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Unintended Pregnancy: Magnitude and Associated Factors among Pregnant Women in Arba Minch Town, Gamo Gofa Zone, Ethiopia, 2015

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Abstract

Background: Unintended pregnancy is an important public health challenge in many corner of the world especially in developing countries. Different efforts have been applied to reduce unintended pregnancy, but it is still increasing in Africa specifically in Ethiopia. Therefore, the aim of this study was to identify the magnitude and associated factors of unintended pregnancy among pregnant women in Arba Minch town, Southern Ethiopia.

Methods: A community based cross-sectional study design was conducted from February 15th to March 11th 2015 among 288 randomly selected pregnant women. Data on demographic and other risk factors of unintended pregnancy were collected using semi-structured questionnaire. The result was analyzed by using SPSS version 20. Logistic regressions employed to assess the relationship between dependent and independent variables. Level of significance determined at p-value <5%.

Results: Magnitude of unintended pregnancy was 19.4%. This problem was affected by different factors positively or negatively. Predictor like age at first marriage ≤18 and husband refusal to use family planning were found to be positively associated with unintended pregnancy as evidenced by statistical result of [AOR=4.60 (95%CI):(2.88, 7.34)] and [AOR=3.5 (95%CI):(1.97, 6.24)] respectively. On the other hand, knowledge on family planning [AOR =0.40 (95%CI) :(0.075, 0.37)] and utilization of family planning [AOR=0.35 (95%CI): (0.20, 0.61)] were found to be protective factors for unintended pregnancy.

Conclusions: The magnitude of unintended pregnancy was relatively high in this study. Age at first marriage, husband refusal to use family planning, lack practicing family planning and knowledge about family planning were determinants of unintended pregnancy. Therefore, well-tailored family planning, and organized family discussion education program targeting both women and men should be initiated.

Keywords: Pregnant women; Unintended pregnancy; Arba Minch town

Abbreviations: AOR: Adjusted Odd Ratio; AMU: Arba Minch University; CI: Confidence Interval; EDHS: Ethiopia Demography Health Survey; FP: Family Planning; SD: Standard Deviation; SNNPR: South Nation Nationality People Region

Introduction

Unintended pregnancies are pregnancies that are either unwanted (occurred when no children were desired) or mistimed (pregnancy occurred earlier than desired [1]. It is a worldwide problem that affects societies more importantly women's, and their families due to the negative consequences for both mothers and children [1-5]. Unintended pregnancies particularly among women in developing countries and poor individuals are linked to elevated maternal morbidity and mortality [4-10].

It is an important public health challenge in many countries; especially in developing countries [7-13]. Around 1,600 mothers and 10,000 newborns died from complication of pregnancy and child birth. Among those, half of pregnancies are unintended and about one – fourth are unwanted [4]. In the world 213 million pregnancies occurred in 2012, 40% of them were unintended in which 50% ended up with abortion, 38% with unplanned birth and 13% with miscarriage [8].

In Ethiopia a national survey in 2013 stated that the prevalence of unintended pregnancy was 24% [11], while in Southern Ethiopia it was found to be about 43% [14]. Specifically in Hosanna town it was 34% [13]. High prevalence of unintended pregnancy occurs due to the high unmet need for family planning [15-21]. According to report of the Ethiopian Demographic and Health Survey 2011, 25% of married women had an unmet need for family planning. On the other hand 9% of births were not wanted and 16% of births were mistimed [1].

Most of women with unintended pregnancy were exposed for abortion due to the need to avoid their pregnancy [10,17,20-25]. Indeed; induced abortion, spontaneous abortion and unintended

births are the impacts of unintended pregnancy [8,26-28]. There are also a lot of negative outcomes, from these adverse prenatal behaviors, postpartum depression and poor child psychosocial development are common [4,10,17].

Low contraception use, gender norms and sexual abuse or coercion and less access to other reproductive health services are high and may contribute for occurrence of unintended pregnancy [28-30]. In addition, many women in Ethiopia do not have the knowledge about availability of reproductive health service especially family planning services [1,5,21]. Hence; the major factors contributing for occurrence of unintended pregnancy is not clearly understood. Available evidence showed that identification of factors contributing for unintended pregnancy is crucial for prevention and management of unintended pregnancy [15,31]. Therefore, the aim of this study was to assess magnitude and associated factors of unintended pregnancy in Arba Minch town, Gamo Gofa Zone, Ethiopia.

Methods

Study setting, design and period

This community based cross-sectional study was conducted in Arba Minch town from 15th February to 11th March 2015. Arba Minch is the administrative center of Gamo Gofa zone with a total population of 108,956 (53,388 male and 55,568 female) [32]. Health extension worker repot indicated 3,770 pregnant women were present in the study area at the study time.

