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Knowledge of Obstetric Danger Signs and Associated Factors among Pregnant Women Attending ANC Service at Gedo Town Health Facilities, 2015

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Abstract
Background: Globally, every minute at least one woman dies from complications related to pregnancy or childbirth. But maternal mortality could be significantly reduced if the women and their families could recognize obstetric danger signs and promptly seeking health care services.Objective: To assess the knowledge of obstetric danger signs and aassociated factors among pregnant women attending ANC service at Gedo town health facilities in 2015.**Methods:** A facility based cross-sectional study was conducted from March 01-30 of 2015 on a randomly selected 198 pregnant women who were attending ANC service at Gedo town health facilities. Systematic sampling technique was employed to select the study participants and face to face interview based pre-tested questionnaires was used to collect the data. Then bivariate and multivariate data analysis was performed using SPSS window version 16.0 software.**Result:** Out of the total 208 sampled study participants, about 198 respondents were interviewed with making a response rate of 95%. From the total respondents about 114(57.5%) of the respondents were Knowledgeable about obstetric danger signs and respondents education, occupation and availability of mass-media in the house were independent predictors for obstetric danger signs. Respondents who attended above grade 12 were about four times more likely knowledgeable about obstetrics danger signs than those respondents who were illiterate at (AOR= 4.421, 95% CI: 2.102-9.743). Participants of Government employ in occupational status were about four times more likely knowledgeable about obstetric danger signs than those respondents who were house wife at (AOR=4.561, 95% CI: 2.031-10.115). Participants who have mass media in their house were about three times more likely knowledgeable about obstetric danger signs than those who didn't have mass media in their house at (AOR=3.129,95% CI:1.550-4.318).**Conclusions and Recommendations:** In this study significant proportion of mothers were not knowledgeable about obstetric danger signs. This indicates that many mothers are more likely to delay in deciding to seek health care if they face obstetric complications. The educational level of the respondents, occupational status of the respondents, and availability of the mass media in their house were the independent predictors of knowledge about obstetric danger signs. Therefore, an appropriate counseling and health education should be given to all pregnant mothers and their families to increase their knowledge about obstetric danger signs to enable them in early recognition of obstetric danger signs for seeking health care.
Keywords: Knowledge of obstetrics danger signs, Gedo town, health facilities

1. INTRODUCTION

Globally, in every minute at least one woman dies from complications related to pregnancy or childbirth and a total of 529, 000 women die each year [1]. Sub-Saharan Africa has the highest MMR in the world which is estimated to be 500 per 100,000 live births in 2010 [2].

Knowledge of the danger signs of an obstetric complication is one aspect of obstetric problem recognition at the community level. Obstetric complications may occur during pregnancy, labor and child birth, and during post natal period. Key obstetric danger signs during pregnancy are severe vaginal bleeding, swollen hands/face and blurred vision. Key obstetric danger signs during labor and childbirth are severe vaginal bleeding, pro-longed labor, convulsions, and retained placenta. Key danger signs during postpartum period are severe vaginal bleeding following child birth, loss of consciousness after childbirth, and fever. Raising the awareness of pregnant women on the obstetric danger signs would improve early detection of these problems and reduces the delay in deciding to seek obstetric care [3, 4].

Despite the fact that emphasis is given by the national strategy to raise knowledge of obstetric danger signs, little is known about the current level of knowledge and the influencing factors in Ethiopia particularly in the study area [5]. Therefore, this study helps to assess the knowledge level of obstetric signs and associated factors among pregnant women attending ANC service of Gedo town health facilities.

Study done in rural Uganda showed that from the total of 764 pregnant women, 52% of women knew at least one key danger sign during pregnancy, 72% knew at least one key danger sign during delivery and 72% knew at least one key danger sign during postpartum. Only 19% had knowledge of three or more key danger signs during pregnancy, delivery and post natal period [6].

