

Knowledge of Obstetrics Danger Sign and Associated Factors among Pregnant Women in Boditi Town, Wolaita Zone, Southern Ethiopia, Institution based Cross Sectional Study, 2019

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Received: May 27, 2020; Published: October 19, 2020

Abstract

Background: Danger signs are a serious complication of pregnancy and warning sign that women happenstance during pregnancy, child birth and postpartum. Knowing this danger sign during pregnancy is very important for health care provide as well as for women. Pregnancy is a normal process that results in a series of both physiological and psychological change in expectant mother.

Objective: The aim of this study is to assess knowledge on danger signs of pregnancy and associated factors in Boditi health center.

Methods: An institution based cross sectional study was conducted in Boditi health center from May-July 2019. The final sample size was 366 and a systematic random sampling technic was used. A pretested interviewer administered questioner was used for data collection. The data was entered by Epi data and analyzed using SPSS version 21.

Result: From 366 women; 146 (39.89%) had good knowledge about danger sign. From those who had information about danger sign, 165 (45.1%) identified sever vaginal bleeding, persistent vomiting was indicated by 46 (12.56%) mother, Swelling of head and face 91 (24.86%), persistent headache and blurred vision 53 (14.48%). Antenatal care (AOR = 6.2, 95% CI = 2.1, 8.2) educational status (AOR = 3.3, 95% CI = 1.9, 4.5) are factors associated with knowledge of dander sign during pregnancy.

Conclusion: Finding from this this study indicate that women's knowledge about danger sign during pregnancy is lower than expected to have a mother safe pregnancy and child birth for early detection and management of danger sign.

Keywords: Danger Sign; Pregnancy; Antenatal Care; Ethiopia

Background

Pregnancy, also known as gestation, is a normal process that results in a series of both physiological and psychological change in expectant mother. However normal pregnancy accompanied by problem and complication that is life threatening for the fetus as well for mother [1]. Antenatal care is the most significant way for determining pregnancy related dangers in the timely period and gives information for pregnant mother about danger signs that will be occurred during pregnancy and need health care [2].

Danger signs are a serious complication of pregnancy and warning sign that women happenstance during pregnancy, child birth and postpartum. Knowing this danger sign during pregnancy is very important for health care provide as well as for women to rule out early a serious life threatening complication and early initiation of treatment [3]. Every women needs to be aware of danger signs that occur

during pregnancy, because the complication is unpredictable. This danger sign include vaginal bleeding, severe headache, blurred vision, swollen hand/face, reduced or absence of fetal movement, high fever, gush of fluid from vagina, foul smelling vaginal discharge and fast or difficult breathing [4].

When danger signs are not recognized early life threatening complication will happen on the mother or on unborn baby. Adverse effect include: severe bleeding can lead to anemia or death of the mother; infection to the unborn baby through prematurely ruptured membranes, illness or death of mother. If not attended to, this can lead to fetal or neonatal morbidity and mortality, termination of a pregnancy before term in vaginal bleeding [5].

Approximately 303,000 adolescent girls and women died from pregnancy and child birth-related complication in 2015 [6]. That same year, 2.6 million babies were stillborn. Almost all maternal death (99%) and (98%) occurred in low and middle income countries. All this maternal and child mortality could have been prevented if a mother able to know the danger sign and had been access quality antenatal care. Sixty percent of the stillbirths (1.46 million) occurred during the antepartum period and mainly due to untreated maternal infection hypertension and poor fetal growth [7,8]. In Ethiopia big emphasis is given by the national strategy to raise knowledge of obstetric danger sign, is little information about the current level of knowledge and the determining factors in Ethiopia. Therefore, this study was carried out to determine the level of knowledge about obstetric danger sign and associated factors among pregnant women attending antenatal care in Boditi health center, Wolaita Zone southern Ethiopia.

Methods

An institution based cross sectional study was conducted in Boditi health center from May - July 2019. Boditi is located in Wolaita zone Southern Nation, Nationalities, and Peoples Region, Ethiopia. The town is located in Wolaita zone 248 km from Addis Ababa (the capital city of Ethiopia) and 16 km from Sodo the capital city of Wolaita Zone. In Boditi town there are 9 schools 7 governmental and 2 non-governmental. In Boditi town there are 4 health post and 3 government health centers. The total number of the population in the town in 2016 is 53,662 (27,314 are females and 26,348 are male); from these, 18,209 were women in the reproductive age group.