Sample size determination and sampling technique

Sample size was determined using single population proportion formula by considering P-value of 26% from previous research [2] 95% confident interval (CI), and 5% margin of error.

$$n = \frac{Z^2\,\alpha/2.P(1-P)}{d^2}$$

Where,

n=the required minimum sample size

z=Level of confidence 95%, Zα/2=1.96

d=Margin of error, assumed to be 5%

p=Prevalence of unintended pregnancy

$$n = \frac{1.96^{*}1.96^{*}0.26(1-0.26)}{0.05^2} = 296$$

By considering 5% non-response rate the final sample size was 311.

In Arbaminch town, there are eleven kebeles, and 5 of them were selected by using simple random sampling techniques. Based on the number pregnant women during the study area, the total sample size was proportionally allocated to each selected kebeles. Then, census was carried out and numbering was given for each house. The participants were selected by table of random based on the house number. Finally, interviewing of the mothers was carried out in each selected house hold. When two and above pregnant mothers were found within one house lottery method was used to identify the participants.

Data collection techniques and measuring tools

After reviewing of the relevant literature, the questionnaire was adapted as appropriate to address the study objectives. Primarily the questionnaires were prepared in English and translated to local language (Amharic) and the Amharic version was used for interview. Finally, five data collectors, who were diploma holders, know the local language, and resident of the study were selected to interview the mothers at the exit time from 15th February to 11th March 2015.

Household wealth was assessed using selected assets previously applied by studies in similar context [1]. Principal component analysis (PCA) was used to translate the asset information into latent factors, and the first PCA factors explaining most of the variation was taken as wealth score. The wealth score was divided into quintiles that were subsequently aggregated in to low (the lowest two quintile), middle (the middle tow quintiles), and the highest (the upper quintile) wealth categories. The WHO instrument for family planning and Feten X were used to assess availability of reproductive health services, family planning utilization, and knowledge about modern contraceptive. Ten knowledge questions were asked about the modern family planning. The response given for each question was coded '1' for correct answers and '0' for incorrect answers or 'I don't know'. Then, based on the sum of their responses to all questions, subjects were categorizing as knowledgeable (scored >8/10) and Non-knowledgeable (scored <8/10).

Data quality assurance

Questionnaire was prepared in English and translated to Amharic, and retranslated back to English to make sure the consistency of the questionnaire. Pre-test of the tool was performed outside the study area to readjust the questionnaire. Intensive training for data collectors was given for two days. Continues supervision of data collection process was carried out to assure the quality of data. Finally, the collected data was carefully checked on daily basis for completeness, outlier and missing value as well as consistencies.

Data analysis

The collected data were cleaned, coded and entered into Epi Data 3.1 statistical software package. The statistical analysis was done using SPSS version 20. Frequency distribution for selected variables was performed. The statistical significance and strength of the association between independent variables and an outcome variable was measured by bivariate logistic regression model. A variable P value less than 0.25 was transferred to multivariable logistic regression model to adjust confounders' effects and a p value less than 0.05 was considered as significantly associated in this model. Finally, the results of the study were presented using tables, figures and texts based on the data obtained.

Ethical clearance

The study was approved by the Scientific Ethical Review Committee of Arba Minch, and Arba Minch two health office. Informed consent was obtained from women after detailed explanation of the purpose of the study. Any involvement of the mothers was after their complete consent. Mothers were told as they would have the right to withdraw from the study at any time during the interview.

Result

Socio-demographic profiles

From a total 311 pregnant women, 288 of them participated in this study with a response rate 95.4%. The mean (SD) age of the study subjects was 27.32(±5.85) years. Among all respondents, 91(36.1%) of them were in the age group of 25-29 years. Regarding to ethnicity, 231 (80.2%) of them were Gamo. As to the religion, 184 (63.9%) of participants were protestant. One hundred seventy five (60.8%) participants were house wives. From all respondents, 282 (97.9%) of them were unmarried. In relation to the husband occupational status, 113(39.2%) of them were government employers (Table 1).

Variables	Response	Frequency	Percent
Age (mean=27.32 ± 5.852)	15-19	17	5.9
	20-24	85	29.5
	25-29	91	31.6
	30-34	55	19.1
	35+	40	13.9
Religion	Protestant	184	63.9
	Orthodox	87	30.2
	Muslim	13	4.5
	Others	4	1.4
Occupational status of mother	House wife	175	60.8
	Governmental employee	45	15.6
	Merchant	57	19.8
	Others	11	3.8
Marital status	Married	282	97.9
	Unmarried	6	2.1
Husbands occupational status	Farmer	84	29.2
	Governmental employee	113	39.2
	Merchant	67	23.3
	Others(tailor, taxi driver)	22	7.6

Table 1: Sociodemographic profiles of study participants in Arba Minch town, 2015.

