Post-Abortion Contraception in Ghana

Background: In developing countries, including Ghana, approximately 26% of maternal deaths occur among young women aged 15-19 (Patton *et al* 2013). Many pregnancies in this age group are unplanned and unwanted; resulting in high rates of induced abortion, many of which are unsafe (Evens *et al* 2014). There are an estimated 5.5 million unsafe abortions in sub-Saharan Africa every year (WHO 2011) and although the overall number of abortions is declining, the proportion of all abortions that are unsafe is rising (Haddad & Nour 2009). The abortion law in Ghana is one of the most liberal on the continent allowing for abortion by a qualified health worker in a registered facility if the pregnancy is the result of rape or incest, if there is fetal malformation or if the continuation of the pregnancy will risk the mental or physical health of the mother (Morhe & Morhe 2006). The total fertility rate in Ghana has fallen from between 4.5 and 5 births per woman in 1985 to around 3 per woman in 2006 (Finlay & Fox 2013), a higher decline than can be explained by the contraception prevalence rate in the country (Blanc 2002). However, it is less clear what impact the liberalization of the law has had on Ghanaian women's ability and willingness to access a safe abortion (Finlay & Fox 2013). Further, regardless of the law governing abortion, it remains a highly stigmatized procedure and relaxing a law may not, without additional steps, reduce this stigmatization (Shellenberg *et al*, 2011).

Not all unsafe abortions result in death. Many cause severe immediate and long-term health consequences including haemorrhage, reproductive tract infections and infertility. Further, every woman admitted to an emergency gynecology ward for the treatment of post-abortion complications requires resources. They may require blood products, antibiotics, oxytocics, anaesthesia, operating rooms and surgical specialists (Haddad & Nour 2009). Especially in resource-constrained environments, treating complications resulting from unsafe abortion can be more than a health system can handle.

The use of contraception in developing countries has risen dramatically over the past decades. Women's ability to plan the number and timing of the children they bear has greatly reduced the health risks associated with pregnancy. However, even with these advances, significant unmet need remains. In Ghana, the unmet need for contraception, defined as being currently sexually active and not wanting to become pregnant, but not using contraception (UN 2011), is approximately 33.5% (Govindasamy & Boadi, 2000). Reasons for non-use of contraception are many and include poor quality of available services, limited choice of methods, fear or experience of side-effects, and cultural or religious opposition (Creanga *et al* 2011). Gender-based barriers are also a factor, as is lack of access to services, particularly for young people, the poorer segments of the population, and those who are not married (Stanback & Twum-Baah 2001). Further, in some parts of Africa, there is a documented preference for natural family planning, such as periodic abstinence (Johnson-Hanks 2002). Utilizing these natural forms of contraception enables women to achieve the social goal of showing discipline as well as the goal of averting unwanted pregnancies. However, a study by Mac Domhnaill et al, 2011 found young Ghanaian women do not recognize when the safe time to have unprotected intercourse is, potentially increasing their chances of an unplanned pregnancy.

In Ghana, although estimates vary, it has been reported that as many as 70% of previously pregnant adolescents had attempted at least one abortion (Glover *et al* 2003). Larger community-based studies outside Kumasi found 20% of all female respondents report having at least one abortion (Krakowiak-Reed *et al*2011) and 36.7% of adolescents overall have experienced at least one abortion (Morhe *et*

*al*2012). Comprehensive post-abortion care, including contraception counselling, is important, especially for young women for whom this may be the first contact with a reproductive health service (Evens *et al* 2014).

Providing contraceptive counselling as part of post-abortion care has been an important and successful means to increase contraception usage and decrease future unplanned pregnancies in several African countries (Johnson *et al* 2002; Rose *et al* 2010). Due to time and space constraints, as well as the sensitive nature of contraception counselling, it has been recommended that specialist contraception counsellors be dedicated to post-abortion wards. These counselling services can then be linked with family planning units offering a wide range of contraception options (Kumar *et al* 2004). Even in settings where the laws governing abortion are liberal, such as Ghana, post-abortion contraception is an imperative component of post-abortion care and an important means to prevent future unwanted pregnancies and resultant unsafe abortions (WHO 2012).

