

Prevalence of Unintended Pregnancy and Associated Factors among Pregnant Women Attending Antenatal Clinics in Debre-markos Town, North West Ethiopia 2012

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Abstract

Background: Unintended pregnancies pose serious health risks to mothers and their infants by causing unnecessary high risk of pregnancy related complications and self-induced abortions. Hence, this study estimates (a) The prevalence of unintended pregnancy and (b) Assess associated factors among pregnant women attending antenatal care at health institutions of Debre Markos Town Amhara Regional State.

Methods: A quantitative, cross sectional institutional based study was conducted from April 15 to May 14, 2012 in Debre Markos town health institutions. A systematic random sampling technique was used to select the study units. A total of 413 pregnant women were interviewed using structured questionnaire by 7 trained data collectors and 3 supervisors. Both Binary and multiple logistic regressions were utilized to assess the associations. Strength of associations was presented using odds ratios and 95% confidence intervals.

Result: All recruited 413 subjects responded to the questionnaire making the response rate of 100%. The overall prevalence of unintended pregnancy was 136(32.9%). Being single [AOR (95%CI)=13.489(5.05-36.031)], unemployment [AOR(95%CI)=2.26(1.717-6.05)], not visited by Health extension worker[AOR (95%CI)=3.18(1.70-5.954)], never used FP methods [AOR (95%CI)=1.511(1.50-6.45)], large number of previous pregnancies [AOR(95%CI)=7.45(2.27-24.44)]and not communicate with her husband [AOR(95%CI)=4.38(2.19-8.70)] were found to have statistically significant association with unintended pregnancies.

Conclusion: The large proportions of pregnant women attending ANC have unintended pregnancy. Awareness raising and the continuation of modern contraceptive methods use will reduce unwanted pregnancies' prevalence.

Keywords: Prevalence; Unwanted pregnancies; Antenatal care; Health institution; Ethiopia

Introduction

An estimated 80 million unintended pregnancies occur each year worldwide, resulting in 42 million induced abortions. Twenty millions of these induced abortion performed in unsafe circumstances or by un-trained providers and 34 million unintended births. These Unintended pregnancies have grave consequences for the health and well-being of women and their families, particularly in low and middle income countries where maternal mortality is high and abortions often unsafe [1]. By one or another means, unintended pregnancies contribute a lot to maternal and Child morbidity and mortality [2].

An unintended pregnancy is a pregnancy that is either mistimed (i.e., they occurred earlier than desired) or unwanted (i.e. they occurred when no children, or no more children were desired) at the time of conception [3]. In America half of all pregnancies are reported by women themselves to have been unplanned at the time they became pregnant. That's roughly three million unplanned pregnancies each year out of a total of 6.4 million. More than three-quarters of all unplanned pregnancies occur to women younger than age 30, and 7 in 10 occur to women who are not married [4].

An unintended pregnancy is a potential hazard for every sexually active woman. It is a worldwide problem that affects women, their families, society and their nation. A complex set of social and psychological factor puts women at risk for unintended pregnancy. Abortion is a frequent consequence of unintended pregnancy and, in the developing countries can result in serious long-term negative health effects including infertility and maternal death [5,6]. Unwanted pregnancies pose a major and continuing social and health challenge in

Africa, accounting for more than a quarter of the 40 million pregnancies that occur annually in the region. It is a key risk factor of adverse pregnancy and maternal outcomes, including mortality and morbidity associated with unsafe induced abortions [7].

In Ethiopia, the few surveys conducted on issues related to unintended pregnancy suggested that unintended pregnancy is among the main causes of maternal mortality [8]. Even if fertility declined steadily from 6.8 live births per women in 1981 to 5.4 in 2005 and there is an increase in contraceptive use prevalence. Many women are experiencing unintended pregnancies in Ethiopia. For example, Ethiopian Demographic Health Survey of 2011 reported that 29% pregnancies among women in reproductive age were unintended [9]. Recent studies done in Jimma and South nation and national people shows the prevalence of unintended pregnancy were 39.1% and 42% respectively [10,11]. As a result, significant proportion of women turned to induced abortion to avoid unintended pregnancy. According to Ministry of Health 2006 report, approximately half a million pregnancies annually end in induced abortion among 3.7

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million pregnancies, which is a reflection of the high rate of unintended pregnancy [11].

