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# Magnitude of Unplanned Pregnancy and its Associated Factors among Pregnant Women Attending Antenatal Care at Tepi General Hospital Sheka Zone, Southwest Ethiopia, 2017

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## Abstract

**Background:** Unplanned pregnancy is defined as a pregnancy which is mistimed (pregnancy wanted at a later time) or unwanted pregnancy (pregnancy which is not wanted at all). It is among the major public health problem that predispose women to illness and death mainly through unsafe abortion and also result in economic, social and health crisis throughout the world. Different efforts have been applied to reduce unplanned pregnancy, but it is still increasing in Africa specifically in Ethiopia. Describing the extent and identifying factors that are associated with unplanned pregnancy will help to identify the gaps and take appropriate measures.

**Objectives:** The main objective of this study is to assess the magnitude of unplanned pregnancy and its associated factors among pregnant woman attending antenatal care at Tepi General Hospital, southwest Ethiopia, 2017.

**Methods:** Institution based cross sectional study was conducted from February 24 to April 24, 2017 on pregnant women who are attending antenatal care at Tepi General hospital, Sheka zone south west Ethiopia. Single population proportion formula was used to get a total of 224 sampling units. To get the actual women to be interviewed simple random sampling was used. A pretested, structured, and interviewer administered questionnaire was used to collect data. Binary and multivariate logistic regression analyses was done to identify factors associated with unplanned pregnancy. The presence and strength of association was determined using COR and AOR with its 95% CI. Variables with p-value less than 0.05 were considered to declare statistical significance.

**Results and discussion:** This study showed that magnitude of unplanned pregnancy was 22.3%. Factors like place of residence (AOR=0.429, 95%CI: 0.184, 0.996), discussion about family planning between couples (AOR=0.033, 95%: 0.006, 0.177), poor knowledge about modern family planning (AOR=5.486, 95%CI: 1.178, 25.554) and traveling distance more than 60 minutes to reach near health facility (AOR=0.073, 95%CI: 0.019, 0.287) found to be associated with unplanned pregnancy.

**Conclusion:** The study conclude that there is no single factor accounted for the high rate of unplanned pregnancy rather many factors were interwoven to affect the occurrence of the event. Designing and implementing strategies that create awareness at community level and reinforcing postnatal contraceptive counseling to all mothers giving birth at health institution is recommended to reduce unplanned pregnancy.

**Keywords:** Unplanned pregnancy; Magnitude; Associated factors

**Abbreviations:** AOR: Adjusted Odd Ratio; ANC: Antenatal Care; CI: Confidence Interval; EDHS: Ethiopia Demographic Health Survey; MMR: Maternal Mortality Ratio; SPSS: Statistical Package for Social Science; SNNPR: Southern Nation, Nationalities and People Regional State; TFR: Total Fertility Rate; UN: United Nation; UNFPA: United Nations Population Fund; USA: United States of America

## Introduction

Unplanned pregnancy is a pregnancy when mother doesn't have a plan to become pregnant and give birth. It is the persistent health issue affecting the lives of several women and children across the globe. Unplanned pregnancy is an important public health issue in both high income and also in low and middle-income countries because of its negative association with the social and health outcomes for both mothers and children [1].

Worldwide, an estimated 213 million pregnancies occur annually, nearly 85 million are unplanned and about 75 million of the unplanned pregnancies occur in the developing world. The rate of pregnancy and of unplanned pregnancy is highest in Africa. In 2012, the unplanned pregnancy rate ranged from a low of 43 per 1000 in Europe to 80 per 1000 in Africa [2].

 

Ethiopia is considered as an 'emerging family planning success story, due to the rapid rise in contraceptive use in the last decade, but the magnitude of unplanned fertility is still high [3]. Women's fertility preferences have been changing. While, women's wanted fertility (wanted TFR) declined from 5.0 to 3.0 and the unwanted TFR increased from 1.0 to 1.8 births per woman between 2000 and 2011.

The proportion of women with a desire to stop child bearing also increased during the same period [4]. This widening gap between actual and desired fertility and between population groups suggests a lag between effective contraceptive practice and the changing fertility preference.