Obstetric history

Among all respondents, 117 (40.6%) of them were 18 and above years of age at time marriage. Seventy eight (27.08%) and 174 (60.4%) pregnant mothers were prim-gravid and multi-gravid respectively (Table 2).

Variables	Response		Frequency	Percent
Age at 1st marriage	<18	117		40.6
		171		59.4
Number of pregnancy	1	78		27.08
	02-Mar	138		47.9
	04-May	53		18.4
	>5	19		6.6
Number of birth	0	79		27.4
	01-Feb	140		48.6
	03-Apr	51		17.7
	>5	18		6.2

Table 2: Obstetric history of study participants in Arba Minch town, 2015.

Family planning related issue

About 115 (39.9%) of the respondents were non-knowledge about modern contraceptive while the rest 173 (60.1%) were knowledgeable about family planning. Regarding to discussion about family planning, 193 (67%) of the participants didn't discuss with their husband but the rest 95 (33%) of pregnant mothers had discussion about family planning with their husbands. Seventy two (25%) participants' husband refused contraceptive utilization. Among all participants, fifty three (18.5%) of them had history of discussion with religion leaders about family planning issue. Eighty nine (30.9%) participants' religious leader refused planning utilization. Regarding to family planning utilization, 89(31%) of pregnant mother had history of family planning services utilization while the rest 199 (69%) of pregnant mother had not (Table 3).

Knowledge about family planning	Response	Frequency	Percent
	Less knowledgeable	115	39.9
	More knowledgeable	173	60.1
Information source for FP	Health center	271	95.7
	Hospital	126	44.5
	Friends	115	40.6
	Mass media	124	43.8
Discussion with husbands about FP	No	193	67
	Yes	95	33
Husbands refusal to use FP	No	216	75
	Yes	72	25
Discussion with religious leaders about FP	No	235	81.6
	Yes	53	18.4
Religious leaders refusal to use FP	No	199	69.1
	Yes	89	30.1

Discuss with family members about FP	No	231	80.2
	Yes	57	19.8
Family members refusal to use FP	No	256	88.9
	Yes	32	11.1
Practicing of family planning	No	199	69
	Yes	89	31

Table 3: Family planning related issue of study participants in Arba Minch town, 2015.

Prevalence of unintended pregnancy

Among all participated mothers, fifty nine (19.4%) of them had unintended pregnancy whereas the rest 229 (80.6%) of them had intended pregnancy (Figure 1).

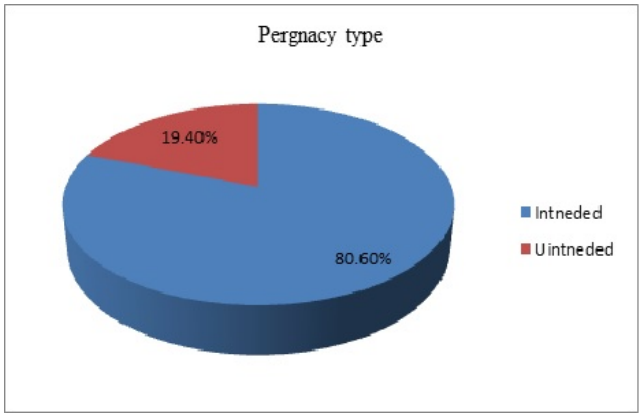

Figure 1: Prevalence of unintended pregnancy among reproductive age women in Arba Minch town, 2015.

Factors associated with unintended pregnancy

In bivariate analyses, unintended pregnancy was significantly associated with family planning utilization, wealth index, age at first marriage, husband and religious leader refusal to use FP, discussion with husband about family planning, knowledge about FP, and practicing family planning. Finally, in multivariable logistic regression model age at first marriage, knowledge about family planning, husband refusal to use FP and utilization of family planning were significantly associated with unintended pregnancy in this study (Table 4).

Variable		Untendered pregnancy		COR(95%CI)	AOR (95%CI)
		Yes (%)	No (%)		
Marital status	Married	4.9	95.1	1	1
	Not married	27.6	72.4	2.13(1.5,8.8)	3.3(0.80, 14.14)
Wealth index score	Low	7.9	92.1	4.83 (1.10, 4.28)	4.0 (0.26, 12.95)
	Medium	15.6	84.4	2.17 (2.37, 9.85)	0.74 (0.32, 1.72)
	High	29.2	70.8	1	1
Age at first marriage	<18	41.1	58.9	3.73 (2.60, 5.33)	4.60(2.88, 7.34)*
		19	81	1	1
Knowledge about family planning	Less knowledgeable	25.5	74.5	1	1
	More knowledgeable	6.6	93.4	0.2 (0.11, 0.37)	0.40(0.075,0.37)*
Discussion with husbands about FP	No	7.7	92.3	1	1
	Yes	35.5	64.5	2.24 (1.37, 3.66)	2.26 (0.23, 4.14)
Husbands refusal to use FP	No	5.5	94.3	1	1
	Yes	19.6	80.4	2.8 (1.53,5.107)	3.5 (1.97, 6.24)*
Religious leaders refusal to use FP	No	14.1	85.9	1	1
	Yes	31.4	68.6	3 (1.83,4.107)	2.8 (0.01,6.17)
Utilization of family planning	No	12.4	87.6	1	1
	Yes	30.1	69.9	0.16 (0.07, 0.37)	0.35 (0.20,0.61)*

Table 4: Determinants of unintended pregnancy among pregnant women in Arba Minch town, 2015.