Ghana has a made a concerted effort to improve access to contraception for all women. However, post-abortion complication contraception choices made by women in tertiary care settings has not previously been investigated. The current study aims to describe the contraception choices made by women being treated for post-abortion complications at the Komfo Anokye Teaching Hospital (KATH) in Kumasi, Ghana, and elucidate factors associated with the uptake of the various methods.

Methods:

This case series examining post-abortion contraceptive choice was conducted through a hospital based retrospective review of all cases of all in-patients being treated for post-abortion complications at one busy gynaecological ward in Kumasi, Ghana. Logbooks were examined and data extracted on demographic information as well as contraceptive choice.

All study procedures and instruments were reviewed and approved by the Committee on Human Research, Ethics and Publication, Komfo Anokye Teaching Hospital, and by the Institutional Review Board, University of Michigan.

Setting: This study took place in the emergency gynecology ward of a large tertiary care teaching hospital. This 15 bed ward houses all women admitted with emergency gynaecological conditions. All women with post-abortion complications are treated here, after they are discharged from the operating theatre if necessary. In Ghana, post-abortion care is available under the national health insurance at all levels of health care. Manual Vacuum Aspiration (MVA), Early Vacuum Aspiration (EVA) and Misoprostol are used in Ghana, while Dilation and Evacuation (D&E) is no longer used in regular practice. Both trained physicians and midwives provide abortion care including counseling, uterine evacuation, and post-abortion family planning. For the purposes of this study, there is dedicated abortion care, including a family planning counselor, assigned to the unit.

Data Collection: Data were extracted from the logbook kept by the family planning counsellor. The counsellor meets with each woman before she is discharged in a separate, private office to discuss her contraception options. The logbook is completed by the counsellor during the meeting time and

contains information regarding the date of admission, the date of discharge, woman's age, her gravity and parity, whether the current treatment is being sought following an induced or spontaneous abortion, the woman's marital status, her occupation, the method of contraception she chose following treatment and any previous complications she has suffered. Clinical information is extracted from each patient's chart, which is completed by the provider, either midwife or doctor, who cares for the patient at time of care. De-identified data from one year (June 2012-May 2013) were extracted and entered into an excel spread sheet by a research assistant. Data were uploaded to SPSS V. 20 for analysis.

Data Analysis: Information on type of contraception accepted was initially collected as categorical data. A new variable was created for those women who reported "abstinence" as their method of contraception. This dichotomous variable was used as the outcome variable for the logistic regression. Age was initially collected in years, and found to be negatively associated with using abstinence. The age variable was then transformed into a "teenager" dichotomous variable (those aged 15-19 coded as "1", aged 20 years and older was coded "0"). This variable was then assessed against the abstinence variable.

Descriptive analysis was performed and cross-tabs with Chi Square analysis found factors significantly associated with the outcome variables of interest. These factors were then entered into the logistic regression models.

Results: A total of 612 women received care for post-abortion complications at the KATH emergency gynecology ward between June 2012 and May 2013. The mean age of women being treated was 27.4 years, with a range from 13-50 years. The majority of women were married. Average length of stay was 2.27 days (std. dev. 2.49 days). Eighteen percent (n=112) of the women were being treated for complications resulting from an induced abortion. Almost half (46.9%, n=287) had a history of at least one induced abortion.