Study conducted in Aletawondo, sidama zone of southern Ethiopia showed that out of the 743 pregnant women who participated in study, about 226 (30.4%), 305(41.3%) and 279(37.7%) knew at least two danger

signs during pregnancy, childbirth and postpartum period, respectively. Being urban resident was consistently found to be strongly associated with mentioning at least two danger signs of pregnancy (OR=4.1; 95% CI: 2.4, 7.0), child birth (OR=3.3; 95% CI: 1.8, 6.1), and postpartum period (OR=8.4; 95% CI: 4.5, 15.4).The study indicated that the knowledge level of pregnant women about obstetric danger signs was low and affected by residential area [7].

Study conducted in Arbaminch showed that among three hundred ninety mothers participated in the study, 24.1% of them were knowledgeable while 75.9% were not knowledgeable about obstetric danger signs that occurred during pregnancy, labor and postnatal period and Educational status, age, monthly income, and decision making power were independently associated with knowledge of obstetric danger signs[8].

A Community based cross-sectional study conducted in Tsegedie District of Tigray Region showed that among a randomly selected sample of 485 women who had at least one delivery in the past two years, Four hundred eighty five mothers participated in the study making a response rate of 100%. Vaginal bleeding was the most commonly mentioned danger signs of pregnancy (49.1%) and childbirth (52.8%). Two hundred eighty five (58.8%) and 299 (61.6%) of respondents mentioned at least two danger signs of pregnancy and childbirth respectively. One hundred seventy (35.1%) and 154 (31.8%) of respondents didn't know any danger signs of pregnancy and childbirth respectively. Educational status of the mother, place of delivery and having functional radio were found to be independent predictors of knowledge of women about the danger signs of pregnancy and childbirth. [9].

Study conducted in East wollega showed that about 26.04% (n=100) of the respondents were not aware of any danger signs of obstetric complications. In addition, 52.86% (n=203) of the respondents were unaware of danger signs that could arise during pregnancy, 38.28% (n=147) were unaware of danger signs that could arise during delivery, and 43.00% (n=165) were unaware of danger signs that could arise after birth. In this study, only 28.38% (n=109) of the respondents indicated vaginal bleeding during pregnancy as a danger sign of obstetric complications. Of the key danger signs during childbirth, such as severe vaginal bleeding, prolonged labour, convulsions and retained placenta, only 38.28% (n=147) of the respondents mentioned vaginal bleeding as a danger sign of obstetric complications and only 29.17% (n=112) of the respondents were aware of prolonged labor as a danger sign of obstetric complications despite its association with both maternal and foetal morbidity and mortality. The study also showed that 42.97% (n=165) of the respondents were indicated severe vaginal bleeding as a danger sign of obstetric complications during the postpartum period. The study revealed that the respondents' occupation, number of pregnancy, number of ANC visits made, and hearing of women who had died of obstetric complications were strongly associated with awareness of danger signs of obstetric complications [10].

2. METHOD AND MATERIALS

Study Area and period

The study was conducted from March 01 to 30 of 2015 in Gedo town. Gedo town is the capital city of chelia woreda, which is found at 176 km away from Addis Ababa to the west direction on the way to Wollega. The town has one District hospital, one Health center, one Maternal and child health (MCH) clinic, five private clinic and two health posts. According to the 2007 census report of Ethiopia, the projected total population of the town is 48,171; out of which 24,634 are males and 23,537 are females. From the total population, the estimated reproductive age group women and expected pregnancy is about 12,542 and 2,100 respectively. From all health institutions found in the town, the ANC service is currently provided at all governmental health institutions in the town and their total average monthly ANC client case load at all institution is about 510 clients.

Study Design

A facility based cross-sectional study design was employed for data collection process

Source Population

All pregnant women who attend ANC in Ambo town health facilities during data collection period

Study Population

All pregnant women who attended ANC during data collection period were sampled for the study

Inclusion and Exclusion Criteria

Inclusion Criteria

All pregnant women who were attending ANC service during data collection period.