Unintended pregnancies can result from unmet need for family planning, and Contraceptive failure. The actual rate of unintended pregnancy depends not only on the potential rate of contraception but also on the extent to which women practice contraception and its effectiveness. No unintended pregnancies would occur if all women who wish to avoid pregnancy were to use perfect contraception. Because not all such women practice contraceptive and methods are less than 100% effective. Contraceptive prevalence varies around the world from less than 10% of women of reproductive age in some sub-Saharan countries to around 75% in many developed countries [12].

Unintended pregnancy can pose serious health risks to mothers and their infants causing unnecessary complications. Thus, a better understanding of the magnitude and risk factors of unintended pregnancies will enable policy makers to reduce the obstacles that prevent families from having their desired number of children, and improve maternal and child health. Few studies have examined the child spacing and fertility planning behavior of women in a rural setting in Ethiopia where fertility is too high and unintended pregnancies are widespread. Thus, the objective of this study was to examine the prevalence of unintended pregnancy and associated factor in Debre Markos town North West Ethiopia.

Methods

Study design, Study area and period

Institutional based cross-sectional quantitative study was conducted among pregnant women who were attending antenatal clinic at health institutions of Debre Markos town from April 15-May 14, 2012. Debre-markos town is found in Amhara national regional state and is located 300 km North West of Addis Ababa. According to the 2007 Ethiopian census report, Debre Markos has a total population of 62,469 and more than half (32,568) of them are females [13]. Out of these the number of child bearing women (15-49 years) was 23.66% (13,806). From the total of 62,469, 2.75% (2374) were pregnant mothers.

Sampling

The sample size was determined by using a single population proportion formula considering the prevalence unintended pregnancy among pregnant women was 42% [11] and Level of significance to be 5% ($\alpha=0.05$), $Z_{\alpha/2}=1.96$. By taking 10% of non-response rate the minimum final sample size was 413.

Data collection

Data were collected by face to face interview using a structured and pre-tested questionnaire. Seven diploma midwives were used to collect data from April 15 to May 15, 2012. Three Nurses from Debre Markos hospital were assigned to supervise the data collection process. Both the data collectors and supervisors were given two days intensive training about the aim of the study, procedures, and data collection techniques by going through the questionnaire, and the art of interviewing.

Data quality control

The quality of data was assured by proper designing and pre-testing of the questionnaires in one of the health center other than the selected health center. Training was given for the data collectors and supervisors before the actual data collection. Every day after data collection, questionnaires were reviewed and checked for completeness and relevance by the supervisors and principal

investigator and the necessary feedback was offered to data collectors in the next morning.

Data processing and analysis

The returned questionnaires were checked for completeness, cleaned manually and entered in to EPI INFO version 5.3.1 statistical software and then transferred to SPSS windows version 16.0 for further analysis. Frequencies and cross tabulations were used to summarize descriptive statistics of the data and tables and graphs were used for data presentation. Bivariate analysis was used primarily to check which variables have association with the dependent variable individually. Variables found to have association with the dependent variables (p -value <0.02) were then entered in to Multiple Logistic regression for controlling the possible effect of confounders and finally the variables which have significant association were identified on the basis of OR, with 95% CI.

Ethical consideration

Ethical clearance was obtained from Institutional Review Board (IRB) of University of Gondar. Formal letter of cooperation was written for east Gojam Zone Health Office. Permission from where the health Office and respective health centers was obtained. Each respondent was informed about the objective of the study. Informed verbal consent was obtained from all study participants by reading written Informed consent form, prior to starting of the interview. All the study participants were assured that the data will be anonymous, names or any personal identifiers would not be recorded and also clearly told about the study and the variety of information needed from them. Participants were given the chance to ask any doubt about the study and made free to refuse or stop the interview at any moment they want. Health education on prevention of unintended pregnancy and other information was given for the participants during interview.

