Journal of Women's Health Care

Feyisso et al., J Women's Health Care 2017, 6:4
DOI: 10.4172/2167-0420.1000388

Research Article Open Access

Magnitude of Unintended Pregnancy and its Determinants among Pregnant Women Visiting Dilla University Referral Hospital, South Ethiopia

Mohammed Feyisso[1*], Alebachew Girma[1], Hamid Yimam[2] and Sileshi Hailu[3]

[1]*Department of Public Health, College of Health Sciences and Medicine, Dilla University, Dilla, Ethiopia*

[2]*Department of Public Health, College of Health Sciences and Medicine, Mizan Tepi University, Mizan, Ethiopia*

[3]*Department of Anesthesia, College of Health Sciences and Medicine, Dilla University, Dilla, Ethiopia*

[*]**Corresponding author:** Mohammed Feyisso, Department of Public Health, College of Health Sciences and Medicine, Dilla University, Dilla, Ethiopia, Tel: +251 463312462; E-mail: mamfys8@gmail.com

Received date: July 29, 2017; **Accepted date:** August 16, 2017; **Published date:** August 30, 2017

Abstract

Background: Unintended pregnancy is important maternal public health concern both in the developing and developed world. The proportion of unintended pregnancies is alarmingly high in Ethiopia and there is enormous information gap on the determinants of unwanted and mistimed pregnancy.

Objectives: To determine magnitude of unintended pregnancy and its determinants among pregnant women visiting antenatal and postnatal care clinic at Dilla University Referral Hospital.

Methods: Institution based cross-sectional study was conducted on 290 women attending antenatal clinic and Postnatal women at Dilla University Referral Hospital from February to June, 2016. Using consecutive arrival of client systematic sampling technique was conducted based on the patient flow per month. A structured questionnaire survey was used to collect data the data was entered and processed by IBM SPSS statistics version 20 for analysis. Descriptively frequencies and percentage was used and association between unintended pregnancy and independent variables were assessed using logistic regression.

Results: The prevalence of unintended pregnancy is 36.9%. The study revealed that women less than 20 years old were about 2 times higher risk of having unintended pregnancy compared to 30 years and above women (AOR=1.84, CI: 1.02-4.29). Likewise, compared to married women singles were 2 times more likely to have unintended pregnancy (AOR=1.78; CI: 1.048- 5.078) and illiterate women were found to be less likely to have unintended pregnancy (AOR=0.074; CI: 0.021-0.263) according to multi-variable analysis.

Conclusion: From the finding significant proportion of women (36.9%) had unintended pregnancy. Age of women, marital status and educational status were the variables significantly affecting the level of unintended pregnancy.

Keywords: Pregnant women; Unintended pregnancy; Prevalence; Antenatal care

Abbreviations: ANC: Ante-natal Care; DHS: Demographic and Health Survey; DURH: Dilla University Referral Hospital; FP: Family Planning; GC: Gregorian Calendar; ICPD: International Conference Population and Development; IUD: Intra Uterine Device; KAP: knowledge Attitude and Practice; SNNPR: South Nation Nationality of People Region; TFR: Total Fertility; WHO: World Health Organization; AOR: Adjusted Odd Ratio; COR: Crude Odd Ratio

Background

Unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of Conception. It is one of the leading factor contributing to high level of maternal and child morbidity and mortality [1]. Globally, nearly 80 million unintended pregnancies occur each year [2] and one in every 10 of the outcome of pregnancies is unsafe abortions [3]. In the year 2008, about 13% of deaths were occurred as a result of unsafe abortion of which 62% were happened in Africa [2]. Many of the unintended pregnancies were unsafely aborted [4]. About 6.2 million African [nearly 90% from Sub-Saharan] women face unsafe abortion per year and 29,000 of them die due to risks related with procedure [2]. Unintended pregnancy and births are global social and health burdens and they have serious health consequences to the mother and family [2,5,6]. Unintended pregnancies mainly due to non-use or erroneous use of contraceptive methods and it could also be due to noticeable contraceptive failure [7,8]. In Africa more than one in every five women of reproductive age had unmet need for family planning during the year of 2007. Five percent of the family planning users encounter unexpected pregnancy as a result of method failure [2].

