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Assessment of women's knowledge and Attitude Regarding Dangerous Signs during pregnancy

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ABSTRACT

Background: Maternal mortality remains critically high worldwide, particularly in Africa. Maternal recognition of obstetrical danger signs is critical for timely access to emergency care and to reduce maternal mortality. **Aim**: To assess women's knowledge and attitude regarding dangerous signs during pregnancy. **Design**: descriptive research design. **Setting**: The research was conducted in antenatal care clinic at Mainsheet El bakery hospital, Cairo governorate, Egypt. **Subjects** : (138) pregnant women who visit an antenatal care clinic at Mainsheet El bakery hospital. **Tools : Tool I:** A structured interviewing: questionnaire with two parts (demographic information, obstetrical history, and antenatal care history) .**Tool II:** A structured assessment of women's knowledge of pregnancy danger signs. **Tool III :** A structured assessment of women's attitudes regarding danger signs during pregnancy. **Results**: Most pregnant women had an unsatisfactory level of knowledge and a negative attitude regarding danger signs during pregnancy. **Conclusion**: There was highly statistically significant relationship between pregnant women's knowledge level and their attitude toward the signs of pregnancy. **Recommendations** : Developed educational program for pregnant women about danger signs during pregnancy to disseminate correct knowledge and a positive attitude about danger signs during pregnancy .

Keywords:

Attitude , Danger signs, Knowledge Pregnancy,

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Introduction

Pregnancy is the period in which a woman brings a new life that progress from one generation to the next one. Pregnancy is the crucial life stage as pregnancy needs more care and protection .Gestation period of a normal woman is 9 months or 40 weeks or 280 days. Pregnancy is the very crucial period in a woman's life due to many physical, psychological & emotional changes (Bishnoi et al., 2020). Pregnant women experience warning signs & symptoms known as danger signs during pregnancy. Should be to know about these warning signs with women in order to rule out significant consequences and start treatment right away .the danger signs as vaginal bleeding convulsions, elevated of body temperature, severe abdominal pain, severe pain in the head, blurred vision, absence movements of the fetus, fluid gushing from the vagina and foul -smelling vaginal discharge are the more common during pregnancy that can elevate the incidence of maternal mortality (Dagnachew et al.,2022). Lack of awareness of warning signs one of the most frequent causes of failure to recognize complications when emerge and postponing the choice to seek care. To lower high rates of maternal and neonatal mortality, the national reproductive plan places a strong emphasis on maternal and newborn health. The plan is focused on the requirement to enable expectant mothers, families & communities to detect pregnancy-related hazards and to assume responsibility for creating, carrying out, & responding appropriately (Jewaro et al., 2020).

Antenatal care services play a major role in providing pregnant women with adequate information about pregnancy danger signs to achieve a safe pregnancy period for pregnant woman &fetus .Prevention of pregnancy danger signs and improving healthcare services for pregnant women are ongoing challenges for midwives and other healthcare providers and enhancing knowledge &awareness about pregnancy danger signs during pregnancy is an important step in pregnancy care (Bodoor et al., 2021).

Maternity nurses should inform the pregnant women by a variety of practices that pregnant women may perform to overcome danger signs during pregnancy. Some pregnant women visit a health facility while others contact with health personnel, consult a friend or relative, make self-care & 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 (Zaki et al.,2021).

Significance of the Study:

Maternal mortality is unacceptably high. About 287000 pregnant women died during & following pregnancy and childbirth in 2020.Pregnant women die because of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy& most are preventable or treatable. Other complications may exist before pregnancy but are worsened during pregnancy, especially if not managed as part of the pregnant woman's care. The major complications were account for 75% of all maternal deaths (WHO , 2020).

The maternal mortality ratio is still high in Egypt, with 1400 women and 50 percent of their newborns dying yearly during pregnancy & birth complications. 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. pregnant 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 Moreover, positive attitude toward danger signs of pregnancy will save lives of pregnant women & reduce maternal mortality & morbidity(Amour et al., 2021).

Aim of the study:

The aim of the study to assess of women's knowledge & attitude regarding danger signs during pregnancy.

Research question.

1. What is the women's knowledge regarding the danger signs during pregnancy?
2. What is the women's attitudes regarding the regarding danger signs during pregnancy?

Subject & Method:

Research of design:

To fulfillment the goal of the current research, a descriptive research design was used.

Setting of the research:

The study was conducted in antenatal care clinic at Mainsheet El bakery hospital in Egypt.

Sample size:

A sample composed of 138 pregnant women .The following assumptions were made to determine the sample size:

The formula to calculate the sample size was: -(n=138).

n (sample size)= (z)2 p[1 – p]/d2

$n=\frac{1.96^2}{}$ x 0.10 x (1-0.10)/0.05^2=138

n= number of the study subjects.

z= the standardized normal distribution curve value for the 95% confidence interval (1.96).

P= the level of KAP of obstetric danger signs during pregnancy in Mainsheet El bakery hospital Administration which is 10%.

d=the desired precision of the estimate (the margin of error between the sample and population, 5%) (Hailu et al., 2010).

Inclusion criteria:

Age (18 – 35 years).

Pregnant in single fetus.

Exclusion criteria:

All pregnant women refuse participation in this study.

High risk pregnancy.

Tool of data collection:

Three tools were used as the following:

Tool (I) : As structured interview questionnaire sheet : it was developed by the researcher after reviewing the related literature (Tilahun et al.,2018) , and consist of two parts:

Part (I): General demographic characteristics including (age, level of education, residence, occupation and family income) .

Part (II): Obstetrical history including gravidity, number of pregnancies, number of deliveries, number of still birth, number of a live births , number of abortion , mode and place of last delivery, pregnant woman wants to attend antenatal clinic visit during pregnancy ,gestational age in first visits , number of follow up visit during pregnancy , reason for antenatal clinic visit , laboratory investigation pregnant women done during antenatal clinic visit , obtain knowledge about nutrition, physiological changes exercise, sleeping ,immunization schedule, follow up ,breast feeding benefits & pregnant women get opportunity to advised about (deliver place ,benefits of delivering at the health facility, exposure any complication) (Demissie et al.,2015).

