Unintended pregnancy and associated factors among pregnant women in Arsi Negele Woreda, West Arsi Zone, Ethiopia

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Abstract

Objective: The study was aimed at determining the prevalence of unintended pregnancy and associated factors in Arsi Negele Woreda from May 01, 2017 to July 30, 2017.

Results: Unintended pregnancy was found to be 41.5%. The multivariable logistic regression revealed that 35 and above age group (AOR; 2.343, 95% CI 1.374, 3.997), single marital status (AOR; 6.492, 95% CI 1.299, 32.455), parity of 2 (AOR; 53.419, 95% CI 21.453, 133.014), parity of 3 and above (AOR; 20.219, 95% CI 7.915, 51.655), having abortion history (AOR; 1.962, 95% CI 1.025, 3.755), having health professional visit (AOR; 2.004, 95% CI 1.218, 3.298) and having autonomy to use contraceptive method (AOR; 2.925, 95% CI 1.648, 5.190) were significantly associated with unintended pregnancy. Therefore, reproductive health advocacy, counseling and access of modern contraceptive methods are recommended.

Keywords: Unintended pregnancy, Arsi Negele, Unplanned

Introduction

World Health Organization (WHO) defined reproductive health as a state of complete physical, mental and social well-being, and not merely the absence of disease in all matters relating to the reproductive system and its function. It encompasses the freedom to control reproduction [1]. Uncontrolled sexual activity may result in unintended pregnancy. An Unintended pregnancy is a major health concern. It has association with higher mortality and morbidity of both mothers and newborns. The level of unintended pregnancy implies women’s reproductive health status [2–4]. An unintended pregnancy is unwanted or mistimed pregnancy. A mistimed pregnancy occurs in women who conceived sooner or later than the desired time. An unwanted pregnancy happens in women who do not want any more children at the time of conception [5, 6]. In Ethiopia, 17% and 8% pregnancies were mistimed and unwanted, respectively [7].

According to the Ethiopian Health sector transformation plan report, maternal and newborn health is a major priority. Reducing the number of unintended pregnancies promotes reproductive health [7, 8].

Unintended pregnancies affect children’s health. Hence, prevention is important to reduce maternal and infant mortality [9]. Accordingly, the national reproductive health program plans to reduce the maternal death to 199 per 100,000 live births and neonatal mortality rate to 10 per 1000 live births by 2010 [7].

Various barriers expose women to unintended pregnancy. The barriers are related to the health institutions accessibility, autonomy, reproductive health-related knowledge and health service quality [4].

Health sectors have tried to address the issue of unintended pregnancy. However, it is still a major health-related challenge. In sub-Saharan African countries, unintended pregnancy rate is high [8, 10, 11]. In developing countries, 49% of the 21 million pregnancies of women aged 15–19 is unintended pregnancy [12].

Unintended pregnancy mainly results from inconsistent use or not using contraceptive methods [13]. Although family planning demand among reproductive

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age group women has increased over time, the use is not satisfactory [13, 14]. In Ethiopia, unmet need for contraceptive methods is 22% [7].

Women might have an abortion due to unintended pregnancy [5, 9]. The level of abortion in a country implies the magnitude of unintended pregnancy. In Ethiopia, the annual abortion rate is 28 per 1000 reproductive age group women [15, 16]. Globally, 86 million pregnancies were unintended, of which 41 million resulted in abortions [11].

Addressing factors contributing to unintended pregnancy is essential to ensure safe and reliable service to reproductive age group women. Finding from this study will be helpful for health professionals, policymakers, and stakeholders in understanding factors associated with unintended pregnancy and designing possible interventions.

### Main text

#### Methods

**Study area, period and design**

The study was conducted from in Arsi Negele Woreda. Arsi Negele Woreda is found in Oromia regional state. It is 220 km far from the capital city of Ethiopia, Addis Ababa. It has a total population of 77,942 of which 49.49% are males and 50.5% are females. The Woreda has 1 private hospital, 2 health centers and 5 private clinics. A community based cross sectional study design was employed from May 01–July 30, 2017.

**Population and eligibility criteria**

The source of population was all pregnant women living in Arsi Negele Woreda. The study sample was selected pregnant women living in Arsi Negele Woreda and the study units were individuals at household levels.

Pregnant women residing for at least 6 months were included in the study. Those who are critically ill and mentally challenged were excluded from the study.

**Sample size and sampling technique**

The sample size was determined using a formula for estimation of single population proportion with the following assumptions: 36.5% proportion [17], Z a/2 is the Z value at 95% Confidence level (1.96) and 0.05 margin of error (d). Since the source population is 77,942 of which 49.49% are males and 50.5% are females. The Woreda has 1 private hospital, 2 health centers and 5 private clinics. A community based cross sectional study design was employed from May 01–July 30, 2017.

The structured questionnaire is adapted after a review of different literature [17–19]. The questionnaire sought information on respondents’ socio-demographic characteristics, obstetrics history and contraceptive utilization history. Four data collectors who are a fluent speaker of the Afan Oromo language were recruited as a data collector. Training was provided for 2 days by the principal investigator.