Exclusion Criteria

ANC attendants who were seriously ill during data collection process were excluded

Sample size determination and Sampling procedure

Sample Size Determination

The sample size for this study was determined by using single population proportion formula based on the following assumptions;

$$n = \frac{(z)2\ p(1-p)}{} = \frac{(1.96)^2\ 0.304(1-0.304)}{} = 325$$

d^2 $(0.05)^2$

Where N = 510

nf= **198** and by adding 5 % non-response rate the total sample size will be nf = **208**

$$nf = \frac{ni}{1 + \frac{ni}{N}}$$

Where: n= sample size

Za/2= critical value (1.96 for 95% CI)

P= knowledge of obstetric danger signs is 30.4% from study conducted in AletaWondo (7)

d= precision (marginal error) =0.05

Sampling techniques

First, all health facilities providing ANC service in the town was identified and included in the study. Then the total sample size was allocated to each facility proportionally after taking their daily case load of ANC clients so as to determine the proportion of pregnant women taken from each health facility within one month of data collection period. Finally, systematic sampling was used to select the study subjects at each health facility until the allocated sample size is collected.

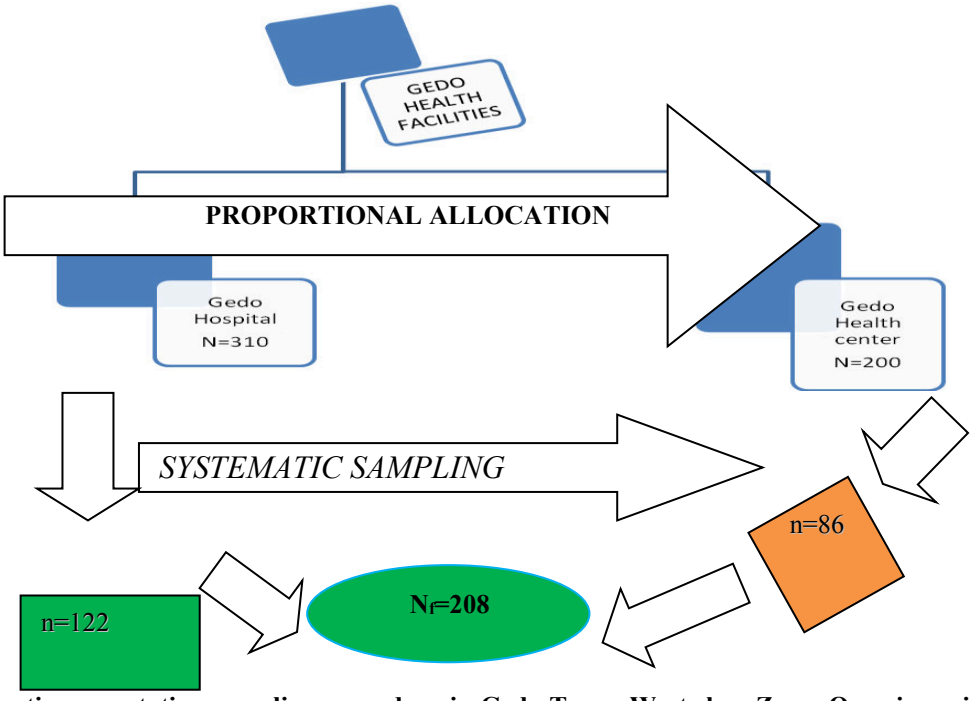

Fig 1: schematic presentation sampling procedure in Gedo Town, West shoa Zone, Oromia region, April 2015.

Data collection procedures

For the data collection purpose four trained nurses and one supervisor members of the group were participated throughout the data collection after getting one day orientation and advices on the objective of study, the study instruments, consent form, how to interview and data collection procedure.

Data quality control/Assurance

Before the initiation of the actual data collection, Language version of questionnaire, pretest was done by taking of 5% of total sample size in guder health center. Additional adjustment of questionnaire based on the result of pretest, starting of data collection by orientation, checking of the collected data by supervisors and cross checkup for completeness of data was performed to insure the quality of data.

Data Analysis

The Collected data was cleaned, edited and recorded, checked for completeness and consistency of the data. Then, the data was cleaned and entered in to a computer to be analyzed using SPSS window version 16. Then data was summarized and described using descriptive statistics and a binary &multiple logistic regressions were done to see the existence of association between dependent and independent variables. Finally, the data was presented by tables, figures, charts, and texts.