Although the prevention of unplanned pregnancy has been the major rationale of family planning and reproductive health programs throughout the world, but available evidence shows that a significant level of unplanned pregnancy exists in almost all countries of the world [2]. Globally, about 85 million unplanned pregnancies occur annually, resulting in 42 million induced abortions, 32 million unplanned births, and 13 million miscarriages [2].

On the other hand, about 289,000 maternal deaths occur annually, over 99% of which occurs in the developing world where the magnitude of unplanned pregnancy and fertility is higher [1]. Half of the 42 million induced abortions that occur annually are unsafe causing about 47,000 maternal deaths annually [5]. Unsafe abortion complications also cause several other physical and psychosocial health problems to those affected [6,7].

The Guttmacher Institute and UNFPA estimated that by averting all unplanned pregnancies that occur worldwide each year, 22 million induced abortions, 1.4 million infant deaths, and 142,000 maternal deaths could be prevented [5].

In sub-Saharan Africa from a total of 49.1 million pregnancies, 39% were unplanned pregnancy and about one third of this unplanned pregnancy were end up with abortion [8].

According to report of the EDHS 2011, 28% of births in the five years before the survey and 32% of most recent births were unplanned. Another national survey conducted in 2013 stated that the prevalence of unplanned pregnancy was 24% [9], while in southern Ethiopia it was found to be 43% [10]. A 2014 report of the performance, monitoring and accountability study also showed that the magnitude of unplanned pregnancy is even higher 43% [11]. According to EDHS, 2016 the prevalence of unplanned pregnancy was 22% [12].

Ethiopia is one of the countries with highest maternal (412 death/100000 live birth) and child mortality rate (67 death/1000 live birth) in the world, EDHS 2016 [12]. Cognizant to this, the Ethiopian government prepared national reproductive health strategy that gave stress on the importance reducing unplanned pregnancy through raising the contraceptive use [13].

Majority of Ethiopian studies on unplanned pregnancy has relied largely on national large scale data. As far as our knowledge is concerned little is known about the magnitude and determinants of unplanned pregnancy at sub national level and no research was conducted in this study area. Hence, this study was aimed to assess the magnitude of unplanned pregnancy and its associated factors among women who attend ANC at Tepi General Hospital, southwest Ethiopia, 2017.

## Methodology

A quantitative institution based cross-sectional study was conducted from February 24 to April 24, 2017. The study was conducted in Tepi General Hospital at Tepi town. TEPI General Hospital is located at Tepi town Sheka Zone, SNNPR, southwest part of Ethiopia. It is 611 km far from the capital city Addis Ababa, and 895 km far from the regional city Hawassa. The Hospital has a catchment population of 252,319 with 84 beds distributed in medical, pediatrics, surgical, gynecology, and obstetrics ward. Monthly, an estimated of 262 client attend the antenatal clinic.

Sample size was determined using single population proportion formula by considering Proportion of unplanned pregnancy (p=36.1%) [14-31], 95% level of confidence (z=1.96), 5% of marginal error (w=0.05). The final sample size adjusted for none response rate of 10% and correction formula was 224. Simple random sampling was employed to select study participants.

Data was collected by face to face interview using structured questionnaire, which was adapted from different literature by considering the local situation of the study area and purpose of the study. Six diploma holding Midwives working in ANC clinic was selected for data collection and supervision and one day training was given for these data collectors and supervisors.

Before starting the actual survey, the questionnaire was pre-tested on 12 individuals (5% of the sample) to see the accuracy of the response and to estimate the time needed for interview. Based on the pretest, an appropriate modification was made before the actual data collection. The collected data was reviewed and checked for completeness before data entry. Data was entered to Epi info version 7 and was exported to SPSS version 20 for analysis.

On Bivariate logistic regression A variable p value less than 0.2 will be transferred to multivariable logistic regression model to adjust confounders` effects and a p value less than 0.05 was considered as significantly associated. Crude and adjusted odds ratios with their 95% confidence intervals were calculated. Finally, the result of the study was presented using tables, figures and texts.

Ethical clearance was obtained from Mizan Tepi University college of Health Sciences Department of Midwifery and a formal letter of cooperation was written to Tepi General Hospitals. After explaining the purpose of the study, the data collectors were obtain voluntary verbal consent from each study participant.

