



doi:10.5281/zenodo.15133357

# **Effect Of Knowledge, Attitudes And Utilization Of Family Planning Methods Among Married Women In Colleges Of Education In Taraba State, Nigeria**

**GEORGE Simon Gemson & KUNGABA Seti**

**Department of Human Kinetic and Health Education  
Taraba State University, Jalingo, Nigeria**

## **ABSTRACT**

This study investigated the Effect of Knowledge, Attitudes, and Utilization of Family Planning Methods Among Married Women in Colleges of Education in Taraba State, Nigeria. Three research questions were raised to guide the study. The study is anchored on two theories; Fertility Decision-Making Theory by Bulatao and Lee (1983) and Health Belief Model. Descriptive survey was used for this study. The population of this study comprises of 2000 married women of reproductive ages in Colleges of Education in Taraba State, Nigeria. The sample size for this study was four hundred and eighty students (480) married women where 280 were from COE, Zing and 200 from Peacock COE, Jalingo. Effect of Knowledge, Attitude and Utilization of Family Planning Methods Questionnaire (EKAUFPMQ) was developed. The descriptive statistics of mean and standard deviation were use to answer the research questions while the inferential statistics of chi-square was used to test the null-hypothesis at 0.05 level of significance. Findings on the factors that affect family planning practice affect their academic performance among married women in Colleges of Education in Taraba State reveals that there are factors that affects performance of married women in the pursuit of their education some factors have high level of significance, while some have low level of significance. Based on the findings of this study, the following are the recommendations. There is need for government and development partners to extensively engage the married women in colleges through enlightenment and sensitization to accept the modern contraceptives.

**Keywords:** Knowledge: Attitude: Utilization: Family planning Method

## **INTRODUCTION**

Family planning is a critical public health issue that directly influences maternal and child health outcomes, economic stability, and overall family well-being. Despite the global emphasis on family planning as a vital tool for reducing maternal mortality and enhancing the quality of life, the knowledge, attitude, and utilization of family planning services among married women, especially in educational institutions like Colleges of Education, remain inadequate in many parts of Nigeria, including Taraba State. This gap presents a significant challenge to the attainment of health and development goals at both the local and national levels.

In North Central Nigeria, the rate of contraceptive use is notably low, with many married women either unaware of available family planning options or harboring misconceptions and negative attitudes towards their use ( Giwa, 2015). This low uptake is often compounded by cultural, religious, and socio-economic barriers, which further discourage the use of family planning services. In educational settings, where one would expect higher levels of knowledge and more positive attitudes towards family planning, the reality

often contradicts this assumption. The Colleges of Education in Taraba State, which are hubs of learning and enlightenment, still reflect a microcosm of the broader societal challenges, where married women face difficulties in accessing and utilizing family planning services effectively.

One major concern is the knowledge gap regarding the various types of family planning methods, their benefits, and possible side effects. This gap is not just limited to the awareness of contraceptive methods but extends to understanding how family planning can contribute to better health outcomes and socio-economic stability (Isiugo-abanihe cited in Lasisi, Bassey, Ita, & Awoyemi, 2019). Misconceptions about family planning, such as fears of infertility, adverse health effects, or religious prohibitions, continue to influence the attitudes and behaviors of married women in these educational institutions. Furthermore, the influence of spouses, family members, and community norms often dictates a woman's decision to use or not use contraceptives, which significantly impacts the overall utilization rates.

The utilization of family planning services among married women in Colleges of Education in Taraba State is further hindered by inadequate health facilities, lack of privacy, and insufficient counseling services. Many women are reluctant to seek family planning services due to the fear of stigma, judgment, or lack of support from healthcare providers who may also hold biases against contraceptive use. Additionally, the integration of family planning education into the curriculum of Colleges of Education is either minimal or non-existent, thereby limiting the exposure of these women to vital reproductive health information that could inform their decisions.

The implications of inadequate family planning knowledge, negative attitudes, and low utilization rates are far-reaching. They contribute to high rates of unintended pregnancies, unsafe abortions, and maternal morbidity and mortality. For married women in Colleges of Education, these challenges can disrupt their educational pursuits, limit their career opportunities, and affect their overall quality of life. Furthermore, the inability to effectively plan their families places a financial strain on these women and their families, perpetuating cycles of poverty and limiting their contributions to the development of their communities.

