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Unplanned Pregnancy: Prevalence and Associated Factors among Antenatal Care Attending Women in Bale Zone, Oromiya Region, Southeast Ethiopia: A Facility - based Cross Sectional Study

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Abstract - Background: Unplanned pregnancy is one of the major reasons that expose women for unsafe abortion in most developing countries. Unplanned pregnancies have negative consequences on the women themselves, for their children, siblings and the societies as a whole. So far, no study was conducted in the zone related to the prevalence and associated factors of unplanned pregnancy. Therefore, this study assessed the prevalence of unplanned pregnancy and associated factors among pregnant mothers attending antenatal care at Bale Zone Hospitals, Oromiya Region, Southeast Ethiopia.

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Results: From the total respondents, 135(37.3%) faced unplanned pregnancy (97(26.9%) mistimed and 38(10.6%) were unwanted). The main reasons of facing unplanned pregnancy was forgetting taking contraceptive 35(25.93%), husband preference 31(22.96%) and religious prohibition 17(12.6%). Thus, forgot taking contraceptive, husband preference and religious prohibition were among the main reason for being unplanned pregnancy. Age of the respondents, educational status of the respondents and their husband, occupation of the respondents and their husband, decision making style in household, time elapsed to reach near health facility providing contraceptives, ever utilizations of any types of contraceptive methods, having child before and number of children they have were the independent variables that significantly associated with unplanned pregnancy.

Conclusions: Findings of this study indicate unplanned pregnancy is the major reproductive health problems in the

study area. Educational status of the respondents and their husband, occupation of the respondents and their husband, decision-making style in household and time elapsed to reach near health facility providing contraceptives were some of the variables that need great considerations. Therefore, Town Health Offices, Bale Zone Health Department and Oromiya Health Bureau should have to work together on those and other variables to decrease the magnitude of unplanned pregnancy.

Keywords: unplanned pregnancy, unsafe abortion, associated factors.

I. BACKGROUND

Unplanned pregnancies have a negative consequence on the women themselves, for their children, siblings and the society as a whole. Because pregnancy exposes women especially, poor women to health risk, simply by increasing the numbers of pregnancies and the delivery in their lifetime (1). On the other hand, unplanned pregnancy is one of the major reasons that expose women for unsafe abortion that results about 125,000 – 200,000 female deaths annually in developing countries (2).

Globally, from 210 million pregnancies that occur each year, 38% were unplanned and out of this unplanned pregnancy, 22% end with abortion. From this abortion, 40% of them were done on women aged less than 25 years, and about 68 000 women die every year from complications of unsafe abortion (3). From the total eighty-five million pregnancies occur globally, 40% of all them were unintended in 2012. From these unintended pregnancies, 50%, 13% and 38% them ended in abortion, miscarriage and unplanned birth respectively (4). An estimated 50 million induced abortion were performed each year as result of unplanned pregnancies of which 95% of them were in developing countries (5). In most developing countries, about 20% - 60% of married women or about 120 million women that need to avoid pregnancy become pregnant (5).

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Although several international declarations were passed on the problem, many women in sub-Saharan Africa are suffering from unwanted pregnancies (6). In Sub-Saharan Africa, where about 86 unintended pregnancies occur for every 1000 women, one third of them end with unsafe abortion (7).

In Ethiopia, the situation is not different from developing countries; women suffer from problem of unplanned pregnancy. According to the EDHS-2011, about 28.3 % of total last pregnancy were unplanned (19.5% and 8.8 % were unwanted and mistimed respectively) (8). The magnitude and main reasons for this problem had still not well known in Bale Ethiopia. Therefore, this study assessed the prevalence of unplanned pregnancy and associated factors among pregnant mothers attending antenatal care at Bale Zone Hospitals, Oromiya Region, Southeast Ethiopia.