Tool (II): Assessment woman's knowledge :it was adapted from (Hail etal,.2016) and modify by researcher. This tool for used to assess pregnant woman's sheet regarding knowledge regarding pregnancy danger signs consists of (7) questions as (definition of danger signs ,signs &symptoms during pregnancy danger signs , source of information, danger signs are different from complications during pregnancy, the danger signs is greater danger on the life of the pregnant women, antenatal follow up is important to minimize exposure danger signs & actions pregnant woman exposure the danger signs in pregnancy).

Scoring system:

a knowledge assessment was conducted using seven multiple-choice questions. Each question was scored as zero for a "No" answer and one for a "Yes" answer. The total knowledge score for each participant ranged from 0 to 7, representing the number of correct answers. To determine the overall knowledge level of the pregnant women, the researchers calculated the mean and standard deviation of the assessment scores. The mean provides an average score, while the standard deviation shows the degree of variation in the scores. Based on the scoring system and the total knowledge score, the researchers categorized the knowledge level as either satisfactory or unsatisfactory (Liben et al.,2019) .

A satisfactory knowledge level was defined as a score higher than 50%, indicating that the participant answered more than half of the questions correctly.

An Unsatisfactory Knowledge level was defined as a score lower than 50%, indicating that the participant answered less than half of the questions correctly.

Tool (III): Assessment woman's attitude (Likert scale)). it adopted from (Sodere et al ., 2017) , and used to assess pregnant woman's attitude consist of (9) items as (as (important for pregnant women to know obstetric danger signs during pregnancy, knowing obstetric danger sign is important because women will seek medical care on time, knowing obstetric danger sign is important because the danger signs was not go away by their own, pregnant women who develop obstetric danger signs should seek medical advice ,pregnant women who develop obstetric danger signs should seek help from older women, pregnant women who develop obstetric danger signs should seek help from untrained traditional birth attendants , pregnant women can prevent danger signs during pregnancy, pregnant women should follow up pregnancy after appearance of danger signs, pregnant women should follow medical advice exactly after appearance of danger signs).

Scoring system:

By Likert scale the instrument each question was scored by two for (agree), zero for (disagree) & one for (neutral).The total attitude score level ranges from (0 - 18). The total scoring of attitude indicates as :

Negatively < 50% - Positively >50% . (Amour et al .,2021).

Validity:

The revision of the tools was done by a panel of three experts in the field as maternal and newborn health nursing from Helwan University to measure the content validity of the tools and the necessary modification by adding or deleting in some questions in some tools were made according to the panel judgment to ensure sentences clarity and content appropriateness.

Reliability:

Reliability analysis of proposed tools was done by Cronbach alpha test through SPSS computer program. Those three tools were reliable to detect the objectives of study.

Items	Cronbach alpha	P-vale
Pregnant Woman's Experience in Pregnancy	0.721	0.001*
Knowledge about danger signs	0.922	0.001*
Attitude about danger signs	0.841	0.001*

Pilot study :

A pilot study was be carried out on 10% of study subject (14) pregnant women to test the applicability of data collection tool the subject in pilot study were included from the study.

Ethical consideration:

An official permission to conduct the proposed study would obtain from the scientific research ethical committee Faculty of Nursing Helwan University. Participation in the study is voluntary and subjects would give complete full information about the study and their role before signing the informed consent .the ethical considerations would include explaining the purpose and nature of the study stating the possibility to withdraw at any time confidentiality of the information where it would not be access by any other party without taking permission of the participants. Ethical, values, culture and beliefs would respect.

Field work:

* The study beginning of August 2022 until the end of December 2022.
* An official permission was given from the directors of Mainsheet El bakery Hospital, Ministry of Health, and the dean of the Faculty of Nursing Helwan University to have approval for conduct of the study after explaining the purpose of the study.
* The researcher visited the study setting three days per week from 10.00 am to12.00 pm, the average number of pregnant women (8-10) per month, for each pregnant woman took (15-30) minutes to complete the questionnaires.
* The researcher introduced herself to each pregnant woman participated in the study and welcomed each pregnant woman, explained the aim of study.
* The researcher was distributed questionnaire for pregnant women and asked them to fill in and other pregnant women not reading or writing filling out by researcher in waiting area.
* Privacy & safety were absolute research assured.

Statistical design:

Numerical data were presented as mean and standard deviation (SD) values. Qualitative data were presented as frequencies (n) and percentages (%). Reliability of the questionnaire was assessed using Cronbach's alpha reliability coefficient. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. Higher values of Cronbach's alpha (More than 0.7) denote acceptable reliability Bonferroni's adjustment was used for pair-wise comparisons when Kruskal-Wally's test is significant. Spearman's correlation coefficient was used to determine correlations between different variables. The significance level was set at $P \leq 0.05$. Statistical analysis was performed with IBMSPSS Statistics Version 26 for Windows.

Results :

Table (1) Shows that, 39.8 % of the pregnant women their age was from 18-25years, while 25.4% of them aged from 26-30 with the mean± SD was (27.51 ± 5.133). Concerning to educational level, 49.3% of the studied women had primary education, while only 4.3% of them had university education. Most of them (87%) were living in urban area while only 13% were living in rural. Shows that, 44.9% were housewife, while 29% of them were employed and 79 % had enough family income.

Table (2) Reveals that, the mean & standard deviation of total number of pregnancies (gravid)was2.49 ±1.373and 55.8 % of the studied pregnant woman ranged from (1-2) , while 8.7% of them were ranged from (5-6).Regarding number of para , the mean & standard deviation was 1.28 ±1.125 and 52.9 % of the studied pregnant woman

ranged from (1-2), while 16.7% of them were ranged from (3-4) . Show number of abortions 21.1% range from (1)while 7.2% of them were ranged from (2) .As regards mode of last delivery, 72.9% of the pregnant women reported that they delivered by spontaneous vaginal delivery &governmental hospital (82.3%).
Table (3) Illustrates that, show 90. 6% pregnant woman wants to attend antenatal clinic visit while only 9.4% no wants. Show age of pregnancy at first trimester 68.8% while 9.4 % of them second trimester, the Reason for antenatal clinic visit to follow up 37.7% but only 26.1% to delivery. Show 73.9% pregnant women visit antenatal clinic between (1-5 times) while 1.4% of them between (11-15).