Results

Socio-demographic characteristics of the study participants

A total of 413 currently pregnant women were responded to the questionnaire which yields a response rate of 100%. From the total respondents, 162 (39.2%) were in the age range of 25-29 years with the mean age of 25 years ($SD \pm 1.07$). About 33.4% of respondents got married at ages between 20 and 22 years. Concerning marital status the majority of respondents 321 (77.8%) was reported to be married. Among the respondents 165 (40%) were housewives. More than one-third of the respondents 160 (38.7%) listened to the radio and watched TV (Table 1).

Table 1: Socio-demographic characteristics of study participants Debre Markos town, North West Ethiopia, 2012.

Name of the variable	Frequency (%)
Age of respondents	
15-19	34 (8.2)
20-24	126 (30.5)
25-29	162 (39.2)
30-34	57 (13.8)
35-39	26 (6.3)
40-44	7 (1.7)
<10	4 (1.0)
	14 (3.4)
15-19	125 (34.0)

20-22	138 (33.4)
23 +	87 (21.1)
Ethnicity	
Amhara	390 (94)
Tigre	9 (2.2)
Oromo	6 (1.5)
Others	8 (1.9)
Marital status	
Married	321 (77.8)
Never married	67 (16.2)
Divorced/Separated	18 (4.3)
Widowed	7 (1.7)
Occupation	
House wife	165 (40.0)
NGO	117 (28.3)
Farmer	42 (10.2)
unemployment	89 (21.5)
Educational status	
Cannot read and write	153 (37)
Primary and high school	185 (42.4)
Diploma and above	85 (20.6)
Mass media exposure	
Only radio	68 (16.5)
Only TV	114 (27.6)
Both TV and radio	160 (38.7)
Nothing	71 (17.2)

Reproductive and socio-cultural characteristics of the respondent from Debre-markos town

Two hundred seventy seven (67.1%) of women reported that their current pregnancy was wanted, 98 (23.8%) said it was mistimed while the remaining 38 (9.1%) stated their current pregnancy was not wanted. This means that the magnitude of unintended (mistimed and unwanted) pregnancy among the study population was 32.9% (Figure 1).

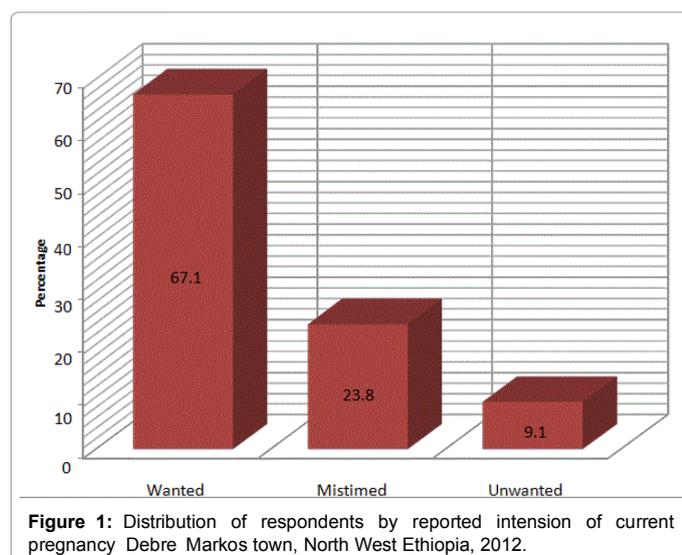


Figure 1: Distribution of respondents by reported intension of current pregnancy Debre Markos town, North West Ethiopia, 2012.

Concerning fertility preferences, 209 (50.6%) said did not want any more children. Out of the total respondents only 174 (42.1%) had autonomy on decision of their own health care need and how to spend own earned money. More than three fourth of the respondents

332 (80.4%) have reported that the distance between nearest family planning services and their houses is less than one hour (Table 2).

Table 2: Reproductive and socio cultural characteristics of study participants Debre Markos town, North West Ethiopia, 2012.