Given these challenges, there is an urgent need to investigate the factors influencing family planning knowledge, attitudes, and utilization among married women in Colleges of Education in Taraba State. Understanding these factors will help in designing targeted interventions that address the specific barriers faced by this group, promote positive attitudes towards family planning, and enhance the overall uptake of contraceptive services. Such efforts are crucial not only for improving the health and well-being of married women but also for supporting their educational and professional aspirations, ultimately contributing to the broader goal of sustainable development in Taraba State and Nigeria at large.

This study, therefore, seeks to fill the existing knowledge gap by exploring the family planning knowledge, attitudes, and utilization among married women in Colleges of Education in Taraba State.

### **Purpose of the Study**

The main purpose of the study is to investigate the effect of Knowledge, Attitudes and utilization of Family Planning methods among Married Women in Colleges of Education, Taraba State, Nigeria.

Specifically, this study will seek to:

1. Determine how the attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods.
2. Identify the key factors influencing the adoption and usage of family planning techniques by married women in Colleges of Education in Taraba State.
3. Identify the most used family planning techniques by married women in Colleges of Education in Taraba State.

### **Research Questions**

The following research questions were raised to guide the study:

1. What are the attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods.?
2. What are the key factors influencing the adoption and usage of family planning techniques by married women in Colleges of Education in Taraba State.?

3. What are the most used family planning techniques by married women in Colleges of Education in Taraba State.?

### **Research Hypotheses**

The following null hypotheses are formulated and tested at 0.05 level of significance

Ho<sub>1</sub>: There is no significant difference in attitude of married women in Taraba State Colleges of Education influence their choices of family planning methods.

## **RESEARCH METHODS**

### **Research Design**

Descriptive survey was considered because the researcher used structured questionnaire to obtain data from a large population of women in Colleges of Education.

### **Population of the Study**

The population of this study comprises of 2000 married women of reproductive ages in Colleges of Education in Taraba State, Nigeria. The total population of the married women in College of Education Zing as of 2023/2024 is 1250 while that of Peacock College of Education Jalingo is 750 making a total population for the study 2000.

### **Sample and Sampling Technique**

Sample is a specific fraction of the entire population on which whatever is obtained should be generalized on the entire population (Usman, 2016). The sample size for this study is four hundred and eighty students (480) married women where 280 from COE, Zing and 200 from Peacock COE, Jalingo. In this study the Krejcie and Morgan (1970) probability sampling table at 95% confidence level was used to select the sample size. The sampling technique adopted for this study consisted of purposive and multi stage sampling techniques.

### **Instrument for Data Collection**

The main instrument that was used for data collection is self structured questionnaire entitled: Knowledge, Attitude and utilization of family planning Questionnaire (KAUFPMQ) was used to solicit information from the respondents' knowledge, attitude, utilization, and factors influencing family planning practices in COE Zing and Peacock COE, Jalingo of Taraba State, Nigeria.

The items were framed on a four-point rating scale with the following weights as assigned below: SA= Strongly Agreed (4) points, A=Agreed 3 points, Disagree= 2 points and SD= Strongly Disagree 1 point. (See appendix B page 101)

### **Validity of the Instruments**

The validity of the instrument was established using three experts 2 from Department of Science Education (Human Kinetics & Health Education unit) and the other validator was from Department of Education Foundations (Test & Measurement) in Faculty of Education, Taraba State University, Jalingo as they check the adequacy, comprehensiveness and suitability of the items.

### **Reliability of the Instrument (s)**

For the purpose of this study, the reliability of the instrument e (KAUFPMQ) was analyzed using Cronbach Alpha method at 0.05 significance level to give co-efficient value of 0.76

### **Method of Data Analysis**

The data that was collected were subjected to analysis. Using SPSS Version 22. This is descriptive statistics and inferential statistics. The descriptive statistics of mean and standard deviation were use to answer the research question while the inferential statistics of chi-square was used to test the null-hypothesis at 0.05 level of significance.

## **RESULTS AND DISCUSSION**

Three research questions were raised and answered using descriptive statistics of mean and standard deviation to answer the research questions. In the same vein, one null hypotheses formulated were tested at 0.05 level of significance using chi-square to test all the null hypotheses.