Table (4) Shows that, 89.1% the studied pregnant women were aware about definition of danger signs pregnancy while only 10.9% had not aware .While 89.1% of the studied pregnant women were aware by signs & symptoms as severe vaginal bleeding or sudden gush of fluid but 8.7% dysuria or oliguria that occur during pregnancy .Shows that, 29.3 % aware antenatal follow up is important to minimize exposure danger signs while 70.3 % of them not aware. Also 15.2% the studied pregnant women were agreeing with danger signs are different from complications during pregnancy while only 84.8 % had no aware.

Table (5) Reveals that, 48.6 % of the studied pregnant women had knowledge regarding danger signs that occur during pregnancy, while only 51.4 % had not knowledge .

Figure(1): Reveals that , 51.4 % of the studied pregnant women had unsatisfactory knowledge regarding danger signs that occur during pregnancy, pregnant women regarding total attitude, gravid, Para, and age of pregnancy at first visit with p-value =(0.002, 0.01, and 0.008 respectively). Also, there was no statistically significant relation between

Table (10) reveals that, there was highly statistically significant positive correlation between

while only 48.6 % had satisfactory knowledge.

Table (6) Shows that, 87% of the pregnant women agree about know obstetric danger sign is important because women will seek medical care on time, while 63% of the pregnant women disagree about who develop obstetric danger signs should seek help from untrained traditional birth attendants and 50.7 % of the pregnant women disagree about can prevent danger signs during pregnancy.

Figure (2): Reveals that, 59.4% of the studied pregnant women had a negative attitude on danger signs regarding pregnancy, while 40.6% of them had a positive attitude.

Table (7) shows that, there was a highly statistically significant relation between studied pregnant women regarding total knowledge, age & level of education with p-value=(0.05and0.005respectively). Also, there was un statistically significant relation between studied pregnant women regarding total knowledge, Family income and occupation and residence up with p-value =(0.072, 0.754 and 0.204 respectively)

Table (8) shows that, there was a highly statistically significant relation between studied pregnant women regarding total knowledge, para & age of pregnancy at first visit and number of visit follow up with p-value =(0.01 & 0.000 and 0.03).Also, there was no statistically significant relation between studied pregnant women regarding total knowledge, gravid, abortion ,mode of last delivery , place of delivery& up with p-value =(0.150, 0.001 ,0.802, 0.540 and 0.353).

Table (9)reveals that, there was a highly statistically significant relation between studied

studied pregnant women regarding total attitude , abortion , times of going to follow up ,mode of last delivery & place of delivery up with p-value = (0.556 , 0.834 ,0.245 &0.546 respectively).
pregnant women knowledge and their attitude with p = (0.009).

Table (1): Distribution the studied pregnant women regarding of demographic characteristics (n=138).

Items	Studied women. (n = 138)	
	No	%
Age group: • 18-25 year • 26-30 year • More than 30 years	 55 35 48	 39.8 25.4 34.8
Mean ± SD	27.51 ± 5.133	
Level of education. • Illiterateness • Primary • Secondary • University	 29 68 35 6	 21 49.3 25.4 4.3
Residence. • Rural • Urban	 18 120	 13 87
Occupation. • Housewife • Government employee • private employee	 62 40 36	 44.9 29 26.1
Family income. • Not enough • Enough	 29 109	 21 79

Table (2) : Distribution the studied pregnant women regarding of obstetric characteristics (n=138).

Items	Studied women (n = 138)	
	No	%
Gravid no: • 1-2 • 3-4 • 5-6	 77 49 12	 55.8 35.5 8.7
Mean± SD	2.49 ±1.373	
Para • No • 1-2 • 3-4	 42 73 23	 30.4 52.9 16.7
Mean± SD	1.28 ±1.125	
Still births	5	3.6
Live births	133	96.4
Abortion • 0 • 1 • 2	 99 29 10	 71.7 21.1 7.2
Mean± SD	0.346 ±0.613	
Mode of last delivery (n=96). • Spontaneous vaginal delivery(SVD) • Cesarean section	 70 26	 72.9 27.1
Place of last delivery (n=96). • Governmental hospital • Private hospital/clinic • Home	 79 12 5	 82.3 12.5 5.2

Table(3): Distribution the studied pregnant women regarding of current history of pregnancy (n=138).

Items	Studied women (n = 138)	
	No	%
Pregnant woman wants to attend antenatal clinic visit during pregnancy. • No • Yes	 13 125	 9.4 90.6
The gestational age of pregnant woman in first visit. • 1st trimester • 2nd trimester • 3rd trimester	95 13 30	68.8 9.4 21.7
Mean± SD	3.42 ±2.879	
Reason for antenatal clinic visit. • Follow up. • Delivery • Follow up and delivery	52 36 50	37.7 26.1 36.2
The laboratory investigation pregnant woman done during antenatal clinic visit. • Complete blood count • Blood Glucose • Pregnancy test • Urine analysis • Ultrasound for pregnancy	 114 56 43 28 117	 84.4 42.1 32.3 21.1 88
Pregnant women visit clinic during pregnancy. • 1-5 • 6-10 • 11-15	102 34 2	73.92 4.6 1.4
Mean± SD.	4.17±2.629	