Name of the variable	Frequency (percent)
Number of living children	
0	225 (54.5)
1-3	166 (40.2)
4-5	16 (3.9)
6 and above	6 (1.5)
Fertility preferences	
Need more child (ren)	146 (35.4)
Do not need more children	209 (50.6)
Up to god	48 (11.6)
Not applicable	10 (2.4)
Number of previous pregnancy	
<2	308 (74.6)
3-4	79 (19.1)
5+	26 (6.3)
Spousal communication	
Yes	258 (62.5)
No	99 (24.0)
No husband	56 (13.6)
Visit by FP workers	
Discussed	168 (40.7)
Not discussed	245 (59.1)
Wantedness of current pregnancy	
Wanted	277 (67.1)
Mistimed	98 (23.8)
Unwanted	38 (9.1)
Travel time to FP source	
<1 hour	332 (80.4)
1-2	41 (9.9)
>2 hours	48 (9.7)
Women's autonomy	
Autonomous	174 (42.1)
Not autonomous	239 (57.9)

Concerning Knowledge of contraceptive 292 (70.6%) of the respondents knew at least one modern contraceptive method and 302 (73.2%) knew at least one source of modern contraceptive methods. Among all respondents 300 (72.6%) had ever used any family planning method.

Among victims of unintended pregnancies the most frequent response given as the reasons of failure to avoid unintended pregnancies were, the lack of awareness 45 (31.5%), method failure 39 (27.2%). For the question whether modern contraceptive was against their religion 279 (67.6%), replied yes (Table 3).

Table 3: Family planning knowledge and practice among respondents Debre Markos town, North West Ethiopia, 2012.

Background characteristics	Frequency (%)
Heard about FP	

Yes	396 (95.9)
No	17 (4.1)
Gap preferred to have between consecutive pregnancy two	
Two or more years	363 (87.9)
Less than two years	37 (8.9)
I don't know	13 (3.1)
No opinion	219 (53.0)
Knowledge of MC source	
Yes	302 (73.2)
No	111 (26.8)
Knowledge of MC method	
Knowledgeable	292 (70.6)
Not Knowledgeable	121 (29.3)
Knowledge of advantages of MC	
Knowledgeable	337 (81.6)
Not Knowledgeable	76 (18.4)
MC against your religion	
Yes	279 (67.6)
No	134 (32.4)
Knowledge of Emergency Contraception	
Yes	215 (52.1)
No	85 (20.6)
Do not know	113 (27.4)
failure to avoid unintended pregnancy	
lack of awareness about FP	45 (31.5)
method failure	39 (27.2)
poor access to contraceptives	27 (16.8)
husband or partner disapproval	24 (5.6)
Others	8 (18.9)

Factors associated with unintended pregnancies among pregnant women attending ANC Debre-markos town, North West Ethiopia, 2012

On the bivariate analysis, age of respondents, marital status,

educational status, occupational status, ideal family size, family planning knowledge, distance from the nearby health center, Fertility preference, higher order of pregnancy, ever use of family planning, health extension workers visit, spousal communication were identified to be significantly associated with unintended pregnancy. However, only marital status, occupation, health extension workers visit, spousal communication, ever use of family planning method and higher order of pregnancy were remained significantly associated with unintended pregnancy at the multiple logistic regression analysis.

Marital status was shown to be significantly associated with unintended pregnancy. Being single was a significant risk for unintended pregnancy. Singles women were about 13.4 times at higher risk of having unintended pregnancy when compared with married (AOR=13.486 95% CI (5.05-36.031)). In addition, those women who do not discuss about modern contraceptives with their husband were 4.38 times more likely to report their current pregnancy as unintended as those women who discuss about modern contraceptives with their husband (AOR 4.38 95% C.I (2.19-8.70)). This study also showed that as husband-wife communication increased on contraceptive method there is a decrease in the number of unintended pregnancy when compared with those women who did not communicate with their husband. Women who have never used family planning are nearly one and half times more likely (AOR, 1.51; 95% CI, 1.50-6.45) to report unintended pregnancy as compared to women who have used family planning. Similarly, those who were not visited by health extension workers during a reference period of 12 months are 3.18 times more likely to experience unintended pregnancy compared to those who were visited by health extension worker (AOR, 3.18; 95% (1.70-5.954)). Furthermore, the study revealed that occupation and higher order of pregnancies were significantly associated with the unintended pregnancy. But variables like educational status of the women, age of the women, age at first marriage, mass media exposure, travel time to nearest health station, income, knowledge of family planning method and some others which are significant or/and p-value<0.02 in Bivariate analysis were not statistically significant with unintended pregnancy at the multiple logistic regression analysis (Table 4).