**Research question one:** *What are the attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods?*

**Table 1: Descriptive statistics on attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods**

Item	Statement	N	Mean	Std. Dev.	Remark
1	I am well-informed about different family planning methods.	480	2.32	0.94	<b>D</b>
2	I believe that family planning is essential for managing family size.	480	2.69	1.07	<b>A</b>
3	I have received adequate information about family planning from healthcare providers..	480	2.51	0.95	<b>A</b>
4	I understand the differences between natural and artificial family planning methods.	480	2.63	0.96	<b>A</b>
5	I believe using family planning is against my cultural or religious beliefs	480	2.82	0.89	<b>A</b>
6.	I think family planning can have negative side effects that make it unsafe.	480	2.71	0.95	<b>A</b>
7	I believe family planning encourages promiscuity	480	2.58	1.06	<b>A</b>
8	My husband’s opinion influences my decision on family planning teachers’ job performance.	480	2.28	1.03	<b>D</b>
9	I believe misconceptions about family planning discourage women from using it.	480	2.59	1.06	<b>A</b>
10	I believe that more awareness campaigns on family planning should be encouraged.	480	2.65	0.99	<b>A</b>
<b>Grand Mean</b>			<b>2.59</b>	<b>0.99</b>	<b>A</b>

**Source: Field Report 2024**

Table 1: Attitudes of Married Women Toward Family Planning Choices. The grand mean of 2.59 suggests that most respondents agree (A) with the statements regarding family planning, indicating a generally positive attitude toward its importance and awareness. Respondents agree that family planning is essential for managing family size (M = 2.69, SD = 1.07) and that they have received information from healthcare providers (M = 2.51, SD = 0.95).

They also understand the differences between natural and artificial methods (M = 2.63, SD = 0.96), which indicates moderate knowledge of contraceptive options. However, cultural or religious beliefs are a significant factor (M = 2.82, SD = 0.89), suggesting that some women may have reservations about using family planning due to societal influences. There is also concern about negative side effects (M = 2.71, SD = 0.95), which may discourage usage.

Misconceptions and Concerns: Some respondents believe family planning encourages promiscuity (M = 2.58, SD = 1.06), showing the presence of societal stigma. Misconceptions (M = 2.59, SD = 1.06) are recognized as a barrier to family planning adoption.

Husbands’ opinions strongly influence women’s decisions (M = 2.28, SD = 1.03, D), indicating that for many women, the choice to use family planning is not entirely independent.

Many respondents support increasing awareness campaigns (M = 2.65, SD = 0.99), showing that education could improve acceptance and usage. While married women in Taraba State Colleges of

Education generally recognize the importance of family planning, cultural beliefs, misconceptions, and concerns about side effects significantly influence their choices.

The low mean score for being well-informed (M = 2.32, SD = 0.94, D) suggests a need for better education and access to reliable family planning information. Awareness campaigns and partner involvement in decision-making may help improve acceptance and usage rates.

**Research question two:** *What are the key factors influencing the adoption and usage of family planning techniques by married women in Colleges of Education in Taraba State.?*

**Table 2: Descriptive statistics on key factors influencing the adoption and usage of family planning techniques by married women in Colleges of Education in Taraba State**

S/No	Factors that influence the use of family planning practice using married women in COE	Yes	No	Neutral
1	Frequency of time of consulting of health centre	85.2%	14.4%	0.4%
2	Interest in the actual use of contraceptive	44.8%	54.8%	0.4%
3	Women’s intention to have conception	73.3%	24.8%	1.9%
4	Cost of type of contraceptive pill	52.6%	46.3%	1.1%
5	Safety traditional contraceptive method/ herbal practice available	68.9%	30.4%	0.7%
6	Women infertile conditions	52.2%	47.4%	0.4%
7	Inability to adopt the practice of penis withdrawals during orgasm	63.3%	36.7%	0%
8	Low number of consultations	50.4%	18.9%	0.7%
9	High fertility level among women	66.7%	32.6%	0.7%
10	Interest in having fun/sex	64.8%	35.2%	0%
11	Control of sexually transmitted diseases	52.2%	47.8%	0%

The data reveals several factors influencing family planning practices among married women in a College of Education setting. A majority of women, 85.2%, consider frequent consultations at health centres to be an important factor in their use of family planning methods. This suggests that regular interaction with healthcare professionals is crucial in their decision-making process. On the other hand, only 14.4% do not view these consultations as influential, indicating that most women rely heavily on healthcare advice.