All reproductive age group who visit maternal and child health unit in Boditi health center were source population and a pregnant mother who was attend Antenatal care in Boditi health center are study population. Pregnant women who have Antenatal care in Boditi health center and volunteer to participate was included and a Pregnant women with mental problem or seriously ill/unable to hear and speak was excluded.

Single population proportion formula was used to determine sample size; 95% confidence interval, precision 5% and taking p-value from previous study done in Arbaminch town [9] the final sample size was 366 by adding 10% of non-response rate. Knowledge about danger sign was dependent variable and independent variables include, socio demographic variables; women age, marital status, occupational status, educational status, respondents, monthly income, family size, residence. Obstetric history; parity, gravidity, antenatal visit and place of previous delivery. Health care related factor; availability of nearby health center and informed about pregnancy danger signs during ANC.

Interviewer administered structured questionnaire was used with modification from other researches. Face to face interview was used to collect data. The questionnaire contains socio demographic factors, obstetric factors, health care service factor and source of information on danger sign. It was prepared originally in English and then translated to Amharic language for better understanding by respondents and then translated back to English after data collected. The quality of the data was assured by doing carefully on translation of the questionnaire, pre testing of the questionnaire and checked by the supervisor before implementing. Based on the results of the pre-tests confusions was corrected and modified before the actual data collection time.

The data was entered by Epi data and analyzed using SPSS version 21. Description of data was made using tables, percentage, frequency and graph. Binary and multivariate logistic regression analysis was used to assess association between dependent and independent variables at $p < 0.05$. Ethical approval was obtained from Wolaita Sodo University College of health science and medicine Ethical review committee. Permission was obtained from Boditi town health office and the purpose and objective of our study was well explained to participant and participants were informed their full right to withdrawal or discontinue participation at any time they want. Also, privacy and confidentiality of participant was kept.

Result

Socio- demographic characteristics of respondent

A total of 366 pregnant women were included in the study with a response rate of 100%. The minimum and the maximum age of the respondents were 16 years and 43 years, respectively. The mean age of the study subjects was 26 ± 5.3 . 180 (49%) study subjects were found in the age group 21 - 30 years, 117 (32%) were found in the age group 31 - 49 years and the rest rest 69 (19%) found in the age group 15-20 years. 154 (42%) of the respondents were attended grade 10 and above in their educational level, 135 (37%) were attend grade 1-9th and 77 (21%) are illiterates.

Major 249 (68%) of the respondents were protestant religion follower, 77 (21%) orthodox, 18 (5%) were Muslim and 22 (6%) were catholic. Majority 275 (75%) were Wolayta by ethnicity and rest of 11%, 9%, 4%, 1% were, Amhara Gurage Oromo, and Tigray respectively. Of the total study participants 344 (94%) were married with average family size of 2.0 (± 0.59 SD). Of the respondent 238 (65%) were rural and rest 128 (35%) were urban by resident (Table 1).

S. No	Question	Response	Frequency	Percentage (%)
1.	Age	15 - 20 yrs old	69	18.85
		21 - 30 yrs old	180	49.2
		31 - 49 yrs old	117	32
2	Ethnicity	Wolayta	275	75.14
		Amhara	40	11
		Gurage	33	9
		Oromo	14	3.82
		Tigray	4	1.1
3	To which religion do you belong?	Protestant	249	68
		Orthodox	77	21
		Muslim	18	4.9
		Catholic	22	6
4	Marital status	Married	344	94
		Never married	11	3
		Divorced	4	1
		Widowed	7	2

5	Occupation	Housewives	203	55.45
		Merchants	69	18.85
		government Employee	47	12.84
		Daily workers	29	7.9
		Student	18	4.91
6	Mother educational status	No formal education	76	20.76
		Grade 1-9 th	135	36.88
		Grade 10-12 th	81	22.13
		College and university and above	74	20.2
7	Husband occupational status	Merchant	66	18
		Governmental employee	99	24
		Private worker	50	13.66
		Farmer	161	43.98
9	What is your estimated monthly income?	< 500ETB	117	32
		500 - 1000ETB	146	39.89
		1500 - 3000 ETB	91	24.86
		> 3500 ETB	12	3.27
10	What is the number of total family Size?	1 - 3	208	56.83
		4 - 6	140	38.25
		≥ 7	18	4.92
11	Residence	Urban	128	34.97
		rural	238	65.03

Table 1: Socio-demographic characteristics of respondent in Boditi health center, Boditi town, Wolaita Zone, Southern Ethiopia, 2019.

