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# Risk Factors of Infertility among Women of Childbearing Age in Enugu State

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**Abstract**
*Infertility is a special reproductive health defect with severe consequences to patients, families and the society at large. The purpose of this study was to determine the risk factors of infertility among women of childbearing age in Enugu State from 2006-2015. Three specific objectives with corresponding three research questions and two null hypotheses were formulated to guide the study. Descriptive survey research design was used for the study. The instrument for data collection was a researcher designed female infertility risk factor proforma. The population for the study consisted of all women of childbearing age with infertility who reported in four health facilities used for the study which totalled 7,463. The sample for the study consisted of four hundred cases. Data was collected from the folders of the clients. Frequencies and percentages were used to answer the research questions while chi-square statistic was used to test the null hypotheses. The result of the study showed that reproductive health problems (17.5%) were the leading risk factors for infertility. Women in age group 25-34 years had the highest number of risk factors. Women with tertiary education had the highest number of risk factors. There were significant differences in the risk factors for infertility based on age ($\chi^2$ = 9.986, p = .019) and level of education ($\chi^2$ = 9.472, p = .0.20). It was therefore recommended that there is urgent need for health educators, government, non-governmental agencies and health care providers to sensitise women on the need for early treatment of reproductive health problems, STI and other chronic health problems which are likely to affect their ability to conceive and have children.*
**Keywords:** Risk factors, Infertility, Women of Childbearing Age

## Introduction

Infertility is a global reproductive health issue that affects many individuals and couples. Cui (2010) stated that infertility is a critical component of reproductive health that has been neglected in the effort to improve maternal and child health in the past decade. Worldwide, infertility is generally quoted as occurring in 48.5million couples (Mascarenhas, Flaxman, Boerma, Vanderpoel, & Stevens, 2012). Hordin (2017) estimated that approximately 10.5% of women around the world experienced secondary infertility and roughly 2% experienced primary infertility.

There are various definitions of infertility, the clinical definition used by World Health Organisation [WHO] and International Committee for Monitoring Assisted Reproductive Technology [ICMART], (2009) stated that infertility is a disease of the reproductive system defined as the failure to achieve a clinical pregnancy after twelve months or more of regular unprotected sexual intercourse (Zegres-itochschild, Adamson de-mouzon, Ishihara, Mansoua, Nygren, Sullivan & Vanderpoel 2009 for WHO & ICMART). The demographic definition of infertility is an inability of those of reproductive age (15-49 years) to become pregnant or remain pregnant within five years of exposure based upon a consistent union status, lack of contraceptive use, non-lactating and maintaining a desire for a child (Mascarenhas, Flaxman, Boerma, Vanderpoel, & Stevens 2012). The demographic

definitions are interested in live birth as the ultimate outcome while the clinical definitions are based on pregnancy alone and not outcome.

Infertility is of two types primary infertility and secondary infertility. Primary infertility occurs when a couple has no record of conception despite indulging in unprotected sex for one year or more while secondary infertility is where the incapacity to conceive occurs after the couple have had one or more successful conceptions (Smith, 2014). There are early warning signs of infertility and they include irregular periods, painful periods that interfere with normal daily life, heavy periods, no periods at all, symptoms of hormonal fluctuation such as reduced sex drive, weight gain amongst others and pain during sex (Leah, 2016). Infertility could occur in the female as a result of certain risk factors.

A risk factor is defined as any attribute, characteristic or exposure of an individual that increases the likelihood of developing a diseases or injury (WHO, 2016). The Australian Institute of Health and Welfare - AIHW, (2016) definition of risk factors is in line with the definition given by WHO (2016) which states that health risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing a diseases or health disorder. Some of these risk factors are modifiable while a few may not be.

