

Intended Delivery among Women with a Recently Birth in Fogera District, North West Ethiopia

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ABSTRACT

Background: Intended pregnancy/delivery have thoughtful health, financial, and societal consequences for women and their families. In the world mistimed and unwanted delivery is a common problem and little is known in Ethiopia about determinant factors for unintended/intended pregnancy.

Objective: The aim of this study was to assess the prevalence of intended delivery and its determinant factors in Fogera.

Methods: A community based cross-sectional study was carried out in November 2018 from 810 mothers who delivered in the last six months and a multi-stage sampling was applied. Data were collected by nurses and midwives, and cleaned by EPI INFO software version 7. Data were analysed using SPSS software version 21. Bivariable and multivariable logistic analyses were deployed to identify the associations.

Results: In this study 652 (80.5%) with 95% CI (77.9-83.0) of mothers had intended delivery. Age of the mother AOR=2.48; 95% CI (1.45-4.22), mothers who had self-decision power on her family AOR=2.14; 95% CI (1.46-3.14), women whose couple involved during ANC/any other health intervention AOR=1.51; 95% CI (1.03-2.22) were the independent predictors of intended delivery/pregnancy.

Conclusions: Even though there is an increment of intended pregnancy in this study, still there is high unintended pregnancy. Age of the mothers, self-decision power of the women and spousal involvement during the health institution visit were variables which are associated with intended delivery. Strength reproductive health advocacy, involving husbands in reproductive health issue counselling, and individualization of contraceptive choice is important for successful prevention of unintended pregnancy.

Keywords: Intended delivery; Contraceptive method

INTRODUCTION

Intend pregnancy is a pregnancy that is either wanted (love more children) no mistimed (pregnancy occurred in the desired time) starting at the time of conception and unintended pregnancy is neither wanted or mistimed mainly results from the unmet need for contraceptive, incorrect or inconsistency use of effective contraceptive methods [1]. So unintended pregnancy is a major global concern which affects all segments of the community [2] and it is a core concept that is used to better understand the fertility of population [3,4]

Intended pregnancy is great for both reproductive health rights and a public health perspective. The ICPD 1994 stated that couples and individuals have the basic rights to decide freely and

responsibly the number and spacing of their children and to have accesses adequate information, education and means to do so [4-6].

Unintentional pregnancies and unplanned deliveries can have thoughtful health, financial, and societal consequences for women and their families and it increases risks of problems for mothers and new baby. If the pregnancy/delivery is intended, the women couldn't delay for prenatal care utilization, the mother may be in optimal health for childbearing, decrease maternal mortality and it will not be linked to IUGR, low birth weight, neonatal mortality, child abuse, birth defect, adverse child developmental outcome, and it increases the community health at large [2,4,5,7,8]. Intended delivery/pregnancy has a great positive effect on physical, mental, social and economic outcomes [2,7,9].

Unintended pregnancy rate was significantly higher in the United

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Received: March 06, 2019, **Accepted:** May 06, 2019, **Published:** May 13, 2019

Citation: Asnakew DT, Engidaw MT, Gebremariam AD (2019) Intended Delivery among Women with a Recently Birth in Fogera District, North West Ethiopia. *J Women's Health Care* 8:3. doi: 10.35248/2167-0420.19.8.462.

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States of America than in many other developed countries in contrast intended pregnancy was low [10,11].

Worldwide assessment among 208 million pregnancies that occurred in 2008, only 59% were intended even though the rate of unintended pregnancy felled by 29% and 20% in developed and developing regions respectively [10].

Globally 38% (80 million) unintended pregnancy occurred each year, from these 4 million terminated spontaneously, 42 million terminated by induced and 34 million birth as unintended [3]. Globally, an estimated 56% of pregnancies were intended in the year 2010-2014 but the rest 44% were unintended. Unintended pregnancy decline by 30% in developed regions from 64 per 1000 women age of 15-44 in 1990-1994 to 45 in 2010-2014 but in developing region only half was declined [12].

The highest unintended pregnancy found in Africa and the lowest in Southern and Western Europe [10]. In Britain intended pregnancy was 54.8% (that means 45.2% and 62.4% among women age 16-19 and 20-34 years respectively were unintended) [13]. Unintended pregnancy was a global problem, 45% (27% mistimed and 18% unwanted in the United States [14]) [11].

