

Original Article

Determinants of Contraceptive Use among Women of Reproductive Age in Asankragwa in the Western Region of Ghana.

Nancy Innocentia Ebu (PhD, MN, MPH, BSN, SRN, FWACN, FFGCNM) ¹

Doreen Owusu Boateng (BSN, RN) ²

Kingsley Asare Pereko (PhD) ³

Thomas Hormenu (PhD) ⁴

Abstract

Contraceptive use is an important intervention in reducing unplanned pregnancies and other sexually transmitted infections (STIs). This study investigates the knowledge of contraceptive use, identify the barriers of contraceptive use, and determine the predictors of contraceptive use among women in a peri-urban community in Ghana. Using a cross-sectional survey design, a total of 189 women of childbearing age was sampled in a peri-urban community in Ghana. Data were collected with questionnaires and analyzed using chi-square and binary logistic regression. The result shows that more than half of the participants (63.6% (n = 56) of contraceptive users knew seven to twelve types of contraceptives, whereas 46.6% of non-contraceptive users indicated they knew seven to twelve types of contraceptives. Knowledge of the types and uses of contraceptive was significantly associated with contraceptive usage. Spousal consent, adverse effects, lack of knowledge about the benefits and religion were the main barriers to contraceptive use. There was a strong association between marital status, income, age and contraceptive use among women ($p < 0.05$). Women with no children and women with one to two children were 7 times (95%CI, 2.00, 27.78) more likely to use contraceptives. Those with more than three children were 11 times (95%CI 2.34, 54.87) more likely to use contraceptives. Although the women knew about the uses and types of contraceptives, utilisation was low. Parity was high among the factors that predicted the non-usage of contraceptives among women. The findings of this study call for a comprehensive education on contraceptives at various levels of the health delivery system.

Keywords:

Contraceptives; Knowledge; Utilization; Barriers; Women; Peri-urban community in Ghana.

1. *Dept. of Public Health, School of Nursing & Midwifery, University of Cape Coast, Cape Coast, Ghana*

2. *Catholic Hospital, Asankragwa, Ghana*

3. *Department of Community Medicine, School of Medical Sciences University of Cape Coast, Cape Coast, Ghana*

4. *Department of Health, Physical Education and Recreation University of Cape Coast, Cape Coast, Ghana*

Corresponding Author:

1. *School of Nursing , University of Cape Coast, Ghana Email: nebu@ucc.edu.gh*

Introduction

Contraceptive use is a critical intervention in improving the health of women. Over the past decade, there has been an increase in contraceptive use globally (Ahmed, Li, Liu, & Tsui, 2012). It is estimated that 62% of women who are in marital relationships in developing countries might be using one form of contraceptive (United Nations, 2013). In sub-Saharan Africa [SSA], 25% of women in the reproductive age group who are married or in some form of the union have an unmet need for family planning compared to 4% in Eastern Asia and 10% in Latin America as of 2011 (United Nations, 2013). According to the United Nations, the prevalence of maternal mortality seems to be lower in settings where contraceptive use is high (United Nations, 2013). Indeed, given that the use of contraceptives among women of reproductive age is among the indicators of a decrease in the incidence of unsafe abortion, maternal morbidity, and mortality (Ahmed et al., 2012; United Nations, 2013), it follows that contraceptive use could facilitate the achievement of universal access to reproductive health. This notwithstanding, it should be noted that women's ability to effectively use contraceptives depends on a host of factors, including health education on contraceptives, counseling, and availability of a wide range of culturally acceptable modern contraceptive methods.

Contraceptives are agents, various devices, drugs, sexual practices and surgical procedures that prevent unplanned pregnancies (Desi, 2014). Condom is the only contraceptive known to protect individuals from sexually transmitted infections (Nordqvist, 2009). Additionally, the most reliable or effective birth control methods are sterilization in the form of vasectomy and tubal ligation, as well as implants and intrauterine devices. Hormonal contraceptives such as injections, vaginal rings, and oral pill might also be effective. The less effective ones are fertility awareness methods and the barriers including diaphragms, condoms and contraceptive sponges (World Health Organisation [WHO], 2011).

Unplanned pregnancies due to unmet need for family planning could affect the health of women, especially those within the childbearing age. It has been estimated that 222 million women have an unmet need for family planning. This need is very high among populations where maternal death is on the rise (Guttmacher Institute, 2012), particularly among vulnerable populations, including women with low socioeconomic status, adolescents, those living in rural communities, internally displaced women, those liv-

ing in slums, and women living with HIV (Darroch, Sedgh & Ball, 2011; WHO, 2014).