Ethical Consideration

Ethical clearance paper was obtained from Ambo university, college of medicine and Health sciences, Department of nursing Written permission was secured from Gedo town administrative office and all the study participants was informed about the purpose of study, their right to refuse and assured confidentiality.

3. Results

Socio-demographic characteristics of the study respondents

Out of the total 208 sampled study participants, about 198 respondents were interviewed with making a response rate of 95%. From the total study respondents about 154 (77.7%) were in the age group of 15-34 years and the majority of the participants 183(92.4%) were Oromo in ethnicity. Among the study respondents about 119 (60.1%) and 178 (89.9%) were Protestant religious followers and married in marital status respectively. Related to their educational status among the study respondents about 101(51%) were illiterate and only about 14(7.1%) were above secondary education in educational status. Regarding the respondents occupational status about 81(40.9%) were house wife and about 146 (73.7%) were having family monthly income of less than 1000 EBR **(Table 1).**

Table 1: Socio demographic characteristics of pregnant women attending ANC service in Gedo town health facilities, April, 2015

Variables		Number	Percent (%)
Age (in year)	15-24	69	34.8
	25-34	85	42.9
	≥35	44	22.2
Religion	Muslim	11	5.6
	Protestant	119	60.1
	Orthodox	67	33.8
	Catholic	1	0.5
Marital status	Single	2	1
	Married	178	89.9
	Divorced	9	4.5
	Widowed	9	4.5
Ethnicity	Oromo	183	92.4
	Amara	9	4.5
	Gurage	6	3
Educational level	Illiterate	101	51
	Read and write	22	11.1
	Elementary(1-8)	33	16.7
	Secondary(9-12)	28	14.1
	Higher than secondary	14	7.1
Occupation	House wife	81	40.9
	Farmer	46	23.2
	Government employee	35	17.7
	Private work	33	16.7
	Others	3	1.5
Family monthly in come	<1000 birr	146	73.7
	1000 -3000 birr	43	21.7
	>3000 birr	9	4.5
Gravidity	Prim-Gravida	45	22.7
	Multi gravida (2-4)	133	67.2
	Grand multi para (5^{+})	19	9.6

Table 2: Knowledge of pregnancy danger signs among pregnant women attending ANC service in Gedo Town health facilities, April 2015

Obstetric Danger Signs during pregnancy	Frequency	%
Severe Vaginal Bleeding	111	56.1
Severe headache	98	49.5
Blurred vision	50	25.3
convulsion	37	18.7
Swollen Hands Or Face	34	17.2
High Fever	39	19.7
Loss of Consciousness	31	15.7
Difficulty of breathing	38	19.2
Sever Weakness	98	49.5
Severe Abdominal Pain	71	35.9
Reduced Fetal movement	85	42.9
Don't know	46	23.2

Table 3: Knowledge about danger signs during labor and child birth among pregnant women attending ANC service in Gedo Town health facilities, April 2015

Obstetric Danger signs during labour and child birth	Frequency	%
Severe Vaginal Bleeding	130	65.7
Severe headache	76	38.4
High Fever	39	19.7
Loss of Consciousness	45	22.7
Labour lasting more Than 12 hours	112	56.6
Placenta Not Delivered Within 30 min	115	58.1
Convulsion	46	23.2
Don't know	44	21.2

Table 4: Knowledge about danger signs after the delivery of baby among pregnant women attending ANC service in Gedo Town health facilities, April 2015

Obstetric Danger signs after Child birth or Delivery	Frequency	%
Severe Vaginal Bleeding	130	65.7
Severe headache	76	38.4
Blurred Vision	38	19.2
Convulsion	46	23.2
Swollen hands or face	40	20.2
Mal odorous vaginal discharge	86	43.4
Loss of Consciousness	34	17.2
Difficulty Of Breathing	41	20.7
Sever Weakness	74	37.4
Don't know pregnancy danger signs	69	34.8

Knowledge level about obstetric danger Signs and factors associated among study participants