# Results

## Socio-demographic characteristics of the study participants

A total of 224 study participant were participated in this study, making a response rate 100%. The mean age of study participants was 25.96 (SD ± 4.843). Majority of respondents were married and lives in urban, 215 (96%) and 147 (65.6%) respectively. Concerning ethnicity of the respondents, majority of them were Sheka 125 (55.8%). About 101 (45.1%) of them were Orthodox Christians by religion. Nearly half of the respondents were cannot read and write 113 (50.4%) and 78 (34.8%) were house wife. More than three fourth 74 (34.42%) of their husbands were farmer, the mean monthly income of the respondents was 991.12 Ethiopian birr (**Table 1**).

**Table 1** Socio-demographic characteristics of the respondents at Tepi General Hospital, South west Ethiopia, February to April, 2017.

| Variables | Frequency | Percent (%) |
|---|---|---|
| **Age** | | |
| 15-19 | 17 | 7.6 |
| 20-24 | 78 | 34.8 |
| 25-29 | 76 | 33.9 |
| 30-34 | 37 | 16.5 |
| 35-39 | 16 | 7.1 |
| **Residence** | | |
| Urban | 147 | 65.6 |
| Rural | 77 | 34.4 |
| **Ethnicity** | | |
| Sheka | 125 | 55.8 |
| Amhara | 51 | 22.8 |
| Oromo | 26 | 11.6 |
| Tigre | 22 | 9.8 |
| **Religion** | | |
| Muslim | 41 | 18.3 |
| Protestant | 74 | 33 |
| Orthodox | 101 | 45.1 |
| Catholic | 8 | 3.6 |
| **Marital Status** | | |
| Married | 215 | 96 |
| Single | 3 | 1.3 |
| Others | 6 | 2.7 |
| **Educational Status** | | |
| Can't read and write | 113 | 50.4 |
| Primary school | 82 | 36.6 |
| Secondary school | 21 | 94.4 |
| Above secondary school | 8 | 3.6 |
| **Occupation** | | |
| Student | 14 | 6.3 |

| | | |
|---|---|---|
| Merchant | 55 | 24.6 |
| Farmer | 41 | 18.3 |
| House wife | 78 | 34.8 |
| Government employee | 17 | 7.6 |
| Private employee | 16 | 7.1 |
| Daily laborer | 3 | 1.3 |
| **Husband's educational status** | | |
| Can't read and write | 84 | 39.1 |
| Primary school | 59 | 27.4 |
| Secondary school | 37 | 17.2 |
| Above secondary school | 35 | 16.3 |
| **Average monthly income** | | |
| 0-500 | 103 | 46 |
| 501-1000 | 61 | 27.2 |
| >1000 | 60 | 26.8 |

## Obstetric factors

Majority of the respondents 161 (71.9%) married at the age of 18 years and above. One hundred four (46.6%) of the respondents were became pregnant for the first time between the age of 20-24 years. One hundred (44.6%) of the respondents became pregnant for the first time. One hundred five (46.9%) of the respondent's desire to have 1-2 children (**Table 2**).

**Table 2** Obstetric factors of pregnant women attending ANC services in Tepi General Hospital, SNNPR, Southwest Ethiopia, 2017.

| Variables | Frequency | Percent (%) |
|---|---|---|
| **Gravidity** | | |
| 1-2 | 100 | 44.6 |
| 3-4 | 78 | 34.8 |
| ≥ 5 | 46 | 20.5 |
| **Number of children** | | |
| 0 | 49 | 21.9 |
| 1-2 | 103 | 46 |
| 3-4 | 53 | 23.7 |
| ≥ 5 | 19 | 8.5 |
| **Desired number of children** | | |
| 1-2 | 105 | 46.9 |
| 3-4 | 96 | 42.9 |
| ≥ 5 | 23 | 10.3 |
| **Age at first marriage** | | |
| <18 | 63 | 28.1 |
| ≥ 18 | 161 | 71.9 |
| **Age at first child birth** | | |

| | | |
|---|---|---|
| <20 | 70 | 31.3 |
| 20-24 | 104 | 46.4 |
| ≥ 25 | 50 | 22.3 |

## Magnitude of unplanned pregnancy

From the total respondents, 50 (22.3%) of their current pregnancy were unplanned. Of these 35 (15.6%) were wanted later (mistimed) and 15 (6.7%) were not wanted at all. The most reasons why they experienced currently unplanned pregnancy were contraceptive failure 24 (10.7%), contraceptive inconsistent use 22 (9.8%), and not using contraceptive 4 (1.8%) respectively.