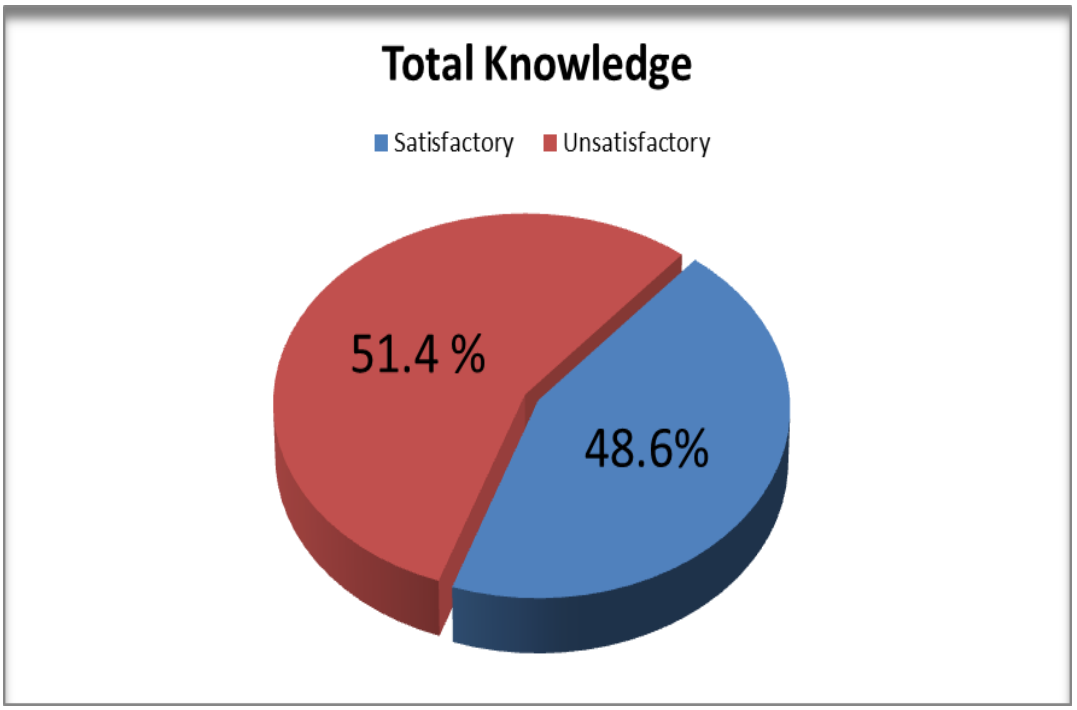
Table(4): Distribution the studied pregnant women regarding of knowledge regarding dangerous Signs during Pregnancy (n=138)

Items	Studied women (n = 138)			
	Yes		No	
	No	%	No	%
Definition of danger signs during pregnancy.	123	89.1	15	10.9
Signs & Symptoms about danger signs that occur during pregnancy.				
• Severe vaginal bleeding or Sudden gush of fluid	123	89.1	15	10.9
• Continuous nausea & vomiting	42	30.4	96	69.6
• Severe headache with blurred vision	90	65.2	48	34.8
• Severe abdominal or lower back pain	107	77.5	31	22.5
• Reduced fetal movement.	119	86.2	19	13.8
• Too weak to get out of bed.	39	28.3	99	71.7
• Fast or difficulty in breathing	38	27.5	100	72.5
• High fever	73	52.9	65	47.1
• Swelling of fingers, face, and legs	62	44.9	76	55.1
• Convulsion	22	15.9	116	84.1
• Dysuria or Oliguria	12	8.7	126	91.3
Mean ±SD	4.93±2.628			
Danger signs are different from complications during pregnancy	21	15.2	117	84.8
The danger sign that threatens a pregnant woman's life the most				
• Severe vaginal bleeding or Sudden gush of fluid	130	94.2	8	5.8
• Continuous nausea & vomiting	46	33.3	92	66.7
• Severe headache with blurred vision	80	58	58	42
• Severe abdominal or lower back pain	96	69.6	42	30.4
• Reduced fetal movement.	83	60.1	55	39.9
• Too weak to get out of bed.	31	22.5	107	77.5
• Fast or difficulty in breathing	43	31.2	95	68.8
• High fever	64	46.4	74	53.6
• Swelling of fingers, face, and legs	20	14.6	118	75.5
• Convulsion	42	30.4	96	69.6
• Dysuria or oliguria	29	21	109	79
Mean ± SD	4.28±2.48			
Antenatal follow up is important to minimize exposure danger signs.	41	29.3	97	70.3
Actions pregnant woman if exposure the danger signs in pregnancy.				
• Call the doctor.	105	74.7	23	25.3
• Went to a health facility.	24	17.3	113	82.7
• Nothing	11	8	127	92

Table (5):

Distribution the studied pregnant women regarding of total knowledge on dangerous signs during pregnancy (n=138).

Items	Yes		No	
	No	%	No	%
Definition danger signs that occur during pregnancy.	123	89.1	15	10.9
Signs and symptoms danger signs during pregnancy.	40	29	98	71
The danger signs are greater danger to the life of the pregnant women.	42	30.4	96	69.6
Antenatal follow up is important to minimize exposure danger signs.	41	29.7	97	70.3
Danger signs are different from complications during pregnancy	21	15.2	117	84.7
Actions pregnant woman if exposure the danger signs in pregnancy.	137	92	11	8
Knowledge	67	48.6	1	51.4



Figure(1) Total pregnant women knowledge regarding danger signs during pregnancy

Table (6): Distribution the studied pregnant women regarding of attitude on danger signs regarding pregnancy (n=138)

Items	Studied women (n = 138)					
	Agree		Neutral		Disagree	
	No	%	No	%	No	%
Important for pregnant women to know obstetric danger signs during pregnancy	125	90.6	13	9.4	0	0
Knowing obstetric danger sign is important because women will seek medical care on time	120	87	17	13	1	0.7
Knowing obstetric danger sign is important because the danger signs will not go away by their own	111	80.4	22	15.9	5	3.6
Pregnant women who develop obstetric danger signs should seek medical advice	122	88.4	15	10.9	1	0.7
Pregnant women who develop obstetric danger signs should seek help from older women	58	42	33	16	47	34.1
Pregnant women who develop obstetric danger signs should seek help from untrained traditional birth attendants	23	16.7	28	33	87	63
Pregnant women can prevent danger signs during pregnancy	27	19.6	41	29.7	70	50.7
Pregnant women should follow up pregnancy after appearance of danger signs	93	67.4	32	23.2	13	9.4
Pregnant women should follow medical advice exactly after appearance of danger signs	91	65.9	32	23.2	15	10.9