The risk factors of infertility are age, tobacco and alcohol use, bodyweight, exercise, irregular periods and history of sexually transmitted infections (American Congress of Obstetricians and Gynaecologists [ACOG], 2016). NHS (2017) affirmed that age at marriage is a major risk factor for infertility among women, the authors stated that the biggest decrease in fertility begins during the mid 30s. World Health Organization (2009) estimated that 60% of infertility cases in Africa are attributable to sexually transmitted infections as compared to other regions of the world. Sexually transmitted infections (STIs) can have serious consequences beyond the immediate impact of the infection, they are the major causes of pelvic inflammatory disease (PID). PID is a particularly serious condition because it can permanently damage the uterus and fallopian tube leading to infertility. The unfortunate thing about PID is that it could be symptomless and a woman may not realize she is infected until the reproductive organs have been completely damaged. Sharma, Biedenharn, Fedor & Agarwal (2013) identified a woman's obstetric history as a major risk factor for infertility. Other risk factors include chemotherapy, adhesions secondary to surgery, exposure to radiation, emotional factors, occupational and environmental factors (Kenneth, 2014 & Resolve, 2016). A singular factor could be responsible for infertility in a woman while in some cases it could be a combination of more than two or more factors. Some of these risk factors could be preventable while others may not be. The non preventable factors are the genetic factors while the preventable factors include infections, unhygienic obstetric practices, infrequent sexual intercourse, chronic medical conditions such as diabetes, hypertension and substance abuse. Reproductive health conditions such as endometriosis, fibroid and polycystic ovarian syndrome also constitute as risk factors of infertility.

Available literature studies on infertility show various risk factors were responsible for infertility in different countries and for different age groups. Chimachanya and Suangkawatin (2008) reported that endometriosis was a major factor of infertility in Thailand while Shamila and Sasika (2011) stated that in India, polycystic ovarian syndrome was a major factor in infertility. Kelly-Weeder (2010) identified increasing age as a factor directly related to impaired fertility. Dhalwani, Fiashi, West, Tata (2013) stated that age group 30-34years had the highest no of risk factors. Level of education is another factor that was considered in some studies. Larsen (2003) reported that level of education was not associated with primary or secondary infertility while Kumar (2007) stated that infertility was higher among illiterates. Swift and Liu (2014) suggested that higher fertility awareness correlated with higher level of education. Thus, finding out the differences in risk factors according to age and level of education will be necessary for comparison and generalization of findings.

Sometimes infertility may not be related to any of the identified factors and this leads to a condition known as unexplained infertility. Unexplained infertility is infertility that is idiopathic in the sense that its cause remains unknown even after standard infertility tests have been carried out usually including semen analysis in the man and assessment of ovulation and fallopian tubes in the woman. In unexplained infertility, abnormalities are likely to be present but not detected by current methods. Richard (2016) stated that 0-26% of infertile couples have unexplained infertility. The author explained that the likelihood of a diagnosis of unexplained infertility is increased substantially in women 35years and over and greatly increased in women over 38years. The reason for this is that there is likely to be egg quantity and quality problem as a woman ages. Unfortunately, there is currently no specific test for "egg quality". Infertility is indeed a special reproductive health defect that is different from other diseases. It is not life threatening, but the detrimental effect or consequences of infertility to patients, their families and the whole society should not be underestimated

The consequences of infertility are manifold, available evidence from many countries in Africa indicate that the onus of infertility is often placed on the woman even when it is the man that has a problem. The society

tends to value a woman only if she is able to produce at least one child and a marriage can be considered a failure when the couple cannot conceive.Women who are infertile experience distressing emotions, typical reactions include shocks, grief, depression, anger and frustration as well as loss of self esteem and self confidence. In many cases, a woman who cannot bear children is excluded from social and cultural events including traditional ceremonies. The psycho-social effects of infertility recorded in a study carried out by Fehitola, Fehitola, Ogunlaja, Awotunde, Ogunlaja, & Onwudiegwu (2017) include depression, low self esteem to actual suicide attempt. A woman can be saved of all these troubles if certain preventive measures against infertility are taken.

Women of childbearing age (WCBA) are called women of reproductive age. Samuel (2010) referred to WCBA as women aged between 15-49 years. Onuzulike (2006) had stated that apart from the biological noble task of producing species, women of childbearing age are crucial to socio-economic development of every country as members of the workforce and as the backbone of households. When there is a problem of infertility in the home, regardless of who is responsible the general belief is that the woman is the main culprit and that is perhaps why this study is necessary so that adequate prevention can be taken to reduce infertility. The socio-demographic factors of age and level of education were investigated. The study will determine the risk factors for infertility among WCBA in Enugu state

**Purpose of the Study**

The purpose of this study was to determine the risk factors of infertility among women of childbearing age (WCBA) attending fertility clinics in Enugu state. Specifically, the study sought to determine:

1. Risk factors of infertility among women of childbearing age in Enugu state.
2. Risk factors of infertility among women of childbearing age in Enugu state based on age
3. Risk factors of infertility among women of childbearing age according to level of education.