Table 4: Multiple logistic regression output showing out put on unintended pregnancy among pregnant women attending antenatal care at Health Institutions of Debre markos Town, Northwest, Ethiopia, 2012.

Variable	Intended	Unintended	COR(CI)	AOR(CI)
Marital status				
Married	255	66	1	1
Never married	14	53	14.625(7.65-27.967)	13.489(5.05-36.031)*
Divorced/Separated/Widowed	8	17	9.273(3.156-27.246)	6.61(1.608-27.176)
Education status				
Cannot read and write	65	88	5.94(2.454-14.39)	2.678(0.723-.992)
Primary education	32	51	6.99(2.86-17.05)	2.12(0.761-5.91)
High school	32	60	9.00(3.75-21.56)	2.41(0.852-6.86)
Diploma and above	7	78	1	1
Occupation status				
Gov and non gov	18	99	1	1
House wife	30	135	1.22(0.64-2.31))	341(0.137-.854)
Farmer	23	19	6.65(3.02-14.65)	1.08(0.331-3.58)
Unemployment	65	24	14.89(7.49-29.59)	2.26(1.71-7.605)**
Visit by HE				
Yes	21	147	1	1
No	115	130	6.19(3.67-10.43)	3.18(1.70-5.954)**
Ever use of family planning				
Yes	67	233	1	1
No	69	44	5.45(3.42-8.68)	1.511(1.50-6.45)**

Spousal communication				
Yes	32	226	1	1
No	104	52	7.2(4.19-12.37)	4.38(2.19-8.70)**
Higher order of pregnancy				
<2	102	206	1	1
3-4	16	63	0.513(0.282-933)	0.562(0.237-1.332)
5 and above	18	8	4.54(1.91-10.80)	7.45(2.27-24.44)*
Desired number of children				
1-3	151	90	1	1
4-5	114	36	0.489(0.303-789)	0.685(0.333-1.411)
6+	12	10	0.749(0.255-2.199)	0.86(0.013-.546)
Distance from the nearby health center in both trip				
<1	103	229	1	1
1-2	19	22	1.92(0.996-3.702)	1.44(0.591-3.519)
>2	14	26	1.197(0.600-2.387)	0.771(0.286-2.082)

Discussion

The magnitude of unintended pregnancy observed in this study is slightly higher than that reported by the 2011 Ethiopian demographic health survey for the national level of 29% [9]. Analysis of demographic health survey data from developing countries has showed that the magnitude of unintended pregnancy in developing countries ranges from 14% to 62% of pregnancies [14]. The relatively higher level of unintended pregnancy observed in this study, as compared to the report of EDHS, which might be due to differences in the study setting where the present study focused only on pregnant women attending ANC at the health institution. A larger proportion (32.9%) of the unintended pregnancy reported in this study is those which happened earlier (mistimed pregnancy) than those not wanted at all showing that most pregnancies occur sooner than women wanted.

It is also observed that women had some reasons for the failure to avoid the reported unintended pregnancy. Lack of knowledge and method failure account about 58.7% of the reasons given by the respondents, which seems at first glance contradicting with the observed relatively high knowledge of contraceptives methods. Sources of these methods noted but it indicates that the knowledge of method was superficial and could not enable these women to prevent themselves from having unintended pregnancy. The gap observed between knowledge and practice in different studies can be the other possible explanation [8]. On the other hand husband or partner disapproval and difficulty to get the method were the main obstacles for the prevention of unintended pregnancy following lack of awareness. This result is supported by the result of the study conducted in Amazon basin of Ecuador reasons for the failure to avoid the reported unintended pregnancy where method failure. Disapproval by husband were identified to be the main reasons for not to avoid unintended pregnancy [15].