In developing countries 20-40% of births are mistimed or unwanted at all endangering the health and life of millions of women and children. Yearly about 50 million induced abortions are done and nearly 20 million of those conducted in unsafe condition or by

unskilled providers. Each year pregnancy related causes halt the life of nearly 600,000 women and 99% of these women are from developing countries. Pregnancy related complication(s) occur among 40% of pregnant women and life threatening complication(s) that require obstetric care occur in 15% of all Pregnant women [9,10]. To avoid the burden of unwanted or unplanned births considerably large proportion of women goes for induced abortion. This occurs both in countries where abortion is legal and where it is illegal [11]. Unintended pregnancy in Africa was estimated to reach up to 57 per 1000 women. The rates of intended and unintended pregnancy are highest in Africa (136 and 86 respectively) compared to other regions [12]. Ethiopia has an old population policy developed in 1993 just before the International Conference on Population and Development in 1994, which adopted the principle that every pregnancy should be planned and wanted [13,14].

In Ethiopia the uses of contraceptive methods upsurge from 4.0% to 27%; and the TFR declined from 7.7 to 4.8 between 1990 and 2011. In rural area modern contraceptive method use was far below the national average. Currently modern contraceptive use prevalence rate in Ethiopia is encouraging news for improving the health of women and their families. Nevertheless, it is difficult to meet women's reproductive goals with current large number of unintended pregnancies, high unmet need for family planning and high maternal mortality (673 deaths per 100,000 live births) [15]. In Ethiopia the fertility of is among the highest in sub-Saharan Africa. Ethiopian woman have an average of 4.6 children each. The high total fertility rate for women has led to high population growth rate of 2.6 percent per year [16]. The proportion of unintended birth was 37%, 35% and 28% during 2000, 2005, and 2011 respectively [15]. In study from Eastern Ethiopia the most recent pregnancies of 33.3% of sexually active women was unintended and the proportion of unintended childbirth was 14.4% [10].

Another study from the same region shows a 27.9% unintended pregnancy level [17]. In Ethiopia previous studies focus on unintended pregnancy and forgo unintended childbirths and relied on data from history of pregnancy and the status of that pregnancy. Additionally the selected study area is characterized by high fertility rate and it is the most densely populated area in Ethiopia. Hence this study was planned to delineate the prevalence of unintended pregnancy and its determinants among women visiting ANC and post natal clinic in Dilla University Referral Hospital.

Methods and Materials

Study design and study area

Institution based descriptive cross-sectional study was conducted among pregnant women and postnatal women attending Dilla University Referral Hospital antenatal and post natal clinic from February 05 to May 29, 2016. The hospital was located in Gedeo zone, South Ethiopia 360 km from Addis Ababa, the capital city of Ethiopia, and 90 km from Hawassa, the capital city of SNNPR. Currently the hospital serves around 3 million peoples in the catchment area.

Sample size determination

The sample size is determined using single population proportion formula. The following assumptions were used: p=proportion of unintended pregnancy in Amhara region (22.1%) [15], 95% confidence level of certainty and 5% margin of error.

$n=(Z\alpha/2)^2 \times P\ (1\text{-}P)/(d)^2$

$(1.96)^2 \times 0.221(1\text{-}0.221)/(0.05)^2=264$

The calculated sample size becomes 264 and adding 10% non-response rate final sample size is 290.

Data collection

For selecting of the study participant systematic sampling technique was used based on the consecutive arrival of clients and considering the patient flow per month in the institution. In addition the usual date in week on which the client flow is higher was also taken into consideration. The questionnaire was adopted from previously published literatures on the subject area and the tool was pretested on 5% of the sample size before field data collection to harmonize the content and concepts of the tool with the local context and corrections were made accordingly. The tool contains structured questionnaire prepared in English and later translated into local language was used through face to face interview to collect data from the respondents. The data collectors were female final year midwifery students in Dilla University.

Data analysis plan

For data processing and analysis IBM SPSS Statistics version 20 was used. Descriptive statistics computed for prevalence of unintended pregnancy. For bivariate analysis chi-square test was employed and binary logistic regression was used to select variables for multivariable analysis. A multivariable logistic regression was used to assess determinants of unintended pregnancy and unintended birth. The crude and adjusted odds ratios together with their corresponding 95% confidence intervals were computed. A P-value ≤ 0.05 was considered statistically significant in this study.