Only 44.6% in Brazil [15], 63.5% in Iran and 68.7% in New Zealander [7], 61.8% in Pakistan [16] was intended pregnancy. In contrast, 24.33% (11.29% mistimed and 13.13% unwanted) pregnancy had occurred in Nepal [17], 43% in Malawi of which 25% and 18% were mistimed and unwanted respectively [18].

An unintended pregnancy is a major health problem in Ethiopia and the magnitude of unintended pregnancy in the country was 13.7% and 12.3% mistimed and unwanted respectively in Felege Hiwot referral hospital [14], 41.5% in Arsi Negele [3,19], 35% in South West of Ethiopia [20], 33.7% in Hawassa [21] and 36.4% in Addis Ababa [22].

Factors which were contributed to unintended pregnancy were age, educational status and marital status of the mother, having autonomy to use a contraceptive method, history of abortion, discussing pregnancy related issues with husbands [13,19,23].

In Ethiopia, there are very few studies which showed intended/unintended pregnancy, but no study has been found in the study area. Therefore, this study was aimed to assess the magnitude of intended pregnancy and associated factors so as to initiate intervention by the responsible authorities.

METHODS

Study design and period

A community-based cross-sectional study was conducted in Fogera District from November first to November thirty 2018.

Study area

Fogera is found in South Gondar Zone, Amhara National, Regional State in North West Ethiopia, and it is far from the capital city of Ethiopia (Addis Ababa) by 625 kilometers. The district is bounded on the South by Dera district, on the West by Lake Tana, on the North by the River Rib which separates it from the Libo Kemkem district, on the North East by Ebenat district, and on the East by Farta district. District Fogera have 44 kebeles (small administration), 9 health centers and 44 health posts. Majority of the populations are farmers and Christian. And the report made

by the district health office disclosed that women of reproductive age constitute approximate 43, 227 (21%) of the population and an estimated 5685 deliveries take place annually.

Populations

The source populations and the study population: all reproductive-age women who gave birth within the last six months in the district and all reproductive-age women who gave birth within six months in the randomly 9 selected kebeles respectively.

Sample size determination

The sample size was determined using the formula of single population proportion with the assumption of the prevalence of intended pregnancy among women with a recent birth in southwestern part of Ethiopia was 54.9% [19], $Z_{1/2}=1.96$ with 95 confidence interval and 5% of marginal error and design effect 2 then, the final sample size was 836 including 10% none response rate.

Sampling procedure

The multi-stage sampling procedure was employed to select the required 836 sample size. At least 20% (9 kebeles) were selected randomly from the total by using lottery method. Then we did a survey to select mothers who delivered in the last six months in the selected kebeles. Finally, from all surveyed mothers, the proportional allocation was employed for 9 kebeles and at the end we used systematic random sampling techniques to select study participants. For a mother who was not present during the day of data collection, revisit was done in another time or day.

Outcome variable

Intended pregnancy

Data collection tools

A closed-ended structure questionnaire was developed after reviewing relevant literature to include all the possible variables that address the objective of this study. It developed in English and translated into the local language (Amharic), finally, retranslated into English. Data was collected by 4 Nurses and 5 Midwives health professionals using interview and supervised by 3 supervisors.

Data quality assurance

To ensure the quality of data, one-day training was given for data collectors on the overall procedure of the data collection process. The questionnaire was pre-tested before the actual data collection time on 41 participants (5% of the sample) outside the actual study area.

The supervisors were closely following the day-to-day data collection process and ensured the completeness and consistency of questionnaire that administered each day. The supervisors were randomly verified at least on the 10% of the completed questionnaire for inter-interviewer consistency. The collected data was reviewed and checked for completeness before data entry and all were complete.

Data processing and analysis

Data clean up and cross-checking were done before analysis and all were coded, entered and cleaned using EPI INFO windows

version-7 statistical software and analysed using SPSS version-21. Both descriptive and analytical, statistical procedures were utilized.

To reduce the excessive number of variables and resulting instability, only variables in binary screening found at a p-value less than 0.2 were further considered into multiple logistic regressions to avoid confounders. The Hosmer Lemeshow goodness of fit test was performed and it is 0.964

Logistic regression analysis was performed to describe explanatory variables. Odds Ratio (OR) with 95% Confidence Interval (CI) was applied to assess the strength of association between independent and outcome predictors. For all statistically significant tests p-value<0.05 was used as a cut-off point.

