

www.ajadd.co.uk

**Original Article** 

# Awareness of Danger Signs of Pregnancy and its Associated Factors among Pregnant Women who Visit ANC in Mekelle Public Hospitals

Haftom Gebrehiwot\*<sup>1</sup>, Sara Bahta<sup>2</sup> and Nuguse Haile<sup>3</sup>

<sup>1</sup>Department of Midwifery, College of Health Sciences, Mekelle University, Ethiopia <sup>2</sup>Ayder referal hospital, ANC Unit, Mekelle University, Ethiopia <sup>3</sup>FGAE Mekelle, Tigray Branch, Ethiopia

Date of Receipt- 07/02/2014	ABSTRACT
Date of Acceptance- 19/02/2014	The main objective of this study was to assess awareness of danger
	signs of pregnancy and its associated factors in Mekelle public
	hospitals, 2014.
	Institutional based cross sectional study was conducted among 422
	pregnant mothers. Data was collected using interviewer administered
	questionnaire; it was entered and analyzed using SPSS version 16.
	The data were presented using texts, graphs and tables.
	Out of the total participants of this study 79.6% mothers had
	information about danger signs of pregnancy from which 61.9%
	mothers had information about vaginal bleeding followed by sudden
	gush of fluid before labor which was mentioned by 41.9% of
Address for	respondents. Severe unusual abdominal pain was the least known
Correspondence	danger signs as mentioned by 19 % of mothers. The main source of
Department of	information for the danger signs was health personnel and
Midwifery, College of	Negligence was the main reason for not having good awareness about
Health Sciences,	danger signs of pregnancy.
Mekelle University,	Therefore, health extension workers should strengthen their
Ethiopia	awareness creation activities; community mobilization and health
Tel.+251-0910209985	education should be considered with policy makers and other
E-mail: <u>haftom1224</u>	interested organizations.
<u>@yahoo.com</u>	Karmanda Dan son size Drasmanary avananas Antonetal and
	<b>Neyworus</b> : Danger sign, Fregnancy, awareness, Antenatal care.

#### **INTRODUCTION**

Pregnancy is a very important event from both social and medical points of view. Therefore, pregnant women should receive special care and attention from the family, community and from the health care system. The major goal of focused antenatal care is

#### American Journal of Advanced Drug Delivery

to help women maintain normal pregnancies through: health promotion and disease prevention, early detection and treatment of complications and existing diseases and birth preparedness and complication readiness planning<sup>1</sup>.

The danger signs are not the actual obstetric complications, but symptoms that easily identified by non-clinical are personnel. Knowledge of the danger signs of obstetric complications is the essential first step in the appropriate and timely referral to essential obstetric care<sup>2</sup>. The commonest danger signs during pregnancy include severe vaginal bleeding, swollen hands/face and blurred vision. Excessive vomiting, severe abdominal pain. Key danger signs during labor and childbirth include severe vaginal bleeding. prolonged labor. and retained placenta convulsions. premature rupture of membrane, malposition of the fetus<sup>3</sup>. Danger signs during the postpartum period include severe bleeding following childbirth, loss of consciousness after childbirth, and fever. Raising awareness of pregnant women on the danger signs would improve early detection of problems and reduces the delay in deciding to seek obstetric care<sup>2</sup>.

With the assumption that "every pregnancy faces risks", women should be made aware of danger signs of obstetric complications during pregnancy, delivery and the postpartum, The knowledge will ultimately empower them and their families to make prompt decisions to seek care from skilled birth attendants<sup>4</sup>. Moreover, in order for women to reach the place where appropriate care is provided, certain preparations prior to birth are required. Birth preparedness for woman а entails identifying a skilled attendant/ health facility with delivery services, making transportation plans, saving money and identifying a blood donor<sup>5</sup>.

World Health Organization (WHO) estimates that about 300 million women in the developing countries suffer from short and long-term illnesses due to complications related to pregnancy and childbirth<sup>6</sup>. An estimated 15% of pregnant women in developing countries experience pregnancy-related complications<sup>7</sup>. About 529,000 mothers die each year from maternal causes, out of which 99% of deaths being from the developing world<sup>8</sup>. Worldwide, in 2005, 535,900 women died from causes related to pregnancy and childbirth; half of these deaths occurred in sub-Saharan Africa<sup>9</sup>.