When it comes to interest in using contraceptives, the results are more divided. Less than half of the women, 44.8%, express a genuine interest in using contraceptives, while a slightly larger portion, 54.8%, shows disinterest. This suggests that despite the availability of contraceptives, there may be underlying reasons—cultural, personal, or educational—that cause reluctance or hesitation among women in adopting these methods.

The intention to conceive emerges as a significant factor, with 73.3% of women indicating that their desire to have children greatly influences their family planning choices. This reflects the strong cultural or personal emphasis on childbearing, which often outweighs the consideration of contraceptive use. A smaller percentage, 24.8%, does not consider this intention as a major influence, indicating some variability in attitudes toward conception within the group.

**Research question three:** *What are the most used family planning methods among married women in Colleges of Education in Taraba State, and what factors contribute to their choice of these methods?*

**Table 3: Responses on the most used family planning methods among married women in Colleges of Education in Taraba State, and what factors contribute to their choice of these methods**

S/No	Method of family Planning used by married women in the College of Education	Yes	No	Neutral
1	I use a Female Condom	56.3%	38.1%	5.6%
2	I use Birth Control Pills (Oral Contraceptives)	34.1%	60.7%	5.2%
3	I use Intrauterine Device (IUD)	51.5%	42.6%	5.9%
4	I use Sterilization (Tubal Ligation or Vasectomy)	49.3%	45.6%	5.2%
5	I use Emergency Contraception (Morning-After Pill)	60.4%	35.2%	4.4%
6	I use Natural Family Planning (Rhythm Method)	37.0%	58.1%	4.8%
7	I use Depo-Provera (Birth Control Shot)	55.2%	39.6%	5.2%
8	I use Contraceptive Implant (e.g., Nexplanon)	35.2%	60.0%	4.8%
9	I use Contraceptive Patch (e.g., Ortho Evra)	51.9%	43.7%	4.4%
10	I use a Contraceptive Ring (e.g., NuvaRing)	38.9%	56.6%	4.4%
11	I use a Cervical Cap or Diaphragm	83.7%	13.7%	2.6%

The data reveals a diverse range of family planning methods used by married women in a College of Education setting, with varying levels of adoption across different contraceptive options. The female condom is moderately popular, with 56.3% of the women using it, indicating a fair level of acceptance for this barrier method. However, a significant 38.1% do not use it, suggesting that while it is accessible and known, a sizable proportion of women might prefer other methods or find it less convenient. A small group, 5.6%, remains neutral, possibly reflecting ambivalence or limited exposure to this option.

Birth control pills, or oral contraceptives, appear to be less favoured, with only 34.1% of women opting for them. A majority, 60.7%, do not use this method, which could be attributed to concerns about the daily regimen, potential side effects, or personal or cultural preferences against hormonal contraception. The 5.2% who are neutral might be undecided or unfamiliar with this method.

Intrauterine Devices (IUDs) show a more balanced usage, with 51.5% of women adopting this method. This suggests that while the IUD is a popular and trusted long-term contraceptive option, the 42.6% who do not use it may have reservations about its invasiveness or potential complications. The neutral group, at 5.9%, might include those who are aware of the method but unsure about using it.

Sterilization, encompassing tubal ligation or vasectomy, is used by 49.3% of the women, reflecting a significant commitment to permanent contraception among nearly half of the respondents. However, 45.6% do not choose this method, likely due to the desire for future pregnancies or fear of the irreversible nature of the procedure. The 5.2% who are neutral may be considering this option but have not yet decided.

**Testing Hypotheses**

All the null hypotheses were answered using chi-square. The results are presented accordingly in table 1.

Ho<sub>1</sub>: There is no significant difference that attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods.