## Factors associated with unplanned pregnancy

Place of residence, number of pregnancy (gravidity), number of children, desired number of children, age at first marriage, age at first child birth, discussion about family planning between couples, knowledge about modern family planning, and distance from near health facility were significantly associated with unplanned pregnancy on bivariate logistic regression analysis.

From these variables, place of residence, decision maker about utilization of family planning, discussion about utilization of family planning, knowledge about modern family planning and time respondent's elapse to reach near health facility providing family planning were significantly associated with unplanned pregnancy in multivariate logistic regression analysis.

The study showed that women living in urban were less likely to have unplanned pregnancy than those respondents living in rural area (AOR=0.429, 95%CI: 0.184, 0.996). Women who discuss with their husband about contraceptive were less likely to encountered unplanned pregnancy compared to those not discussed (AOR=0.033, 95%CI: 0.006, 0.177). Women who have poor knowledge about modern family planning were 5.5 times more likely to experience unplanned pregnancy compared to those who had good knowledge (AOR=5.486, 95%CI: 1.178, 25.554). Women who travel <30 minutes to reach near health facility providing family planning were less likely to have unplanned pregnancy when compared with traveling distance more than 60 minutes (AOR=0.073, 95%CI: 0.019, 0.287) (**Table 3**).

**Table 3** Bivariate and multivariate logistic regression analysis of factors associated with unplanned pregnancy at Tepi General Hospital, SNNPR, Southwest Ethiopia, 2017 (n=224).

| Variables | Categories | Planned Pregnancy | | COR(95% CI) | AOR(95% CI) |
|---|---|---|---|---|---|
| | | Yes | No | | |
| Age | 15-24 | 81 | 14 | 0.134(0.043, 0.420) | 0.209(0.027,1.606) |
| | 25-34 | 86 | 27 | 0.244(0.083, 0.718) | 0.426(0.093, 1.958) |
| | ≥ 35 | 7 | 9 | 1 | 1 |
| Residence | Urban | 126 | 21 | 0.276(0.144, 0.530) | 0.429(0.184, 0.996) |
| | Rural | 48 | 29 | 1 | 1 |
| Gravidity | 1-2 | 87 | 13 | 0.194(0.085, 0.443) | 0.979(0.187, 5.110) |
| | 3-4 | 61 | 17 | 0.402(0.362, 0.801) | 1.078(0.308, 3.773) |
| | ≥ 5 | 26 | 20 | 1 | 1 |
| Number of children | 0 | 43 | 6 | 0.101(0.029, 0.359) | 0.441(0.018, 10.064) |
| | 1-2 | 84 | 19 | 0.165(0.058, 0.464) | 1.964(0.054, 7.186) |
| | 3-4 | 39 | 14 | 0.261(0.087, 0.782) | 0.502(0.034, 0.921) |
| | ≥ 5 | 8 | 11 | 1 | 1 |
| Desired No of children | 1-2 | 88 | 17 | 0.211(0.080, 0.555) | 0.733(0.186, 2.894) |
| | 3-4 | 74 | 22 | 0.324(0.126, 0.836) | 0.680(0.183, 2.521) |
| | ≥ 5 | 12 | 11 | 1 | 1 |
| Age at first marriage | < 18 | 43 | 20 | 2.036(1.047, 3.939) | 1.519(0.445, 5.185) |

| | | | | | |
|---|---|---|---|---|---|
| | ≥ 18 | 131 | 30 | 1 | 1 |
| Age at first child birth | < 20 | 47 | 23 | 3.589(1.336, 9.639) | 1.573(0.066, 37.582) |
| | 20-24 | 83 | 21 | 1.855(0.698, 4.935) | 1.790(0.086, 37.480) |
| | ≥ 25 | 44 | 21 | 1 | 1 |
| Discussion about family planning | Yes | 170 | 33 | 0.049(0.015, 0.154) | 0.033(0.066, 0.177) |
| | No | 4 | 16 | 1 | 1 |
| Knowledge about family planning | Poor | 5 | 2 | 2.309(0.982, 5.428) | 5.486(1.178, 25.554) |
| | Good | 169 | 48 | 1 | 1 |
| Distance from Health facility(time elapsed) | < 30 min | 100 | 10 | 0.281(0.121, 0.651) | 0.244(0.077, 0.768) |
| | 30-60 min | 59 | 21 | 0.079(0.031, 0.202) | 0.073(0.019, 0.287) |
| | ≥ 60 min | 15 | 19 | 1 | 1 |

