

Assessment of Knowledge on Danger Sign of Pregnancy and Associated Factors among ANC Attendant Pregnant Women in Arbaminch Town Governmental Institutions, Southern Ethiopia

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Abstract

Danger signs of pregnancies are a warning signs that women encounter during pregnancy, child birth and postpartum. It is important, to know this warning signs for women and health care providers to rule out serious complications and initiate treatment immediately. Insufficient knowledge about danger signs of pregnancy is one of the major contributing factors for maternal deaths. There is limited research on the knowledge of danger sign among the pregnant mothers in Arbaminch town. Therefore, this study was intended to assess the knowledge of danger sign of pregnancy and associated factors among ANC attendant pregnant women in Arbaminch town governmental institutions. Institution based cross-sectional study design was conducted from October, 22/2016 G.C to November, 27/ 2016 G.C. A systematic random sampling technique was used to select study participants from pregnant mothers attending ANC during the time of data collection. Data was collected using structured questionnaire and it was entered in to EPI Data version 3.1 software program and exported to SPSS version 20 software for analysis. Descriptive analysis and chi square test was done for association and p-value < 0.05 has been considered as significant. Result has been presented in tables, graphs and figures. A total of 358 pregnant women were included in the study with a response rate of 100%. The study indicate that 68.4% of the respondents had knowledge on danger signs of pregnancy and there was an association with the knowledge on danger signs of pregnancy and the age of the respondent, educational status of the respondent, monthly income, marital status, history of previous pregnancy, discussion about pregnancy issues, place of delivery of the previous birth, and attendants of the previous delivery.

Keywords: Danger sign; Knowledge; Institutional based; Antenatal care

Introduction

Pregnancy is a normal process that results in a series of both physiological and psychological changes in expectant mothers. However, normal pregnancy may be accompanied by some problems and complications which are potentially life threatening to the mother and / or the fetus.^[1] According to WHO 2014 report, globally, an estimated number of 289,000 women died during and following pregnancy and childbirth related problem in 2013 alone, showing a decline of 45% from 1990 report. Developing countries like sub-Saharan (62%) and South Asia (24%) together contribute 86% of the problem.^[2]

In Ethiopia, hemorrhage, Hypertensive disorders of pregnancy, abortion and sepsis are the leading causes of maternal deaths, which can be averted through recognition of danger signs of these complications and skilled institutional care. The Ethiopian Federal ministry of Health plans to reduce MMR to 199 per 100,000 live births by 2020.^[3] The new approach to ANC emphasizes the quality of care rather than the quantity. For normal pregnancies WHO recommends only four antenatal visits.^[2,4]

Obstetric Danger signs are not literal obstetric complications,

merely symptoms that are well named by non-clinical personnel. The identification of these danger signs and its relation with complication during pregnancy would increase the capacity of women, their partner and families to seek for timely health care, following the appropriate steps to ensure a safe birth and postpartum.^[5]

Danger signs of pregnancies are a warning signs that women encounter during pregnancy, child birth and postpartum. It is important, to know this warning signs for women and health care providers to rule out serious complications and initiate treatment immediately.^[6] About seventy two Percent of maternal death is attributed to direct causes of maternal mortality. Among those causes Hemorrhage, Hypertension, Sepsis, Abortion, Embolism accounts 27%, 14%, 11%, 8% and 3% respectively.

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[7] Problems in pregnancy and childbirth remain the most likely cause of death for a teenage girl in sub-Saharan African above any other disease or accident. [4] Knowledge of Danger signs of obstetric complications is the first step in the appropriate and timely referral to the basic and essential obstetric care. Although women's knowledge on the danger signs of pregnancy is important for improving maternal and child health. [8,9]

Improved knowledge of obstetric danger signs, birth preparedness practices, and readiness for emergency complications are the strategies aimed at both enhancing utilization of maternal health services and increasing access to skilled care during childbirth, particularly for women with obstetric complications. [10] The low awareness of danger signs related with lack of preparedness contributes to the delay in seeking skilled care therefore leading to high levels of maternal mortality and morbidity. Such maternal morbidity and mortality could be prevented if a women and their families recognize obstetric danger signs and promptly seek health care. Increasing the awareness of pregnant women on the danger signs would improve early detection of problems and reduces the delay in deciding to seek obstetric care. [11,12]