II. METHODOLOGY

a) Study setting and participation

Facility based cross sectional study was conducted among three hundred sixty two women attending antenatal care in May 2014 in Bale Zone hospitals, Oromiya Regional State, Southeast Ethiopia. The Zone has four hospitals (Robe, Goba, Ginnir and Dalloo Manna hospitals) from which two (Robe and Ginnir Hospitals) of them were randomly selected. The sample was proportionally allocated for the hospitals based on their load of women who follows ANC services in that hospital. Finally, study subjects were addressed through systematic random sampling.

The sample was determined using single population proportion formula with an assumption of level of confidence of the study 95%, sampling error tolerated 5%, proportion of unplanned pregnancy (P) 34% used from the study done in Hosainna Town, South Nation Nationalities and population (SNNR), Ethiopia (9) and 10% non-response rate were considered.

b) Instruments and Data collection methods

Structured questionnaires, which address the objectives of the study, were adapted from pertinent literatures. The questionnaire was translated into the local language - Afan Oromo and retranslated back to English. Pre-test was done on 5% of sample size in Goba hospital before actual data collections were took place to made necessary amendment. Data collection was made through interviewer-administered questionnaire.

c) Data Processing and analysis

Data entered into EpiData version 3.1 and exported to SPSS version 16.0 for an analysis. Descriptive analysis was made to determine the prevalence of unplanned pregnancy. Bivariate and multivariate analyses were used to identify associated

factors of unplanned pregnancy; accordingly, a p-value of 0.05 was considered to identify significantly associated variables.

d) Ethical Considerations

Ethical clearance and approval was obtained from the Ethical Review Committee of Madawalabu University. A supportive letter was obtained from University Research Directorate of the University to the Hospitals. Permission was obtained from Hospital manager to implement the study. Prior to discussion and interview, the objectives of the study were clearly explained to the participants and oral informed consent was obtained. Confidentiality and anonymity were ensured throughout the execution of the study as participants were not require to explain their name. Participants were informed that their participation were voluntary and can withdraw from the study at any time if they wish to do so.

III. RESULTS

a) Socio-demographic Characteristics

The response rate of this study was 100%. From 362 study participants, 240 (66.3%) of them were in age group of 20-29 years that was followed by 30-39 age group 68 (18.18%). Nearly one third of respondents were 1- 8th grade 108(29.8%) and illiterate 71(19.6%). Concerning ethnicity of the respondent, majority of them were Oromo 280 (77.3%) and followed by Amhara 58(16%). Regarding their religion 214 (59.1%) of them were Muslim followed by Orthodox Christianity 109(30%). Majority of respondents were married and lives in Urban that were 342 (94.5 %) and 267(73.8%) respectively. From the total married respondents, 87(25.4%) of their husbands were 1-8th grade complete and followed by certificate and above 82 (23.9%). To the occupational status of their husbands 87(25.43%) of them were merchants. More than half 229 (63.3%) of the respondents can access the health facility within ≤ 30 minutes while 89 (24.6%) of them access the health facility within 30 – 60 minutes from their residence [Table-1].

Table 1 : Socio - demographic characteristics of pregnant women attending ANC services in Bale zone hospitals, Oromiya Region, Southeast Ethiopia, May 2014

Variables	Frequency	Percentage (%)
Age of the respondent		
1. 15-19 years	42	11.6
2. 20-29 years	240	66.3
3. 30-39 years	68	18.8
4. 40-49 years	12	3.3
Total	362	100
Marital status		
1. Married	342	94.5
2. Widowed	8	2.2
3. Divorce	12	3
Total	362	100
Educational level		
1. No formal education	139	38.4
2. Grade: 1-8	108	29.8
3. Grade: 9-10	69	19.1
4. 10+, certificate and above	46	12.7
Total	362	100
Educational status of the husband		
1. No formal education	84	24.6
2. Grade: 1-8	87	25.4
3. Grade: 9-10	62	18.1
4. 10+, certificate and above	109	31.9
Total	342	100.0
Ethnicity		
1. Oromo	280	77.3
2. Amhara	58	16.0
3. Somali	12	3.3
4. Other*	12	3.3
Total	362	100.0
Religion		
1. Muslim	214	59.1
2. Orthodox	109	30.1
3. Protestant	26	7.2
4. Others**	13	3.6
Total	362	100
Occupation		
1. Housewife	268	74.0
2. Employee	52	14.4
3. Merchants	20	5.5
4. Students	14	3.9
5. Daily labors	8	2.2
Total	362	100.0
Occupation of the husband		
1. Employee	141	41.2
2. Student	8	2.3
3. Daily labor	29	8.5
4. Merchant	87	25.4
5. Farmer	77	22.5
Total	342	100.0
Residence		
1. Rural	95	26.2
2. Urban	267	73.6
Total	362	100
Decision Makers		

