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Perceived causes of infertility among Women of child bearing age in Ilorin West Local Government Area, Kwara State

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Abstract. This study investigated the Perceived causes of infertility among women of child bearing age in Ilorin West Local Government, Kwara State. Infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected regular sexual intercourse. This study investigated (i) Smoking and (ii) STI as a cause of Infertility among Women of Child bearing age. A descriptive research design of survey method was employed for this study. The population consists of all women of child bearing age in Ilorin West Local Government. A multistage sampling technique was used to select 241 respondents. Researcher's structured questionnaire which was validated by three experts from the Department of Health Promotion and Environmental Health Education, Faculty of Education, University of Ilorin was used for data collection. A correlation co-efficient of .78 'r' was obtained through test re-test method using Pearson Product Moment Correlation. Data collection was conducted by the research and three trained research assistants. The postulated null hypotheses were tested using inferential statistics of chi-square at 0.05 alpha level.

The findings from this study showed that:

- Smoking will significantly be perceived as a cause of infertility among women of child bearing age with the calculated chi-square (χ^2) value of 172.66 is greater than the table chi-square (χ^2) value of 16.92 at the degree freedom (df) 9
- Sexually Transmitted infections will significantly be perceived as a cause of infertility among women of child bearing age with the calculated chi-square (χ^2) value of 192.49 is greater than the table chi-square (χ^2) value of 16.92 at the degree freedom (df) 9

Based on the findings of the study, it was concluded that smoking and sexually transmitted infections were significantly perceived as causes of infertility among women of child bearing age in Ilorin West Local Government, Kwara State. Therefore, it was recommended that Health workshops should be organized to enlighten women in Ilorin West Local Government about the dangers involve in smoking and its effect on fertility and the knowledge of causes and prevention of STIs should be spread among women in order to curb the problem of infertility.

1. Introduction

According to World Health Organization (2013), infertility can be described as the inability to become pregnant, maintaining a pregnancy, or carrying pregnancy to live birth. A clinical definition of infertility by the WHO and International Council of Medical Acupuncture and Related Techniques (2009) is a disease of the reproductive system defined by the failure to

achieve clinical pregnancy after 12months or more regular unprotected sexual intercourse (Zergers-Hochschild, Adamson, de Mouson, Ishihara, Nygren, Sullivan, & Van der Poel, 2009). Infertility can further be broken down into primary and secondary infertility. According to WHO (2013), primary infertility refers to inability to give birth either because of not been able to become pregnant, or carry a child to live birth, which may include miscarriage or still born child. Secondary infertility refers to the inability to conceive or give birth when there was a previous pregnancy or live birth.

Infertility is a disease of reproductive system which affects both men and women with almost equal frequency (Callahan & Caughey, 2008). While there is no universal definition of infertility, a couple is generally considered clinically infertile when pregnancy has not occurred after at least 12months of regular unprotected sexual activities (Sohrabvand & Jafarabadi, 2005). In 90% of the cases, the causes are identifiable and in 50% of the cases appropriate therapy will result in pregnancy (Callahan & Caughey, 2008).

According to Evers and Gnoth (2005), most widely used definition, a couple is considered infertile when the pregnancy has not begun after a year of unprotected sexual intercourse. For each couple the monthly fecundity rate varies. However, it has been estimated that 80% of couples conceived within six months and 20% of the remaining couples within the following six months. Even among couples regarded as infertile by definition, the spontaneous rate with the following twelve months is up to 50%. Europe is the continent with the lowest fertility rate. The total fertility rate (TFR) which is calculated as a sum age specific fertility rate of current year, is the lowest (less than 1.54) in the eastern European countries such as Belarus, Ukraine, and Russia and in Southern European countries like Greece, Italy and Spain. The highest TFRs exceeding 2.0 needed to approach the population replacement levels are in the northern European countries; Norway, Island and Denmark and in Ireland, France and Turkey (the ESHRE Capri Workshop Group, 2010).