Result

Socio-demographic characteristics

About 290 pregnant and postnatal women were participated study of which 178(61.4%) were in the age group of 21-29. The majority of respondents 175(60.3%) were Gedeo in ethnicity and 174(60.0%) were protestant by religion. Regarding the educational status of the study participants 125(43.1%) have attended elementary school and occupationally 104 (35.9%) of the study participants were house wives, 77(26.6%) were government employee and 44(14.1%) of the respondents were self-employed (Table 1).

Socio-demographic characteristics	Frequency	Percentage (%)
Age	287	100
<20	54	18.6
21-29	178	61.4
30-39	55	18.9
Ethnicity	282	100
Amhara	42	14.5
Oromo	65	22.4
Gedeo	175	60.3

Religion	284	100
Orthodox	83	28.6
Muslim	27	9.3
Protestant	174	60
Marital status	290	100
Married	265	91.4
Single	16	5.5
Income	290	100
<500	88	30.3
501-1000	162	55.9
1001-1500	19	6.6
1501-2000	21	7.2

Table 1: Socio-demographic characteristics of survey respondents DURH, June, 2016.

Reproductive history of pregnant women

Women were asked about the total number of live children they have. Accordingly about 111 of study participants have 1-2 and for 52 of the women their most recent pregnancies at the time of data collection was their first pregnancy (Figure 1).

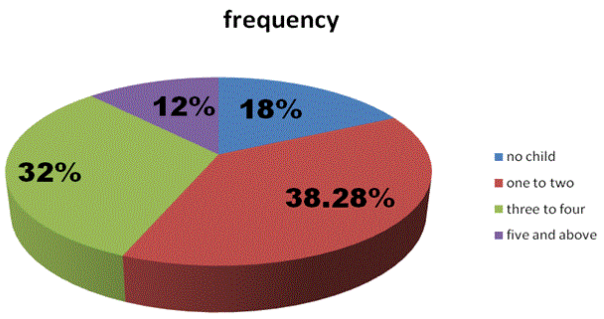

Figure 1: Number of alive children among ANC attendants at Dilla University Referral Hospital, Dilla, Ethiopia, June, 2016.

Regarding the status of current pregnancy or child about 107(36.9%) of women reported that their recent pregnancy was unintended and about 58(20%) of the women also have previous history of unintended pregnancies. According to the report from the mothers the reasons for failure to avoid such pregnancies were contraceptive method failure 63(21.7%), lack of knowledge of contraceptive method 14(4.8%), partner disapproval 10(3.4%) and lack of access to contraceptive methods 3(1%).

Knowledge and practice on contraceptive use

There are 3 multiple-choice questions which are prepared to assess knowledge of respondents about modern contraceptive method and these questions assess about awareness about at least one contraceptive method, its advantage and the place where they get it. All of the respondents (100%) are aware about at least one contraceptive method. Majority of the respondents, 278(95.9%) are knowledgeable about contraceptive method (Figure 2).

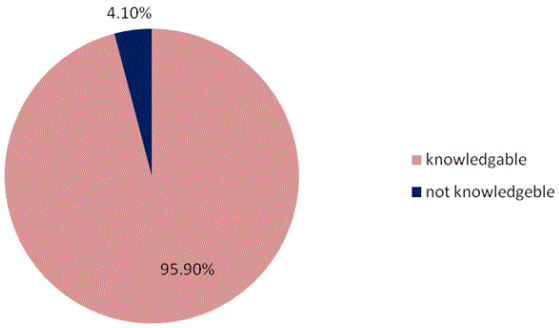

Figure 2: Distribution of overall knowledge about contraceptive among respondents.

Variables	Frequency	Percentage (%)
Place to get FP	290	100
Hospital	110	37.9
Health centre	164	56.5
Community health post	8	2.8
None	8	2.8
Advantages of modern contraceptive	290	100
To avoid unwanted pregnancy	273	94.1
To delay mistimed pregnancy	10	3.4
To prevent STDS	3	1
None	4	1.4
Heard of EC	290	100
Yes	250	86.2
No	40	13.8
Effective use of EC	250	100
Immediately after sex	71	28.4
Within 24 hours	32	12.8
Within 48 hours	34	13.6
Within 72 hours	77	30.8
Any time	36	14.4
Ever use of modern contraceptive method	290	100
Yes	245	84.5
No	45	15.5

FP used by the respondents	245	100
Pills	12	4.5
Condom	2	0.7
Injectable	170	58.6
Implant	61	21

Table 2: knowledge and practice of respondents on contraceptive use.