1. Herself	25	6.9
2. Her husbands	44	12.2
3. Together	293	80.9
Total	362	100
Time respondents elapse to the near health facility providing contraceptives		
1. ≤ 30 minutes	229	63.3
2. 31-60 minutes	89	24.6
3. > 60 minutes	44	12.2
Total	362	100.0

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Majority of the respondents [276 (76.2 %)] married at the age of 18 years and above. Two hundred seventeen (59.9 %) and 16 (4.4 %) were became pregnant for the first time at the age of less than 20

years and 25 years and above. One hundred thirty five (52.9 %) respondents have 1-2 children and 59 (23.1%) of respondents have ≥ 5 children [Table 2].

Table 2 : Obstetric factors of pregnant women attending ANC services in Bale zone hospitals, Oromiya Region, Southeast Ethiopia, May 2014

Age at first marriage		
1. <18 years	86	23.8
2. ≥18 years	276	76.2
Total	362	100.0
Age at first pregnant		
1. <20 years	217	59.9
2. 20-24 years	129	35.6
3. ≥ 25years	16	4.4
Total	362	100
Number of children of the respondents		
1. 1-2 children	135	52.9
2. 3-4 children	61	23.9
3. ≥ 5 children	59	23.1
Total	362	100

b) The Current Pregnancy Status of the Respondents

From the total respondents, 135 (37.5%) of their current pregnancy were unplanned. From these 135 unplanned pregnancy, 97 (26.9%) were mistimed and 38 (10.6%) were unwanted totally. The most reasons

why they experienced currently unplanned pregnancy were husband preference 39(25%), forgetting taking contraceptives 35(22.4%), unprotected sexual intercourse 30 (19.2%) and religious prohibition 28 (12.6%) respectively [Figure – 1].

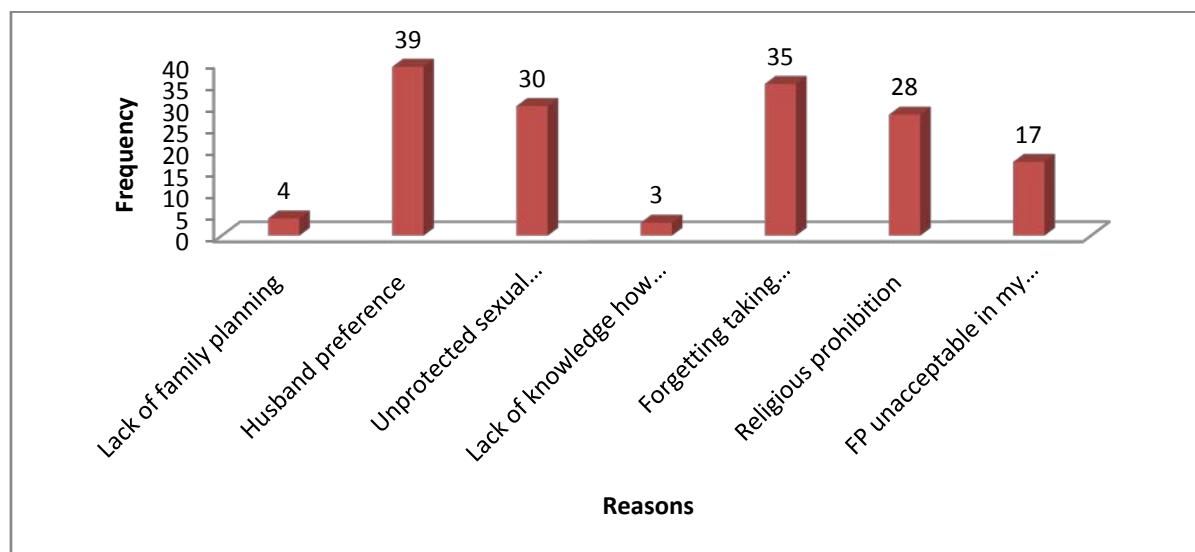


Figure 1 : The reasons for encountering unplanned pregnancy among pregnant mothers attending ANC services in Bale Zone Hospitals, Oromiya Region, Southeast Ethiopia, May 2014