Maternal health is useful indicator to assess not only women's health status but also the accessibility, sufficiency and effectiveness of a countries health service system. [13] The level of Knowledge on danger signs of pregnancy in Mizan Aman General Hospital, Debayilatgin District and Debre Birhan was 47%, 56.8, and 38.6 respectively. [14-16]

Women individually, their partners and the communities need to be educated on obstetric danger signs so that they can seek appropriate care from skilled providers in time. Lack of knowledge of the significance of symptoms of obstetric complications is one of the reasons of failure of women to identify and seek appropriate emergency care. Accordingly, assessment of women's knowledge of obstetric danger signs and associated factors contributes to their knowledge. There was a community based cross sectional study was conducted in Arbaminch town to assess their knowledge but there is no any institution based research was conducted among the pregnant mothers in the town which is important to assess the knowledge of on danger signs of pregnancy.

The objective of this study was to assess the knowledge of danger sign of pregnancy and associated factors among ANC attendant pregnant women. This study therefore aims to fill this gap by assessing the current level of knowledge of danger signs and identify factors associated with it. And it is hoped that the results of the study has provide valuable information for design of possible programs and interventions to improve maternal and neonatal health.

Subjects and Methods

Study design

Institution based cross sectional study design was carried out from October, 22/2016 G.C to November, 7/ 2016 G.C in governmental health institution of Arbaminch town which is located in the southern part of Ethiopia.

Inclusion and exclusion criteria

Those pregnant women who have ANC follow up in Arbaminch Town Governmental Institutions are considered in Inclusion Criteria and pregnant mothers who are unable to hear and speak were excluded from the study.

Variables of the study

Dependent variables

Knowledge on danger signs of pregnancy

Independent variables

(i) Socio demographic variables

- Women age
- Marital status
- Occupational status
- Educational status
- Respondents monthly income
- Family size

(ii) Obstetric and ANC visit variables

- Parity
- Gravidity
- ANC visit
- Place of previous delivery

(iii) Health institution factor

- Health education or counseling
- Informed about pregnancy danger signs during ANC

Data collection instrument and procedure

Data was collected using structured questionnaire. The questionnaire contains socio demographic Characteristics, Previous obstetric characteristics, Level of Knowledge on Danger signs of Pregnancy and Current ANC follow up characteristics. The questionnaire was first be prepared in English then translated to local language (Amharic). Pretest was conducted in 5% of the participants in Lante Health center and modification has been considered. The data was collected by face to face interview by diploma holder midwives who are not working in the assigned area after they were given a half day training on the tools and necessary cares needed. The clients were interviewed in the waiting area prior to take ANC care in appropriate and private room.

Data processing and analysis

After checking for completeness of data, the data has been edited and then coded and entered in to EPI Data version 3.1 software programs and exported to SPSS version 20 software for analysis. Descriptive analysis and chi square test has been done for association and p-value < 0.05 has been considered as significant. Result has been presented in tables, graphs and figures.

Ethical clearance

Ethical clearance was obtained from Ethical Review committee of Arbaminch University College of Medicine and Health Sciences. Permission was obtained from both Gamo Goffa Zone Health Department and Arba Minich Town Health office. The purpose of the study was clearly explained to the participants and Informed consent was obtained from each study participant. Participants were also informed their full right to withdraw or refuse to participate in the study.

Results

A total of 358 pregnant women were included in the study with a response rate of 100%.

Socio-demographic characteristics of study participants

The respondents' age ranged from 17 to 45 years with a mean age of 24.3 ± 4.8 . Ninety (25%) of the respondents were attended grade 12 and above in their educational level and 24 (6.7%) are illiterates. sixty eight percent of the respondents were Gamo Ethinc groups, 172 (48%) were orthodox Christian by religion and 346 (96.6%) were married. The majority 170 (47.5%) of mothers were housewives and almost half of spouses' occupation 156 (43.6%) was merchants as well and 166 (46.4%) husbands were attained grade 12 and above educational [Table 1].

Table 1: Socio demographic characteristics of the respondents in Arbaminch town governmental institutions 2016 G.C (n=358).

