

ASSESSMENT OF KNOWLEDGE AND PRACTICES OF PREGNANT WOMEN TOWARD DANGER SIGNS OF PREGNANCY

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Abstract:

Background: Knowledge of danger signs among pregnant women is the first essential step in accepting appropriate and timely referral. Also, it is important in improving maternal and fetal health outcomes. **Aim:** The present study aimed to assess knowledge and practices of pregnant women toward danger signs of pregnancy. **Methods:** A descriptive study design was utilized at Obstetrics and Gynecology Department and Clinics at Mansoura General Hospital on 242 pregnant women who had been chosen by systematic random sampling technique. Three tools were used for data collection; a structured interview schedule, danger signs knowledge assessment schedule and danger signs practices assessment questionnaire. **Results:** pregnant women total knowledge score of danger signs was poor in 57.9% of them while fair in 29.3% and good in less than 12.8% of them, during pregnancy the most commonly identified danger signs were vaginal bleeding (69.8%) followed by severe abdominal pain (56.20%) and severe vomiting (55.4%). A significant association was found between women's general characteristics and their knowledge about pregnancy danger signs ($p < 0.001$). More than two thirds (65.3%) of pregnant women had inadequate practices regarding danger signs of pregnancy. **Conclusion:** The current study questions were answered where poor knowledge level regarding danger signs of pregnancy was reported among pregnant women. According to the actual practices taken by pregnant women to overcome their danger signs during current pregnancy, self-care was the most commonly reported actual practice. **Recommendations:** The study recommended developing antenatal classes programs for all pregnant women about pregnancy danger signs and about the actual time to seek emergency medical care. In addition, increase the mass media to disseminate correct and relevant information about danger signs of pregnancy to pregnant women, families and communities.

Keywords: Danger signs, Knowledge, Obstetric complications, Practices, Pregnancy

Introduction

Pregnancy is a very exciting event and it is the period every woman wants to treasure throughout her lifetime. So, significant attention and care from the family, society and medical system should also be provided to pregnant women (Yibalih, Dugassa & Alemu,

2019). A pregnant woman is a unit of two individuals that consists of the mother and the fetus which starts after conception and continues through all the phases of pregnancy and after delivery (Bhumi & Chajhlana, 2018).

Although pregnancy is a natural condition that can predispose to a series of physiological and psychological changes in the anticipated mothers, normal pregnancy may be followed by a variety of life-threatening problems for the pregnant woman and the fetus which are called warning signs of pregnancy. Dangerous symptoms of pregnancy are signs of serious problems that endanger maternal health and increase the likelihood of maternal mortality worldwide such as excessive vomiting, excessive abdominal pain, vaginal bleeding during pregnancy, swelling of the face, fingers and feet, blurred vision, pregnancy fits, extreme frequent frontal headache, elevated grade fever, marked changes in fetal movement, elevated blood pressure (*Liben, Wuneh and Zepro, 2019*).

One of the main public health concerns worldwide is maternal health that lays a strong foundation to the health of the nation in general (*Abdella, Hajjeh and Sibinga, 2018*). Around 80% of maternal deaths worldwide are due to direct complications during pregnancy such as extreme bleeding, obstructed labor, infections, hypertension induced pregnancy and/or unsafe induced abortion. Maternal death are also thought to occur due to three delays, delay in deciding to seek appropriate care, delay in reaching appropriate health facility and delay in receiving adequate emergency care. Moreover, inadequate, inaccessible or unaffordable health care, poverty, inadequate information and lack of knowledge of recognizing danger signs increase maternal morbidity and mortality (*Mgbekem et al., 2020*).

Women's knowledge of the danger signs of pregnancy is highly necessary in order to increase the use of skilled care during pregnancy and childbirth and to

obtain timely emergency obstetric services. It is also necessary to minimize delays in obtaining medical attention and in reaching a health facility. Lack of awareness on these warning signs disserves the willingness of women to engage in healthy motherhood initiatives (*Dessu, Dawit and Bojola, 2018*). Communities and individuals should be empowered not only to recognize the risks associated with pregnancy, but also to have the means to react quickly and effectively when these warning signs occur (*Nigussie, Emiru, Demilew and Mersha, 2019*).

Delays in the search for effective health care due to lack of understanding can be decreased by enhancing access to health care services and education through the adoption of community outreach services that actually provide information on child-bearing issues that are especially serious indicators of pregnancy and practice guidelines for women. In order to facilitate their cooperation when care is needed, individual women and their families should be given such information (*Wassihun et al., 2020*).

There are a variety of practices that women may perform to overcome their danger signs during pregnancy. Some women visit a health facility while others contact with health personnel, consult a friend or relative, make self-care, consult traditional healer or do nothing during such conditions. This disparity may be attributable to the difference in understanding the seriousness of pregnancy danger signs among women, the level of awareness or the difference in cultural context that might influence their practices (*Nurigi, Tachbele, Dibekulu & Wondim, 2017*).