c) *Unplanned pregnancy and associated factors*

Binary and multiple logistic regressions were done to analyze factors associated with unplanned pregnancy at P-value less than 0.05. Accordingly, age of respondents, marital status, educational status of respondents and their husbands, residence of respondents, occupation of respondents and their husbands, average monthly incomes and time taken to reach near health facility providing any types of contraceptives showed significant association with unplanned pregnancy. Similarly, decision-making style in households, being heard information about family planning methods, history of any types of contraceptive methods utilizations, being pregnant before, having child before, number of children, desire to have more children in future and history of abortion also identified as associated variables using bivariate analysis.

However, age of respondents, educational status of respondents and their husbands, occupation of respondents and their husbands, decision making style in households, time respondents elapse to reach near health facility providing contraceptives, history of any types of contraceptive methods utilizations, having child before and number of children were the predictor variables that significantly associated with unplanned pregnancy.

Women's age with 20 - 29 years were 0.2 times less likely to have unplanned pregnancy as compared to women with 40 - 49 years old (AOR = 0.235, 95% CI: 0.058, 0.954). Women that had educational level of 10+, certificate and above were also 0.3 times less likely to encountered unplanned pregnancy (AOR = 0.312, 95% CI: 0.259, 0.656). Again, women that become government employee were 0.7 times less likely to face unplanned pregnancy (AOR = 0.785, 95% CI: 0.287, 0.751). In similar way, women that took less than 30 minutes to reach health facilities were 0.6 times less likely to face unplanned pregnancy, when compared to those women that elapse more than 60 minutes to reach health facilities (AOR = 0.678, 95% CI: 0.559, 0.804). Women that used any type of contraceptive method before were 0.6 times less likely to face unplanned pregnancy, when compared with women that no used contraceptives before (AOR = 0.632, 95% CI: 0.385, 0.831).

On other hand, those women whose husband made decision were almost 3 times more likely to have unplanned pregnancies as compared to those make decision together (AOR = 2.797, 95% CI: 1.377, 5.681). Similarly, women that had child before were also at high risk of developing unplanned pregnancy compared to those have no children (AOR = 3.905, 95% CI: 2.087, 7.307) [Table 3].

Table 3 : Association of Socio demographic factors, Obstetric factors, Institutional factors and behavioral factors of pregnant women with unplanned pregnancy at Bale Zone Hospitals, Oromiya Region, Southeast Ethiopia, May 2014

Socio demographic	Alternatives	Current Pregnancy Planned		COR [95%C.I]	AOR [95%C.I]
		Yes	No		
Age of respondent	15-19 years	27	15	0.185 (0.043 - 0.790) *	0.618 (0.114 - 3.356)
	20-29 years	165	75	0.152 (0.040 - 0.576) *	0.235 (0.058 - 0.954) **
	30 - 39 years	32	36	0.375 (0.093 - 1.507)	0.339 (0.079 - 1.461)
	40 - 49 years	3	9	1.00	1.00
Marital Status	Married	222	120	0.077 (0.009 - 0.635) *	0.340 (0.348 - 1.062)
	Divorce	4	8	0.286 (0.026 - 3.196)	0.608 (0.022 - 3.752)
	Widowed	1	7	1.00	1.00
Religion	Muslim	131	83	1.00	
	Orthodox	75	34	0.716 (0.438 - 1.168)	
	Protestant	15	11	1.157 (0.507 - 2.642)	
	Others	6	7	1.841 (0.598 - 5.669)	
Educational level of respondent	No formal education	80	59	1.00	1.00
	Grade 1-8	64	44	0.932 (0.560 - 1.553)	1.874 (0.374 - 9.386)
	Grade 9-10	46	23	0.678 (0.371 - 1.239)	1.625 (0.333 - 7.926)
	10+, certificate and above	37	9	0.330 (0.148 - 0.736) *	0.312 (0.259 - 0.656) **
Educational level of husband	No formal education	47	37	1.00	1.00
	Grade 1-8	57	30	0.669 (0.361 - 1.239)	0.958 (0.471 - 1.949)
	Grade 9-10	37	25	0.858 (0.441 - 1.670)	1.676 (0.719 - 3.907)
	10+, certificate and above	81	28	0.439 (0.239 - 0.807) *	0.529 (0.255 - 0.894) **