Characteristics	Frequency	Percent
Religious status		
Orthodox	159	44.4%
Muslim	51	14.2%
Protestant	127	35.5%
Other	21	5.9%
Marital status		
Single	2	0.6%
Married	346	96.6%
Widowed	5	1.4%
Divorced	5	1.4%
Educational status		
No education	24	6.4%
1-8	142	39.7%
Secondary	102	28.5%
>12	90	25.1%

Occupational status

Trader	65	18.2%
Civil servant	69	19.3%
Student	43	12%
Housewife	170	47.5%
Other	11	3.1%

Ethnic group

Gamo	172	48%
Goffa	40	11.2%
Wolayta	139	38.8%
Other	7	2%

Husband educational status

No education	20	5.6%
Primary	58	16.2%
Secondary	114	31.8%
12 & above	166	46.2%

Husband occupational status

Farmer	71	19.8%
Civil servant	87	24.3%
Merchant	156	43.6%
Daily laborer	44	12.3%

Previous obstetric characteristics of the respondents

The respondents were first been pregnant at the mean age of 18.83 ± 2.29 and 198 (55.3%) have history of previous pregnancy. Of all the respondents, 34 (9.9%) women had three or more children. Moreover, 94 (26.3%) of women had five or more pregnancies. The mean of deliveries were 0.97 with a standard deviation of 1.49 of which 23 (6.4%) of the respondents have more than 3 live births and 6 (1.7%) have history of more than 2 still births. And also 35 (9.8%) of women have abortion at least once in life. Majority of the women 111 (31%) were delivered their last birth at health institution and 71 (19.8%) at home. one hundred twenty three (34.4%) were attended by skilled health professionals 43 (12%) by Trained TBAs. From the total of mothers who had pregnancy before, 29 (14.6%) had pregnancy associated complications. from those who have complications, 21 (5.9%) went to health facility for management of the complications [Figures 1 and 2].

Current ANC follow up characteristics

The mean gestational age of the pregnant women during the interview time was 12 week + 8 week i.e., 5.1% were in first trimester, 48.5% in second trimester and the rest 46.4% on third trimester. From the attendants 113 (31.6), 105 (29.3%), 103 (28.8%) and 37 (10.3%) had attended once, twice, three time and four ANC visits respectively. Among those respondents, having more than one pregnancy 80.3% had antenatal follow up in their previous pregnancies.

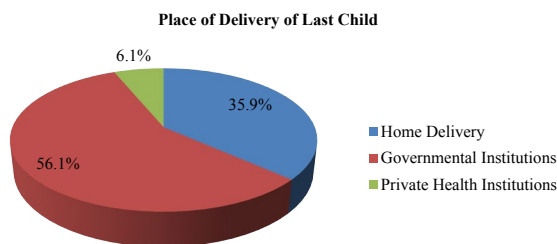


Figure 1: Place of delivery of the last child of the respondents in Arbaminch town governmental institutions in 2016 G.C (n=358).

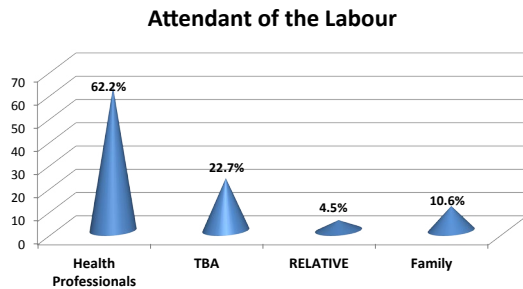


Figure 2: Attendants of the previous labor of the respondents in Arbaminch town governmental institutions in 2016 G, C (n=358).

Respondents were also been asked whether a health care provider advised them on danger signs of pregnancy or not. from the respondents 275 (76.8%) were got a health care advice about danger signs of pregnancy from the health care provider. from those who got advice 258 (93.8%) about reduced fetal movement, 238 (86.5%) about leakage of liquor, 252 (91.5%) about swelling of hands, face and entire body, 238 (86.5%) about blurred vision and 270 (98%) about vaginal bleeding which accounts 72%, 66.4%, 70.3%, 36.5% and 75.4% of the total respondents respectively. Among the respondents 263 (73.4%) of the total respondents got advice about where to go if they have face danger signs during pregnancy, 237 (57.8%) about where to deliver, 206 (57.8%) about transport arrangement and blood donors and skilled birth attendants.