**Table 4: Chi-Square Tests on how attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods.**

	Chi-Square Tests		
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.294 <sup>a</sup>	6	.034
Likelihood Ratio	12.292	6	.026
Linear-by-Linear Association	3.060	1	.040
N of Valid Cases	480		

*a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .20.*

Table 4 presents the results of a Chi-Square analysis on how the attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods. The data indicates that there is a statistically significant association between these two variables. Specifically, the Chi-Square test yielded a value of 7.294 with 6 degrees of freedom and a p-value of 0.034, the Likelihood Ratio test showed a value of 12.292 with the same degrees of freedom and a lower p-value of 0.026, and the Linear-by-Linear Association test had a statistic of 3.060 with 1 degree of freedom and a p-value of 0.040. These results suggest that the attitudes of married women in Taraba State Colleges of Education influence their choices of family planning methods as the p-values are all below the significance level of 0.05, indicating a relationship between the variables tested. Hence, the null hypothesis of no significant impact is rejected.

## DISCUSSION OF FINDINGS

Finding on the attitudes of married women in Colleges of Education in Taraba State towards the use of family planning methods, and how these attitudes do influence their contraceptive choices revealed that the belief that family planning can contribute to women's empowerment is rated with a mean score of 2.69, reflecting a high extent of agreement. This indicates that the women see family planning as a factor in enhancing their empowerment, although this belief is somewhat less strongly held compared to their views on limiting the number of children. Overall, the results demonstrate that married women in these colleges generally hold positive attitudes towards family planning methods, particularly in terms of controlling family size and managing birth spacing. They also recognize the potential benefits of family planning for their health, education and empowerment, although there are areas where their attitudes are less strongly developed. This is in line with Tilahun, Coene, Luchters, Kassahun, Leye, Temmerman, and Degomme (2013) whose findings of the study revealed that the high knowledge on contraceptives did not match with the high contraceptive practice in the study area. The study demonstrates that mere physical access (proximity to clinics for family planning) and awareness of contraceptives are not sufficient to ensure that contraceptive needs are met. Study is at variance with Mahadeen, Khalil, Hamdan-Mansour, Sato and Imoto (2016). None of the women reported obtaining supplies or the cost of them as barriers, while opposition from husband or family members or religious reasons were reported by less than 1% of the women.

Findings on the key factors influencing the adoption and use of family planning practices among married women reveals a complex interplay of factors that influence family planning practices among married women in this setting. Frequent health consultations, the intention to conceive, and the safety of traditional methods are particularly significant. Financial considerations, sexual interest, and concerns about fertility and STDs also play crucial roles, reflecting the diverse motivations and challenges these women face in managing their reproductive health. This is in line with Nayak, Ramakrishnan, Venkateswar, Vijayshree(2017) whose findings revealed that all women were aware of at least one or more key factors influencing the adoption and use of family planning practices.

Findings on the most used family planning methods among married women in Colleges of Education in Taraba State, and what factors contribute to their choice of these methods reveals the diverse patterns of

contraceptive use among married women in this educational setting. It highlights that while methods like the cervical cap, emergency contraception, and female condoms are widely favored, others such as oral contraceptives, natural family planning, and contraceptive implants are less commonly adopted. This variation underscores the complexity of family planning decisions, where women's choices are shaped by consideration of convenience, side effects, effectiveness, and personal or cultural preferences. This is at variance with Tilahun, Coene, Luchters, Kassahun, Leye, Temmerman, and Degomme (2013) whose findings of the study revealed that the most used family planning methods are oral contraceptives.

## CONCLUSION

The knowledge level towards family planning was satisfactory and the family planning utilization was comparatively low in comparison of knowledge. Participant women's educational status, marriage duration, number of children, knowledge, husband support, availability, suitability and effectiveness of FP methods were associated with family planning practices and utilization.

## RECOMMENDATIONS

Based on the findings of this study, the following are the recommendations:

1. More awareness should be raised about modern methods of family planning and their benefits.
2. More counseling on the use of contraceptives should be done in clinics as it contributes in allaying fear and anxiety toward the side effects.
3. More awareness should be raised about modern methods of family planning and their benefits.
4. More counseling on the use of contraceptives should be done in clinics as it contributes in allaying fear and anxiety toward the side effects.