In relation to age at 1st marriage, pregnant mothers who had marriage before 18 years old were 7 times [AOR (95%CI)=4.6 (2.88, 7.34)] at risk of untended pregnancy than pregnant mother who had marriage ≥18 years old. Pregnant mothers who were knowledgeable about family planning were less risk for unintended pregnancy as compared with non-knowledgeable mothers. In this regard, 40% reduction [AOR (95%CI)=0.40 (0.075, 0.37)] of unintended pregnancy was observed in knowledgeable women as compared to non-knowledgeable mothers. Likewise, pregnant women who had partner refusal for contraceptive utilization were six times [AOR (95%CI)=3.5 (1.97, 6.24)] at risk for unintended pregnancy than women who had no partner refusal to use FP. In addition to the above predictors, family planning utilization was also identified as an independent predictor of unintended pregnancy as evidenced by statistical result of [AOR (95%CI)=0.35 (0.20, 0.61)] (Table 4).

Discussion

This community based cross-sectional study with the objective of assessment of magnitude and associated factor of unintended pregnancy was carried out in Arba Minch town, Gamo Gofa Zone, Southern Ethiopia.

As to its 1st objective, the prevalence of unintended pregnancy in this study was 59(19.4%). This was slightly lower than the study

conducted in EDHS 2011, Harer, Gonji, Hossana, Damot Gale, and North West of Ethiopia [1,2,11,13,14,21,22]. This may be attributed to the time difference that may bring improvement in availing, accessing and utilizing reproductive health care service. On the other hand this study finding was higher than the study done in Senegal [12]. This might be due socio demographic and reproductive health services utilization difference.

In theory wealth index is at the door steps of everyone, but this study indicated wealth index of the respondents was not associated with unintended pregnancy. This finding was inconsistent with studies conducted in Harer, Gonji, Hossana, Damot Gale, and North West of Ethiopia in which women from the poor family showed a positive association with unintended pregnancy [2,11,13,14,21,22]. This difference may be explained by the fact that variation in economical and social-demographic factors as well as difference in sample size and designs in each respective studies.

In this study age at first marriage <18 years was positively associated with unintended pregnancy as compared to age at first marriage ≥18 years. It is similar with the study conducted in Gonji and India [21,29]. This could be due those who married in early age would less likely to attend and complete formal education which are vital for acquiring knowledge about family planning and seeking reproductive health services for the reduction of unintended pregnancy. It can be also explained by the fact that in most instances women at this age have not sufficient knowledge for contraceptive utilization, and they were ashamed to take reproductive health services at younger age.

Unintended pregnant was significantly lower among knowledgeable women about family planning as compared to non-knowledgeable mothers. This study was similar with study from Ethiopia and India [1,29]. This might be due to women who were non- knowledgeable were less likely to know the available, accessible and important of reproductive health services, and more likely to complain with minor side effects therefore, less likely to use method correctly and they may practice unplanned sex.

Similarly, husband refusal for family planning utilization had positively associated with unintended pregnancy. In this regard, women who had husband refusing family planning utilization were more likely exposed to unintended pregnancy as compared to those were not. The result was in line with the studies in EDHS 2011, Harer, Damot Gale, Gonji and North West of Ethiopia [1,2,14,21,22]. The possible reason can be related to lack of house hold decision, and knowledge about the consequences of unintended pregnancy and unplanned family.

Family planning utilization history has been associated with unintended pregnancy. In this aspect, 35% reduction of unintended pregnancy was observed in mother who had history of family planning utilization as compared to mother who had no history of family planning utilization. This may be happen due to the effect of family planning utilization on determination of the number of children a woman wishes to have, including the choice to have no children, as well as the age at which she wishes to have them.

Conclusion and Recommendation

The magnitude of unintended pregnancy was relatively high in this study. This problem was determined by age at first marriage, husband refusal to use family planning, lack of family planning utilization and knowledgeable about family planning. Therefore, well-tailored family planning service delivery system and organized family discussion education program targeting both women and men should be established in this study setting.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contribution

All the authors designed, collected and analyzed the data, and wrote the manuscript, and also participated in revision of the manuscript and data analysis as well as conceived the study and reviewed the draft manuscript. All authors read and approved the final manuscript.

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