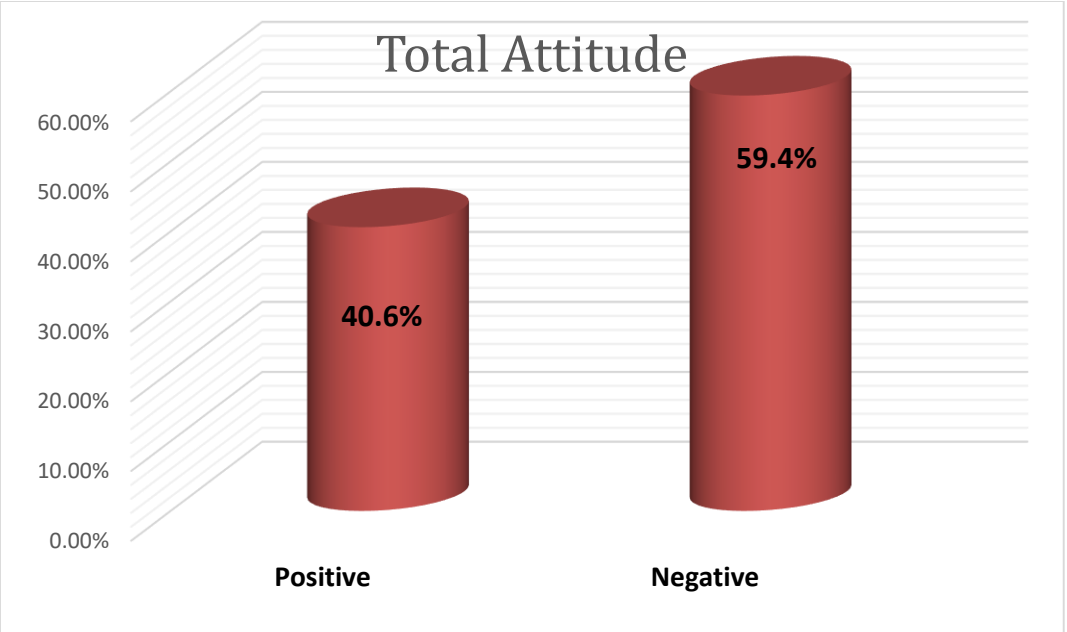


Figure (2): Total pregnant women attitude regarding danger signs during pregnancy.

Table 7): Relation between pregnant women's total knowledge & demographic characteristic.

Items	Pregnant women knowledge				X2	P-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Age group: • 18-25 year • 26-30 year • More than 30 years	 31 19 27	 40.3 24.7 35.1	 24 16 21	 39.3 26.2 34.4	0.044	0.05*
Level of education • Illiterateness • Primary • Secondary • University	 21 33 20 3	 27.3 42.9 26 3.9	 8 35 15 2	 13.1 57.4 24.6 3.3	6.838	0.005*
Residence. • Rural • Urban	10 79	11.2 88.8	8 41	16.3 83.7	3.052	0.204
Occupation • Housewife • Government employee • Private employee	 37 16 24	 48.1 20.8 31.2	 25 24 12	 41 39.3 19.7	6.150	0.754
Family income: • Not enough • Enough	13 59	16.9 82.5	16 44	26.2 72.8	3.487	0.072

*: Significant at P ≤ 0.05

Table (9): Relation between pregnant women's total knowledge and obstetric characteristics

Items	Pregnant women knowledge				X2	P-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Gravid no:						
• 1-2	42	54.5	30	49.2		
• 3-4	26	33.8	23	37.7		
• 5-6	5	6.5	7	11.5	2.495	0.150
Para						
• No	23	29.9	19	31.1		
• 1-2	41	53.2	32	52.5		
• 3-4	13	16.9	10	16.4	0.027	0.01*
Abortion						
• 0	66	85.7	35	57.4		
• 1	8	10.4	19	31.1		
• 2	3	3.9	7	11.5	13.928	0.001
Gestational age at first antenatal clinic visit						
• First trimester	43	55.8	52	85.2		
• Second trimester	8	10.4	5	8.2		
• Third trimester	26	33.8	4	6.6	16. 039	0.000*
Number of visits.						
• 1-5	65	84.4	37	60.7		
• 6-10	11	14.3	23	37.7		
• 11-15	1	1.3	1	0.7	10.204	0.003*
Mode of last delivery (n=96).						
• Spontaneous vaginal delivery						
• Cesarean section	30	63.8	40	81.2		
	17	36.2	9	18.8	9.138	0.802
Place of last delivery (n=96).						
• Governmental hospital	40	85.2	39	79.6		
• Private hospital/clinic	5	10.6	7	14.3		
• Home	2	4.2	3	6.1	6.155	0.540

*Significant at P ≤ 0.05

Table (9): Relation between pregnant women's total attitude and obstetric characteristics

Items	Pregnant women's attitude					
	Negative		Positive		X2	P-value
	No	%	No	%		
Gravid no: • 1-2 • 3-4 • 5-6	 36 36 10	 43.9 43.9 12.2	 41 13 2	 73.2 23.2 3.6	12.370	0.002*
Para • No • 1-2 • 3-4	 19 46 17	 23.2 56.1 20.7	 23 27 6	 41.1 48.2 10.7	5.898	0.01*
Abortion • 0 • 1 • 2	 59 16 7	 72 19.5 8.5	 42 11 3	 75 11 3	0.507	0.556
The gestational age of pregnant woman in first antenatal clinic visit. • First trimester • Second trimester • Third trimester	 49 10 23	 59.8 12.2 28	 46 3 7	 82.1 5.4 12.5	7.775	0.008*
Number of visits. • 1-5 • 6-10 • 11-15	 62 18 2	 75.6 22 2.4	 40 16 0	 71.4 28.6 0	2.036	0.834
Mode of last delivery (n=96). *Spontaneous vaginal delivery *Cesarean section	 30 10	 75 25	 40 16	 71.4 28.6	1.250	0.245
Place of last delivery (n=96). • Governmental hospital • Private hospital/clinic • Home	 35 3 2	 87.5 7.5 5	 44 9 3	 78.6 16 5.4	0.507	0.546

*Significant at P ≤ 0.05

Table (10): Correlation between total pregnant women knowledge and attitude:

Items	Total knowledge	
	Correlation Coefficient (r)	P-value
Attitude	0.220	0.009*

*:Significant at P ≤ 0.05

Discussion:

Vaginal bleeding, headache, blurred vision, a high temperature, swollen hands or cheeks, and decreased fetal activity are all danger signs there have reportedly been 295000 pregnancy- and childbirth-related deaths of women worldwide .Severe bleeding, infections, high blood pressure throughout pregnancy, obstructed labor and unsafe abortion are the main problems that cause 80% of all maternal fatalities. However, if the proper steps are done as soon as possible, many maternal fatalities can be avoided. Given that difficulties can arise at any time throughout pregnancy, every pregnant woman must be aware of the danger signs. (Emeh et al., 2021).