**Research Questions**

The following research questions guided the study

1. What are the risk factors of infertility among women of childbearing age in Enugu state?
2. What are the risk factors of infertility among women of childbearing age in Enugu state according to age?
3. What are the risk factors of infertility among women of childbearing age according to level of education?

**Hypotheses**

The following null hypotheses were postulated to guide the study and they were tested at .05 level of significance:

1. There is no significant difference in the risk factors of infertility among women of childbearing age based on age in Enugu state.
2. There is no significant difference in risk factors of infertility among women of childbearing age based on level of education in Enugu state.

**Methods**

Descriptive survey research design was used for the study. The population for the study consisted of all women of childbearing age who reported with infertility and attended University of Nigeria Teaching Hospital (UNTH) Enugu, Enugu State University Teaching Hospital (ESUT), Blessed Assurance Hospital Enugu (BAH) and Christian Miracle Hospital (CMH) Enugu from 2006-2015. The total number of reported cases of infertility was seven thousand four hundred and sixty three. (7,463). The sample was four hundred folders of women of childbearing age who reported with infertility Proportionate sampling technique was employed to select the four hundred folders that were used for the study. The instrument for data collection was a researcher designed proforma called Female Infertility Risk Factor Proforma (FIRFP). The face validity of the instrument was established by five experts in the department of human kinetics and health education. The proforma did not undergo reliability test since it was only a document that contains indicators of how to extract data from health records. Data were collected via the patients' folders. Analysis of data was done using statistical package for social sciences (SPSS) version 21.Frequencies and percentages were used to answer research questions and hypotheses were tested using chi-square statistic.

**Results**

Table 1

**Frequencies and Percentages of Risk Factors for Infertility among WCBA in Enugu state from 2006 – 2015 (n= 400).**

| Risk Factor | f | % |
|---|---|---|
| Unsafe Abortion | 38 | 9.5 |
| Ashermans Syndrome/UTS | 7 | 1.7 |
| Male factor | 48 | 12.0 |
| Hormonal Imbalance | 50 | 12.5 |
| Complications of surg./Adhesions | 7 | 1.7 |
| Fibroid and PID | 4 | 1.0 |
| Unexplained/Idiopathic | 22 | 5.5 |
| Advanced age/menopause | 16 | 4.0 |
| Radt/chem./CA | 6 | 1.5 |
| Male factor and PID | 7 | 1.7 |
| Post-partum complications | 4 | 1.0 |
| Infeq. Sex/Scanty sex/distance | 21 | 5.3 |
| Ovarian cyst | 10 | 2.5 |
| Tubal factor | 5 | 1.3 |
| Infections-Chronic PID, STI, vaginitis. | 62 | 15.5 |
| RHP- PCOS, fibroids, endometrotsis | 70 | 17.5 |
| Chronic Health Problems- DM/HTN | 23 | 5.8 |
| **Total** | **400** | **100** |

Data in Table 1 showed that reproductive health problems such as Polycystic ovarian syndrome (PCOS), fibroids and endometrosis which had 70 cases (17.5%) were the most common risk factors for infertility among women of childbearing age. The table further showed that infections (PID, STI and vaginitis) constituted risk factors for 62 cases (15.5%) of infertility, while hormonal imbalance and male factor were identified as risk factors for 50 cases (12.5%) and 48 cases (12.0%) of infertility among WCBA respectively.

In addition, the table indicates that unsafe abortion with 38 cases (9.5%), unexplained infertility 22 cases (5.5%), infrequent sexual intercourse 21cases (5.3%) and chronic health problems 23 cases (5.8%) were risk factors of infertility among WCBA.