Ethical clearance

Ethical clearance was obtained from the Institutional Ethical Review Committee of Debre Tabor University, permission letter from each district health office bureau and informed consent from each respondent. Personal identifies were excluded during and after data collection and all the data were kept confidentially.

RESULTS

Socio-demographic characteristics

In this study, a total of 810 mothers were included with a response rate of 96.9% and the prevalence of intended pregnancy was 80.5% (unintended pregnancy 19.5%). All most half 437 (54.0%) of the respondents firstly pregnancy were below the age of 20. Less than two-thirds 462 (57%), 480 (59.3%) and 499 (61.6%) of the respondents were unable to read and write, found in the medium wealth and had only one under five children respectively. Around half 425 (52.5%) of the respondent's household were visited by health extension workers during their pregnancy time and 321 (39.6%) households had mass media in their home. To arrive the nearest health institution greater than half 499 (66.0%) of the pregnant mothers were traveled greater than 1 hour and 341 (42.1%) of the pregnant mothers were lived in a household which had 4-6 family size (Table 1).

Maternal health services

From the total respondents, greater than half 370 (58.0%) of the mothers were going to antenatal care follow up. From the recent delivery, majority 652 (80.5%) of the pregnancy were intended, 158 (19.5%) were unintended and from which (12.4% and 7.4% were mistimed and unwanted respectively). Greater than one third 357 (44.9%) of them developed at least one pregnancy complications.

Around three fourth 586 (72.3%) of the household decision maker were mothers, only 315 (38.9%) of the mothers were discuss pregnancy related issues with their husbands and 446 (60.0%) spouseless went with their wife to the health institutions (Table 2).

Factors associated with an intended pregnancy

Maternal age, self-decision power of the mother, couple involvement during ANC/any other health intervention and the decision of marriage were the only significantly associated factors with intended pregnancy in both bivariate and multivariable logistic regression analyses.

Table 1: Socio-demographic characteristic of the respondents in Fogera district, Amhara National Regional State, Ethiopia 2018 (N=810).

Variables	Number	Percent
Age of the mother at first pregnancy		
≤ 20	437	54
21-35	373	46
Age of the mother		
<20	92	11.4
20-29	630	77.8
≥ 30	188	10.9
Age gap between wife and husband		
> 5year	299	36.9
≤ 5 year	511	63.1
Marital status of the mother		
Married	724	89.4
Non-married	33	4.1
Separated	22	2.7
Divorced	31	3.8
Maternal education		
Unable to read and write	462	57
Able to read and write	214	26.4
Primary	93	11.5
Secondary	25	3.1
College and above	16	2
Educational status of the father		
Unable to read and write	420	51.9
Able to read and write	209	25.8
Primary	107	13.2
Secondary	37	4.6
College and above	37	4.6
Occupation of mother		
Housewife	79	9.8
Farmer	636	78.5
Daily Worker	43	5.3
Government employed	52	6.4
Economic status of the family		
Poor	164	20.2
Medium	480	59.3
Rich /better	166	20.5
Religion		
Orthodox	780	96.3
Muslim	30	3.7
Number of under-five children		
1	499	61.6
2-3	311	38.4
Sex of new borne		
Male	353	43.6
Female	457	56.4
HEWS visit your home during pregnancy		
No	385	47.5
Yes	425	52.5
Mass media		

No	489	60.4
Yes	321	39.6
Total family size		
1-3	188	23.2
4-6	341	42.1
≥ 7	281	34.7
Distance from the health facility		
>60 minutes	499	60.6
≤ 60 minutes	319	39.4

Table 2: Maternal health services of the respondents in Fogera district, Amhara National Regional State, Ethiopia 2018 (N=810).

Variable	Number	Percent
ANC follow up		
No	370	58
Yes	340	42
Pregnancy		
Intended	652	80.5
Miss timed	98	12.1
Unwanted	60	7.4
Self-decision power		
Yes	586	72.3
No	224	27.7
Pregnancy complication		
No	453	55.9
Yes	357	44.9
Decision of marriage		
Owen	597	73.7
Family	231	26.3
Discuss the pregnancy-related issue with the husband		
No	495	61.1
Yes	315	38.9
Spousal involvement during ANC/any other health intervention		
Yes	446	60
No	324	40

Age of the mother between 20-29 was 2.48 times more likely to had intended pregnancy than mothers above the age of 30 years with AOR=2.48; 95% CI (1.45-4.22). Mothers who had self-decision power on her family were 2.14 times more likely exposed to intended pregnancy than women who had no self-decision power with AOR=2.14; 95% CI (1.46-3.14).