The family planning services in Ghana are provided by three major institutions, namely the Ministry of Health/Ghana Health Service, Planned Parenthood Association of Ghana and the Ghana Social Marketing Foundation. Despite the supposed availability of contraceptive services in the country, there are indications that the fertility rate in Ghana, especially among rural and peri-urban populations, has not seen any reduction. Illustrating, the 2014 Ghana Demographic and Health Survey (GDHS) reported a total fertility rate of 4.2 per woman, compared to 4.0 per woman as indicated in the 2008 GDHS (Ghana Statistical Service [GSS], 2009). The report further suggests that rural women are having more children than their urban counterparts, as women in rural areas had 5.1 children per woman, compared to 3.4 per woman for those in urban areas. Additionally, only 50% of women had used a method of contraception at some point in time. Contraceptives were also found to be high among sexually active unmarried women (GSS, 2009).

A study conducted by Hindin, McGough and Adanu (2014) found a low level of knowledge of contraceptives among a cross-section of Ghanaian women. It seems plausible to assume that women might have some misconceptions about contraceptive usage and conception, including difficulty in becoming pregnant (Jones, Mosher & Daniels, 2012). This could impact negatively on the health and well-being of women and their children (Guttmacher Institute, 2014). Therefore, determining the knowledge gaps, barriers and the predictors of contraceptive use among women is necessary for adopting strategies to increase usage.

Design and Methods

The study was carried out in Asankragwa, which is a peri-urban community and the capital of the Wassa Amenfi West District in the Western Region of Ghana. The town is situated on the Bawdie-Enchi Road and the indigenes belong to the Wassa ethnic group and speak the Wassa dialect. The inhabitants are mostly cocoa farmers. The town also has a vibrant economic activity. This setting was selected for the study due to the high rate of teenage pregnancy. A cross-sectional study was conducted among women in fertility age. Data from the Health Information Unit suggest that a total of 4,138 women were of

fertility age in the Asankragwa sub-district (DHMIS, 2017). The inclusion criteria involved sexually active females within 15 to 49 years, but those who actually participated in the study were within 16 to 45 years. The estimated number of women likely to use family planning within the Asankragwa sub-district was 2,199 (DHMIS, 2013), whereas it was estimated that about 400 women may be using family planning in Asankragwa (Health Facility Report, 2013). According to Krejcie and Morgan (1970), for a population of 400, a sample of 196 will be adequate. Therefore, 196 participants took part in the study, but only 189 questionnaires were correctly filled and used in the analysis. The sample was conveniently selected. Approval for the study was obtained from the Wassa Amenfi West District Assembly. Permission was also obtained from the community leadership and verbal and written consent were sought from participants before involving them in the study. The purpose of the study was explained to the participants, and they were assured of confidentiality. They were made to understand that participation was optional and they could withdraw from the study at any time without offering any explanations.

Questionnaires were used to collect the data. The questionnaires were pre-tested in a nearby community with similar characteristics as the study population.

Cronbach's alpha of the various scales was calculated with results ranging from 0.754- 0.853. Five female health assistants were trained to collect the data. The questionnaires were administered to women who were available at the time of data collection. The data were analyzed using Statistical Package for Social Sciences version 20.0. Descriptive statistics of frequencies and percentages were used. Chi-square test was used to determine associations between variables at a significant level of $p < 0.05$, and the binary logistic regression analysis was used to establish the relationship between the dependent (contraceptive use) and independent variables (participants' characteristics).

Results

Table 1 shows the knowledge of women (contraceptive users and non-users) on the types and uses of contraceptives. With respect to the users, more than half (63.6%, $n = 56$) knew seven to twelve types of contraceptives, 36.4% knew one to six types of contraceptives, 34.8% ($n = 31$) knew one to three uses of contraceptives while 65.2% ($n = 58$) knew four or more uses of contraceptives. For the non-users, 46.6% ($n = 41$) knew seven to twelve types of contraceptives and 52.1% ($n = 50$) knew one to three uses of contraceptives. Knowledge of uses and types of contraceptives were significantly associated with contraceptive use.