Obstetric and health service characteristics

From a total 366 respondents 59 (16.12%) mother have history of one pregnancy, 165 (44.8%) had history of 2 - 4 pregnancies and 136 (37%) mothers were pregnant for more than four times. Regarding age during first pregnancy; 204 (55.73%) mothers got their first pregnancy at 15 - 20 years. The majority 344 (94%) of respondents had no history of still birth but 22 (6%) respondent had history of one or more still birth and 73 (19.84%) of women have at least one history of abortion in their lifetime. 241 (65.84%) mothers have history of ANC follow up and the rest 125 (34.16%) doesn't had ANC follow up, among those who had ANC follow up 143 (39.07%) had AN 3 and 4 visit, 186 (50.8%) had 1 - 2 visit and the rest 37 (10.1%) doesn't have ANC follow up.

Majority 191 (52.2%) of the mothers gave birth at home, 131 (35.8%) gave birth at health institutions and rest 44 (12%) of mother doesn't give birth. From the study subjects 187 (51.1%) decided for place of delivery by themselves (Table 2).

S.no	Questions	Response	Frequency	Percentage (%)
1	Have you ever heard of danger Signs during pregnancy?	Yes	175	47.8
		No	191	52.2
2	If yes, what is the meaning of "danger signs during pregnancy?"	Signs that indicate the pregnant woman or/ and the pregnancy has an illness	32	8.6
		The pregnancy that is at risk to develop complication	110	30
		I does not remember	224	61.47
3	What is the source of your information about danger signs during pregnancy?	Health personnel	124	33.88
		Relatives	18	4.9
		Friends	22	6
		Media	11	3
		Do not have information	191	52.2
4	Can any woman face danger signs during pregnancy?	Yes	161	44
		No	44	12
		I does not remember	161	44
5	Name the danger signs during pregnancy that you know	Vaginal bleeding at any time during pregnancy	164	44.8
		Leaking of fluid from canal	80	21.8
		Swelling of the face, hand and feet	92	25.14
		Persistent vomiting	48	13.11
		Persistent headache and blurred vision	47	12.84
		High Fever	55	15
		Absent or decreased fetal movement	73	20
		Foul smelling vaginal discharge	48	13.1
		Feeling very tired	66	18
		Unusual abdominal pain	0	0
			25	7

6	Is health facility is your source of information	Yes	124	33.88
		No	242	66.12
7	If yes, what information were you given?	Danger sign was explained and counseling was done on	18	5
		what to do about it is arise	135	36.8
		I does not remember	213	58.2
8	Have you ever experienced danger signs of pregnancy?	Yes	58	15.84
		No	308	84.15
9	If yes what type of danger sign you experienced	Vaginal bleeding	33	9
		Absent or decrease fetal movement	4	1.1
		Swelling of hand face and feet	7	1.9
		Un usual abdominal pain	4	1.1
		Never experienced	318	87
10	Are danger signs preventable?	Yes	234	63.9
		No	44	12
		I does not remember	88	24.1
11	If it is yes how danger signs can be prevented?	Early detection of danger signs	40	11
		Arrangement of transportation	4	1.1
		Using ANC follow up	84	23
		Early decision for medical service	136	37.2
		I does not remember	102	27.7

Table 2: *Obstetric and health service characteristics of respondent in Boditi health center, Boditi town, Wolaita Zone, Southern Ethiopia, 2019.*

Knowledge about danger signs during pregnancy characteristics

From 366 participant 146 (39.89%) had good knowledge and 220 (60.11%) had poor knowledge about danger sign during pregnancy, 176 (48.1%) reported that they heard about danger sign of pregnancy, 190 (51.9%) doesn't heard about danger sign during pregnancy. From those who had information about danger sign, 165 (45.1%) identified sever vaginal bleeding at any time during pregnancy as danger sign, persistent vomiting was indicated by 46 (12.56%) mother. Swelling of head and face 91 (24.86%), persistent headache and blurred vision 53 (14.48%), leaking of fluid from vaginal canal 79 (21.58%), high fever 68 (18.57%), absent or decrease fetal movement 39 (10.65%), foul smelling vaginal discharge 63 (17.21%) and unusual abdominal pain was mentioned by 26 (7.1%) of respondents.

Source of information regarding obstetric danger signs during pregnancy

One hundred seventy five (47.8%) of respondent had heard about obstetric danger sign during pregnancy and from those mothers 125 (34.15%) got information from health institution, 6% from friends, 3% from medias and 5% from relative. From respondent who heard about danger sign 30% of the study participants answer, the danger sign indicate the mother or/and fetus has illness 9% of respondents answered, pregnancy is at risk to develop complication and the rest 223 (61%) didn't know the danger sign. Some of respondents 59 (16.12%) had experience of danger sign; from those 9% were face vaginal bleeding, 3% were absent of fetal movement, 2% unusual abdominal pain and 2% were swelling of face and feet.