In Ethiopia, the levels of maternal mortality and morbidity are among the highest in the world and the current estimate of MMR (Maternal mortality Rate) is 673 per 100, 000 live births and it is reported that Maternal deaths accounted for 21% of all deaths<sup>12</sup>. Maternal morbidly and mortality could be prevented significantly if women and their families recognize obstetric danger signs and promptly seek health care<sup>3</sup>.

The aim of this study was to assess awareness of danger signs during pregnancy among mothers who visit governmental hospitals in Mekelle town.

#### METHODOLOGY

#### Study setting

The study was conduct between November to January 2013 at Mekelle town. Mekelle is the capital city of Tigray Adminstiretive regional state located783 kilometers North part of Addis Ababa, the town is divided into seven sub administrative units; namely Hawelty, Hadnet, Ayder, Semean, Kedamay weyane, Adihaki, and Quiha.

Total population of Mekelle town is estimated to be 227,505 (2008) Mekelle has one referral hospital (Ayder) and three other governmental hospitals which are Mekelle, Quiha and North command hospitals. A descriptive Institutional based cross-sectional study design was used and study participants were pregnant mothers who visit governmental hospitals in Mekelle town.

#### Eligibility criteria

#### Inclusion criteria

All pregnant mothers available during the data collection period and willing to participate were included in the study.

#### Exclusion criteria

Pregnant mothers who cannot give response like critically ill mothers, those unable to hear/ communicate; women with mental health problem was excluded from the study.

# Sample size determination and Sampling Procedure

Sample size was determined using the single population proportion; with a 95% confidence interval, a precision of 5%, and an assumed prevalence of breast cancer 50% to get a maximum sample size as there was no previous study conducted similarly in the area. adding 10% non response rate, the calculated sample size was 422.

Out of the four public hospitals in Mekelle town Ayder referral and Mekelle hospitals was selected using simple random sampling techninique and the required sample was allocated to each hospital proportional to their size which was 253 from Mekelle hospital and 169 from Ayder referral hospital. Finally, convenient sampling method was used to select the study participants.

#### Data Management and Analysis

Data entry and validation were done in EPI info version 3.5.1 statistical software data which was then exported to SPSS windows version 16.0 soft ware for further analysis. The outcome variables of this study were Knowledge about danger signs of pregnancy.

#### Ethical Consideration

Ethical approval was obtained from the ethical review committee of Mekelle University, College of Health sciences and supportive letters was obtained from the Clear communication University. was conducted with the respective department heads. Informed verbal consent was obtained, Privacy, confidentiality and benefits were maintained. Participants were assured that they never face anything for their participation in the study.

# RESULTS

Socio-demographic characteristics of respondents

A total of 422 pregnant mothers in which 253 from Mekelle hospital and 169 from Ayder referral hospital were included in the study with 100% response rate. One hundred sixty eight (39.8%) respondents were within the age range of 26 - 30 years and 390(92.4%) were married.

Out of the total respondents 374(88.6%) were Orthodox in religion as well as 399(94.5%) were Tigray in Ethnicity. Concerning educational status 151(35.8 %) mothers were in secondary school and 168(39.8%) of their husbands were in higher education. About 164 (38.9%) respondents were house wives with 183(43.4%) income of greater than 1500 birr per month (*Table 1*).

#### Obstetric history

From the total number of respondents 169(40%) had history of three and above pregnancies and about 90 (25.9%) mothers were pregnant for the first time. About 112(30.2%) respondents has 1 live child followed by 82 (22.1%) who have 2 live children. Majority 340 (91.2%) of the respondents had no history of still birth but only 1 (0.3%) respondent had history of 3 still

births. From the total number of pregnant mothers who had previous history of pregnancy, 250 (88.7%) had ANC follow up and negligence was the main reason for who didn't have ANC follow up as mentioned by 13 (61.9%) mothers. About half or 40 (50.7%) of mothers give birth at governmental institutions. Majority 199 (72.6%) of the pregnant mothers had not faced danger signs of pregnancy. From those who had danger signs of pregnancy bleeding was reported by 32 (43.2%) respondents (Table 2).