<<Insert Table 1 about here>>

The method of contraception chosen post-abortion can be seen in Table 2. The most popular method of contraception adopted was oral contraceptive pills at 19.8% (n=121). Depo Provera (17.6%, n=108) and condoms (12.6%, n=82) were also popular. Interestingly, 3.9% of the participants (n=24) reported not accepting contraception because they were trying to become pregnant. A high number of participants, 11.3% (n=69) reported they would use abstinence to avoid a future pregnancy. The counsellor took this to mean complete abstinence, as other patients reported using natural family planning methods, which includes periodic abstinence. The age of the patient was associated with reporting the use of abstinence as the method of contraception (cross-tab with chi square analysis, not shown). Almost half (42.9%, n=259) of the participants accepted a highly effective form contraception, defined as an IUD, oral contraceptive pills, the implant or the injection (Johnson *et al* 2002). Another 39.9% (n=244) decided to accept no form of highly effective contraception method, even though they stated they were not wanting to become pregnant.

<<Insert Table 2 about here>>

The results of the first regression can be seen in Table 3. In this simple linear regression, length of stay was used as the dependent variable. The results suggest women seeking care for complications from a reported induced abortion have a significantly longer length of stay in the hospital than those seeking care for a spontaneous abortion.

<<Insert Table 3 about here>>

The results of the second regression can be seen in Table 4. The factors significantly associated with induced abortion include being younger, being unmarried, and having had a previous induced abortion. Women who were single were almost three times as likely to report seeking care for complications arising from an induced abortion (OR 2.83), and those with a previous induced abortion were twenty five times as likely to report seeking care for complications from an induced abortion.

<<Insert Table 4 about here>>

The results of the third regression can be seen in Table 5. Young women (those aged 14-19) were six times as likely to report they would use "abstinence" as their method of contraception following the treatment for post-abortion complications. Further, women who were single versus married were almost eight times as likely to report using abstinence as their form of contraception. Those seeking care for an induced abortion were 1.7 times as likely to report a preference of abstinence for their post-abortion contraception.

<<Insert Table 5 about here>>

Discussion:

Women in this study who were seeking care for complications following an induced abortion were more likely to have a longer length of stay than their counterparts seeking care for complications arising from a spontaneous abortion. Length of stay is a proxy for severity of condition, suggesting women with complications from an induced abortion have more serious complications than those with a spontaneous abortion.

Women who present to hospitals for the treatment of post-abortion complications, especially those resulting from an induced abortion, represent a group at high risk of a subsequent unplanned pregnancy. These women are therefore often good candidates for long acting reversible contraception (Rose *et al* 2010). Increasing the uptake of these long-acting forms of highly effective contraception has the potential to reduce unplanned pregnancies and therefore unsafe abortions (Spiedel *et al* 2008). Even in a country, such as Ghana, where the law governing abortion is relaxed, it is imperative to include post-abortion contraceptive counselling as part of post-abortion care, as recommended by many agencies including the WHO (WHO 2012). The number of women in this study receiving care for complications arising from self-induced abortions in a context where abortion is legally available underlines the fact that changing a law is not enough to change behavior. Almost one out of five women in this sample were seeking care for complications arising from unsafe abortions that were self-induced,

even though the law of the country and the policies of the health sector are designed to ensure women have access to safe abortion services.

This investigation revealed that the women who are arguably the most in need of accepting long-acting, highly effective forms of contraception, are the least likely to accept it. Namely, being younger, unmarried and reporting a self-induced abortion are factors associated with reporting using abstinence as the method of post-abortion contraception. This is in contrast to post-abortion women in Brazil who accepted contraception at very high rates, and were most likely to accept an injectable form of birth control or oral contraceptive pills (Ferreira et al 2010). Other investigations in West Africa have noted the strong preference women have for natural family planning methods, especially periodic abstinence (Johnson-Hanks 2002). In the current study, only women reporting they would use complete abstinence to avoid future pregnancies were included in the "abstinence" group. Therefore, women reporting they would use a form of natural family planning were coded as using some form of contraception.