According to Alemnji and Thomas (2007) reports from various part of Nigeria have reached different conclusions. World Health Organization (2007) reported that some reports showed an equal contribution of male and female partners to infertility, others showed a disproportionate contribution of male and female partners. However, it is difficult to accurately determine the contribution of male and female to infertility, as fertility is relative and may manifest differently in different couples. Sule (2008), studied prevalence of infertility among women in a South Western Nigerian Community. The sample was women between the age of 15 and 55 years from four hospitals in Nigeria. The outcome of the study has shown that there is high incidence of infertility with 51.5% of gynecological admissions within the years 2001 to 2003 in four hospitals.

Cigarette smoking contains several toxic chemical compounds known to be mutagens and carcinogens such as cotinine and benzo(a)pyrene (Fowles & Dybing, 2003). Inhale cigarette smoke can decrease fertility and may affect reproductive outcomes such as causing delayed conception in active female smoking. Active and passive smoking also causes increased risk of miscarriage during pregnancy, which is potentiated by the amount cigarettes smoked per day (Pineles, Park, & Samet, 2014). While it is well documented that cigarette smoke contains 4,000 chemicals and is associated with a number of potential health complications such as cardiovascular disease, more research is needed to establish a link to infertility.

According to Practice Committee of American Society for Reproduction Medicine (2008), among women who are of reproductive age, 30% are smokers. Augood, Duckitt, and Templeton (2008) determined that women who smoked had a significantly higher odds ratio of infertility compared to non-smokers. The reduction in fertility among female smokers may be due to decreases in ovarian function and reduced ovarian reserve. Sahara, Beatse, Leonardi, and Navot (2004) found that the incidence of reduced ovarian reserve was significantly higher in women who smoked than in age matched non-smokers (12.32% and

4.83% respectively), and that these women had similar fertilization and pregnancy rates. This suggests that ovarian reserve may be the primary mechanism by which smoking affects fertility in women. Disruption of hormone levels may also be a possible mechanism. Women who smoked 10 or more cigarettes per day were found to have 30-35% increase in urinary FSH level at the time of cycle transition; and women who smoke 20 or more cigarettes per day had lower luteal-phase levels of progesterone. These disruptions in the endocrine function could contribute to the menstrual dysfunction and infertility observed in female smokers. The uterine tube and uterus may also be targets of cigarette smoke.

The high prevalence of smoking among women in their reproductive years continues to be a matter of concern. Whilst in the UK smoking in adult females is in gradual decline, there is a worrying increase in the smoking prevalence among 11 to 15-year-old girls. Latest figure indicates that at the age of 15, 33% of girls are regular smokers. The negative effects of cigarette smoking on general health are well known, but smoking can also affect fertility (Jowell, 1997).

Research has established beyond doubt that smoking can have a negative impact on female fertility. Women who smoke take longer to conceive than women who do not smoke (Shiverick, 2011). One study found that tobacco consumption affects uterine receptivity, with heavy smokers more likely to be affected. However, even comparatively low levels of smoking can have significant impact on female fertility. There is a higher rate of ectopic pregnancies in smokers (Soares, 2007).

Sexually-Transmitted Infections (STIs) are one of the commonest reasons worldwide for seeing a doctor.

A recent estimate is that 1.5% of people under the age of 25 years are treated for chlamydia infection each year. Overall, it is estimated that over 15 million new cases of STIs are diagnosed each year in the US, resulting in a huge potential burden to any type of health care system. Particular problem stemming from lesser STIs includes facilitation of HIV infection, later development of some anal and cervical cancers, complication during and after pregnancy and male and female infertility. Despite this high incidence of detected infection, many STIs can be carried without symptoms for month or years and some viral infections may persist for life. This underlines the important of easy access to test for STIs (particularly in settings where there are many young people for example university clinics) as well as effective treatment of the affected individual and his or her partners. Although routine STIs screening – unlike cervical cancer screening is not considered cost effective at present, it will be prudent to have a low threshold to offer this for young men and women. Thankfully, the stigma attached to STIs is finally disappearing, albeit some 40 years after the sexual revolution of the 1960s. STIs are not related to ethnic background, social class, education, income or personal hygiene. The most common STIs today are genital wart, genital herpes, gonorrhea and chlamydia. Less frequently seen STIs include pubic lice, syphilis, hepatitis, HIV and ulcerative diseases. This review will outline the symptoms, treatment and any effect these STIs have on fertility and pregnancy outcome (Richardson, Franco, Pintos, Bergeron, Arella & Tellier 2000).