Factors associated with knowledge of obstetrics danger signs

This study indicate that history of ANC follow up and knowledge about danger sign during pregnancy has a strong association those who had history of ANC follow up had more likely to have good knowledge about danger sign during pregnancy (AOR = 6.2, 95% CI = 2.1, 8.2). Educational status is another factor that associated with knowledge on danger sign of pregnancy among ANC attending pregnant mothers those who had tertiary educational status has 3.3 time more likely to have good knowledge than that had no formal education (AOR = 3.3, 95% CI = 1.9, 4.5) (Table 3).

Variables	Knowledge on danger sign		AOR with 95% CI
	Yes	No	
Educational status	No (%)	No (%)	
No formal education	12 (3.28)	64 (17.48)	1
Grade 1-9 th	66 (18.01)	60 (16.39)	1.1 [0.3,2.4]
Grade 10-12 th	53 (14.48)	28 (7.65)	0.8 [0.6,2]
College and university	62 (17.01)	12 (3.28)	2.1 [1.2, 5.5]
ANC follow up			
Yes	179 (48.9)	62 (16.9)	3.4 [2.2, 6.3]
No	78 (21.31)	47 (12.84)	1

Table 3: Factors associated with knowledge of obstetrics danger sign in Boditi health center, Boditi town, Wolaita Zone, Southern Ethiopia, 2019.

Discussion

This study indicates that 146 (39.89%) women had good knowledge about danger sign during pregnancy and educational status and ANC follow up are factors associated with knowledge about danger sign during pregnancy. This (39.89%) is low when it compared with a study done in Arbaminch town South Nation Nationality people which is (68.4) in 2018 [9] but this finding is relatively greater than a study conducted in Aleta wondo, Sidama South Nation Nationality people which is 30.4% in 2014 and this study is greater than from another study conducted in Erer district, Somali region; in title Knowledge of obstetric danger signs and associated factors among pregnant women [10,11].

According to this study the commonly mentioned danger sign was vaginal bleeding which accounts 44.8% which is greater than study conducted in rural Tanzania 9.6% [12]. But less than study conducted in a Malaysia 86% [13]. With similar expectation in causes of differences, swelling of the hands, face and body was considered as danger sign in (25%) of the respondent which is greater than the study done in Bureti (Kenya) which was 2.7% in 2018. Twenty (20%) of the respondents were considered high fever as danger signs of preg-

nancy which is higher than that of the study conducted Bureti (Kenya) which is 16.7% in 2018 [14]. Thirteen (13%) of the respondents were considered Reduced fetal movement as danger signs of pregnancy which is less than that of the study conducted at Raya (Wello zone) which is 38.1% in 2016 [15]. Forty eight (13%) of the respondent were state that Persistent vomiting especially from 4th month of pregnancy considered as danger sign which is less than study conducted in northwest Nigeria 48.1%in 2016 [16]. The reason for this discrepancy might be due to the deference in socio-cultural and socio-economic variations in those study settings.

In this study factors associated with knowledge about danger sign are history of ANC follow and Educational statuses of women are factor that strongly associated with knowledge on danger sign during pregnancy. History of ANC service utilization was found to have significant association with knowledge of obstetrics danger sign during pregnancy consistent with Frer district Somali Region Ethiopia [11]. Educational status is another factor that strongly associated with knowledge on danger sign of pregnancy among ANC attending pregnant mothers those who had tertiary educational status has 3.3 time more likely to have good knowledge than that had no formal education this finding is similar with a study done in Arbaminch town South Nation Nationality people and in Aleta Wondo District, Sidama Zone [9,10].

Conclusion

Finding from this this study indicate that women's knowledge about danger sign during pregnancy is lower than expected to have a mother safe pregnancy and child birth for early detection and management of danger sign ministry of health and health office work on the knowledge of mothers.

Acknowledgments

Firs we like to express our heartfelt thanks for Wolaita sodo University for financial support and all participants for their commitment to participate in this study.

Availability of Data and Materials

All necessary materials are included in the manuscript as separate files.

Competing Interests

The authors declare that they have no competing interests.

Funding

Not applicable.

Authors' Contributions

MM wrote the proposal, participated in data collection, analyzed the data and drafted the paper. WA participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

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Volume 9 Issue 11 November 2020

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