Residence of respondents	Rural	52	43	0.636 (0.395 - 0.724) *	1.037 (0.814 - 2.361)
	Urban	175	92	1.00	1.00
Occupation of respondents	House wife	161	107	1.00	1.00
	Employee	40	12	0.451 (0.226 - 0.900) *	0.785 (0.287 - 0.751)**
	Merchant	11	9	1.231 (0.493 - 3.071)	1.738 (0.587 - 5.149)
	Student	9	5	0.836 (0.273 - 2.563)	1.440 (0.319 - 6.508)
	Daily labor	6	2	0.502 (0.099 - 2.532)	1.194 (0.500 - 2.852)
Occupation of Husband	Employee	103	38	0.443 (0.247 - 0.793) *	0.542 (0.217 - 0.973) **
	Student	7	1	0.171 (0.020 - 1.461)	1.190 (0.239 - 5.936)
	Daily labor	18	11	0.733 (0.306 - 1.757)	0.795 (0.232 - 2.719)
	Merchant	52	35	0.808 (0.434 - 1.502)	1.373 (0.402 - 4.692)
	Farmer	42	35	1.00	1.00
Average monthly income	≤ 1000ETB	46	28	1.230 (0.573 - 0.919) *	0.951 (0.104 - 1.417)
	> 1000ETB	181	107	1.00	1.00
Decision making style	Wife	7	18	1.00	1.00
	Husband	20	24	0.467 (0.162 - 1.341)	2.797 (1.377 - 5.681) **
	Both together	200	93	0.181 (0.073 - 0.448) *	1.503 (0.239 - 3.229)
Time respondents elapse to the near health facility providing contraceptives	≤ 30 Minutes	152	77	0.507 (0.264 - 0.972) *	0.678 (0.559 - 0.804) **
	31- 60 Minutes	53	36	0.679 (0.328 - 1.405)	0.960 (0.639 - 2.016)
	> 60 Minutes	22	22	1.00	1.00
Ever heard information about FP method	Yes	222	126	0.315 (0.103 - 0.961) *	0.742 (0.691 - 2.767)
	No	5	9	1.00	1.00
Ever used any type of contraceptive method	Yes	149	80	0.852 (0.539 - 0.947) *	0.632 (0.385 - 0.831) **
	No	73	46	1.00	1.00
Husband allow to use contraceptive method	Yes	161	75	0.718 (0.437 - 1.179)	
	No	57	37	1.00	
Had pregnancy before	Yes	146	114	3.012 (1.757 - 5.162) *	1.264 (0.176 - 9.075)
	No	81	21	1.00	1.00
Having child before	Yes	142	113	3.075 (1.810 - 5.223) *	3.905 (2.087- 7.307) **
	No	85	22	1.00	1.00
Number of children in the household	1-2 children	79	56	0.486 (0.261 - 0.906) *	0.862 (0.319 - 3.284)
	3-4 children	39	22	0.387 (0.185 - 0.808) *	0.584(0.091 - 1.524)
	≥ 5children	24	35	1.00	1.00
Want any more children in future	Yes	137	59	0.510 (0.331- 0.785) *	0.583 (0.357- 0.953) **
	No	90	76	1.00	1.00
Experienced abortion before	Yes	48	39	0.660 (0.404- 0.937) *	0.936 (0.120 - 1.990)
	No	179	96	1.00	1.00

*; ** P-value < 0.05

IV. DISCUSSIONS

This study has assessed prevalence and associated factors of unplanned pregnancy among pregnant women attending antenatal care in Bale Zone Hospitals, Oromiya regional state, Southeast Ethiopia. Accordingly, 135 (37.5%) of their current pregnancy were unplanned. From these unplanned pregnancy, 97 (26.9%) of them were mistimed and 38 (10.6%) were unwanted.