Table 1: Knowledge on Types and Uses of Contraceptives and Contraceptive Usage

Variables	Contraceptive users		Non-users		Total
	n=88	%	n=88	%	
Knowledge on Types of contraceptives*					
Know 1 to 6 contraceptives	32	36.4%	47	53.4%	79 (44.9%)
Know 7 to 12 contraceptives	56	63.6%	41	46.6%	97 (55.1%)
Knowledge on uses of contraceptives *					
Know 1-3 uses of contraceptives	31	34.8%	50	52.1%	81 (43.8%)
Know 4 and above uses of contraceptives	58	65.2%	46	47.9%	104(56.2%)

*variables that showed significant association chi-square ($p < 0.05$)

Regarding the reasons for using contraceptives, 65.1% (n = 56) of the women strongly disagreed with

the assertion that contraceptives were used to space births (Table 2).

Table 2: Reasons for Contraceptive Usage

Reasons	SA n(%)	A n(%)	I n(%)	D n(%)	SD n(%)	Total
Birth control (spacing)			1(1.2)	29(33.7)	56(65.1)	86(100)
Prevention of sexually transmitted diseases	5(5.9)	12(14.1)	9(10.6)	35(41.2)	24(28.2)	85(100)
Prevention of Abortion	13(15.9)	16(19.5)	15(18.3)	25(30.5)	13(15.9)	82(100)
Curbing menstrual pain	13(17.6)	21(28.4)	28(37.8)	10(13.5)	2(2.7)	74(100)
Regulation of menstrual cycle	10(13.9)	12(16.7)	22(30.6)	24(33.3)	4(5.6)	72(100)
Prevention of Acne	14(19.2)	9(12.3)	42(57.5)	6(8.2)	2(2.7)	73(100)
Prevention of endometriosis, trophoblastic diseases	11(14.3)	13(16.9)	36(46.8)	14(18.2)	3(3.9)	77(100)
Prevention of venous thromboembolic diseases	13(18.3)	10(14.1)	32(45.1)	14(19.7)	2(2.8)	71(100)
few weeks following child birth and breast-feeding						
Prevention of pregnancy				21(23.6)	68(76.4)	89(100)

SA- Strongly Agree A-Agree

I-indifferent

D-Disagree

SD- Strongly disagree

Of those who were using contraceptives at the time of the study or had ever used contraceptives, 49.4% (n = 42) indicated that contraceptives were effective while 40.0% (n = 34) viewed it as very effective. About 52% of the users of contraceptives (n = 45) re-

ported that contraceptives cost between two to five Ghana cedis. Most of the participants obtained their contraceptives from the hospital, pharmacy shops and antenatal clinics (Table 3).

Table 3: Users' Response on the Effectiveness, Cost and Sources of Contraceptives

Variables	n	%
Effectiveness		
Very effective	34	40.0%
Effective	42	49.4%
Not effective	9	10.6%
Total	85	100%
Cost		
Below Ghana cedis 1	19	22.4%
Ghs 2-5	45	52.9%
Ghs 6-10	9	10.6%
Above Ghana cedis 10	12	14.1%
Total	85	100%
Sources of contraceptives		
Antennal clinic	15	17.2%
Hospital	27	31.0%
Maternity home	5	5.7%
Home of practitioner	8	9.2%
Pharmacy shop	25	28.7%
Family planning unit	1	1.1%
Others	6	6.9%
Total	85	100%

On the barriers to contraceptive use (Table 4), 56.8% (n = 101) of the participants agreed and strongly agreed that they had to obtain consent from their husbands before they could use contraceptives. About 62% (n = 113) agreed and strongly agreed with

the assertion that contraceptives have adverse effects. Sixty-four percent (n = 112) identified a lack of knowledge about the benefits and 56.4% (n = 98) stated that one's religion could hinder the use of contraceptives.