Women whose couple involved during ANC/any other health intervention were 1.51 times higher to become intended pregnancy as compared to women whose spouse didn't involve with AOR=1.51; 95% CI (1.03-2.22) (Table 3).

DISCUSSION

The capability of women to participate equally in the financial, cultural and social life of the nation has been enabled by their ability to regulate their reproductive lives. Intended pregnancy is an important public health concern that decreases women to maternal mortality and suffered from morbidity mainly through unsafe abortions and poor maternity care utilization. Although most women in the world use different kinds of contraceptive,

Table 3: Factors associated with unintended pregnancy by multiple logistic regression analysis, Fogera district, Amhara, Ethiopia 2018 (N=810).

Variables	Pregnancy		COR (95%CI)	AOR (95%CI)
	Unintended	Intended		
Age of the mother				
<20	29	63	0.91(0.48-1.72)	1.18(0.60-2.31)
20-29	103	527	2.15(1.30-3.56)*	2.48(1.45-4.22)*
≥ 30	26	62	1	-
Mother occupation				
Housewife	11	68	1.12(0.42-3.01)	0.95(0.34-2.65)
Farmer	125	511	0.74(0.34-1.62)	0.69(0.31-1.54)
Daily Worker	14	29	0.38(0.14-1.01)	0.42(0.15-1.19)
Government employed	8	44	1	1
The age gap between wife and husband				
>5	49	250	1	1
≤ 5	109	402	0.72(0.50-1.10)	0.83(0.56-1.23)
Self-decision power				
No	68	156	1	1
Yes	90	496	2.4(1.67-3.45)*	2.14(1.46-3.14)*
Religion				
Orthodox	149	631	1	1
Muslim	9	21	0.55(0.25-1.23)	0.66(0.27-1.59)
Decision of marriage				
Family	56	157	1	1
Owen	102	495	1.73(1.20-2.51)*	1.45(0.98-2.16)*
Couple involvement during ANC/any other health intervention				
No	85	239	1	1
Yes	73	413	2.01(1.42-2.86)*	1.51(1.03-2.22)*

Note: *Significant at $p \leq 0.05$

unintended pregnancy remains a common problem. Around 43% of the pregnancies were unplanned of which 25% were mistimed and 18% were unwanted [18].

The decline in the unintended pregnancy rate in developed regions has corresponded with a deteriorating abortion rate the weakening in developing regions coincided with a declining unintended birth rate. In the year 2010-2014, 59% of unintended pregnancies ended in abortion in developed regions, as did 55% of unintended pregnancies in developing regions [12].

The growing proportion of women aspiration to avoid pregnancy, the percentage of married women in developing countries classified as having an unmet need for contraception demolish by 4 percentage from 16% in 1990 to 12% in 2014 [24].

Unindustrialized regions saw a decline in the intended birth rate, which reflects the progressively widespread wish for small families as well as a decline in the unintended birth rate, which indicates that a growing proportion of women and couples have been able to realize their fertility goals [25].

Intended pregnancy was 59%, 52%, 56%, 62%, 42% and 51% in North America, Europe, Asia, Latin America/Caribbean and Africa respectively [26] and in this finding, the prevalence of intended pregnancy in the study district was 652 (80.5%) with 95% CI (77.9-83.0) and it was similar to a study done in Britain from the third National Survey of Sexual Attitudes and Lifestyles

83.8% (95% CI 80.7-87.9) [13], in Semnan Province Iran 81.8% [27] in Nigerian women 73% [28], Felege Hiwot referral hospital and in Addis Zemen Hospital 74% [22,29], and in Arba Minch Town 80.6% [30]. The similarity of the prevalence in this study and Britain will be due to the study population which means that both data collected after birth but other studies conducted during ANC visit. Because it obeys that mother more like their child after delivery and their intended will be increased even though they are not that much interested during pregnancy and the similarity in an Iranian study might be due to the low educational attainment of females and the high economic dependency of females on their husbands [31-33].

The similarity of prevalence in Felege Hiwot referral hospital was due to similar socio-demographic and reproductive historical factors.