Concerning demographic characteristic of the studied pregnant women, the current study revealed that, more than one third of the studied pregnant women their age was from(18-25)years .This may be due to that most of the studied pregnant women are not interested in education and are concerned with the viewpoint of early marriage. Finding of current study was on the same line with Zaki et al.,(2021) in their study entitled "Assessment of knowledge and practices of pregnant women toward danger signs of pregnancy, in Egypt" and reported that more than one third of the studied women their age group from (20 to 25) years and more than one quarter of them their age group from (26 to 30) years . This finding was disagreed with Emeh et al., (2021) who carried out a study in Cameroon and entitled "Antenatal care and determinants of obstetric danger signs awareness of immediate postpartum women" and found that more than half of studied women age more than 25 years.

The current study found that, slightly less than half of studied pregnant women had primary education and minority of them had university education. This might be due to according to their habits and low level of economic. This result was supported by Salem et al., (2018) that carried out a study entitled "Cross-sectional survey of knowledge of obstetric danger signs among women in rural Madagascar" and stated that more than one quarter of studied pregnant participants had primary education.

Concerning obstetric characteristic of the studied

pregnant women. The present study stated that, more than two thirds of the pregnant women gestational age of pregnancy during first visit was in the first trimester, while minority of them started in the second trimester .This might be one causes to aid less appear danger signs during pregnancy. This result was like Bej, (2020) who carried out a study entitled "knowledge, attitude & practices among pregnant women about antenatal care , danger sign during pregnancy and adopting that more than three quartets of studied that more than three quartets of studied pregnant women first antenatal care visit were during ≤12 weeks of gestation age .

In relation to antenatal care services advice in last pregnancy, the present study stated that, less than two thirds of studied pregnant women obtained health education program during antenatal clinic visit about follow up while more than one third of them had not obtain and more than half of them studied had an opportunity to be advised on danger symptoms during pregnancy while only more than one third of them had not get an opportunity. This may be due to low awareness health care workers about important obtain pregnant women on information & services during visits in antenatal care clinic .This finding was agreed with Woldeamanuel et al., (2019) who carried out a study in northern Ethiopia entitled "knowledge of obstetric danger signs and its associated factors among pregnant women in Angolela Tera district" and reported that less than two thirds of studied pregnant women were received counseling regarding danger signs during follow up visits in antenatal care centers.

Regarding danger signs during pregnancy, the current study stated that, less than three quarters of studied pregnant women were disagree antenatal follow up is important to minimize exposure danger signs while more than one quarter of them agree . This is may be indicates a lack of awareness of pregnant woman about follow up important to early detect danger signs during pregnancy .This finding of current study was on the same line with Rabiu&Ladu, (2019)who carried out a study entitled "Knowledge of obstetric danger signs among pregnant women attending antenatal clinic in Murtala Muhammad specialist hospital, Kano, Nigeria" and stated that more than half of pregnant women reported that visiting antenatal care center not reduced danger signs during pregnancy . Contrariwise, this finding disagreed with Shirin, (2020) in their study conducted in Bangladesh titled "Knowledge of five obstetric danger sign among pregnant women attending antenatal care of ICMH, Matuail, Dhaka" who revealed that most of studied women reported that regular visit to antenatal care centers reduced the incidence of dangers signs occurrence.

The current study reported that, majority of the studied pregnant women were disagreed with danger signs are different from complications during pregnancy while minority of them were agreed and about three quarters of them do nothing if exposure from these danger signs, while less than one quarter of them went to a health facility. This finding on the same line with Mwilike et al., (2018) who conducted a study entitled "Knowledge of danger signs during pregnancy and subsequent healthcare seeking actions among women in urban Tanzania" and found that majority of the studied women was know the meaning of danger signs. Contrariwise, this study was disagreed with Asferie & Goshu, (2022) who stated that more than three quarters of studied pregnant women went to antenatal care facility when experienced danger signs during pregnancy. In the researcher point of view of health education should be available in a simplified form about the difference between danger signs and pregnancy complications to suit all different educational groups of pregnant women.

The current study reported that, more than half of the studied pregnant women their source of information about danger signs by family health center while minority of them their source of information by media and most of them were aware the danger bleeding is greater danger on the life while minority of them were reported swelling of fingers, face, and legs. This result was like Woldeamanuel et al., (2019) who carried out a study in northern Ethiopia entitled "Knowledge of obstetric danger signs and its associated factors among pregnant women in AngolelaTera district" and reported that most of the studied women reported that their source of formation regarding danger signs during pregnancy were from antenatal care.

center staff . This study was dissimilar to Yibalih et al., (2020) who conducted a study in Ethiopia entitled "Awareness of obstetric danger signs and associated factors among pregnant women who attend antenatal care in public health institutions of adama city" and revealed that more than two thirds of the studied pregnant women reported that danger signs during pregnancy no danger on pregnant women's life. In the researcher point of view this indicates a high level of confidence in health team for obtain information sources.