Knowledge of danger signs of pregnancy

Out of the total women 245 (68.4%) said, "yes" regarding to the knowledge of danger signs of pregnancy related health problems, 85.3% states reduced fetal movement, 72.65% leakage of liquor, 82.04% swelling of hands, face and body, 66.94% severe headache. 72.65% high fever, 80% convulsion, 77.14% difficulty of breathing, 80.82% loss of consciousness and 98.37% states vaginal bleeding. from them 43% of the respondents got the information from the health institution and for 10.9% health extension workers being the major sources of information. Also 55.6% of respondents replied that they have discussion with health extension workers. from those who have discussion with health extension workers, 38.19% of the respondents have more than two visits till time of data collection.

The source of information about danger signs of pregnancy were 62.9% from health institutions, 15.9% from Health extension workers, 3.7% from Radio, 6.9% from TV and the remaining Friends, News, Husband, school and Others account 4.1%, 1.6%, 0.8%, 1.2% and 2.9% respectively.

Factors associated with knowledge on danger signs of pregnancy

The study indicate that there is a strong association with the knowledge on danger signs of pregnancy among ANC attending pregnant mothers and the educational status of the respondent with the chi square =18.525, df=3 and p-value of 0.001 and also there is an association with marital status of the respondents with a chi square 8.803, df=3 and p-value of 0.032. Based on this study, there is no association between occupational status and the educational status husband with a X^2 , df and p-value of 3.930, 4, 0.415 and 2.037,3 respectively.

Discussion about pregnancy issues, history of previous pregnancy and last child delivery place has an association with the danger signs of pregnancy with a chi square, df and p-value of (1.406, 2, 0.000), (10.315,1, 0.001) and (15.115, 3, 0.02) respectively. In addition Individual who attend the previous delivery has an association with a $X^2=15.77$, df=4 and p-value of 0.003. Age of the respondent, Monthly income of the respondent has an association with the knowledge on danger signs of pregnancy with the X^2 and p-value of 60.14, 0.000 and 95.63, 0.000 respectively. On the other hand family size of the respondent has no association [Table 2].

Discussion

This institutional based cross-sectional study assessed the knowledge on danger signs of pregnancy among pregnant mothers attending ANC in Arbaminch town governmental institutions. The study finding shows better knowledge about danger signs of pregnancy among ANC attendant pregnant women in the town's governmental health institutions as compared to the other studies.

In general from the respondents 68.4% of the respondents were knowledgeable about danger signs of pregnancy which is greater than a research done, in Mizan Aman which is 47% [14] and Debayinglan which is 56.8% [16] it might be due to study time variation in which currently maternal issue are in a great acceleration and the Ethiopian government health policy main focus is on maternal and child health. The Ethiopian government is working a lot on maternal health through the so called Urban and Rural health extension workers which help the main health sector in improving maternal health through home to home assessment and give care to pregnant women and any information on the danger signs of pregnancy. It is also greater than that of Aleta wendo which is 30.4% [17-19] which could be due to socio cultural differences, geographical variations, the implementation of relevant health intervention programs, health service coverage, and use of different sampling techniques for selection of the participants.

According to this study the commonly mentioned danger sign was vaginal bleeding which accounts 241 (98.37%) of the respondents who know danger signs which is increased from the study conducted in a Malaysia 86%, [20] Goba District, Ethiopia 71.3%, [21] rural Tanzania 9.6% [15] and 19% in Refuji [16] which might be due to difference in socio-demographic characteristics and health intervention activities in the areas.

Table 2: Associated factors with the knowledge on danger signs of pregnancy of the respondents in Arbaminch town governmental institutions 2016 G.C (n=358).