In contrary to this study results, a study done in Senegal showed that, 14.3% of ever-pregnant women reported having a recent unintended pregnancy (10). The difference may be due the both population have different background and at different locations. Study done in Amhara Region, Ethiopia, also showed lower

magnitude of unintended pregnancy which was 26.0 % of which 13.7% were mistimed and while 12.3% were unwanted (11). The difference may be due to both study done on different background communities.

In similar to this study results, a study done in West Wollega, Ethiopia, 225 (36.5%) of pregnancy was unintended that 156 (25.3%) wants to have baby later while other 69(11.2%) wants no more birth (10). The similarity may be due to both studies done nearly in the same years. The study done in SNNR Hossaina, Ethiopia also became concurrent with this study. Out of three hundred eighty five pregnancies, 131 (34%) were unintended, which have some difference with this study finding that resulted due to the study period difference and background of both community (9).

The most reasons why they experienced currently unplanned pregnancy were husband preference to had more children 39(25%), forgetting taking contraceptives 35(22.4%), unprotected sexual intercourse 30 (19.2%) and religious prohibition 28 (12.6%) respectively. In this study, age of respondents, educational status of respondents and their husbands, occupation of respondents and their husbands, decision making style in households, time respondents elapse to reach near health facility providing contraceptives, history of any types of contraceptive methods utilizations, having child before and number of children were the predictor variables that significantly associated with unplanned pregnancy.

Similarly, study done in Amhara Region, Ethiopia reflected, lack of knowledge, disapproval by husband, and method failure were major reasons mentioned for failure to avoid unintended pregnancy. Differences in educational status of women and family size were the variables that significantly associated with unintended pregnancy (11). In West Wollega, Ethiopia, also age of respondents, total birth, ideal number of children, husband's disagreement to limit family size, family planning health worker visit and knowledge level of respondents were significantly contributing to unintended pregnancy (12).

In a study done in SNNR Hossaina, Ethiopia, the husband not wanting to limit family size, a desire for at least two children, the number of pregnancy 3 - 4 and parity of 5 and above were factors significantly associated with unintended pregnancy (9).

a) *Strengths and limitations*

The study had 100% respondent rate and health professionals collected the data that able to decrease uncertainty while collection of the data. Out of the three administrative towns of the Zone, two of them were included in the study. Therefore, these findings can be generalized to entire population that lives in the all-administrative towns. Since the data were collected only by quantitative methods, it not addresses the information that possible to address only by qualitative methods. Therefore, in future it is better if both qualitative and quantitative methods of data collections is considered while conduction of investigation on similar study.

V. CONCLUSIONS

Findings of this study indicate unplanned pregnancy is the major reproductive health problems in the study area. Age of respondents, educational status of respondents and their husbands, occupation of respondents and their husbands, decision making style in households, time respondents elapse to reach near health facility providing contraceptives, history of any types of contraceptive methods utilizations, having child before and number of children were the predictor

variables that significantly associated with unplanned pregnancy.

The Town Health Office, Bale Zone Health Department, Oromiya Health Bureau and other stakeholders should disseminate information on reproductive health service considering the identified factor through health institutions, school, mass media and community levels discussions.

Competing interests

None of the authors has any competing interest.

Authors' contributions

BD, AH, TB, MI, KA and AM conceived and designed the study. BD & ND analyzed the data and interpreted the results. BD & ND prepared and critically reviewed the manuscript. All authors have read and approved the manuscript.

VI. ACKNOWLEDGMENTS

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