Statement of the problem

It was observed that some married people in Ilorin West Local Government do not have any children after a long period of their marriage despite that they did not use any contraceptive to prevent pregnancy. Infertility among married couple has led to broken homes, divorce, physical violence, stigmatization, and discrimination especially to women of Ilorin West Local Government Area, Kwara state. They are sometimes pushed out of their husband's house without granting them access to their husband's properties, most of the women are sent back to their father's house where they are cajoled and mocked by their sisters-in-laws and given them sort of names just to destabilize them.

Inhale cigarette smoke can decrease fertility and may affect reproductive outcomes such as causing delayed conception in active female smoking. Active and passive smoking also causes increased risk of miscarriage during

pregnancy, which is potentiated by the amount cigarettes smoked per day. While it is well documented that cigarette smoke contains 4,000 chemicals and is associated with a number of potential health complications such as cardiovascular disease, more research is needed to establish a link to infertility (Pineles, Park, & Samet, 2014). Particular problem stemming from lesser STIs includes facilitation of HIV infection, later development of some anal and cervical cancers, complication during and after pregnancy and male and female infertility (Richardson, Franco, Pintos, Bergeron, Arella & Tellier 2000).

Many of them have visited various health care centers to seek for medical intervention for their childlessness, some of the health care centers visited include both orthodox and traditional home. Some of the modern health care centers visited include government and private hospitals. Some of them have spent huge amount of money during this process that made some of them to become wretched.

2. Research Questions

- Will smoking be perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State?
- Will Sexually Transmitted Infections (STIs) be perceived as a cause of infertility among women of child bearing age in Ilorin west Local Government Area, Kwara State?

3. Research Hypotheses

- Smoking will not significantly be perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State
- Sexually Transmitted Infections (STIs) will not significantly be perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State

4. Methodology

Descriptive research design of survey method was used for the study. The population of the study comprised all the women in Ilorin West Local Government Area of Kwara State. However, all women of Italamu area of Ilorin West Local Government Area of Kwara State were used as the target population. The total population of women of child bearing age in Italamu was estimated to be 2406 (National Population Commission (NPC), 2006). 10% of the total population was used for the study. Simple random sampling technique was used to select 241 respondents from the target population which was from Italamu, Ilorin West Local Government. A researchers' developed four likert rating scale questionnaire was used in data collection for the study. The questionnaire consists of two sections namely: section A and B. Section A elicits information on the demographic variables of the respondents, while Section B elicits information on the variables under study. To ascertain the validity of this instrument, the researcher gave three copies to three experts in the Department of Health Promotion and Environmental Health Education, Faculty of Education, University of Ilorin. Their comments and suggestions in line with recommendations of the supervisor were carefully studied and used to improve the quality of the instrument. To determine the reliability of this instrument, the researcher adopt a test re-test method, questionnaire was administered to twenty (20) respondents from another Local Government namely Ilorin south in Kwara State outside the study area. Two weeks were allowed between the first and second administration. Both results were compared using Pearson Product Moment Correlation statistical analysis. A reliability coefficient 'r' of .78 was obtained and this was considered high enough for the study. In order for the researcher to gain the recognition from the respondents, a letter of introduction that was duly signed by the Head of Department of Health Promotion and Environmental Health Education, University of Ilorin. This letter was used for the purpose of instrument administration. The researcher made every effort with other three trained research assistants in administering the instruments and protected the confidentiality of the research participants. The data for this study was collected, sorted, coded and subjected to appropriate statistical analysis. Section A

contains the demographic data of the respondents, was analyzed using descriptive statistics of frequency counts and simple percentage and non-parametric of inferential statistics of chi-square was used to analyze the stated hypotheses at 0.05 alpha level using Statistical Package for Social Science (SPSS) version 20.0.