Table 4: Barriers to Contraceptive Usage

Barriers	SA n(%)	A n(%)	I n(%)	D n(%)	SD n(%)	Total (%)
Consent of husband	53(29.8)	48(27.0)	6(3.4)	43(24.2)	28(15.7)	178(100)
Irregular sex or no sex	34(19.8)	46(26.7)	35(20.3)	35(20.3)	22(12.8)	172(100)
Menopause/hysterectomy	17(9.8)	28(16.1)	48(27.6)	54(31.0)	27(15.5)	174(100)
Desire for many children	27(15.7)	20(11.6)	15(8.7)	65(37.8)	45(26.2)	172(100)
Religious background	45(25.9)	53(30.5)	16(9.2)	26(14.9)	34(19.5)	174(100)
Generally oppose the use of contraceptives	27(16.5)	44(26.8)	22(13.4)	40(24.4)	31(18.9)	164(100)
Husbands discourage their wives	28(15.9)	45(25.6)	25(14.2)	50(28.4)	28(15.9)	176(100)
Do not know the benefits	48(27.4)	64(36.6)	15(8.6)	25(14.3)	23(13.1)	175(100)
Contraceptives have adverse side effects	50(27.5)	63(34.6)	27(14.8)	25(13.7)	17(9.3)	182(100)
Contraceptives are too expensive	12(6.8)	19(10.8)	28(15.9)	57(32.4)	60(34.1)	176(100)
Contraceptives interrupt normal body process	28(15.5)	40(22.1)	57(31.5)	36(19.9)	20(11.0)	181(100)
Contraceptives are inconvenient to use	23(12.8)	34(19.0)	34(19.0)	60(33.5)	28(15.6)	179(100)
Do not know where to get contraceptives	18(9.9)	26(14.4)	17(9.4)	49(27.1)	71(39.2)	181(100)

SA- Strongly Agree A-Agree I-indifferent D-Disagree SD- Strongly disagree

The bivariate analysis (Table 5) showed some association between marital status, income status and

age with contraceptive use among women ($p < 0.05$).

Table 5: Socioeconomic and Demographic Characteristics and Contraceptive Usage

Variables	Contraceptive users		Non users of contraceptives		Total
	n=89	%	n=100	%	
Marital status*					
Never Married	29	32.6	48	48.0	77 (40.8%)
Ever Married/ Married	60	67.4	52	52.0	112(59.2%)
Educational level					
JHS and below	55	65.5	50	51.5	105 (58%)
SHS and above	29	34.5	47	48.5	76 (42%)
Income status*					
500 GHS and below	53	73.7	54	73.0	107 (71.3%)
501 and above	23	26.3	20	27.0	43 (28.7%)
Residence status					
Own residence	45	50.6	49	49.0	94 (49.7%)
Don't own residence	44	49.4	51	51.0	95 (50.3%)
Age*					
≤24 years	23	25.8	41	41.0	64 (33.9%)
25 to 30 years	31	34.8	43	43.0	74 (39.2%)
30 years plus	35	39.4	16	16.0	51 (26.9%)

*variables that showed significant association chi-square (p<0.05)

Further analysis using binary logistic regression in predicting the likelihood of women using contraceptives after controlling for socio-economic and demographic factors showed that parity significantly influenced the likelihood of women using contraceptives. This contributed to 27% of the variations observed. Women with one to two children were 7.45 times (95%CI 2.00, 27.78) more likely to use contra-

ceptives. Those with more than three children were 11.32 times (95%CI 2.34, 54.87) more likely to use contraceptives than those who did not have any children. No significant relationships were drawn from the model on women's earnings, age, marital status, and educational status, ownership of residency and knowledge of contraceptives usage (Table 6).

Table 6: Binary Logistic Regression on the Predictors of Contraceptive usage among Women

Variable	Exp(B)	95% CI
*Age (24 years and below)	-	-
Age (25 to 30 years)	0.73	(0.25, 2.10)
Age (30 years plus)	2.19	(0.64, 7.51)
*Married/Ever Married	-	-
Never Married	0.36	(0.11, 1.12)

*No child	-	
1-2 children	7.45	(2.00, 27.78)
3 plus children	11.32	(2.34, 54.87)
*500 GHS and below	-	
501 and above	2.05	(0.71, 5.87)
*Own Residence	-	
Don't own residence	0.86	(0.38, 1.94)
*JHS and below	-	
SHS and above	0.56	(0.19, 1.66)
*Know 1 to 6 contraceptives	-	
Know 7 to 12 contraceptives	1.61	(0.62, 4.16)
*Know 1-3 uses of contraceptives	-	
Know 4 and above uses of contraceptives	2.28	(0.89, 5.81)