Providing timely and appropriate treatment that reduces maternal mortality

and morbidity ensures taking the right health care action. As a result, when attending an antenatal care clinic, women should receive health education about pregnancy including outcomes, danger signs of pregnancy as well as other services (Bintabara, Nakamura, Ntwenya, Seino and Mpondo, 2019).

Empowerment of women with knowledge allows them to identify and express their health needs and to ask for support without hesitation. Failure to provide awareness leaves women "in the dark" and establishes a gap between pregnant women and health care providers. Empowerment of women is also a crucial strategy for decreasing maternal mortality through danger signs education and early intervention because it allows them to make crucial decisions about their own health (El-Nagar, Ahmed and Belal, 2017).

Significance of the Study:

One of the eight-millennium developmental goals (MDGs) is to enhance maternal health. The aim of the MDG 5 was to reduce the MMR between 1990 and 2015 by 75 %. In the Sustainable Development Goals, the reduction of maternal mortality to 70 by 2030 is set as goal 3. Maternal mortality is a major public health issue worldwide, with 800 women dying every day due to pregnancy or childbirth complications (UNMP, 2017). The maternal mortality ratio is still high in Egypt, with 1400 women and 50 percent of their newborns dying yearly due to pregnancy and childbirth complications (Aziz, El-Deen and Allithy, 2020; UNFPA, 2018).

One of the factors leading to delays in seeking treatment and thus increasing maternal mortality is the lack of significance on the importance of danger signs during pregnancy. Inadequate distribution of information on

danger signs at health facilities is also creating a lack of awareness. Women's empowerment with knowledge helps them to consider and communicate their health needs to seek treatment and to make effective decisions about their own health (Ketema, et al., 2020; Yibalih, Dugassa and Alemu, 2019).

Moreover, practices toward danger signs of pregnancy will save lives of women from preventable diseases and maternal death and reduce maternal mortality and morbidity. There are many practices performed by women toward danger signs such as seeking medical care and in the other side many women may prefer traditional remedies and cultural beliefs to overcome abnormal signs and symptoms during pregnancy (Mwilike, et al, 2018; Nurgi, Tachbele, Dibekulu & Wondim, 2017).

Each woman should be able to identify danger signs that occur during pregnancy, because these signs typically mean the existence of complications that occur during pregnancy at any time. Knowledge of these signs will encourage women to make the right choices and take timely steps to access health care, while obtaining prompt and adequate care to reduce maternal mortality and morbidity (Mwilike, 2018). Therefore, it is important to assess knowledge and practices of pregnant women toward danger signs of pregnancy.

Aim of the study:

This study aimed to assess knowledge and practices of pregnant women toward danger signs of pregnancy.

Study questions

- 1-What is the knowledge level of pregnant women toward danger signs of pregnancy?
- 2-What are factors associated with knowledge of danger signs during

pregnancy?

3-What are women's practices toward danger signs of pregnancy?

Subjects and Method

Study design

A descriptive study design was utilized.

Study setting

The study was performed at Obstetrics and Gynecology Department and Clinics at Mansoura Old General Hospital, Al Dakahlia Governorate, Egypt, Delta Area. Clinic was divided into a doctor's office, a nurse's office, a sonar and an examination room. The hospital has four floors. Obstetrics on the third floor, divided into: doctor's office, nurse's office, sonar and consultation room, three bedrooms each with three beds and labor room. The hospital offers medical services, nursing care and consultations for women with various obstetric and gynecological disorders and needs. The researcher attended the study setting three days per week (Saturday, Thursday and Friday) from 9:00 a.m. to 1:00 p.m. until the calculated sample size was obtained.

Sample type

Systematic Random Sample

Study sample

This study included 242 pregnant women who were selected by systematic random sampling technique and who were attending the previously mentioned setting during the study period from December 2018 to May 2019.

Sample Size Estimation:

This study aimed to assess knowledge and practices of pregnant women toward danger signs of pregnancy. Based on data from previous study by (Eittah, 2017) who assessed the women's knowledge and reactions to danger signs of pregnancy and utilization of the antenatal services, considering

level of significance of 5% and power of study of 80% and by using the following formula:

Sample size = $[(Z_{1-\alpha/2})^2 \cdot P(1-P)]/d^2$ Where, $Z_{1-\alpha/2}$ is the standard normal variate, at 5% type 1 error ($p < 0.05$) it is 1.96. P = the expected proportion in population based on previous studies. d = absolute error or precision. So, Sample size = $[(1.96)^2 \cdot (0.805) \cdot (1-0.805)] / (0.05)^2 = 241.2$. Based on the previously mentioned formula, 242 pregnant women were recruited in this study.

Tools of Data Collection

Three tools were used for data collection namely; a structured interviewing schedule, danger signs knowledge assessment schedule and danger signs practices assessment questionnaire.