Determinants of unintended pregnancy

This study found out that marital status of the women was found to be significantly associated with unintended pregnancy. The odds of unintended pregnancy were higher among never married 13.5 times more likely to have unintended pregnancy when compared to those whose women marital status was married. This could be due to single women might be at higher risk of unexpected sex by the fact that there is not yet established stable union. In single women, it is most likely that they would have unintended pregnancy as compared to married women. This result is in line with the result of studies done in Harar where marital status was found to be a determinant of a woman

experiencing unintended pregnancy. Women who were single are 1.75 times more likely to report unintended pregnancy when compared to those who were married [8]. On the other hand, this result is not in line with the result of the study done in Jimma where marital status was not significant determinant of unintended pregnancy.

The study has also indicated decreased risk of facing unintended pregnancy with increased visits by health extension worker. Women who were not visited by health extension worker are 3.18 more likely to report unintended pregnancy when compared to those who were visited by health extension worker. This is in line with study done in Damot gale district, southern Ethiopia those who was not visited by health extension worker are about 70% more likely to have unintended pregnancy when compared to those visited by health extension worker [16].

Some studies also indicated that health extension worker have an important effect on reproductive behavior. This is related to their role in providing women with knowledge on family planning and increasing current use of contraceptive which may result in low percentage age of unintended pregnancy [17].

Use of Family planning method is another important variable associated with unintended pregnancy. Women who have never used family planning were 1.51 times more likely to report unintended pregnancy as compared to women who have used family planning methods. This result is supported by the result of the study conducted in Jimma where women who have never used family planning were 4.53 times more likely to report unintended pregnancy as compared to women who have used family planning methods. It is known that non-use of family planning and contraceptive failure are among the main causes of unintended pregnancy [12]. It was reported that 78% of unwanted pregnancies were attributable to contraceptive non-use, incorrect use, or method failure in Ethiopia [18]. Many other similar studies have reported the effect of contraceptive non-use on pregnancy planning behavior of women [5,11,16].

Higher orders of pregnancies are also associated with women's experience of unintended pregnancy. Women who have five and more previous pregnancies were 7.45 times more likely to experience unintended pregnancy than those women who have less than two pregnancies.

This result is in line with the result of the study done in Harar and Bangladesh where higher order of pregnancy was significant determinant of unintended pregnancy. Women who have >4 children

were 1.5 and 4.31 times respectively more likely to experience unintended pregnancy compared to those who were <2 children. Women with fewer pregnancies were less likely to report having unintended pregnancies and this is in agreement with the fact that as family size increases, unintended pregnancy tends to increase [8,18]. Women with large number of living children are more likely to report their previous birth as unintended. This may be due to the fact that women who have attained their desired number of children will regard any additional child as unwanted. Studies from Nigeria have also reported that higher parity is associated with women's experiences of unintended pregnancy [18].

Spousal communication was also shown to be another important variable significantly associated with unintended pregnancy. Those women who do not discuss about modern contraceptives with their husband were 4.38 times more likely to report their current pregnancy as unintended as those women who discuss about modern contraceptives with their husband. This study also showed that as husband-wife communication increased there is a decrease in the number of unintended pregnancy when compared with those women who did not communicate with their husband. This result is in line with the result of study done in Wolayta where spousal communication was found to be a determinant of a woman experiencing unintended pregnancy women who do not discuss about modern contraceptives with their husband were 43% times more likely to report their current pregnancy as unintended as those women who discuss about modern contraceptives with their husband [16]. This implies that male involvement have an important role on the prevention of unintended pregnancy.

In the multiple logistic regression analysis the other factor remained statistically associated was occupation of the respondents. The odds of unintended pregnancy among unemployed were 2.26 times more likely when compared to government or NGO employ. This result is in agreement with the result of study done in Nepal where occupation was found to be a determinant of a woman experiencing unintended pregnancy [5]. The possible justification for this might be government employs are more of educated and as educational level increases the confidence in seeking and interacting with service provider also increased so the use of modern contraceptive increases.

Conclusion

The prevalence of unintended pregnancy is high and well above the national average. The women's occupation, spousal communication, visit by FP workers, use of family planning method and higher order of pregnancy were significant predictors of unintended pregnancy in Debre-markos town. Common reasons given by mothers for not avoiding unintended pregnancy were lack of awareness, difficulty to get the method, husband or partner disapproval and method failure.

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