Characteristics	Knowledge on Danger signs			X ²	Df	p-value	
	Yes	No	Total				
Educational status of the respondent	No	16	8	24	18.525	3	0.001
	Primary	51	91	142			
	Secondary	61	41	102			
	> or equal to 12	49	41	90			
	Total	177	181	358			
History of Previous pregnancy	Yes	114	84	198	11.72	1	0.001
	No	63	97	160			
Discuss about pregnancy issues	Total	177	181	358	1.07	1	0.001
	Yet Not Delivered	64	100	164			
	Home Delivery	41	30	71			
Last Child Delivery Place	Governmental Hospital	62	48	110	15.12	3	0.002
	Private Hospital	10	3	13			
	Total	177	181	358			
	Yet Not Delivered	64	100	164			
Individual Who attend the previous Delivery	Health Professionals	69	54	123	15.77	4	0.003
	TBA	24	19	43			
	Friend/Relatives	5	3	8			
	Family	15	5	20			
	Total	177	181	358			

With similar expectation in causes of differences, swelling of the hands, face and body was considered as danger sign in 201 (82.04%) of the respondent which is greater than the study done in Sreepur Upazilla of rural Bangladeshi which was 42.3% (20) and 5.2% in a study conducted in Adigrat. [21] Two hundred nine (85.3%) of the respondents were considered Reduced fetal movement as danger signs of pregnancy which is increased than that of the study conducted at South Africa which is 50%, [22] 10.9% in Kenyatta National Hospital. [23] Convulsion and Severe headache was considered as a danger sign in a 196 (80%) and 164 (66.94%) of the respondents respectively. The study conducted in Sreepur Upazilla of rural Bangladeshi stated that convulsion and severe headaches considered in 36.3% and 25.7% of the respondents respectively. [20] In addition of the above reasons which might be due to Urbanization of the resident because urban residents have better access to health information and maternal health services as compared with the rural one. Furthermore, in rural areas source of information are limited.

The result of this study revealed that knowledge of women in danger signs of pregnancy is significantly influenced by educational status of the respondent, History of previous pregnancy and discussion about pregnancy issues. A study conducted in a southeastern Nigeria, [24] Rural Tanzania, Refuji district also reveal that women with a higher level of education were more likely to know at least one danger sign than those with low education. Similarly the study conducted in Aleta wendo stated that having attended High school and above were independently associated with mentioning of at least two danger signs of pregnancy. [19]

Educational seems to play a positive role in increasing the knowledge of women about danger signs during pregnancy and its complications. Educated women have better access to reproductive health related information than those non educated women and they have greater autonomy to make decision and have greater ability to use quality health care services. In other way illiteracy may reduce the ability of clients to understand issues during counseling.

Similar with the study conducted in rural Tanzania, Refuji district, [24] this study stated that discussion about pregnancy issues and history of previous pregnancies can increase the knowledge about danger signs of pregnancy it might be due to the increased health institution contact and information gained from the previous experiences. High frequency of Health institution contact and Discussion provides an excellent opportunity for information, education and communication. Increased awareness among older and multigravida and multiparous women may be related to their own experiences of pregnancy and delivery which is an important source of their information specially those who had complications associated with their pregnancy. This is in line with Pembe et al (2009) [24] who stated that young women in their first pregnancy may need more consideration when providing counseling and health education.

In the other hand, the occupational status of the respondent, the husband's educational status and the Husbands occupational status has no association with the knowledge on the danger signs of pregnancy. This could be explained by the fact that, working women and the spouse may not have time for better opportunity for discussion, to gain and share experiences with others.

According to this study, the last child delivery place and Individual who attend the previous delivery has an association with the knowledge with the danger signs of pregnancy. A study conducted in rural Tanzania, Refuji district also has a similar result with this. [24] This could be due to the health education given after delivery with the skilled and trained birth attendant. Currently the Ethiopian government focuses on controlling the Home delivery and expanding the urban and rural health extension practitioners due improving the knowledge of pregnant mothers on the danger signs of pregnancy.

Conclusion

This study conclude that the respondents were more knowledgeable about danger signs of pregnancy and there is an association between knowledge on danger signs of pregnancy among ANC attending pregnant mother and Age of the respondent, Educational status of the respondent, Marital status, monthly income of the respondent, Discussion about pregnancy issues, history of previous pregnancy and last child delivery place and the attendant of the last delivery. On the other hand occupational status of the respondent, educational status of the husband, occupational status of the husband and family size has no association with the knowledge on danger signs of pregnancy.

The limitation of the study was since it was confined to women visiting Governmental health institution, the findings may not be generalized able to the women who did not visit health institution.

Conflict of Interest

All authors disclose that there was no conflict of interest.

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