5. Test of Hypotheses

Hypothesis 1: Smoking will not significantly be a perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State

Table 1: Chi-square analysis of Smoking and Infertility.

S/N	ITEMS	SA	A	D	SD	Row Total	df	Cal. χ^2	Tab. χ^2	Decision
1	Cigarette smoking can result in menstrual dysfunction	139 (57.7%)	79 (32.8%)	21 (8.7%)	2 (0.8%)	241				
2	Tobacco smoking will result in the damage of the uterus	116 (48.1%)	98 (40.7%)	23 (9.5%)	4 (1.7%)	241				
3	Smoke in cigarette contains caffeine which inhibits fertility	139 (57.7%)	69 (28.6%)	25 (10.4%)	8 (3.3%)	241	9	172.66	16.92	H_0 Rejected
4	Smoking cause pelvic inflammatory disease which affect fertility	100 (41.5%)	93 (38.6%)	40 (16.6%)	8 (3.3%)	241				
	Column Total	**494**	**339**	**109**	**22**	**964**				

@0.05 alpha level

Table 2 reveals that the calculated chi-square (χ^2) value of 172.66 is greater than the table chi-square (χ^2) value of 16.92 at the degree freedom (df) 9 at 0.05 level of significance. Therefore, the null hypothesis was rejected. This implies that smoking is perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State.

Hypothesis 2: Sexually Transmitted infections will not significantly be perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State

Table 2: Chi-square analysis of STI and Infertility

S/N	ITEMS	SA	A	D	SD	Row Total	df	Cal. χ^2	Tab. χ^2	Decision
5	Sexually transmitted infections can cause damage to the matured eggs	151 (62.7%)	67 (27.8%)	16 (6.6%)	7 (2.9%)	241				
6	Sexually transmitted infections such as genital herpes can cause infertility	138 (57.3%)	76 (31.5%)	20 (8.3%)	7 (2.9%)	241				
7	Sexually transmitted infections can cause premature release of eggs	152 (63.1%)	68 (28.2%)	15 (6.2%)	6 (2.5%)	241	9	192.49	16.92	H_0 Rejected
8	Sexually transmitted infections may result in reproductive problem such as menstrual dysfunction	147 (61.0%)	71 (29.5%)	16 (6.6%)	7 (2.9%)	241				
	Column Total	**588**	**282**	**67**	**27**	**964**				

@0.05 alpha level

Table 4 reveals that the calculated chi-square (χ^2) value of 192.49 is greater than the table chi-square (χ^2) value of 16.92 at the degree freedom (df) 9 at 0.05 level of significance. Therefore,

the null hypothesis was rejected. This means that sexually transmitted infections is perceived as a cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State.

6. Discussion of findings

The study investigated the Perceived causes of Infertility among women of child bearing age in Ilorin West Local Government in Kwara State in which two (2) hypotheses were tested using chi square statistical tool at 0.05 alpha levels.

Hypothesis 1:

The result of the tested hypothesis one stated that the calculated chi-square (χ^2) value of 172.66 is greater than the table chi-square (χ^2) value of 16.92at the degree freedom (df) 9 at 0.05 level of significance. Therefore, the null hypothesis was rejected. This means smoking is a perceived cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State. However in accordance to Pineles, Park, & Samet, (2014) Inhale cigarette smoke can decrease fertility and may affect reproductive outcomes such as causing delayed conception in active female smoking. Active and passive smoking also causes increased risk of miscarriage during pregnancy, which is potentiated by the amount cigarettes smoked per day.

Hypothesis 2:

The result of the tested hypothesis three reveals that the calculated chi-square (χ^2) value of 192.49 is greater than the table chi-square (χ^2) value of 16.92 at the degree freedom (df) 9 at 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that sexually transmitted infections is a perceived cause of infertility among women of child bearing age in Ilorin West Local Government Area, Kwara State. According to Richardson, Franco, Pintos, Bergeron, Arella & Tellier (2000) Sexually-Transmitted Infections (STIs) are one of the commonest reasons worldwide for seeing a doctor. A resent estimate is that 1.5% of people under the age of 25 years are treated for chlamydia infection each year.