Data quality assurance

The data collection tool was translated to Afan Oromo and Amharic language. After that, it was retranslated to the English version to check its consistency. Pretesting of the data collection tools was conducted. Following the pretest, the tool was improved. Adequate training and supervision was provided.

Data analysis procedures

Data first was checked manually for completeness and then each completed questionnaire was assigned a unique code. Subsequently the data was entered into Epidata version 3.1. The generated data was transferred to statistical Package for Social Sciences (SPSS) version 20. All explanatory variables that have association in bivariate analysis with p-value less than 0.25 was entered into multivariable logistic regression model. p-value less than 0.05 was taken as significant association.
Results

Socio-demographic characteristics

A total of 644 pregnant women participated in the study, obtaining a response rate of 91.5%. More than three-fourth of the respondents (80.1%) were aged 17–34. More than half (95.2%) were married and 523 (81.2%) attended primary education. Majority of the respondent’s husband (87.3%) attended primary education. Regarding Occupation, 337 (52.3%) were housewives. The difference in the level of unintended pregnancy by age group was statistically significant (Table 1 and Additional file 1: Figure S1).

Obstetrics history

Of the respondents, 267 (41.5%) and 377 (58.5%) had unintended and intended pregnancy respectively. Three hundred twenty-five (50.5%) and 334 (51.9%) had gravidity and parity of 2, respectively. Two hundred ninety-seven (46.1%) had birth interval of 1–2 years. Only 41 (15.4%) reported lack of knowledge as a reason for unintended pregnancy. Majority (86.5%) had abortion history and 73 (11.3%) had one abortion. Seventy-nine (12.3%) got abortion care service from government facility and 393 (61%) had a discussion with their husband about the contraceptive methods. Most of them (71%) had autonomy to use contraceptive method and 456 (70.8%) had health professional visit. More than half (66.5%) ever used contraceptives and 122 (18.9%) used contraceptives in the last 12 months. Eighteen (2.8%), 77 (12%), 7 (1.1%), 18 (2.8%), 2 (0.3%) used Pills, Injectable, condoms, Implants, IUCD, respectively (Table 2).

Factors associated to the unintended pregnancy

Age, marital status, parity, abortion history, health professional visit and autonomy to use contraceptive method were found to be significant predictors of unintended pregnancy. Accordingly, pregnant women in the age group 35 and above were 2 times more likely to experience unintended pregnancy than pregnant women in the age group of 17–34 (AOR; 12.343, 95% CI 1.374, 3.997). Single women were 6 times less likely to experience unintended pregnancy than pregnant women who were married (AOR; 6.492, 95% CI 1.299, 32.455). Pregnant women with a parity 2 were 53 times more likely to experience unintended pregnancy than pregnant women with a parity of 1 (AOR; 53.419, 95% CI 21.453, 133.014). Pregnant women with a parity of 3 and above were 2 times more likely to experience unintended pregnancy than pregnant women who were married (AOR; 6.492, 95% CI 1.299, 32.455). In addition, Pregnant women with a parity of 3 and above were 20 times more likely to experience unintended pregnancy than pregnant women with a parity of 1 (AOR; 20.219, 95% CI 7.915, 51.655). Pregnant women who had no abortion history were 2 times more likely to experience unintended pregnancy than pregnant women who had abortion history (AOR; 1.962, 95% CI 1.025, 3.755). Pregnant women who had no health professional visit were 2 times more likely to experience unintended pregnancy than pregnant women who had health professional visit (AOR; 2.004, 95% CI 1.218, 3.298). Pregnant women who had no autonomy to use contraceptive method were 3 times more likely to experience unintended pregnancy than pregnant women who had autonomy (AOR; 2.925, 95% CI 1.648, 5.190) (Table 3).

Discussion

An unintended pregnancy is an important public health problem that predisposes women to maternal
deaths and illnesses mainly through unsafe abortions and poor maternity care [20]. Therefore, identifying the level of unintended pregnancy is essential. The study assessed the unintended pregnancy and associated factors.

The prevalence of unintended pregnancy in the study was 41.5%. This is higher than the prevalence of unintended pregnancy in Hosana 34% [21], Welkaite 26% [22], Kenya 24% [23], Senegal 14.3% [24], Pakistan 38.2% [25] and 27% Canada [26]. This might be due to the differences in socio-cultural characteristics and health coverage. Difference in the availability and accessibility of maternal health services, including access to modern contraceptives among the study areas may contribute to the difference.

Pregnant women with parity of 3 and above were 20 times more likely to experience unintended pregnancy than pregnant women with a parity of 1. Similarly, studies from United States and Brazil have found that women who have more alive children are more likely to experience an unintended pregnancy [27, 28]. If the women have enough children, the intention for the next pregnancy will decrease. High parity woman might already have adequate children. In addition, it might imply the gaps in counseling and postpartum contraceptives provision.