In relation to pregnant women's knowledge on dangerous signs during pregnancy, the present study found that, more than half of the studied pregnant women had unsatisfactory level of knowledge regarding danger signs that occur during pregnancy, while less than half of them had satisfactory level of knowledge. This finding was supported by Liben et al., (2019) who conducted a study entitled "Knowledge of pregnancy danger signs and associated factors among pastoral women in Afar regional state, Ethiopia" and mentioned that more than two thirds of studied pregnant women had unsatisfactory level of knowledge regarding danger signs during pregnancy. Contrariwise, this study in disagreement with Shamanewadi et al., (2020)who carried out a study entitled "Level of awareness of risk factors and danger signs of pregnancy among pregnant women attending antenatal care in PHC, Nandagudi, Bengaluru" and stated that most of studied pregnant women had. From satisfactory level of knowledge regarding danger signs during pregnancy the researcher's point of view, this result was unsatisfactory because it is related to more than one factor such as (age, education, para, age of pregnancy at first visit , number of visit) and thus affect the knowledge toward them danger signs during their pregnancy.

Concerning pregnant women's Attitude on danger signs regarding pregnancy, the current study reported that, most of the studied pregnant women agree about important know obstetric danger signs during pregnancy and should know obstetric danger

sign is important because pregnant women will seek medical care on time. The finding in study was on the same line with Mekonnen, (2018) who reported that majority of studied women reported that pregnant women must know danger signs during pregnancy and to go to nearest health center in the presence of obstetric danger signs. Also, this finding was agreed with Nkencho et al., (2022) in their recent study titled "Knowledge and Attitude of Pregnant Women towards Obstetric Danger Signs amongst Those Attending Antenatal Clinic in Yenagoa Metropolis, South-South, Nigeria" and mentioned that most of studied pregnant women agreed regarding importance of knowing danger signs during pregnancy and must be go to health care facilities when danger signs occur. In the researcher point of view the early detection and treatment to danger signs during pregnancy this is important effect on health to pregnant woman and fetus.

In relation to total pregnant women's attitude on danger signs regarding pregnancy, the current study revealed that, more than half of the studied pregnant women had a negative attitude on danger signs regarding pregnancy, while more than one third of them had a positive attitude .This may be related to according low level their knowledge about danger signs .This study was in agreement with Rabiu&Ladu, (2019)who carried out a study entitled "Knowledge of obstetric danger signs among pregnant women attending antenatal clinic in Murtala Muhammad specialist hospital, Kano, Nigeria" and mentioned that more than half of studied women had negative attitude regarding danger signs during pregnancy. Contrariwise, this result was disagreed with Ermawati et al., (2020) who carried out a study entitled "The relationship of knowledge and attitudes of pregnant women about danger sign of pregnancy with antenatal care (ANC) compliance in third trimester in air Tawar public health center in padang city, Indonesia" and mentioned that more than two thirds of studied of pregnant women had positive attitude regarding danger signs of pregnancy.

Regarding relation between pregnant women's knowledge & demographic characteristic, the present study reported that, there was a highly statistically significant relation between studied pregnant women regarding total knowledge, age, level of education, para, age of pregnancy at first visit and times of going to follow up. This result was agreed with Abdurashid et al., (2018) who stated that there was a highly statistically significant difference between total awareness level of pregnant women and their age, level of education, number of labor and gestation age at first visit of antenatal care center. Contrariwise, this study was disagreed with Zaki et al., (2021) in their study entitled "Assessment of knowledge and practices of pregnant women toward danger signs of pregnancy, in Egypt" and reported that there was no statistically significant difference between studied pregnant women's knowledge and their age.

The current study revealed that, there was no statistically significant relation between studied pregnant women regarding total knowledge, family income, occupation, residence ,gravida , abortion , mode of last delivery &place of last delivery . This finding was like Salem et al., (2018) who carried out a study entitled "Cross-sectional survey of knowledge of obstetric danger signs among women in rural Madagascar" and stated that there was no statistically significant difference between studied women's total knowledge and their monthly income and occupation. Contrariwise, this study was dissimilar to Asferie&Goshu, (2022) who mentioned that there was a statistically significant difference between pregnant women knowledge level and their marital status, monthly income, gravid and numbers of visiting of antenatal care center.

The present study reported that, there was no statistically significant relation between studied pregnant women regarding total attitude, age, marital status, family income, level of education, occupation, abortion, start of follow up, and times of going to follow up. This result was on the same line with Nkencho et al., (2022)who mentioned that there was no statistically significant difference between pregnant women attitude level and their marital status, monthly income of family, level of education, job, number of antenatal visits and abortion. Contrariwise, this finding was disagreed with Ali et al., (2020) who revealed that there was a statistically significant difference between attitude level of pregnant women and their age.

Regarding positive correlation between pregnant women' knowledge and Attitude, the present study revealed that there was highly statistically significant correlation between pregnant woman's' knowledge and their attitude .This finding was like Mekonnen, (2018)who found that there was strong positive correlation between total knowledge level and total attitude level of studied pregnant women. Contrariwise, this result was dissimilar to Ermawati et al., (2020) who mentioned that there was negative correlation between total knowledge level and total attitude level of studied pregnant women.

Conclusion:

The findings of the current study concluded that more than half of the pregnant women had unsatisfactory knowledge and a negative attitude regarding danger signs during pregnancy. Furthermore, the study revealed a highly statistically significant relationship between the pregnant women's knowledge level and their attitude toward danger signs during pregnancy . These findings directly address the research questions posed in the study, providing evidence and insights into the knowledge and attitudes of pregnant women regarding danger signs during pregnancy.

Recommendations:

Based on findings on the present study the following are recommendations were suggested:

I) Developed educational program for pregnant women about danger signs during pregnancy to disseminate correct knowledge and a positive attitude about danger signs during pregnancy

2) Implementation education program for nurses about appropriate strategies for health education about danger signs during pregnancy.