• Tool I: A Structured Interview Schedule

It was developed by the researchers after reviewing the related literatures (Ogu & Orazulike, 2017; Vijay, Kumare & Yerlekar, 2015) to collect data regarding factors associated with knowledge of danger signs of pregnancy among women. It consists of three parts; Part one covers general characteristics such as age, level of education, occupation, residence, type of family and family income. Part two covers obstetric history such as age at first pregnancy, gestational age of current pregnancy, gravidity, parity, number of abortions, mode of last delivery and place last delivery, previous pregnancy complications and current danger signs complaint. Part three includes data about antenatal care attendance such as place of antenatal care, number of previous antenatal care visits and gestation age at first booking for antenatal care and also about, source

of knowledge such as obstetricians, nurses, friends/ relatives, books and media/ internet.

• **Tool II: Danger Signs Knowledge Assessment Schedule**

It was developed by the researchers after reviewing the related literatures (*Abdurashid, Ishaq, Ayele and Ashenafi, 2018; Akhtar, Hussain, Majeed & Afzal, 2018*) to assess knowledge of pregnant women toward danger signs of pregnancy. It consists of 15 questions such as do you have knowledge regarding, are these danger signs of pregnancy predispose to obstetric complications?, are these danger signs of pregnancy different from obstetric complications?.....etc.

Scoring system

It was calculated as 1 for correct answer and 0 for incorrect answer. The total knowledge score level ranges from (0- 15). Higher score indicates good knowledge. It was categorized as poor < 50%, fair 50% - < 75, good >75%.

Tool III: Danger Signs Practices Assessment Questionnaire:

It was designed by the researchers after reviewing the related literatures (*El-Nagar, Ahmed & Belal, 2017; Nurgi, Tachbele, Dibekulu and Wondim, 2017*) to assess the practices of the pregnant women regarding danger signs of pregnancy such as go to health facility, ask help from traditional healer, seek help from friends/family/ relatives and self-care/ treatment.

Scoring system

The practices considered inadequate if <50% and adequate \geq 50%.

Validity and Reliability of the tools

A panel of three experts in maternity nursing specialty analyzed the content validity of the three tools before using it to ensure that all questions were consistently conveyed and carried the

anticipated meaning that they prepared for and no modifications were suggested. Cronbach alpha coefficients for internal consistency of the danger signs knowledge assessment schedule was 0.864 while for danger signs practices assessment questionnaire was 0.858 and hence the questionnaire was found to be highly reliable.

Pilot Study

The study tools were applied on 10% (25 pregnant women) of the total study sample to test the objectivity and applicability of the study tools and the feasibility of the research process as well as to estimate the time needed to answer them. Women in the pilot study were excluded from the study.

Ethical considerations

Ethical approval was obtained from Research Ethics Committee at the Faculty of Nursing - Mansoura University to implement the study. Participants were informed that participation in the study is voluntary. They will be also informed that each participant has the right to withdraw from the study at any time without any consequences. Anonymity, privacy, safety and confidentiality will absolutely be assured throughout the study. An informed written consent was obtained from all participants after explaining the purpose of the study. The results were used as a component of the necessary research for master study as well as for future publications and education.

Field work

- An official letter from the Faculty of Nursing, Mansoura University was sent to the director of Mansoura Old General Hospital and Head of Obstetrics and Gynecology Department to obtain official permission to accomplish the study after explanation of its aim.

- The researchers attended the study setting three days per week (Saturday, Thursday and Friday) from 9:00 AM to 1:00 PM until the calculated sample size was obtained. This study was carried out in the period from December 2018 to May 2019.
- The researchers introduced themselves to each pregnant woman, tested her legibility for the study by filling out a formal interview questionnaire and obtained consent to participate in the study.
- The researchers interviewed each woman individually for 15-20 minutes and assessed her knowledge and practices regarding danger signs of pregnancy.
- Women were allowed to ask for any interpretation and explanation.
- The researchers asked the woman and recorded her answers in the data collection sheet.
- Privacy and safety were absolutely assured.
- Collected data was analyzed and tested to determine the associated factors.

Statistical Analysis

The collected data was coded, tabulated and analyzed using Statistical Package of Social Science (SPSS) version 21.

Results

Table 1. General characteristics of pregnant women (n= 242)

Items	No.	%
Age		
<20	48	19.8
21 – 25	103	42.6
26 – 30	64	26.4
> 30	27	11.2
Mean ±SD	25.1 ±5.3	
level of education		
Can't read and write	81	33.5
Middle education	95	39.3
High education	66	27.3
Occupation		
Housewife	118	48.8
Working	124	51.2
Residence		
Rural	223	92.1
Urban	19	7.9
Type of family		
Nuclear	184	76.0
Joint	58	24.0
Family size		
≤ 2	53	21.9
≥3	189	77.7
Family income		
Not enough	90	37.2
Enough	145	59.9
Enough and save	7	2.9

ASSESSMENT OF KNOWLEDGE AND PRACTICES etc...

Table 1 shows that, two fifth (42.6%) of the pregnant women aged between 21 - 25 years with Mean \pm SD 25.1 \pm 5.3 and more than one third (39.3%) had middle education. About half (51.2%) of them were working and

(59.9%) had enough family income. Most of them (92.1%) were living in rural area and three quarters (76%) had nuclear family and 77.7% had more than 3 members in their family.