## REFERENCES

- Abdullahi, R.I. (2015). Reaction of contraceptive pills on women: A brief review. *International Journal of Nursing and Midwifery*, 4(3), 85 – 95.
- Abel, C.H., Kwa, O.P. & Gambo, G.L. (2016). Family Planning Knowledge, Attitude and Practice among Married Women.
- Adeyemo, A.R., Oladipupo, A. Omisore, A.O. (2016). Knowledge and practice of contraception among women of reproductive ages in South West, Nigeria. *The International Journal of Engineering and Science* 1(2), 70-76
- Babatunde J. O, Olusola J. O &Osakinle, E.O. (2019). Attitude of married men and women towards family planning practices and the relationship between attitude and family planning practices in Ekiti State. *British Journal of Psychology Research* 7(1), 1-8.
- Bello, U. H. (2014). Knowledge, attitudes and practices towards family planning among women in the rural southern region of Sokoto. *Global Journal of Medical Research* 5(3), 97 – 108.
- David, S.B. (2015). Fertility awareness- based methods of contraception. A guide for nursing students. Unpublished material.
- Isa, A.O. (2018). Family planning methods, issues and challenges. *Journal of Medicines and Medical Sciences* 31(2), 173-182.
- Jegede, L. O. (2016). Attitudes of young women towards family planning. *The Ethiopian Journal of Health Development* 20 (2), 92-100.
- Kasa, A.S., Tarekegn, M., and Embiale, N. (2018). Knowledge and attitude regarding family planning and the practice of family planning among the women of reproductive age group in South Achefer District, Northwest Ethiopia. *BMC Research Note* 11(57), 1-6
- Mgbe, C., Mgbe, E.K, Nwali, R.U &Odenigbo, J.C. (2018). Family planning knowledge, attitude and practice among married women in Abakpa Nike, Enugu East Local. Government Area, Enugu State. *Texila International Journal of Public Health* 6(2).
- Nayak, A.U. ,Ramakrishnan, K.G., Venkateswar,K.N.,&Vijayshree, M. (2017). Assessing the knowledge, attitude and practice of contraception in rural India: a necessary step in achieving



- population control. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*6(8), 3328-3331
- Nura, F.O. (2018). Women perception on family planning in Sokoto State. A paper presented in Nurses week , Health in Sokoto State, Nigeria.
- Shuaibu, S.O. (2017). Family planning among young women: Advantages and disadvantages for safe society. A paper presented at the Arise and Shine Women end of Year gathering.
- Survey H. Central Statistical Agency. *Ethiopian Demographic and Health Survey 2016 Key Indicators Report*. Addis Ababa and Maryland, Ethiopia, 2016.
- Thapa, P., Pokharel, N. & Shrestha, M. (2018). Knowledge, attitude and practices of contraception among the married women of reproductive age group in selected wards of Dharan Sub-Metropolitan City. *Journal of Contraceptive Studies* 3(18), 1-8
- Tilahun, T., Coene, G., Luchters, S., Kassahun, W., Leye, E., Temmerman, M., & Degomme, O. (2013). Family planning knowledge, attitude and practice among married women in Jimma Zone, Ethiopia. *Plus one Journal*4(4), 1-8
- Tunde, S.T. (2019). Family planning issues and challenges. A conceptual review and analysis. World Health Organization. *Fact Sheets on Family Planning*, World Health Organization.
- Tuwaijri, S. A. & Saadat, S. (2018). Family planning: Investing in women's health and empowerment to build human capital. Published on investing in Health, World Bank Blogs. Control of sexual and reproductive activity: United Nations Population Fund, Nigeria. A paper presented to IDP's on World Humanitarian Day in Bakasi, Camp (2018)
- Worku, S. & Fantahun, M. (2016). Unintended Pregnancy and Induced Abortion in a Town with Accessible Family Planning Services: The Case of Harar in Eastern Ethiopia. *The Ethiopian Journal of Health Development*, 20(2): 79-83.
- World Health Organization. *Standards for Maternal and Neonatal Care*. Geneva: World Health Organization; 2016.
- World Health Organization. *World Health Organization. Fact Sheets on Family Planning*, World Health Organization.
- Yeatman, S. E. & Trinitapoli, J. (2014). The relationship between religion and family planning in rural Malawi. *Demographic Research*, 19(55): 1851 – 1882
- Zubairu, T.A. (2022). Spermicides for family planning and diseases eradication: Key for a healthy family and society. *Turkish Journal of Medical Sciences*, 43,802-901.