization (IVF); Embryo transfer (ET); Intracytoplasmic sperm injection (ICSI); artificial insemination (AI); zygote intrafallopian transfer (ZIFT); and gamete intrafallopian transfer (GIFT), (Pub Med Health, 2010 & Fairfax Media, 2011). Mayo Clinic (2011) and Guy (2011) added electric or vibratory stimulation to achieve ejaculation; surgical sperm aspiration; assisted hatching; tuboplasty; preimplantation genetic diagnosis; and FASIAR – follicle aspiration, sperm Injection and Assisted Follicular rupture (is a new method). Prof. Ikechebelu also made first test tube baby in Anambra State. A bouncy baby boy weighing 3.3kg was delivered in Nnewi, Anambra State on 6<sup>th</sup> August, 2011 at Life specialist Hospital (the college voices 2011).

## **Surgical Management**

This is dependent on the cause of infertility with the aim of correcting a malfunction or anomaly. They include myomectomy, tubal exploration; fimbrioplasty; neosalpingostomy; tubal reanastomosis and tubal reimplantation. Also micro-surgical technique example robotic-assisted laparoscopy which has increased the success rate of these surgeries (Pub Med Health, 2010, & Mayo clinic, 2011).

## **Nursing Management**

Nursing intervention for managing infertility include: assisting couple in reducing stress in the relationship, encouraging co-operation, providing privacy, fostering understanding, and refer the couple to appropriate resources when necessary.

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### **Implication for Social Health Promotion**

Psychosocial aspects of infertility involve the psychological impact of fertility on a couple which the health educator must put into consideration. Commonly reported feelings are of guilt, anger, depression, anxiety, inadequacy, grief, loss of control, and low self esteem. Men and women react differently to the diagnosis of infertility. Women are reported to suffer greater psychosocial distress and higher levels of depression, whereas men report less distress and are able to adapt to childlessness better than their partners do. The feelings of despair, anger and hopelessness can be profound particularly when the infertility is prolonged. Relationship difficulties may be encountered for various reasons. The couple may have poor communication skills hence making them unable to express themselves and disclose their true feelings to each other (Fraser, cooper & Nolte, 2009). Health promotion is the provision of information and/or education to individuals, families, and communities that encourage family unity, community commitment, and traditional spirituality that make positive contributions to their health status. Health promotion is also the promotion of healthy ideas and concepts to motivate individuals to adopt healthy behaviours. According to the World Health Organization, health promotion is the process of enabling people to increase control over, and to improve their health (definition of Wellness.com, 2012).

Furthermore, for health promotion in the 21<sup>st</sup> century the Jakarta Declaration identifies five priorities namely:

- Promote social responsibility for health
- Increase investments for health development
- Expand partnerships for health promotion
- Increase community capacity and empower the individual
- Secure an infrastructure for healthy promotion (definition of Wellness.com, 2012).

Hence, the implication for social health promotion of infertility tends to address the priority- “increase community capacity and empower the individual” by provision of necessary information on infertility, causes, risk factors, prevention and treatment.

Moreover, Gurunath, Pandian, Anderson and Bhattacharya (2011) stated that in many cultures, inability to conceive bears a stigma (social impact). In closed social groups, a degree of rejection (or a sense of being rejected by the couple) may cause considerable anxiety and disappointment. Some respond by actively avoiding the issue altogether; middle-class men are the most likely to respond in this way. Some couples hide their infertility from family and friends. More so, health promotion aims at informing, influencing and assisting both individuals and organizations to accept more responsibility and be more active in matters affecting all aspects of human health (Okafor, 2011)



Infertility is the inability of the couple to achieve pregnancy after one year of regular unprotected sexual intercourse. Infertility is a common problem and is a disease of couple. It has so many causes and risk factors. It subjects the couple to stigma, rejection, anxiety, disappointments and many others. Hence, there is need to promote the social health of the infertile couples by giving them adequate information on infertility, its causes, risk factors, prevention and treatment; and proper counseling.

In conclusion, infertility can lead many to feel alone, out of control, unheard, unseen and ashamed. Everyone deals with the emotional turmoil fo infertility differently. Some turn inward, some reach out for help and some become wounded healers (those that help others in order o heal themselves).

### **Recommendations**

- Health workers should help to organize seminars and workshops on infertility to broaden the knowledge of the public on infertility, its causes, risk factors, incidence, prevention and treatment.
- Every couple should adopt healthy life styles which involve maintaining and ideal body weight; avoiding excessive alcohol consumption, adequate stress management, adequate nutrition etcetera.
- Infertile couples should adhere strictly to the prescribed treatment regimen for them or opt for adoption; and enjoy their social life to fullness.
- Young ladies should not unduly delay their marriages, as age affects fertility.

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