From the total participants of the study about 152 (76.8%), 154 (77.8%) and 129 (65.5%) of the respondents were knowledgeable about the danger signs of pregnancy, danger signs during labour and child birth, danger signs that may occur after child birth respectively. From the total participants only 114(57.5%) of the respondents were Knowledgeable about obstetric danger signs. Related to variables having significant association with obstetric danger signs among independent variables assessed for association Education of the respondents, Occupation of the respondents and availability of mass-media in the house was the independent predictor of obstetric danger signs. Respondents who attended above grade 12 were about four times more likely knowledgeable about obstetrics danger signs than those respondents who were illiterate in education status at (AOR= 4.421, 95% CI: 2.102-9.743). Participants who are Gov't employ were about four times more likely knowledgeable about obstetric danger signs than those respondents who were house wife in occupational status at (AOR=4.561, 95% CI: 2.031-10.115). Participants who have mass media in their house were about three times more likely knowledgeable about obstetric danger signs than those who doesn't have mass media in their house at (AOR=3.129,95% CI:1.550-4.318).

Table 5: Factors Associated with Knowledge of Obstetrics danger signs among pregnant women attending ANC service in Gedo town Health facilities, April 2015.

VARIABLES	LEVEL OF KNOWLEDGE		COR(95%CI)	AOR(95%CI)
	Knowledgeable	Not Knowledgeable		
Educational level				
Illiterate	37	43	1	1
Read and write	12	10	0.172(0.278-10.849)	1.146(1.159-5.495)
Elementary	21	12	1.252(1.213-9.133)	2.680(1.131-3.540)
Secondary	24	11	2.314(1.171-12.312)	3.369(1.075-6.805)
Above Secondary			2.844(1.136-8.873)	4.421(2.102-9.743)
Occupation				
House wife	42	39	1	1
Farmer	19	27	0.53(0.737-8.179)	1.621(3.113-11.326)
Private work	24	9	1.404(0.167-6.975)	2.180(2.040-12.335)
Gov't employee	27	8	2.319(1.130-12.786)	4.561(2.031-10.115)
Having mass media in house				
Yes	90	60	1.25(1.450- 7.213	3.129(1.550-4.318)
No	24	24	1	1

4. Discussion

Knowledge of obstetric danger signs that may occur during pregnancy, labor and postnatal period is the first essential step for appropriate and timely referral. The study showed that out of 198 participants, about Two third (76%), (77.8%) and (65.5%) of the respondents mentioned at least two danger signs of pregnancy, danger signs during labor and child birth, and danger signs that may occur during perperium. This finding is higher than other studies conducted in Tsegedie District of Tigray Region, Sidama zone of Aleta wondo district, Arbaminch district and East wollega area. This difference might be due to increased health awareness among the community through health extension programs know a days than before [7-10].

The study also showed that about 57.6% of respondents were knowledgeable about obstetric danger signs (mention at least two danger signs that occur during pregnancy, labor and postnatal period. This finding is higher than the study findings of Arba Minch that was only about 24.1% of the respondents were mention at least two danger sign at the three obstetric danger signs [8].This difference might be due to expansion of health education by different medias and activities of health extension workers at community level.

The study showed that Education of the respondents, Occupation of the respondents and availability of mass-media in the house were the independent predictor of obstetric danger signs among the independent variables assessed for having an association. This finding was consistent with the study conducted in Tsegedie District of Tigray Region, district, Arbaminch and East wollega [8-10].

5. Conclusion and recommendation

The result of the study showed that more than half of the respondents knew at least two danger signs of obstetrics complications and the educational level of the respondents, occupational status of the respondents, and availability of the mass media in their house were the independent predictors of knowledge about Obstetric Danger Signs among the respondents. Therefore, health care workers should provide appropriate counseling to pregnant mothers to increase their knowledge and to enable them in early recognition of serious health problems that may occur during pregnancy, labor and post-partum period for seeking health care. The woreda health office should also provide continuous health educations that are targeting pregnant women, their families and the whole community on obstetrics danger signs.

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