Table 2

**Frequencies and Percentages of Risk Factors for Infertility among WCBA based on Age. (n = 400)**

| | AGE | | | |
|---|---|---|---|---|
| **Risk Factors** | **15 – 24 yrs n = 9 f (%)** | **25 – 34yrs n = 204 f (%)** | **35 – 44 yrs n = 153 f (%)** | **45 & above n = 34 f (%)** |
| Unsafe Abortion | 1 (11.1) | 21 (10.3) | 11 (7.2) | 5 (14.7) |
| ASM syndrome/UTS | 0 (0.0) | 3 (1.5) | 3 (2.0) | 1 (2.9) |
| Male factor | 2 (22.2) | 26 (12.7) | 17 (11.1) | 3 (8.8) |
| Hormonal imbalance | 1 (11.1) | 30 (14.7) | 18 (11.8) | 1 (2.9) |
| Complications of surg/Adhesions | 0 (0.0) | 4 (2.0) | 3 (2.0) | 0 (0.0) |
| Fibroid/PID | 0 (0.0) | 2 (1.0) | 2 (1.3) | 0 (0.0) |
| Unexplained/Idiopathic | 0 (0.0) | 12 (5.9) | 8 (5.2) | 2 (5.9) |
| Advanced age/menopause/peri menopause | 0 (0.0) | 0 (0.0) | 5 (3.2) | 11 (32.4) |
| Radt/chem./CA | 0 (0.0) | 4 (2.0) | 2 (1.3) | 0 (0.0) |
| Male factor and PID | 0 (0.0) | 0 (0.0) | 5 (3.2) | 2 (5.9) |
| Post-partum complications | 0 (0.0) | 3 (1.5) | 1 (0.7) | 0 (0.0) |
| Infreq. Sex/scanty sex/distance | 2 (22.2) | 13 (6.3) | 5 (3.3) | 1 (2.9) |
| Ovarian cyst | 0 (0.0) | 4 (2.0) | 6 (3.9) | 0 (0.0) |
| Tubal factor | 0 (0.0) | 4 (2.0) | 1 (0.7) | 0 (0.0) |
| Infections –Chronic PID, STI, vaginitis | 2 (22.2) | 31 (15.1) | 26 (17.0) | 3 (8.8) |
| RHP-PCOS, Fibroids, Endometrosis | 1 (11.1) | 39 (19.1) | 27 (17.6) | 3 (8.8) |
| Chronic health problems- DM/HTN | 0 (0.0) | 8 (3.9) | 13 (8.5) | 2 (5.9) |
| **Total** | **9 (100)** | **204 (100)** | **153 (100)** | **34 (100)** |

Data in Table 2 showed that male factor (22.2%), infrequent sexual intercourse or scanty sex (22.2%) and infections (22.2%) were the commonest risk factors for infertility among women aged 15-24years. The table also showed that unsafe abortion (11.1%), hormonal imbalance (11.1%) and reproductive health problems (fibroids, PCOS and endometrosis) (11.1%) constituted risk factors for infertility among women aged 15 – 24 years. Data in Table 2 showed that reproductive health problems (19.1%), infections (15.2%), hormonal imbalance (14.7%), male factor (12.7%) and unsafe abortion (10.3%) constituted risk factors for infertility among women aged 25 – 34 years.

Furthermore the table showed that in women aged 35 - 44 years, reproductive health problems (17.6%), infections (17.0%), hormonal factors (11.8%) and male factor (11.1%) were the major risk factors for infertility. Similarly, data in table 2 showed that in women aged 45 years and above, advanced age and menopause (32.4%) unsafe abortion (14.7%), male factors (8.8%), infections (8.8%) and reproductive health problems (8.8%). were the main risk factors for infertility.

Table 3
**Frequencies and Percentages for Risk Factors for Infertility among WCBA based on Level of Education. (n = 400)**

| **Risk Factors** | **LEVEL OF EDUCATION** | | | |
|---|---|---|---|---|
| | **NFE** | **PRI EDU** | **SEC EDU** | **TER EDU** |
| | **n = 5** | **n = 24** | **n = 114** | **n = 257** |
| | **f (%)** | **f (%)** | **f (%)** | **f (%)** |
| Unsafe Abortion | 0 (0.0) | 2 (8.3) | 15 (13.2) | 21 (8.2) |
| ASM syndrome/UTS | 0 (0.0) | 1 (4.2) | 2 (1.8) | 4 (1.6) |
| Male factor | 0 (0.0) | 3 (12.5) | 14 (12.3) | 31 (12.1) |
| Hormonal Imbalance | 0 (0.0) | 3 (12.5) | 17 (14.9) | 30 (11.7) |
| Complication of surg/Adhesions | 0 (0.0) | 0 (0.0) | 2 (1.8) | 5 (1.9) |
| Fibroid/PID | 0 (0.0) | 0 (0.0) | 1 (0.9) | 3 (1.1) |
| Unexplained/Idiopathic | 0 (0.0) | 0 (0.0) | 2 (1.8) | 20 (7.8) |
| Advanced age/menopause peri menopause | 3 (60.0) | 3 (12.5) | 3 (2.6) | 7 (2.7) |
| Radt & Chem/CA | 0 (0.0) | 1 (4.2) | 2 (1.8) | 3 (1.1) |
| Male factor/PID | 0 (0.0) | 1 (4.2) | 1 (0.9) | 5 (1.9) |
| Post partum complications | 0 (0.0) | 0 (0.0) | 2 (1.8) | 2 (0.8) |
| Infreq sex/scanty sex/ Distance | 0 (0.0) | 1 (4.2) | 4 (3.5) | 16 (6.2) |
| Ovarian cyst | 0 (0.0) | 0 (0.0) | 5 (4.4) | 5 (1.9) |
| Tubal factor | 0 (0.0) | 1(4.2) | 0 (0.0) | 4 (1.6) |
| Infection–Chronic PID, STI, vaginitis | 0 (0.0) | 1 (4.2) | 22 (19.3) | 39 (15.2) |
| RHP – PCOS, fibroids, endometrosis | 2 (40.0) | 3 (12.5) | 15 (13.2) | 50 (19.5) |
| Chronic Health Problem- Dm/HTN | 0 (0.0) | 4 (16.6) | 7 (6.1) | 12 (4.7) |
| **Total** | **5 (100)** | **24 (100)** | **114 (100)** | **257 (100)** |