Although previous investigation has found ward-based post-abortion contraception counselling to be an effective way of providing women with highly effective methods of contraception (Johnson *et al* 2002), it appears from this analysis that some of the most vulnerable women, in terms of at-risk for a future unplanned pregnancy, are not accepting contraception post-abortion and are instead planning to rely on complete abstinence to avoid future pregnancies. Teenagers, especially, are over six times as likely to report they will utilize abstinence. This could be one reason why almost half of the study population had at least one previously induced abortion.

Women being treated for post-abortion complications are an ideal group to target with reliable, long-acting contraception as they are at high risk for a future unplanned pregnancy, and therefore potentially for unsafe abortion (Ferreira et al 2010). Women who accept an IUD were the least likely to return for a repeat abortion in a study conducted in New Zealand (Rose et al 2012). Only 8 women in the current study accepted an IUD.

Future work documenting why women are not accepting post-abortion contraception, even if they do not desire to become pregnant and are engaging in sexual activity, could improve strategies to reach those most at risk for unplanned pregnancy. Further, following women to assess their satisfaction with their chosen method of contraception and whether it is effective at preventing future unplanned pregnancies will add to the growing body of literature on post-abortion care. Finally, investigating why women who self-induced in an unsafe way did not access safe abortion services (even though the law allows for these services) could contribute to the design of interventions to reduce the impact of unsafe abortion in Ghana.

Limitations: This study has several limitations. Due to it being a secondary analysis of existing data, there was limited information, as well as some missing data. It would have added to the depth of the analysis if there had been information about why women chose the method of contraception that they did, and this is an important area of future research. Further, the classification of induced versus spontaneous abortion is the self-report of the patient. If anything, this will lead to conservative

estimates of the number of induced abortions, as some women may falsely report their complications as arising from a spontaneous abortion when it was in fact induced.

Conclusion: Young, unmarried adolescents in our study were more likely to report future use of abstinence as their contraceptive method of choice. This vulnerable group could benefit from an increased uptake of long acting reversible contraceptive methods to avoid repeated unplanned pregnancies and the potential of future unsafe abortions.

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Table 1: Demographic characteristics of participants.

Length of Stay (in days) for 400 respondents	Range	0-30
	Mean	2.27
	Std. Deviation	2.49
Age	Range	13-50
	Mean	27.4
	Std. Deviation	6.8
Marital Status	Married	344 (56.1%)
	Single	268 (43.7%)
Self-induced abortion	112	18.3%
Previous self-induced abortion	287	46.9%

Table 2: Type of contraception adopted post-abortion

	N	Valid %
Method of contraception chosen		
Depo provera (DMPA)	108	20.4
Pills	121	22.8
Condom	82	15.5
Natural Method / Calendar	63	11.9
Implant	22	4.2
IUD	8	1.5
Abstinence	69	13.0
Undecided/Discuss with husband	33	6.2
Wants a child	24	4.5
Missing	82	
Accepted highly effective form of contraception (IUD, pill, injection, implant)	259	42.3
No contraception (abstinence, natural and condoms)	244	39.9

Table 3. Linear regression with length of stay as dependent variable.

	B	Std. Error	**Sig**
Age	.00004	.019	.998
Self-Induced	.900	.346	.010
(Constant)	2.11	.566	.000
R^2	.136		

Table 4. Logistic regression with induced abortion as dependent variable.

	B	Std. Error	**Odds Ratio**
Single	1.04**	.337	2.83
Age	-.140***	.029	.870
Previous Induced Abortion	3.24***	.419	25.4
(Constant)	.232***	.710	1.26

*** denotes significance at the .001 level.

Table 5: Logistic regression with “abstinence” as the dependent variable.

	B	Std. Error	**Odds Ratio**
Teenager	1.844***	.319	6.32
Single	2.08***	.464	7.98
Self-Induced	.525*	.321	1.70
(Constant)	3.31***	.777	27.3
Adjusted R^2	.356		

* denotes significance at the .1 level. *** denotes significance at the .001 level.