*= ref or comparison group

Discussion

Increasing contraceptive coverage will demand that women have access to family planning options which could decrease the incidence of unintended pregnancies (Ahmed et al., 2012; WHO, 2011). While this is necessary, contraceptive usage was relatively low in the present study. A possible explanation may be that the women sampled for this study may not have adequate knowledge of contraceptives which could affect their use. Previous studies have reported low use of contraceptives among women in Nigeria and Kenya (Eko, Osonwa, Osuchukwu & Offiong, 2013; Okech, Wawire & Mburu, 2011). In a study by Jabeen, Gul, and Wazir (2011), although half of the sampled participants were aware of contraceptive methods, few actually practiced some of the modern methods of contraception. It is evident from the findings of this study that 63.6% of the users of contraceptives had knowledge of seven and more types of contraceptives. It seems knowledge of a reproductive health commodity may be an important factor

that could influence practice. An earlier study conducted in Ghana reported that women were aware of at least one method of contraception and slightly over 55% had heard of three or more modern methods of family planning (Aryeetey, Kotoh & Hindin, 2010).

Women involved in this study had knowledge on the uses of contraceptives. However, 65.1% disagreed with the assertion that, contraceptives could be used to space births although they were sexually active. This suggests a general lack of information on the fundamental role of contraceptives. Contraceptives are essential in spacing births by reducing the incidence of unwanted pregnancies (Somba, Mbonile, Obure & Mahande, 2014; Stover & Ross, 2010; Chor, Patil, Goudar, Kodkany & Geller, 2012; Stover & Ross, 2010). Information on contraceptives is critical in enabling women to make an informed choice. It will offer them the opportunity to obtain and use contraceptives. The findings suggest that women obtained information on contraceptives from the

hospital, antenatal clinics, and pharmacy shops. This findings partly contradict the report that the mass media, friends, relatives, and educational institutions were good sources of contraceptive information among female adolescents in Eastern Cape (O'Mahony, Yogeswaran & Wright, 2013).

The findings further suggest that 49.4% of the women viewed contraceptives to be effective in preventing pregnancy. A possible explanation is that the effectiveness of a particular contraceptive device might depend on the type and the correct usage of the contraceptive product (Aryeetey et al., 2010). Women who fail to use contraceptives correctly and consistently have a high chance of becoming pregnant (Jones, Mosher & Daniels, 2012). Modern contraceptives, however, have proven to be more effective in reducing unintended pregnancies, compared to the traditional methods (Sonfield, Hasstedt & Gold, 2014; Guttmacher Institute, 2014). In Ghana, contraceptive products are not offered for free at the various reproductive health centres. Women are required to choose and purchase a product of their choice. Evidence suggests that the cost of obtaining contraceptives could contribute to the unmet need for family planning services in low-middle income economies (Guttmacher Institute, 2014). Women could have the desire and social support to use family planning interventions but might not be able to afford the cost of contraceptives while in their fertility age. Aryeetey and others (2010) explained that the cost of obtaining family planning services could deter women from using the services.

Similarly, spousal support in family planning is crucial in meeting the reproductive health needs of women and limiting the number of unwanted pregnancies and unsafe abortions. In Ghana, most women in an urban area (73.0%) used contraceptives because their partners influenced their decision to do so (Aryeetey et al., 2010). On the contrary, partner or spousal support was a barrier to contraceptive use in the present study. This corroborates the findings of Gebremariam and Addissie (2014) as they reported fear of side effects and partner's support as factors limiting the use of long-acting and permanent contraceptive methods among women in Ethiopia. Men playing a dominant role in decisions regarding the number of children their partners should have could

potentially hinder the uptake of contraceptives (Rahnama et al., 2010).

The findings highlight that the side effects of some contraceptives could deter women from using them. Perceived side effects of family planning commodities prevented some women from using contraceptives in Ghana (Aryeetey et al., 2010). The current study also observed that religion could be an important barrier to the use of contraceptives. This is consistent with the findings of Jabeen et al. (2011) who identified religion as a hindrance to the practice of contraception, as it was perceived to be a sinful act. This finding was not surprising since some religions, especially the Roman Catholics, strongly oppose the use of modern contraceptives. However, in Mozambique, evidence suggests a high prevalence in the use of modern contraceptives among Catholics (Agadjanian, 2013). In the United States, contraceptive usage was found to be high among sexually active women of all religious affiliations, including women of the Catholic faith (Guttmacher Institute, 2012; Jones & Dreweke, 2011).