Table 2. Obstetric history of pregnant women (n= 242)

Items	No.	%
Age at 1st pregnancy		
≤ 20 years	42	17.4
21 – 30 years	175	72.3
> 30 years	25	10.3
Mean \pmSD	24.6\pm4.4	
Gestational age of current pregnancy		
≤12 weeks	36	14.9
>12 weeks	206	85.1
Gravida		
One	29	12.0
Two	114	47.1
Three or more	99	40.9
Parity		
Nulli	53	21.9
One	100	41.3
Two	80	33.1
Three or more	9	3.7
Number of previous abortions		
None	207	85.5
One	27	11.2
Two	5	2.1
Three or more	3	1.2
Mode of last delivery (n=196)		
Spontaneous vaginal delivery(SVD)	107	54.6
Elective cesarean section	48	24.5
Emergency cesarean section	41	20.9
Place of last delivery (n=196)		
Governmental hospital	155	79.1
Private hospital/clinic	35	17.9
Home	6	3.1

Table 2 shows that, less than three quarters (72.3%) of the pregnant women aged from 21 – 30 years at their first pregnancy with Mean \pm SD 24.6 \pm 4.4 whose current gestational age > 12 weeks and had no previous abortion (72.3%, 85.1%, and 85.5% respectively).

About 47.1% of them were gravida two and 41.3% were para one. As regards mode of last delivery, 54.6% of the pregnant women reported that they delivered via spontaneous vaginal delivery at governmental hospital (79.1%).

Table 3. Distribution of pregnant women according to previous complications during pregnancy (n= 242)

Items	No.	%
Complications during pregnancy		
No	179	74.0
Yes	63	26.0
Maternal (out of 63)	57	90.5
Fetal (out of 63)	6	9.5
Maternal complications (n=57)		
Abortion	35	61.4
Pregnancy Induces Hypertension	5	8.8
Placenta Previa	2	3.5
Abruptio placentae	7	12.3
Preterm labor	2	3.5
Rh incompatibility	6	10.5
Fetal complications (n=6)		
Intrauterine fetal death (IUFD)	4	66.7
Congenital malformations	2	33.3

Table 3 shows that about three quarters (74%) of the pregnant women had no previous complications during pregnancy. It was clear that abortion and

intrauterine fetal death were the most common maternal and fetal complications in previous pregnancies (61.4% and 66.7% respectively).

Table 4. Distribution of pregnant women according to antenatal care attendance (n= 242)

Items	No.	%
Place of Antenatal care		
Governmental hospital	82	33.9
Private hospital/ clinic	29	12.0
Both	131	54.1
Gestation age at first booking for Antenatal care		
First trimester	153	63.2
Second trimester	54	22.3
Third trimester	35	14.5
Number of previous Antenatal care visits		
<5 times	56	23.1
5 – 10 times	141	58.3
>10 times	45	18.6

Table 4 shows that more than half of the pregnant women were in the first trimester at first booking of antenatal care in both governmental and private

hospital or clinic with previous antenatal care visits between 5 – 10 times (63.2%, 54.1% and 58.3% respectively).

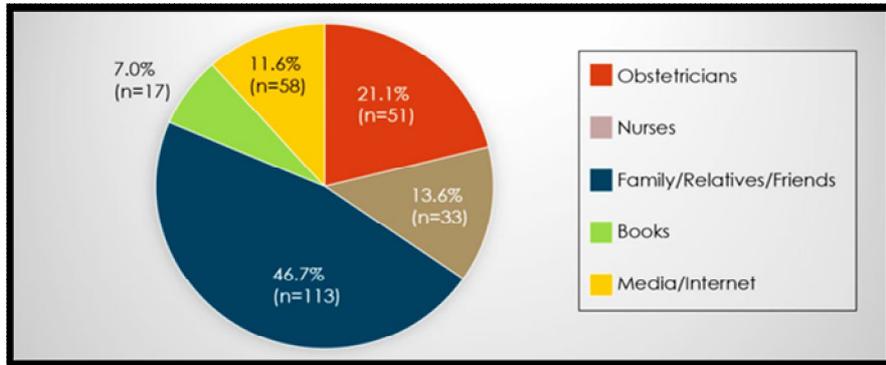


Figure 1. Source of knowledge regarding danger signs of pregnancy among the pregnant women

Table 5. Frequency distribution of pregnant women according to their knowledge regarding danger signs (n= 242)