Conclusion

Based on the findings from the study, the following conclusions were drawn:

The findings showed that smoking is a perceived cause of infertility among women of child bearing in Ilorin West Local Government Area, Kwara State.

Sexually transmitted infection is a perceived cause of infertility among women of child bearing in Ilorin West Local Government Area, Kwara State.

Recommendations

Base on the conclusion of the study, the following recommendations were made:

- Health workshops should be organized to enlighten women in Ilorin West Local Government about the dangers involve in smoking and its effect on fertility.
- The knowledge of causes and prevention of STIs should be spread among women in order to curb the problem of infertility.

References

Alemnji, G. A. & Thomas, K. D. (2007). The Need for a Balanced Emphasis in Infertility. *East African Medical Journal*, 74:119.

Augood, C., Duckitt, K. & Templeton, A. A. (2008). Smoking and female infertility: A systematic review and meta-analysis. *American Journal on Human Reproduction*, 13:1532-1539.

Callahan, L. T. & Caughey, A. B. (2008). Blueprints Obstetrics and Gynecology. Infertility and Assisted Reproductive Technologies; pp. 275–289.

Evers, D. & Gnoth, W. (2005). Causes and Management of Infertility in Sub-Saharan Africa. *African Medical forum International. Gynecology forum*,4:10-4.

Fowles, J. & Dybing, E. (2003). Application of Toxicological Risk Assessment Principles to the Chemical Constituents of Cigarette Smoke. Tobacco control, *African Journal on Effect of Smoking12*(4):424-30.

Jowell, T. (1997). Bid to Stop Today's Youngsters Filling Tomorrow's Cancer Wards. Department of Health.

Pineles, B. L., Park, E. & Samet, J. M. (2014). Systematic Review and Meta-analysis of Miscarriage and Maternal Exposure to Tobacco Smoking during Pregnancy. *American Journal of Epidemiology*, 179(7):807-23.

Practice Committee of American Society for Reproductive Medicine (2008): Smoking and Infertility. *American Journal of Sciences*, 254-259.

Richardson, H., Franco, E., Pintos, J., Bergeron, J., Arella, M. & Tellier, P. (2000). Determinants of Low and High Risk Cervical Human Papilloma Virus Infections in Montreal University students. *African Journal of Sciences*, 27:79-86.

Sharara, F. I., Beatse, S. N., Leonardi, M. R. & Navot, D. (2004). Cigarette Smoking Accelerates the Development of Diminished Ovarian Reserve as Evidence by the Clomiphene Citrate Challenge Test. *American Journal of Sciences*, 62:257-262.

Shiverick, K. T. (2011). Cigarette Smoking and Reproductive and Developmental toxicity. In Gupta RC editor. *Reproductive and Developmental Toxicology Burlington*, MA Elsevier. ISBN:978-0-12-382032-7.

Soares, S. R. (2007). Cigarette smoking affects uterine receptiveness. *Journal on Human Reproduction*, 22(2):543-547.

Sohrabvand, F. & Jafarabadi, M. (2005). Knowledge and Attitudes of Infertile Couples about assisted Reproductive Technology. *Iranian Journal of Reproductive Medicine.;3(2):90–94.*

World Health Organization, (2007). Infections, Pregnancies and Infertility: Perspectives on Prevention. Fertility and Sterility, 7:964-978.

World Health Organization (2013). 'Sexual and Reproductive Health on Infertility Definitions and Terminologies".Available on http://www.who.int/reproductivehealth/topics/infertility/definitions/en/.Retrieved on *November 5, 2013*.

Zegers-Hochschild, F., Adamson, G. D., De Mouzon, J., Ishihara, O., Mansour, R., Nygren, K., Sullivan, E. & Van der Poel, S. (2009). "The International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization Revised Glossary on ART Terminology, *Journal on Human Reproduction (11):2683-2687:10.1093.*