This study identified parity as a determinant of contraceptive use. This is not surprising because an earlier study conducted in the Upper East Region of Ghana found a strong association between parity and contraceptive use (Achana et al., 2015). Women may use contraceptives to space births in order to regain their strength from the last pregnancy and also prevent unplanned pregnancies. This finding highlights the critical role parity plays in enabling women to use contraceptives. Although evidence suggests a strong relationship between age, marital status, income status and contraceptive use (Aryeetey et al., 2010; Darroch et al., 2011; Okech et al., 2011), the present findings did not observe a relationship between these socio-demographic factors and contraceptive usage. The differences in findings could be due to how these socio-demographic variables were measured in this study. It could also be due to the fact that this study employed convenience sampling in selecting the participants.

Implications for Nursing and Midwifery

The findings have implications for nursing and midwifery practice, education and research. Education of women on the different types of contraceptives,

their uses and benefits by nurses and midwives needs to be intensified at all levels of the health care delivery, as adequate knowledge about contraceptives is required in ensuring their usage. Additionally, midwives should intensify education on the use of contraceptives among women who have had one or more children as they may have higher chances of using contraceptives. The findings also call for an urgent need for men to support their partners to use contraceptives. It is worth mentioning that nursing and midwifery curriculum should highlight the barriers to the use of contraceptives in order to equip nurses and midwives to address these barriers in interventions to increase contraceptive uptake. Further research to explore the meaning and interpretation men give to women's use of contraceptives is highly advocated.

Conclusion

The use of contraceptives by women is critical in improving their health. This paper has highlighted the relatively low use of contraceptives among women in Asankragwa. The issues raised in this paper call for a comprehensive education on contraceptives at various levels of the health delivery system. This includes targeted community-level education, focusing on different types of contraceptives, their uses, possible benefits as well as side effects. Additionally, women need to be empowered by all stakeholders in

connection with family planning, with the necessary skills and information to make an informed decision concerning their reproductive health, as male dominance in reproductive health decisions of women could significantly impact women's health. Health communication messages on contraceptive use should demonstrate how partner and spousal support could improve contraceptive use. Involvement of men in reproductive health issues may enable them to gain understanding of matters relating to women's reproductive health and may be likely to appreciate the challenges and complications women experience due to an inappropriate spacing of births which may contribute to maternal morbidity and mortality. Men may be highly informed if they are involved, and they could motivate their partners to use contraceptives.

Conflict of interest

The authors have no competing interests to disclose

Acknowledgments

The authors express their profound gratitude to all the women who voluntarily participated in this study. They also thank the health assistants who volunteered to be part of the data collection team.

Funding

The study was solely funded by the authors.