Items	Correct		Incorrect	
	No	%	No	%
knowledge regarding danger signs of pregnancy	109	45.0	133	55.0
Knowledge regarding				
a. Vaginal bleeding	169	69.8	73	30.2
b. Continuous, severe headache with vision changes	59	24.4	183	75.6
c. Severe abdominal pain	136	56.2	106	43.8
d. Abnormal fetal movement	57	23.6	185	76.5
e. Severe vomiting	134	55.4	108	44.6
f. Severe, Persistent lower back pain	63	26.0	179	74.0
g. Gush of water from the vagina	129	53.3	113	46.7
h. High grade fever	42	17.4	200	82.6
i. Sudden Swelling of face, fingers and feet	126	52.1	116	47.9
j. Chest pain	8	3.3	234	96.7
k. Offensive discharge with itching and dysuria	27	10.3	217	88.8
l. Decreased urine output	5	2.1	237	97.9
Danger signs of pregnancy predispose to obstetric complications.	113	46.7	129	53.3
Danger signs are different from complications during pregnancy.	103	42.6	139	57.4

Table 5 shows that less than half (46.7%) of pregnant women gave correct answers regarding the concept that warning signs of pregnancy predispose to obstetric complications and 42.6% of them reported that danger signs are

different from complications during pregnancy. As regards knowledge of danger sign of pregnancy, it was found that, the most frequently recognized danger sign of pregnancy was vaginal bleeding mentioned by 69.8% of the

pregnant women followed by severe abdominal pain(56.2%) , severe vomiting (55.4%), gush of fluid from the vagina

(53.3%) and sudden swelling of face, fingers and feet (52.1%).

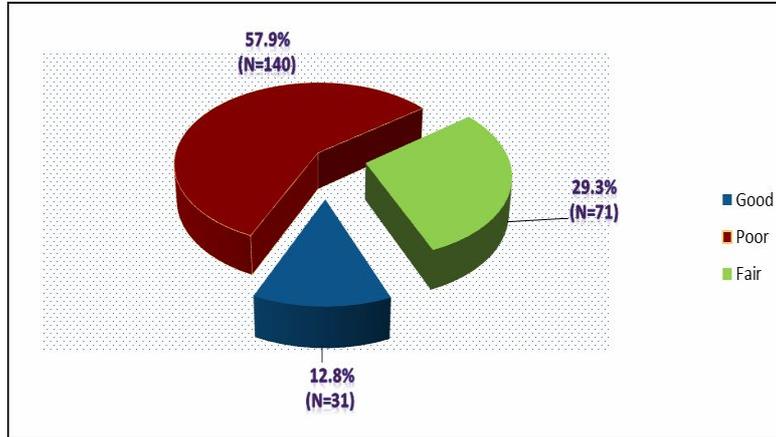


Figure 2. Frequency distribution of pregnant women according to their total knowledge score level toward danger signs of pregnancy

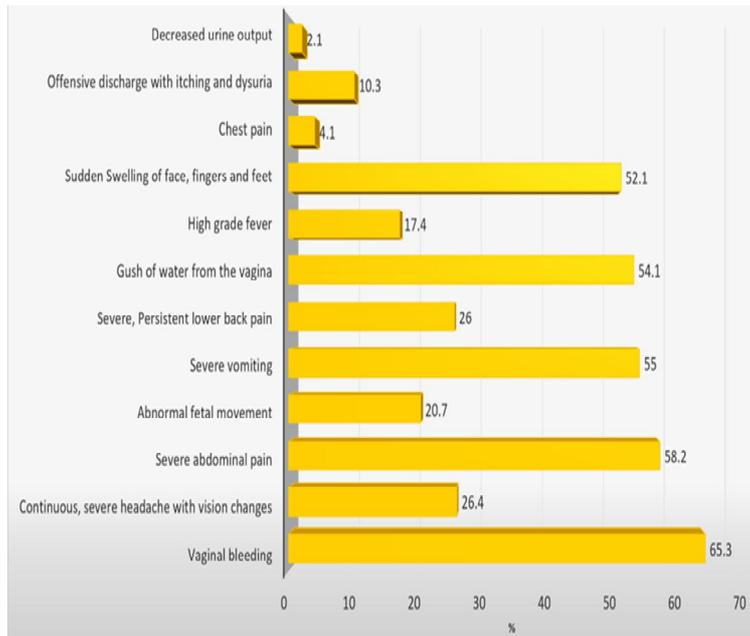


Figure 3. Pregnant women knowledge about practices toward danger signs of pregnancy

Table 6. The association between total knowledge score level regarding danger signs of pregnancy and general characteristics of the pregnant women

Item	total knowledge score level						Chi square test	
	Poor (<50%)		Fair (50%-70%)		Good (>70%)		X ²	p
	N	%	n	%	N	%		
Age								
<20	45	32.1	3	4.2	0	0.0		
21 - 25	95	67.9	6	8.5	2	6.5		
26 - 30	0	0.0	60	84.5	4	12.9		
> 30	0	0.0	2	2.8	25	80.6	359.404	<0.001
Educational level								
Can't read and write	76	54.3	5	7.0	0	0.0		
middle education	54	38.9	39	54.9	2	6.5		
Higher education	10	7.1	27	38.0	29	93.5	130.012	<0.001**
Occupation								
Housewife	76	54.3	38	53.5	4	12.9		
Working	64	45.7	33	46.5	27	87.1	18.308	<0.001
Residence								
Rural	140	100.0	70	98.6	13	41.9		
Urban	0	0.0	1	1.4	18	58.1	124.038	<0.001
Type of family								
Nuclear	134	95.7	47	66.2	3	9.7		
Joint	6	4.3	24	33.8	28	90.3	108.432	<0.001**
Family size								
≤ 2	18	12.9	24	33.8	11	35.5		
>3	122	87.1	47	66.2	20	64.5	15.918	<0.001**
Family income								
Not enough	88	62.9	2	2.8	0	0.0		
Enough	52	37.1	69	97.2	24	77.4		
Enough and save	0	0.0	0	0.0	7	22.6	136.691	<0.001**