Of the total respondents, 245(84.5%) reported to have ever used contraceptives and among these 170 (69.3%) were used as injectable followed by implants 61(24.8%). Majority 250 (86.2%) of the study respondents have heard of emergency contraceptives and about 110(37.9%) of the respondents mentioned that Emergency contraceptives should be used within 48 hours after unprotected sexual intercourse (Table 2).

Associations between unintended pregnancy and its determinant factors

From the result of bivariate analysis, age of the women (x^2=11.5, p<0.05), marital status (x^2=6.45, p<0.05), educational status (x^2=2.16, p>0.05 and income(x^2=11.6, p<0.05 were significantly associated with unintended pregnancy (Table 3).

Variables	Yes	No	x^2	p=value
Age category (287)				
<20	41(14.3)	13(4.5)	X^2=11.5	P=0.09
21-29	104(36.2)	74(25.8)		
30-39	38(13.2)	17(5.9)		
Ethnicity (282)				
Amhara	22(7.8)	20(7.1)	X^2=31.3	P=.000
Oromo	25(8.9)	40(14.2)		
Gedio	128(45.4)	47(16.7)		
Religion (284)				
Orthodox	48(16.9)	35(12.3)	X^2=11.96	P=0.08
Muslim	11(3.8)	16(5.6)		
Protestant	118(41.5)	56(19.7)		
Marital status (281)				
Married	166(59.1)	99(35.2)	X^2=6.45	P=0.039
Single	8(2.8)	8(2.8)		
Educational status (290)				
Illiterate	24(8.3)	22(7.6)	X^2=10.7	P=0.03
Read or write	22(7.6)	7(2.4)		
Elementary school	87(30.0)	38(13.1)		
Junior or high school	23(7.9)	24(8.3)		
Higher education	27(9.3)	16(5.5)		
Occupation (290)				
Farmer	28(9.6)	5(1.7)	X^2=10.7	P=0.03
Government employee	33(11.4)	44(15.1)		
Student	18(6.2)	8(2.8)		
House wife	70(24.1)	34(11.7)		
Self-employed	27(9.3)	14(4.8)		

Jobless	4(1.4)	5 (1.7)		
Income (290)				
<500	63(21.7)	25(8.6)	X^2=11.6	P=0.009
501-1000	89(30.7)	73(25.1)		
1001-1500	16(5.5)	3(1.0)		
1501-2000	15(5.1)	6(2.1)		
Number of alive children (290)				
0	36(12.4)	16(5.5)	X^2=11.6	P=0.376
1-2	69(23.8)	42(14.5)		
3-4	60(20.7)	32(11.0)		
≥ 5	18(6.2)	17(5.9)		

Table 3: Unintended pregnancy, in relation to its determinant factors of respondents, DURH, Ethiopian, June, 2016.

Logistic Regression Analysis Result

According to the finding from multivariate analysis, age category, marital status and educational level of the respondents were found to be the determinants of unintended pregnancy. From the finding women in the age group below 20 years are about 2 times more likely to have higher risk of unintended pregnancy AOR=1.84, (CI:1.02,4.29). Similarly married women were found to be about 2 times higher risk of having unintended pregnancy when compared to married women AOR: 1.78, (CI: 1.05,5.08). Another variable that affect the level of unintended pregnancy in the study area was level of educational of the respondents.

The finding of the study shows that less educated women namely illiterate women and women with high school level education were found to be less likely to have unintended pregnancy when compared to women with higher education with AOR: 0.07, (CI: 0.02,0.26) and AOR: 0.22,(CI: 0.08,0.63) respectively. On the other hand number of currently alive children was found to have no significant effect on unintended pregnancy among mothers in this study both on bivariate and multivariable analysis. Variables like income, occupational status and knowledge of contraceptive method were found to be not associated with unintended pregnancy on multivariable analysis result (Table 4).