References

- Achana, F. S., Bawah, A. A., Jackson, E. F., Welaga, P., Awine, T... & Phillips, J. F. (2015). Spatial and socio-demographic determinants of contraceptive use in the Upper East region of Ghana. *Reproductive Health*, 12(1), 29.
- Agadjanian, V. (2013). Religious denomination and modern contraceptive use in Southern Mozambique. *Studies in Family Planning*, 44 (3), 259-274
- Ahmed, S., Li, Q., Liu, L., & Tsui, A. O. (2012). Maternal deaths averted by contraceptive use: an analysis of 172 countries. *The Lancet*, 380(9837), 111-125.
- Aryeetey, R., Kotoh, A.M., & Hindin, M. J. (2010). Knowledge, perceptions and ever use of modern contraception among women in the Ga East district, Ghana. *African Journal of Reproductive Health*, 14 (14):27-32.
- Chor, J., Patil, K., Goudar, S., Kodkany, B., & Geller, S. (2012). Provider insights on barriers and opportunities for birth spacing utilization in Karnataka, India. *Health Care Women International*, 33,1035-1045.
- Darroch, J. E., Sedgh, G., & Ball, H. (2011). *Contraceptive Technologies: Responding to Women's Needs*, New York: Guttmacher Institute.
- Desi, C. (2014). *What are Contraceptives?* Retrieved from http://www.ehow.com/about_4675758_what_are_contraceptives.html
- District Health Management Information System (2017). Information on contraceptives, Western Regional Health Directorate, Sekondi
- District Health Management Information System (2013). Information on contraceptives, Western Regional Health Directorate, Sekondi
- Eko, J. E., Osonwa, K. O., Osuchukwu, N. C., & Offiong, D. A. (2013). Prevalence of contraceptive use among women of reproductive age in Calabar Metropolis, Southern Nigeria. *International Journal of Humanities and Social Science Invention*, 2 (6), 27-34
- Gebremariam, A., & Addissie, A. (2014). Intention to use long lasting and permanent contraceptive methods and factors affecting it among married women in Adigrat town, Tigray, Northern Ethiopia. *Reproductive Health*. 11(24), Retrieved from http://www.reproductive_health_journal.com/content/11/1/24
- Ghana Statistical Service (2009). Ghana demographic and health survey 2008 key findings. Retrieved from <http://www.measuredhs.com/pubs/pdf/SR172/SR172.pdf>
- Guttmacher Institute (2014). Contraceptive use in the United States. Retrieved from http://www.guttmacher.org/pubs/fb_contr_use.html
- Guttmacher Institute (2012). New study finds little progress in meeting demand for contraception in the developing world. Retrieved from <http://www.guttmacher.org/media/nr/2012/06/19/>
- Health Facility Report (2013). Asankragwa. Western Region, Ghana
- Hindin, M. J., McGough, L. J., & Adanu, R. M. (2014). Misperception, Misinformation and Myths about Contraceptive Use in Ghana. *Journal of Family Planning and Reproductive Health Care*. 40, 30 – 35.
- Jabeen, M., Gul, F., Wazir, F., & Javed, N. (2011). Knowledge, Attitude and Practice of Contraception in women of Reproductive Age. *Gomal Journal of Medical Sciences*, 9 (2), 223-229
- Jones, J., Mosher, W., Daniels, K. (2012). Current Contraceptive Use in the United States. *National Health Statistics Reports*. Retrieved from <http://www.cdc.gov/nchs/govdelivering.htm>.
- Jones, R. K., & Dreweke, J. (2011). Countering conventional wisdom: New evidence on religion and contraceptive use. Guttmacher Institute. Retrieved from <http://www.guttmacher.org/pubs/Religion-and-Contraceptive-Use.pdf>
- Krejcie, R. V. & Morgan, D. W. (1970). Table for determining sample size from a given proportion. Retrieved from https://www.google.com/search?q=Krejcie+and+morgan+1970&tbm=isch&tbo=u&source=univ&sa=X&ved=2ahUKewjF48_zhMzc-AhVJa8AKHQG3DVIQsAR6BAgGEAE&biw=1366&bih=654#imgrc=Fbxzi3kq3KHCvM
- Nordqvist, C. (2009). What is Contraception: What is Birth Control? *Medical News Today*. Retrieved from <http://www.medicalnewstoday.com/articles/162762.php>
- Okech, T. C., Wawire, N. W., & Mburu, T. K. (2011). Contraceptive use among women of reproductive age in Kenya's slums. *International Journal of Business and Social Science*, 2(1), 22-43.
- O'Mahony, D., Yogeswaran, P., & Wright, G. (2013). Knowledge, attitudes and practices about contraception amongst schoolgirls aged 12-14 years in two schools in King Sabata Dalindyebo Municipality, Eastern Cape. *African Journal of Primary Health Care and Family Medicine*, 5(1), 1-8.

- Rahnama, P., Hidarnia, A., Shokravi, F. A., Kazemnejad, A., Ghazanfari, Z., & Montazeri, A. (2010). Withdrawal users' experiences of and attitudes to contraceptive method: a study from Eastern district of Tehran, Iran. *BMC Public Health*, 10, 779
- Somba, M. J., Mbonile, M., Obure, J., & Mahande, M. J. (2014). Sexual behaviour, contraceptive knowledge and use among female undergraduates' students of Muhimbili and Dar es Salaam Universities, Tanzania: a cross-sectional study. *BMC Women's Health*, 14: 94
- Sonfield, A., Hasstedt, K., & Gold, R. B. (2014). *Moving Forward, Family Planning in the Era of Health Reform*, New York: Guttmacher Institute. Retrieved from <http://www.guttmacher.org/pubs/family-planning-and-health-reform.pdf>.
- Stover, J., & Ross, J. (2010). How Increased Contraceptives Use has Reduced Maternal Mortality. *Maternal Child Health Journal*, 14, 687-695.
- United Nations (2013). Millennium Development Goals Report. Retrieved from <http://www.un.org/millenniumgoals/pdf/report-2013/mdg-report-2013-english.pdf>
- World Health Organization (2011). Low use of contraception among poor women in Africa: An equity issue. *Bulletin of WHO*, 89 (4), 258 – 266.
- World Health Organisation (2014). Ensuring human rights in the provision of contraceptive information and services guidance and recommendations. Retrieved from http://apps.who.int/iris/bitstream/10665/102539/1/9789241506748_eng.pdf?ua=1