This study was higher than a study conducted in Pakistan 61.8% [34], in Brazil 44.6% [35], in Malaysia 57.1% [36], in a Group of Iranian and New Zealander Women 63.5% and 68.7% [7] respectively, in Abakaliki, Southeast Nigeria 56.2% [37], in South African Technical and Vocational Education and Training colleges 25.4% [38,39], in Southwestern Ethiopia 65% [39], in Arsi Negele 54.9% [19], and in Addis Ababa 63.6% [14].

The low prevalence of intended pregnancy in Pakistan was due to women high level of unmet need for contraception around 2015 and it is not creating only unintended pregnancy it also causes high induced abortion in that country around the stated time period [40] and why the reason is that the low prevalence of intended pregnancy in southeast Nigeria was the target group were the data collected, that was vocational trainers which intended pregnancy is not that much common.

The low prevalence of intended pregnancy in Brazil might be due to high intimate partner violence in the country which lead to unwanted and mistimed pregnancy [41], in Iranian the low prevalence was due to low contraceptive utilization because of failure of family planning clinics to encourage their target clients [7] and the low prevalence of intended pregnancy in southwestern Ethiopia might be due to the target population included in the study those were muslims (92%) in their religion and other studies shared this idea, intended pregnancy was very low among studies which include more muslim religion followers [36]. Because most muslims are reluctant to use different contraceptive methods but the high prevalence of intended-pregnancy in this study was might be due to data collection which more recent than the above and the time of data collected after birth and mother response to unintended pregnancy/birth during pregnancy time and after birth may be different because of social desirable bias.

In this study intended pregnancy was lower than a study conducted in West Belesa Woreda which was 86.3% [23]. The high prevalence of intended pregnancy in West Belesa Woreda might be the target population included in the study (only use marriage women) and the probability of intended pregnancy among only married women will be an irrefutable fact that the prevalence of unintended pregnancy is decreased.

The prevalence of intended pregnancy in this study was associated with maternal age AOR=2.48 (1.45-4.22) and it is similar with a study done in the United States that the proportion of unintended pregnancies highest among women aged 20-24 (81 per 1,000 women) [11] and it was similar with [19,36].

The odds of intentional pregnancy among spousal involvement were 1.51 AOR=1.51 (1.03-2.22) 4 times more likely than among mothers whose spousal were not involved and it was line with a study [19,22,42].

The odds of intended pregnancy were 2.14 times AOR=2.14 (1.46-3.14) higher among mothers who had self-decision power than women who had no self-decision power and this study was supported by [19,23].

Based on the previous studies, the rate of unplanned pregnancy is expected to substantially reduce as women's education level increases [29,30,37,43]. But in this study, it had no significant effect.

LIMITATION

Since this study focuses specifically on intended pregnancy that ended with childbirth finding might not be generalizable to pregnancy that ended with abortion and the study may face social desirable bias.

CONCLUSION

Even though somewhat there is an increment of intended pregnancy in this study, still there is high unintended-pregnancy in the district. Age of the mothers, self-decision power of the women and spousal involvement of health institution visit were significantly associated with intended pregnancy. Reproductive health advocacy strength, involving of husbands in reproductive health issue counselling, increase availability of different family planning methods in a health institution and since all family planning methods are not equally effective, safe or equally acceptable, individualization of contraceptive choice is important for successful prevention of unintended pregnancy (to increase intended pregnancy). Furthermore, community sensitization about pregnancy is important.

DECLARATIONS

Ethical approval and consent to participate

Ethical clearance was obtained from the Institutional Ethical Review Committee of Debre Tabor University and permission letter from each District Health office Bureau. Informed consent from each respondent was obtained.

Consent for publication

Not applicable for this section.

Availability of data and materials

All the data sets are available on the hand of the corresponding author.

Competing interests

We declare that there is no competing interest with anyone else.

FUNDING

No fund was accepted from any organization for this research but supported by Debre Tabor University.

AUTHORS' CONTRIBUTION

All stated authors Desalegn Tesfa Asnakew, Melaku Tadege Engidaw, and Alemayehu Digssie Gebremariam were involved in this study from the inception to design, acquisition, analysis, and interpretation of data and drafting of the manuscript.

All the authors read and approved the final manuscript.

ACKNOWLEDGMENTS

Our deepest gratitude goes to study participants, data collectors, supervisors, and Debre Tabor University.

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