## Discussion

In this study out of 224 study participants 50 (22.3%) were considered their current pregnancy were unplanned. From these unplanned pregnancies 35 (15.6%) were mistimed and 15 (6.7%) were not wanted at all. This finding is in line with studies done in Debre-brehan town 23.5% (10.58% were unwanted and 12.9% were mistimed) [30], and EDHS 2016, 22% [12],it also goes in line with research's done in Kenya 24% [22]. This similarity might be due to the study done nearly in proximate years (only one-year gaps) and nation's strategies on modern contraceptives. On the contrary study in Adigrat 54.5% [26], Debremarkos 32.9% [27] and Duguna fango district 36.1% [29] shows higher prevalence of unplanned pregnancy, this difference might be difference in study period, different background communities, due to different methodology and due to increased availability and accessibility of maternal health service, including modern contraceptives with time since that time.

However, the prevalence of unplanned pregnancy in this study was higher than a study conducted in Arbaminchi 19.9% [32], Senegal 14.3% [23] and Indonesia 19.1% [21]. The differences might be due to both population have different background communities.

The most reasons why they experienced currently unplanned pregnancy were contraceptive failure 24 (10.7%), contraceptive inconsistent use 22 (9.8%), and not using contraceptive 4 (1.8%) respectively. The finding of this study is in line with the study conducted in Ganji woreda, Gelemso General Hospital [29], Debre-brehan town [30], Demote Gale district and Arbaminchi town [32]. This shows that the above listed reason is the most common reasons that most women exposed to unplanned pregnancy.

In this study, residence of respondents, decision maker about utilization of family planning, discussion about contraceptive methods with husbands, knowledge about modern family planning and time respondents elapse to reach near health facility providing family planning were the predictor variables that significantly associated with unplanned pregnancies.

The study showed that women living in urban were less likely to have unplanned pregnancy than those respondents living in rural area (AOR=0.429, 95%CI: 0.184, 0.996). This study is in line with a study conducted in EDHS 2016 [12]. This shows that women living in rural area are low awareness about modern family planning utilization and less accessibility and availability of modern family planning methods.

Women who discuss with their husband about contraceptive were less likely to encountered unplanned pregnancy compared to those not discussed (AOR=0.033, 95%CI: 0.006, 0.177). This finding is in line with a study conducted in Damot Gale district [33-37]. This shows that having open discussion with partner encourages planning for future fertility desires and helps to manage once life very easily.

Women who have poor knowledge about modern family planning were 5.5 times more likely to experience unplanned pregnancy compared to those who had good knowledge (AOR=5.486, 95%CI: 1.178, 25.554). This finding is in line with a study conducted in Ganji woreda [38-42]. This might be due to women who had low knowledge were less likely to know the available option, more likely to complain with minor side effects and less likely to use method correctly.

Women who travel less than 30 minutes to reach near health facility were less likely to have unplanned pregnancy as compared to traveling distance more than 60 minutes (AOR=0.073, 95%CI: 0.019, 0.287). This study is in line with a study conducted in Bale Zonal hospitals [28]. This shows that those women who elapse more than 60 minutes to reach near health facility providing family planning miss family planning appointment due to different reason like shortage of transportation and time.

## Conclusion

According to this study finding, magnitude of unplanned pregnancy was found to be unbearable (22.3%). It implies as it

is a major reproductive health problem in the study area and thus it deserves priority attention. Place of residence, discussion about family planning between couples, knowledge about modern family, and distance from near health facility were identified as factors affecting unplanned pregnancy. The study also showed as there is no single factor accounted for the high rate of unplanned pregnancy rather many factors were interwoven to affect the occurrence of the event.

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