** High statistically significant

Table 6 illustrates that there was highly statistically significance association increase (p < 0.001) between total knowledge score level toward

warning signs of pregnancy and pregnant mother's age, educational level, family income, occupation, residence and type of family.

Table 7. The association between the total knowledge score level toward danger signs of pregnancy and the obstetric history of the pregnant women

Item	the total knowledge score						Chi square test	
	Poor (<50%)		Fair (50%-70%)		Good (>70%)			
	n	%	n	%	N	%	X ²	p
Age at 1st pregnancy								
< 20years	39	27.9	3	4.2	0	0.0		
20 – 30 years	101	72.1	65	91.5	9	29.0		
> 30 years	0	0.0	3	4.2	22	71.0	160.353	<0.001**
Gestational age								
<12 weeks	20	14.3	14	19.7	2	6.5		
>12 weeks	120	85.7	57	80.3	29	93.5	3.091	0.213
Gravida								
One	16	11.4	9	12.7	4	12.9		
Two	74	52.9	34	47.9	6	19.4		
Three or more	50	35.7	28	39.4	21	67.7	12.564	0.014
Parity								
Nulli	20	14.3	26	36.6	7	22.6		
One	70	50.0	23	32.4	7	22.6		
Two	50	35.7	22	31.0	8	25.8		
Three or more	0	0.0	0	0.0	9	29.0	79.435	<0.001**
Previous abortions								
No	140	100.0	67	94.4	0	0.0		
One	0	0.0	4	5.6	23	74.2		
Two	0	0.0	0	0.0	5	16.1		
Three or more	0	0.0	0	0.0	3	9.7	213.007	<0.001**
Presence of complication during pregnancies (n=213)								
No	106	85.5	32	51.6	12	44.4		
Yes	18	14.5	30	48.4	15	55.6	32.784	<0.001**
Mode of last delivery (n=196)								
Vaginal delivery	75	61.0	25	35.2	7	30.4		
Elective cesarean section	27	22.0	10	14.1	11	47.8		
Emergency cesarean section	21	17.1	15	30.0	5	21.7	12.268	0.015
Place of last delivery (n=196)								
Governmental hospital	105	85.4	32	64.0	18	78.3		
Private hospital/clinic	15	12.2	15	30.0	5	21.7		
Home	3	2.4	3	6.0	0	0.0	10.855	0.028

** Highly statistically significant

* Statistically significant

Table 7 illustrates that there was statistically significant association between total knowledge score level

regarding danger signs of pregnancy and pregnant women obstetric history (p < 0.001).

Table 8. The association between the total knowledge score level and the antenatal attendance of the pregnant women

Items	Poor (<50%)		Fair (50%-70%)		Good (>70%)		Chi square test	
	N	%	N	%	N	%	X ²	P
Place of Antenatal care								
Governmental hospital	57	40.7	15	21.1	10	32.3		
Private hospital/ clinic	7	5.0	19	26.8	3	9.7		
Both	76	54.3	37	52.1	18	58.1	24.277	<0.001**
Gestational age at first booking for Antenatal care								
First trimester	65	46.4	59	83.1	29	93.5		
Second trimester	45	32.1	7	9.9	2	6.5		
Third trimester	30	21.4	5	7.0	0	0.0	41.567	<0.001**
Number of previous Antenatal care visits								
<5 times	49	35.0	5	7.0	2	6.5		
5 – 10 times	89	63.6	48	67.6	4	12.9		
>10 times	2	1.4	18	25.4	25	80.6	120.997	<0.001**

*P statistically significant if ≤ 0.05

**P high statistically significant if < 0.001

Table 8 illustrates that there was a highly statistically significance association between the total knowledge

score level and the antenatal attendance of the pregnant women ($p < 0.001$).