Single women were 6 times less likely to experience unintended pregnancy than pregnant women who were married. This is supported by research from Ethiopia [29]. Single women engage in sexual activity for pleasure. Therefore, if pregnancy occurs it is more likely to be unintended. Furthermore, they are less likely to use contraceptive methods [30].

Advanced age has a positive association with unintended pregnancy. Pregnant women in the age group 35 and above were 2 times more likely to experience unintended pregnancy than pregnant women 17–34 years old. This result is supported by research from Pakistan.
The effect of age on unintended pregnancy can be explained by the fact that as women grow older, they do not want any more children. But due to unmet need for contraceptives, these women experience unintended pregnancies.

The data also reveal that pregnant women who had no health professional visit were 2 times more likely to experience unintended pregnancy than pregnant women who had health professional visit. An unintended pregnancy and its negative consequences can be prevented through access to information from health professionals. Education regarding family planning service and supply points helped to decrease the level of unintended pregnancy. This is related to their role in providing information on family planning and increasing the utilization [32, 33].

**Conclusion**

The study has shown that the level of unintended pregnancy is higher. Age, marital status, parity, abortion history, health professional visit and autonomy to use contraceptive method were significantly associated with unintended pregnancy. Strengthening reproductive health advocacy, counseling and increasing access of modern contraceptive method is essential to combat the problem. Furthermore, community health education to the reproductive age group women is important.

**Limitation**

It has to be noted that the finding of this study mainly reflect situation in Arsi Negele Woreda Therefore, the findings should be interpreted with caution. The responses might have been liable to social desirability

| Variables                        | Unintended pregnancy | COR (95% CI) | AOR (95% CI) |
|----------------------------------|----------------------|--------------|--------------|
|                                  | No                   | Yes          |              |
| Age                              |                      |              |              |
| 17–34                            | 346                  | 170          |              |
| 35 and above                     | 31                   | 97           | 6.369 (4.085, 9.929)* | 2.343 (1.374, 3.997)** |
| Marital status                   |                      |              |              |
| Married                          | 367                  | 246          |              |
| Single                           | 3                    | 11           | 5.470 (1.511, 19.808)** | 6.492 (1.299, 32.455)** |
| Divorced/widowed                 | 7                    | 10           | 2.131 (0.800, 5.675) | 0.728 (0.237, 2.233) |
| Age at first pregnancy           |                      |              |              |
| Less than 18                     | 49                   | 32           |              |
| 18 and above                     | 328                  | 235          | 1.097 (0.682, 1.766) | 0.830 (0.428, 1.609) |
| Parity                           |                      |              |              |
| 1                                | 181                  | 9            |              |
| 2                                | 117                  | 217          | 37.300 (18.410, 75.573)* | 53.419 (21.453, 133.014)* |
| 3 and above                      | 79                   | 41           | 10.437 (4.841, 22.505)* | 20.219 (7.915, 51.655)* |
| Abortion history                 |                      |              |              |
| Yes                              | 59                   | 28           |              |
| No                               | 318                  | 239          | 1.584 (0.980, 2.559) | 1.962 (1.025, 3.755)** |
| Health professional visit        |                      |              |              |
| Yes                              | 305                  | 151          |              |
| No                               | 72                   | 116          | 3.254 (2.287, 4.631)* | 2.004 (1.218, 3.298)** |
| Contraceptive utilization        |                      |              |              |
| Yes                              | 215                  | 213          |              |
| No                               | 162                  | 54           | 0.336 (0.234, 0.483)* | 1.107 (0.554, 2.215) |
| Autonomy to choose contraceptive method |                  |              |              |
| Yes                              | 285                  | 172          |              |
| No                               | 92                   | 95           | 1.711 (1.214, 2.412)* | 2.925 (1.648, 5.190)* |

* Significant at p < 0.001; ** significant at p < 0.05
bias. The factors expected to influence unintended pregnancy may not be exhaustive.

Additional file

Additional file 1: Figure S1. Occupation of pregnant women in Arsi Negele Woreda, West Arsi Zone, Ethiopia, 2017.

Abbreviations

AOR: adjusted odds ratio; CI: confidence interval; COR: crude odds ratio; WHO: World Health Organization.

Authors’ contributions

ROF and AM conceptualized and designed the study. ROF, AM and TWA analyzed, interpreted the data, drafted the manuscript and critically reviewed the manuscript. All the authors read and approved the manuscript.

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Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

The datasets used and analyzed during the current study available from the corresponding author on reasonable request.

Consent to publish

Not applicable.

Ethics and consent to participate

Ethical clearance letter obtained from Research and Ethics Committee of Adama Hospital and Medical College. The Ethics Committee approved obtaining the verbal consent. Additionally an informed verbal consent obtained from each respondent after providing sufficient information for the purpose of study and the right to refuse participation or to jump some questions unwilling to answer. To ensure the confidentiality, name of respondents was not written on the questionnaires.

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