	Prevalence of unintended pregnancy		
Determinant factor	**Frequency (%)**	**COR(95% CI)**	**AOR(95% CI)**
Age			
<20	41(14.3)	1.13(0.78,1.7)	1.84(1.02,4.29)
21-29	104(36.2)	1.70(1.00,3.56)	1.20(0.72,1.88)
30-39	38(13.2)	1	1
Marital status			
Married	166(59.1)	1	1
Single	8(2.8)	1.83(1.304,4.12)	1.78(1.05,5.08
Educational status			
Illiterate	24(8.3)	1.55(0.66,3.61)	0.07(0.02,0.26)
Read or write	22(7.6)	0.54(0.19,1.54)	0.59(0.17,2.08)
Elementary school	87(30.0)	0.74(0.36,1.52)	0.43(0.16,1.12)
Junior or high school	23(7.9)	1.76(0.76,4.09)	0.22(0.08,0.63
Higher education	27(9.3)	1	1

Occupational status			
Farmer	28(9.6)	1	1
Government employee	33(11.4)	0.36(0.05,2.5)	2.41(0.30,19.41)
Student	18(6.2)	0.89(0.13,59)	0.62(0.019,1.36)
House wife	70(24.1)	0.97(0.17,5.57)	0.44(0.07,2.84)
Self-employed	27(9.3)	1.04(0.17,6.37)	0.30(0.04,2.21)
Jobless	4(1.4)	1.45(0.32,8.35)	0.41(0.05,3.12)
Income			
<500	63(21.7)	0.99(0.35,2.85)	0.277(0.07,1.09)
501-1000	89(30.7)	2.05(0.76,5.55)	0.24(0.065,1.882)
1001 1500	16(5.5)	0.47(0.99,2.22)	0.48(0.08.98)
1501-2000	15(5.1)	1	1
Knowledge of contraceptive			
Knowledgeable	180(64.7)	1	1
Not knowledgeable	3(25.0)	0.18(0.48,0.69)	0.195(0.51,1.751)

Table 4: Determinants of unintended pregnancy among pregnant women visiting Dilla University Referral hospital ANC clinic, South Ethiopia, June, 2016.

Discussion

In Ethiopia many women and couples lack knowledge, tools or support they need to enhance their reproductive health and to have the number of children they desire. As a result, large number of mothers have more children than they really want or can care for [18]. In this study the magnitude and determinants of unintended pregnancies was examined for a sample of 290 women attending ANC and post natal clinic at Dilla University Referral Hospital. From the findings of this study the most recent pregnancy of more than third, 36.9%, of women was unintended. This figure is lower than the finding from Damote Gale district, South Ethiopia, 42.4% [19] and the finding from Nepal, 41.2% [20].

The lower prevalence in this study could be due to the change in the awareness through the course of time and the difference in the level of facility in these areas. In this study all women participated on the study were knowledgeable about contraceptive method. However knowledge doesn't seem to assure the use of family planning in this study as about 37% of the women had unwanted pregnancy. About 84.5% of the women had ever used family planning method and the most reported method was injectable (58.6%) followed by implants (21.1%). When compared to older women, those women whose their age is less than 20 years were more likely to have unintended pregnancy. This might be due to the possible poor reproductive health knowledge and lesser opportunity to freely access family planning services by young women.

Likewise, older women are also mostly in a marital union and their pregnancies are more likely to be planned. The finding from other study done on correlates of unintended pregnancy other part of Ethiopia [19] also supports this finding where women between 25 to 29 years and 35 to 49 years have lower number of unintended pregnancy when compared women who are younger. This study also revealed that educational status of the women was also one of the factors determining the proportion of unwanted pregnancy. This finding is also supported by the findings other studies that revealed educational status playing considerable role in determining the prevalence of unwanted pregnancy [21].

However, the strange finding from this study is that less educated women were found to have lesser risk of having unintended pregnancy when compared to women in higher educational level. This may be the fact that less educated women always have need more number of children and are less likely to have pregnancies unintended when compared to educated women. Marital status of the respondents was another determinant factor significantly associated with unintended pregnancy. From the finding single women were about 2 times more likelihood of having unintended pregnancy when compared to married women. This may be attributed to the cultural influence on illegitimate birth to unmarried women in Ethiopia as this is culturally unacceptable in most of the communities.

Conclusion and Recommendations

According to the finding of this study large proportion of women had unintended pregnancy. From the findings of this study age of the women, marital status and educational status of women were independent predictors of unintended pregnancy among women attending Dilla University Referral Hospital, South, Ethiopia. Hence emphasis should be given to young women specially women empowerment needs due attention to reduce the women child bearing at young age. Furthermore, further in depth and large-scale study in order to explore underlying causes and design specific interventions is highly recommended.