**Key**: NFE – No Formal Education; PRI – Primary; SEC – Secondary, TER – Tertiary

Data in Table 3 showed that advanced age, peri-menopause and menopause (60%) and reproductive health problems (40%) were the major risk factors for infertility in WCBA with no formal education. In addition the data in table 3 showed that chronic health problems (DM & HTN) (16.7%), reproductive health problems (12.5%), advanced age/peri-menopause/menopause (12.5%) and male factor (12.5%) were the major risk factors for infertility in WCBA with primary education.

Furthermore the table showed that infections 22 cases (19.3%). hormonal imbalance 17 cases (14.9%), unsafe abortion 15 cases (13.2%), reproductive health problems 15 cases (13.2%) and male factor 14 cases (12.3%) constituted major risk factors for infertility among WCBA with secondary education. Similarly, the table showed that in women with tertiary education reproductive health problems with 50 cases (19.5%), infections 39 cases (15.2%), male factor 31cases (12.1%), hormonal imbalance 30 cases (11.7%), unsafe abortion 30 cases (11.7%) and unexplained factor 20 cases (7.8%) were the major risk factors for infertility.

Table 4
**Summary of Chi-square ($\chi^2$) Analysis Testing the Null Hypothesis of No Significant Difference in the Risk Factors for Infertility among Women of Childbearing Age based on Age.**

| Variable Age | N | Modifiable O (E) | Non-modifiable O (E) | $\chi^2$ | Df | p-value |
|---|---|---|---|---|---|---|
| 15-24yrs | 9 | 1 (1.5) | 8 (7.5) | | | |
| 25-34 yrs | 204 | 30 (33.2) | 174 (170.9) | | | |
| | | | | 9.986 | 3 | 0.019 |
| 35-44 yrs | 153 | 22 (24.9) | 131 (128.1) | | | |
| 45yrs & above | 34 | 12 (5.5) | 22 (28.5) | | | |

***Significant (p<.05)**

Table 4 showed the results of chi-square test for independence on the null hypothesis of no significant difference in the risk factors for infertility among women of childbearing age based on age. The results showed that a significant difference ($\chi^2$ = 9.986, df = 3, p-value = .019 < .05 ) was found in the risk factors for infertility among WCBA based on age since the p-value is less than .05 level of significance. This implies that women differed significantly in their experience of risk factors based on age.

Table 5
**Summary of Chi-square ($\chi^2$) Analysis Testing the Null Hypothesis of No Significant Difference in the Risk factors for Infertility among WCBA based on Level of Education**

| Variable Education Level | N | Modifiable O (E) | Non-modifiable O (E) | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|---|
| NFE | 5 | 3 (0.8) | 8 (7.5) | | | |
| PRI. EDU | 24 | 6 (3.9) | 174 (170.9) | | | |
| | | | | 9.472 | 3 | .024 |
| SEC. EDU | 114 | 20 (18.5) | 94 (95.5) | | | |
| TERTI. EDU | 257 | 36 (41.8) | 221 (215.2) | | | |

*** Significant (p < .05)**

Table 5 showed the results of Chi-square $\chi^2$ test for independence on the null hypothesis of no significant difference in the risk factors of infertility among WCBA based on level of education. The results showed that a significant difference ($\chi^2$ = 9.472, df = 3, p-value = .024) was found in the risk factors for infertility among WCBA based on level of education since the p-value is less than .05 level of significance. This implies that women differed significantly in their experience of risk factors of infertility according to level of education.