### Danger signs of pregnancy

Out of the total participants of this study 336 (79.6%) had information about danger signs of pregnancy from which 208 (61.9%) mothers had information about vaginal bleeding followed by sudden gush of fluid before labor which was mentioned by 141(41.9%) of respondents. Severe unusual abdominal pain was the least known danger signs 64 (19%). (Figure -1).

The main source of information for the danger signs was health personnel as described by 274 (81.5%) pregnant mothers. From the total participants of this study 412 (97.6%) said that pregnant mother can face danger signs and 415 (98.3%) respondents mentioned that the danger signs are preventable.

Regarding the methods of prevention 198 (47.7%) mothers respond using ANC follow up followed by early detection of dander signs as mentioned by 188 (45.3%) respondents (Table 3).

#### DISCUSSION

Out of the total participants of this study 79.6% had information about danger signs of pregnancy from which 61.9% mothers had information about vaginal bleeding followed by, severe head ache (31.5%), dizziness and blurred vision (33.6%) and unusual abdominal pain (19%). This was much higher as compared to a study conducted in kuwanzulu, South Africa, in 2011 in which nearly half (48%) of all pregnant women did not know any "danger signs". All 4 danger signs; Vaginal (PV) severe headache, epigastric/ bleeding. abdominal pain and blurred vision were known only to 2% pregnant women. However, vaginal bleeding was the most commonly known (17%) danger sign. This difference might be due to cultural and geographic variations as well as the health extension workers are doing more through health education.

This study revealed that form those who had history of previous pregnancy 88.7% had ANC follow up which is higher as compared to a study conducted in rural Uganda, in 2011, revealed that more than two thirds (68%) of the women had attended the minimum recommended four visits of antenatal care. Regarding knowledge of key danger signs, severe vaginal bleeding was the most frequently mentioned complication by women during pregnancy (49%). the majority of the respondents were able to mention at least one key danger signs during pregnancy (51.8%). But this was much lower than this study. This difference might be due to sample size difference and cultural as well as geographic diversity.

Based on the study employed in Rural Tanzania, in 2009, 51.1% of the women knew at least one obstetric danger sign. The percentage of women who knew at least one danger sign related to pregnancy was 26%.One in four women recognized severe vaginal bleeding after delivery as a danger sign. But in this study 79.6% respondents had information about danger signs of pregnancy from which 61.9% mothers had information about vaginal bleeding. This variation might be due to time gap between the studies as well as the difference in residence since this study was conducted in urban mothers.

Out of the total participants of this study 79.6% had information about danger signs of pregnancy from which 61.9% mothers had information about vaginal bleeding followed by sudden gush of fluid before labour which was mentioned by 41.9% of respondents. Severe unusual abdominal pain was the least known danger signs as mentioned by 19 % mothers. This was higher and some danger signs was different as compare to the study conducted in Aleta wondo, Sidama zone, southern Ethiopia in 2010, the most common spontaneously mentioned danger signs were vaginal bleeding by 45.9%, difficulty of breathing by 14.1% and loss of consciousness by 12.7%. Other signs mentioned include high fever accounting for 9.2%, severe headache for 7.4%, and severe abdominal pain for 7.0% but didn't know any danger signs of pregnancy. This difference might be due to maternal factors such as culture, residence and health promotion activities in the district. Time gap might be other reason.

In this study the common danger signs were vaginal bleeding, sudden gush of fluid before labor, severe headache, dizziness and blurred vision, excessive vomiting swelling of hands, face loss of fetal movement premature onset of contraction and severe unusual abdominal pain. This was in line with the management protocol on selected obstetrics topics by FMOH, 2011 which revealed the following danger signs during pregnancy; vaginal bleeding, Sudden gush of fluid or leaking of fluid from vagina, Severe headache not relieved by simple analgesics, Dizziness and blurring of vision, Sustained vomiting, Swelling (hands, face, etc.), Loss of fetal movements, Convulsions, Premature onset of contractions (before 37 weeks), Severe or unusual abdominal pain and Chills or fever.