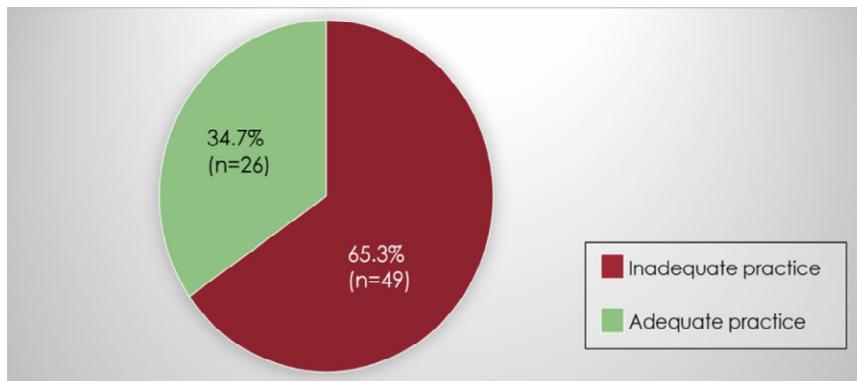


Figure 4. Distribution of the total practice score of pregnant women toward danger signs of pregnancy

Discussion

The current study aimed to assess knowledge and practices of pregnant women toward danger signs of pregnancy. This aim was achieved through the present study findings which revealed significant differences in pregnant women knowledge and practices toward danger signs of pregnancy. Therefore, the findings of the present study answered the research questions which are; what is the women's knowledge toward danger signs of pregnancy, what are factors associated with knowledge of danger signs during pregnancy and what are women's practices toward danger signs of pregnancy.

According to the Egypt Demographic and Health Survey (2008), slightly more than one-quarter of Egyptian pregnant women didn't receive antenatal care and those who received had limited information about danger signs of pregnancy, the current study revealed that more than half of pregnant women had poor knowledge regarding danger signs of pregnancy. In line with the current study finding, **Wassihun et al. (2020)** conducted a community-based cross-sectional study in Shashamane City, Oromia Region, Ethiopia to assess

awareness of pregnancy danger signs among mothers and related factors on 422 people. They found that about 60% of the surveyed women had a low level of knowledge about pregnancy danger signs. This may be due to low emphasis on danger signs of pregnancy by health care providers during ANC follow-up or because of health professional's awareness gap and inadequate information provided to mothers.

In contrast with the current research finding, an institution-based cross-sectional study design in Arbaminch Town Governmental Institutions, Southern Ethiopia, conducted by **Dessu, Gedamu & Tamiso, (2018)** to investigate awareness of danger signs of pregnancy and associated factors among 358 ANC attendant pregnant women. They revealed that, slightly less than two thirds of the women had good knowledge toward danger signs of pregnancy. It might be due to the great acceleration of currently maternal issue and the main focus of Ethiopian government health policy is on maternal and child health.

On the other side, the findings of the current study showed that, slightly less than one third of the pregnant

women had fair knowledge regarding danger signs of pregnancy. This might be clarified by the fact that more than one third of women in the current study had middle education and about half were working which may give them opportunity to share knowledge and experience with others. This results is in greement with study conducted by *Bhum & Chajhlana, (2018)* to evaluate knowledge of pregnancy related risk signs in rural areas on 274 pregnant women in the field practice areas of rural health training center. They revealed that about one fifth of the studied group had average knowledge toward warning signs of obstetric complications.

The present study results showed that only less than one-fifth of pregnant women had good knowledge of danger signs of pregnancy. This corresponds to a cross-sectional study conducted by *Abdurashid, Ishaq, Ayele & Ashenafi, (2018)* to evaluate the level of awareness of pregnancy warning signs and related factors in rural and urban health centers among 502 ANC attendant women in Diredawa city administration who mentioned that, 24.1% of their study subjects had good knowledge about obstetric warning signs.

In contrast with this study , a cross-section study conducted by *Thapa & Manandhar, (2017)* to evaluate pregnant women 's knowledge of obstetric danger signs and related factors among 300 pregnant mothers in Dhulikhel Hospital, Nepal. They revealed that about two thirds of the women had good knowledge of obstetric danger signs. These disparities could be due to high educational level, working women, quality of health services, setting of the study and using various sampling methods for the choose of participants (non probability, purposive sampling

technique).

The findings of this study showed that more than two-thirds of pregnant women reported vaginal bleeding as the most frequent danger sign during pregnancy. This finding is in the same line with a community based cross sectional study conducted by *Negese, Hailemeske & Wassihun, (2019)* to evaluate awareness, risk perception and related factors for warning signs of pregnancy among 405 women in Debre Berhan. They revealed that, severe vaginal bleeding was the most commonly recognized danger sign. This can be explained by the fact that it is the most noticeable symptom relative to others which makes them aware that it is a serious sign of pregnancy. In contrary with the present study finding, *Salem et al. (2018)* study that was conducted on 372 women in Ambanja, Madagascar to evaluate knowledge of obstetric warning signs and related factors. They indicated that, the common recognized warning sign of pregnancy as told by women was fever. The difference could be due to socio-cultural difference and difference in the implementation of relevant health care programs that was used to inform ANC attendant mothers about pregnancy danger signs.

As regards the association between the overall level of women's knowledge of the danger signs of pregnancy and their general characteristics, the present study findings reported that a statistical significant association was present between pregnant women's age, level of education, residence, occupation, income and total knowledge score level. These results go in the same line with an institutional-based cross-sectional study conducted by *Hibstu & Siyoum, (2017)* to evaluate the awareness of obstetric

danger signs and related factors among pregnant women attending antenatal care on 342 pregnant women in Yirgacheffe District, Gedeo Region, Southern Ethiopia. They concluded that there was an important association between knowledge level and maternal age. It can be explained that older women not only have a greater understanding of obstetric risk signs in this age group, but are also psychologically and physically able to obtain information on risk signs.