Strength and Limitations of the Study

Strengths

- Strong sampling technique
- Successful participation of all expected respondents
- Use of same gender interviewers for increasing response rate

Limitations

- Lack of triangulation with qualitative enquiry to assess some hidden factors
- Recall bias
- Absence of participants from private facilities

Ethical Clearance

Ethical clearance was obtained from Dilla University College of Health Science and School of Medicine ethical review Committee. Letter of permission was obtained from Authorities in the study area and consent was also obtained from the study respondents for the collected data and for future consideration of the publication of the results of the study prior to data collection.

Acknowledgements

We acknowledge Dilla University that covered all the financial and material support for the research. We also acknowledge Gedeo Zone health department and respective health offices for providing us important materials. Lastly, we thank all participants for devoting their time to take part in this study.

Ethical Consideration

Written support letter was obtained from Dilla University, College of Medicine and Health Sciences. After explanation of the purpose of the study for the participants the right of the respondent not to be involved in the study or not to answer the question for which she is do not want was carefully. All interviews took confidentially at place and time chosen by the respondent.

Authors' Contributions

This work was a collaborative effort between all authors. MF, AG, HY and conceptualized the study, managed the literature searches, ran the statistical analysis, interpretation of the data, and wrote part of the first draft of the manuscript. SH assisted in literature searches, ran statistical analysis and managed write up of the result and manuscript. All authors read and approved the final manuscript.

Competing Interests

The authors declare that they have no competing interests.

References

1. Santelli J (2003) The measurement and meaning of unintended pregnancy. Perspectives on Sexual and Reproductive Health 35: 94-101.
2. World Health Organization (2011) Unsafe abortion, global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008, Geneva.
3. World Health Organization (2012) Unsafe abortion incidence and mortality Global and regional levels in 2008 and trends during 1990-2008, Geneva.
4. http://www.who.int/reproductivehealth/publications/unsafe_abortion/9789241596121/en/
5. Frost JJ, Darroch JE, Remez L (2008) Improving contraceptive use in the United States, Guttmacher Institute, New York.
6. Singh S, Sedgh G, Hussain R (2010) Unintended Pregnancy: Worldwide Levels, Trends, and Outcomes. Stud Fam Plan 41: 241-250.
7. WHO (1992) The prevention and management of unsafe abortion. Report of a Technical Working Group.
8. Hussain R (2013) Unintended pregnancy and abortion in Uganda. Guttmacher Institute, New York.
9. WHO (1997) Population reference bureau improving reproductive health in developing countries. A Summary of finding from the National Research Council of US National Academy of science, Washington D.C pp: 1-32.
10. Solomon W, Mesganaw F (2006) Unintended pregnancy and induced abortion in a town with accessible family planning services: The case of Harar in Eastern Ethiopia. Ethiopian Journal of Health Redevelopment 20: 79-83.
11. Ross S (1998) Promoting quality maternal and newborn cares. A reference manual for a Program manager.
12. Sedgh G (2007) Legal abortion worldwide: Incidence and recent trends. International family planning perspectives 33: 106-116.
13. Nations U: Report of the International Conference on Population and Development: Cairo 5-13 September 1994. 1995, New York: United Nations.
14. https://cyber.harvard.edu/population/policies/ETHIOPIA.htm
15. https://dhsprogram.com/pubs/pdf/FR255/FR255.pdf
16. https://dhsprogram.com/pubs/pdf/PR81/PR81.pdf
17. Kassa N, Berhane Y, Worku A (2012) Predictors of unintended pregnancy in Kersa, Eastern Ethiopia, 2010. Reprod Health 9: 1-10.
18. Adu SA (1996) Bio-social profile of women of incomplete abortion in Ga-Rankuwa hospital Medunnsa. Cent Afr J Med 42: 198-202.
19. FMoH (2007) Health extension program in Ethiopia: Federal Ministry of Health. In: HeaE Addis Ababa.
20. Coeytaux FM (1988) Induced abortion in Sub-Saharan Africa: what we do and don't Know. Studies in Family Planning 19: 187-190.
21. Hulton LA, Cullen R, Khaloko SW (2000) Perception of sexual activity and their consequences among Ugandan adolescents. Studies in Family Planning 31: 35-10.