# **CONCLUSION & RECOMMENDATION**

Based on the findings of this study the following can be concluded. Negligence was

the main reason for who didn't have good awareness of danger sign of pregnancy and significant numbers (37.3%) of mothers give birth at home. Even though majority of mothers had information about danger signs, there were about 20% pregnant mothers who didn't have information.

Majority of the pregnant mothers had not faced danger signs of pregnancy. From those who had danger signs of pregnancy bleeding was reported by 43.2% respondents. The main source of information for the danger signs was health personnel. Almost all of the participants said that pregnant mother can face danger signs which are preventable. Regarding the methods of prevention about half of mothers respond using ANC follow up followed by early detection of dander signs.

Therefore, to promote early detection, prevent birth complication among pregnant mothers; the responsible bodies should:-

- Significant number of mothers had no information on danger signs of pregnancy, health personals and health extension workers should strengthen their awareness creation activities.
- Negligence was the main reason for not having good awareness of danger sign of pregnancy; the government should strengthen and encourage pregnant mother's health education system.
- To improve the awareness of mothers towards danger signs of pregnancy community mobilization and health education should be considered with policy makers and significant others.

#### ACKNOWLEDGMENTS

Our deepest gratitude goes to Tigray regional health bureau for giving us the original data. We would like to extend our sincere gratitude to the data collectors, and supervisors for their remarkable performance in the study.

#### REFERENCES

- 1. Federal Democratic Republic of Ethiopia, Ministry of Health; management protocol on selected obstetrics topics, January, 2010
- 2. JHPIEGO. Maternal and Neonatal Health Program. Birth Preparedness and Complication Readiness: A Matrix of Shared Responsibilities. Maryland, USA: JHPIEGO; 2004.
- 3. Thaddeus S, D Maine. Too far to walk: Maternal mortality in context. *Social Science and Medicine* 1994; 38: 1091-1110.
- 4. Pembe AB, Urassa DP, Carlstedt A, Lindmark G, Nystrom L, Darj E: Rural Tanzanian women's awareness of danger signs of obstetric complications. BMC Pregnancy Childbirth 2009, 9:12.
- 5. JHPIEGO: Monitoring birth preparedness and complication readiness: tools and Indicators for maternal and newborn health. Baltimore: JHPIEGO; 2004.
- 6. World Health Organization (WHO). Mother-Baby Package: Implementing Safe Motherhood in Countries. Geneva, Switzerland: WHO; 1994.
- M. Hoque, and M. E. Hoque, Knowledge of Danger Signs for Major Obstetric Complications among Pregnant Kwazulu-Natal Women: Implications for Health Education. Asia-Pacific Journal of Public Health, 2011; 23(6) 946–956,
- World Health Organization (WHO). Pregnancy is special let's make it safe: World Health Day, Safe Motherhood. Geneva, Switzerland: WHO; 1998.
- Hill K, Thomas K, AbouZahr C, Walker N, Say L, Inoue M, *et al.*: Estimates of maternal mortality worldwide between 1990 and 2005: an assessment of available data. *Lancet* 2007, 370(9595):1311-9.

- 10. Graham W, Themmen E, Bassane B, Meda N, De Brouwere V: Evaluating skilled care at delivery in Burkina Faso: principles and practice. *Trop Med Int Health* 2008, 13(1):6-13.
- 11. Kabakyenga et al. Knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda Reproductive Health. 2011; 8(33) available at: http://www.reproductive-health-journal.com/content /8/1/33
- 12. Central Statistical Agency and ORC Macro. Ethiopian Demographic and Health Survey 2005. Addis Ababa, Ethiopia and Calverton, Maryland, USA; 2006.
- Federal Democratic Republic of Ethiopia, Minis-try of Health. National Reproductive Strategy, 2006-2015. Addis Ababa, Ethiopia: FMOH; 2006.
- World health organization. World health day making every mother and child count. Geneva, Switzerland: WHO; 2005.
- 15. United Nations Children's Fund (UNICEF). The Progress of Nations. New York, USA: UNICEF, 1996. Accessedat www.unicef.org/pon96/ woestima.html on September 2006.
- 16. Andrea B Pembe, Rural Tanzanian women's awareness of danger signs of obstetric complications. Bio med central. 2009; 9(12). available at: http://www.biomedcentral.com/1471-2393/9/12
- 17. Hiluf M, Fantahun M: Birth Preparedness and Complication Readiness among women in Adigrat town, north Ethiopia. Ethiopian Journal of Health Development 2007, 22(1):14-20.
- 18. Mesay Hailu eat al, Knowledge about obstetric danger signs among pregnant women in aleta wondo district, sidama zone, southern Ethiopia, *Ethiopian journal science*. 2010;20(1).