This finding disagree with a cross sectional descriptive study conducted by **Eittah, (2017)** to evaluate the knowledge of woman, responses to the risks of pregnancy and use of antenatal facilities on 200 pregnant women at MCH centers in Shebien El Kom city, Menoufiya Governorate, Egypt. She discovered that there was no statistically significant difference in age. Also, being in the younger age group increased the chance that they will have a strong understanding of the warning signs of pregnancy, so they may be more open to health instructions since they have yet to have their own experiences of pregnancy. This may be explained by the fact that being young and inexperienced is likely to affect the understanding of antenatal education and the identification of danger signs in pregnancy, but among the elderly mothers, increased awareness can be linked to their own prior pregnancy experiences, that serve as important information source, especially for those who encountered obstetric problems during previous pregnancies.

The present study finding revealed that, there is a statistically significant association between the total knowledge score level of the pregnant women regarding danger signs of pregnancy and their obstetric history. Parallel with the present study finding, **Kheamy et al.**

(2017) concluded that, the total knowledge score level regarding obstetric danger signs was significantly better among women with previous pregnancies, higher number of children, previous abortion and place of last delivery. This result could be justified by the fact that women who were pregnant before or experienced previous complications had their own experience which is an important source of information.

The present study finding showed that there was a statistically significant association between the total knowledge score level of the pregnant women towards danger signs of pregnancy and antenatal care attendance. This corresponds with a cross-sectional study conducted by **Maseresha, Woldemichael & Dube, (2016)** to assess knowledge of pregnancy warning signs and related factors on 666 pregnant women in Erer district of Somali region, Ethiopia. They revealed that there is a significant association between antenatal care service utilization and the knowledge of obstetric danger signs during pregnancy because early initiation of antenatal care gives women an excellent chance for obtaining information and early detection of any complications or risk factors.

In contrary with the current study findings, a cross-sectional study conducted by **Vallelym et al. (2019)** to evaluate the awareness of pregnancy-related warning signs among women visiting prenatal clinics on 482 women in Papua New Guinea. They stated that there was no significant association between understanding of danger signs and antenatal care attendance. This discrepancy might be attributed to inadequate health services, including shortage of resources and materials, problems in organization and facilities,

as well as poor in-service preparation and support for all health practitioners.

Regarding practices taken by pregnant women to alleviate their danger signs of pregnancy. The present study finding revealed that, most pregnant women that had faced warning signs during their pregnancy made self-care practices followed by consulting friends or family, contact a traditional healer while the least visited a health care center. This is in the same with a cross-sectional study conducted by *Aborigo et al. (2014)* to assess pregnancy warning signs and factors that affect health seeking actions at the Kassena- Nankani of Northern Ghana. They revealed that the hierarchy of finding treatment begins with home treatments, moves to traditional healers and ends at the healthcare facility.

This finding was confront with a cross-sectional survey conducted by *Mwilike et al. (2018)* to assess women's awareness of obstetric warning signs during pregnancy and their associated health care behaviors on 384 women in Kinondoni Municipality, Dares Salaam, Tanzania. They found that the majority of women who had identified pregnancy warning signs attended for a care and management at health facility because they had a strong awareness, appropriate experience and fear for their fetuses' lives. The majority may also live near the health facility, so they could easily reach to the facilities, assuming that being in a hospital setting might address much of their health-related issues. This disparity could be due to differences in understanding of the seriousness of pregnancy danger signs between pregnant women, degree of education or cultural context differences that may influence their behaviors and variations in awareness of danger signs and access

to social media. Therefore these findings showed that awareness of danger signs during pregnancy has an effect on pregnant women early health care seeking. Early medical care seeking is the first step towards reducing maternal deaths by successful antenatal monitoring and careful detection and prompt management of the danger signs (*Khanom et al., 2019*).

I. Conclusion

Based on the current study results, the following can be suggested:

Poor level of knowledge regarding danger signs of pregnancy was reported between pregnant women and affected by their sociodemographic factors, obstetric history, antenatal follows up and their source of knowledge. According to the actual practices performed by the pregnant women to overcome their danger signs during current pregnancy, self-care treatment was the actual mentioned practice. An important association has been established between the overall knowledge score and the practices of pregnant women toward danger signs.

II. Recommendations

The following is recommended on the basis of the outcomes of this study:

- Developing antenatal classes for all pregnant women about pregnancy danger signs and the suitable time to ask for medical care.
- The mass media should be utilized and community organizations mobilized to disseminate correct and relevant information about danger signs of pregnancy to women, families and communities.
- Further studies are needed in this field to assess the effect of health education program on women's knowledge and practices toward pregnancy danger signs during

pregnancy, labor and postpartum period.

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Conflicts of Interests

The authors observe that there is no dispute with respect to this research.

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