**Discussion**

Result in Table 1 revealed that reproductive health problems (polycystic ovarian syndrome – Pcos, fibroids and endomentriosis) were the leading risk factors of infertility. The result was not expected in view of the available literature which states that infections are the commonest risk factors of infertility in developing countries such as Nigeria. However the result agrees with Chimachanya and Suangkawatin (2008) who reported that Endometriosis was a major cause of infertility. In the same view, Shamila and Sasikala (2011) also reported that in India Pcos was the major cause of infertility.

Table 2 revealed that age group 25-34 years recorded the highest number of risk factors \of infertility while the lowest number of risk factors were found in age group 15-24 years. The result was not unexpected as it agrees with the findings of Dhalwani, Fiaschi, West, & Tata, (2013) which showed that risk factors of infertility were seen more in women aged 30-34 year. This could probably be due to the fact that at age 25-34 years women are the peak of their reproductive period and are more likely to present at the fertility clinics for history taking and subsequent diagnosis.

Result in Table 3 revealed that the highest risk factor of infertility was recorded among women with tertiary education while women with no formal education recorded the lowest risk factors. The result was not expected and thus surprising because one would expect that with a high level of education a woman should be knowledgeable enough to practice healthy lifestyles that will not jeopardize her fertility in future. It could also be

that the many years devoted to pursuit of academics have reduced the number of reproductive years. On another note it could be argued that women with no formal education are of low income and may not seek medical help thus the low number of recorded cases in the various health facilities because the services are usually expensive and only the rich can afford them. They may be interested in seeking assistance from local traditional healers. However the result is in conflict with Kumar (2007) who stated that infertility was higher among the illiterates than the literates. Larsen (2003) in his study found out that level of education was not generally associated with infertility.

The result in Table 4 revealed that a significant difference was found in the risk factors of infertility among WCBA based on age. This implies that the risk factors of infertility were not the same for the different age groups. The result was not surprising as it agrees with the findings of available literature Larsen (2003) reported that secondary infertility was significantly lower for women that initiated sexual intercourse after the age of 15 years while women that initiated sexual relations before the age of 15 years had a long period of exposure to sexually transmitted infections. The author also found out that for primary infertility the risk is greater for women who initiated sexual relations before the age of 15. This implies that for younger women 15-24 years, infections are probably the major risk factors of infertility. On another note Kelly-Weeder (2010) found out from his study that increasing age (45 and above) was a factor directly related to impaired fertility. In the same vein, Romero, et al. (2008) also stated that for ages 45 and above advanced age was a significant risk factor of infertility.

The result in Table 5 revealed that a significant difference was found in the risk factors of infertility among women of child bearing age based on level of education. This implies that the risk factors of infertility were not the same for different educational levels. This result was expected and therefore not surprising. This is because women with some level of education are expected to have more knowledge of reproductive health and be aware of the need to avoid some risky sexual behaviours that can jeopardize their fertility in the future. However the result is in contrast with Larsen (2003) which reported that level of education was not associated with primary or secondary infertility. Kumar (2007) found out that infertility was higher among the illiterates than the literates. Swift and Liu (2014) suggested that higher fertility awareness correlated with a higher level of education. This illustrates that the reproductive health knowledge gained in school could help one modify her lifestyle in order to avert the problem of infertility in the future.

**Conclusions**

On the basis of the findings and discussions, the following conclusions were drawn:

The leading risk factor of infertility were reproductive health problems while the post-partum complications and a combination of fibroid and PID were the least factors of infertility. The highest number of risk factors of infertility occurred in age group 25-34 years while the lowest number of risk factors occurred in age group 15-24 years. The highest number of risk factors of infertility was found in women with tertiary education while the lowest number of risk factors was found in women with no formal education. There was a statistical significant difference found in the risk factors of infertility according to age and level of education.

**Recommendations**

Based on the findings and conclusions of this study, the following recommendations were made.

1. Health workers should create awareness on the detection of reproductive health problems so that early treatment can be instituted.
2. Childbearing should be encouraged within the peak reproductive period despite academic pursuit.
3. Sexually active, unmarried women should endeavour to go for check-up regularly to detect the presence of STIs which should be treated early.

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