**Table 1.** Sociodemographic characteristics of mothers who visit governmental hospitals inMekelle city, Tigray, Ethiopia, 2014

	Variable	Frequency (n=422)	Percent (%)
	15-20	40	9.5
	21-25	151	35.8
	26-30	168	39.8
Age in years	31-35	47	11.1
	36-40	15	3.6
	>40	1	0.2
	Single	17	4.0
Marital status	Married	390	92.4
Warital Status	Divorced	13	3.1
	Widowed	2	0.5
	Orthodox	374	88.6
Religion	Muslim	44	10.4
	Catholic	4	0.9
Ethnicity	Tigray	399	94.5
Ethnicity	Amhara	23	5.5
	Illiterate	37	8.8
Educational	Able to read and write	36	8.5
status	Primary school	64	15.2
	Secondary school	151	35.8
	Higher education	134	31.8
	Illiterate	31	7.3
Husband	Able to read and write	56	13.3
educational	Primary school	45	10.7
status	Secondary school	122	28.9
	Higher education	168	39.8
	Daily laborer	26	6.2
Occupation	Civil servant	128	30.3
Occupation	Merchant	104	24.6
	House wife	164	38.9
	Unknown	126	29.9
Monthly in come	<500birr	22	5.2
	501-1000birr	29	6.9
	1001-1500birr	62	14.7
	>1500birr	183	43.4

Table 2. Obstetric history of pregnant mothers who visit governmental hospitals in Mekelle city,
Tigray, Ethiopia, 2014

Variable		Frequency (n=422)	Percent (%)
Order of pregnancy	First	143	33.9
	Second	110	26.1
	Third and above	169	40.0
	No	96	25.9
	1	112	30.2
Number of alive	2	82	22.1
children	3	49	13.2
	4	22	5.9
	5	10	2.7
Number of still births	No	340	91.2
	1	26	7.0
	2	6	1.6
	3	1	0.3
ANC follow up	Yes	250	88.7
	No	32	11.3
Reasons for not	Lack of knowledge	8	38.1
having ANC follow up	Negligence	13	61.9
Place of birth	At home	103	37.3
	Governmental institution	140	50.7
	Private health institution	33	12.0

	Variable	Frequency (n=422)	Percent (%)
Information about	Yes	336	79.6
dangersigns	No	86	20.4
Source of	Health personnel	274	81.5
information*	Mass media	99	29.5
	Family	40	11.9
Danger signs faced on	Yes	75	27.4
the mother	No	199	72.6
	Vaginal bleeding	32	43.8
	Sudden gush of fluid before		
	labour	16	21.9
	Severe head ache	5	6.8
Types of danger signs	Dizziness and blurred vision	4	5.5
faced on the mother	Excessive vomiting	2	2.7
	Swelling of hands, face	3	4.1
	Loss of fetal movement	4	5.5
	Premature onset of contraction	5	6.8
	Severe unusual abdominal pain	2	2.7
Can pregnant mother	Yes	412	97.6
face danger signs	No	10	2.4
Are danger signs	Yes	415	98.3
preventable	No	7	1.7
	Early detection of danger signs	188	45.3
How danger signs can	Using ANC follow up	198	47.7
be prevented*	Early decision for medical service	150	36.1
	Arrangement of transportation	62	14.9

**Table 3.** Danger signs of pregnancy among pregnant mothers who visit governmental hospitalsin Mekelle city, Tigray, Ethiopia, 2014

\*more than one answer was given