References :

Abdurashid, N., Ishaq, N., Ayele, K., &Ashenafi, N. (2018):Level of awareness on danger signs during pregnancy and associated factors, among pregnant mothers, dire Dawa administrative public health facilities, Eastern Ethiopia. Clinics in Mother and Child Health, 15(1). doi:10.4172/2090-

7214.1000290.
Ali, R., Mohamed, A., Arief, A., Abdel-Salam, D., &Khalaf, F. (2020):Effectiveness of health education program on the level of knowledge and attitude of pregnant women regarding obstetric danger signs in Upper Egypt. Journal of High Institute of Public Health, 0(0), 118-124. doi:10.21608/jhiph.2020.111317.
Amoura Saad Eldeen Zaki, Shaimaa Fouad, Nahed Fikry Hassan khedr(2021). assessment of knowledage & practices of pregnant women towerd danger signs during pregnancy . Print ISSN: 2735 – 4121 Online ISSN : 2735 – 413X.
Asferie, W. N., &Goshu, B. (2022): Knowledge of pregnancy danger signs and its associated factors among pregnant women in Debre Tabor town health facilities, south Gondar administrative zone, northwest Ethiopia, 2019: Cross-sectional study. SAGE Open Medicine, 10,205031212210744.doi:10.1177/20503121221074492.
Bej, P. (2020):Knowledge, attitude, and practices among pregnant women about antenatal care, danger sign during pregnancy and adopting family planning method. Journal of Preventive Medicine and Holistic Health, 4(1), 10-15. doi:10.18231/2454-6712.2018.0004.
Bishnoi, S., Yadav, P., & Malik, P. (2020). Care During Pregnancy, Chapter - 4. In Research Trends in Home Science and Extension(Issue December). https://doi.org/10.22271/ed.book.960

Bodoor Mohammad Al-Matarneh, Omar Abdulhmeed Al-khawaldeh , Arwa Mahmoud Alsaraireh (2021). Knowledge, attitudes, and practices regarding obstetric danger signs among Jordanian pregnant women attending antenatal clinic in Jordan doi: 10.15452/CEJNM.2022.13.0021
Dagnachew Getachew1 Tamirat Getachew2 , Adera Debella2 , Addis Eyeberu2 , Genanew Atnafe2 and Nega Assefa2 (2022). Magnitude and determinants of knowledge towards pregnancy danger signs among pregnant women attending antenatal care at Chiro town health institutions, Ethiopiadoi/pdf/10.1177/20503121221075125.
Demissie E, Dessie F, Michael FW, kahsay T, Tadele N (2015): Level of Awareness on Danger Signs of Pregnancy among Pregnant Women Attending Antenatal Care in MizanAman General Hospital, Southwest, Ethiopia: Institution Based Cross-sectional Study. J Women's HealthCare 4: 288. doi:10.4172/2167-0420.1000288
Emeh, A. N., Atem, A. N., Humphrey, A. A., Gilbert, T. N., &Landis, F. C. (2021): Antenatal care and determinants of obstetric danger signs awareness of immediate postpartum women at Buea regional hospital, Cameroon. Pan African Medical Journal, 38. doi:10.11604/pamj.2021.38.247.20977.
Ermawati, A., Sunesni, M., &Noviana, D. (2020): The relationship of knowledge and attitudes of pregnant women about danger sign of pregnancy with antenatal care (ANC) compliance in third trimester in air Tawar public health center in padang city. 1st Annual Conference
Ermawati, A., Sunesni, M., &Noviana, D. (2020): The relationship of knowledge and attitudes of pregnant women about danger sign of pregnancy withAntenatal care (ANC) compliance in third trimester in air Tawar public health center in padang city. 1st Annual Conference of Midwifery, 12(1), 43-52. doi:10.2478/9788366675087-007.
Hailu Dand Berhe H (2016); Knowledge about Obstetric Danger Signs and Associated Factors among Mothers in Tsegedie District. PLoS One 9(2): e83459.
Hailu M, Gebremariam A, andAlemsged F (2010):Knowledge about obstetric danger signs among pregnant women in AlettaWondo district, Sidama zone, Southern Ethiopia. Ethiop J Health Sci. (1):25–32.
Jewaro, M., Yenus, H., Ayanaw, Y., Abera, B., & Derso, T. (2020).Knowledge of obstetric danger signs and associated factors among mothers in Bahir Dar district, northwest Ethiopia: an institution-based cross-sectional study. Public Health Reviews, 41(1), 1– 8. https://doi.org/10.1186/s40985-020-00132-7
Liben, M. L., Wuneh, A. G., & Zepro, N. B. (2019). Knowledge of pregnancy danger signs and associated factors among pastoral women in Afar Regional State, Ethiopia. Cogent Medicine, 6(1), 1612133.
Mekonnen, T. (2018):Assessment of knowledge and attitude towards obstetric danger signs during pregnancy among pregnant mothers attending antenatal care in MizanAman public health facilities, bench Maji zone, southwest Ethiopia. Journal of Gynecology and Womens Health, 11(3). doi:10.19080/jgwh.2018.11.555813.
Mwilike, B., Nalwadda, G., Kagawa, M., Malima, K., Mselle, L., &Horiuchi, S. (2018): Knowledge of danger signs during pregnancy and subsequent healthcare seeking actions among women in urban Tanzania: A cross-sectional study. BMC Pregnancy and Childbirth, 18(1).doi:10.1186/s12884-017-1628-6
Rabiu, A., &Ladu, H women. I. (2019): Knowledge of obstetric danger signs among pregnant attending antenatal clinic in Murtala Muhammad specialist hospital, Kano, Nigeria. Pyramid Journal of Medicine, 2(1). doi:10.4081/pjm.2019.19.
Salem, A., Lacour, O., Scaringella, S., Herinianasolo, J., Benski, A. C., Stancanelli, G., & Schmidt, N. C. (2018):Cross-sectional survey of knowledge of obstetric danger signs among women in rural Madagascar. BMC Pregnancy andChildbirth, 18(1).doi:10.1186/s12884-018-1664-x.
Shamanewadi, A., Pavithra, M., &Madhukumar, S. (2020): Level of awareness of risk factors and danger signs of pregnancy among pregnant women attending antenatal care in PHC, Nandagudi. Journal of Family Medicine and Primary Care, 9(9), 4717. doi:10.4103/jfmpc.jfmpc_743_20.
Shirin, D. B. (2020): Knowledge of five obstetric danger sign among pregnant women attending antenatal care of ICMH, Matuail, Dhaka. Journal of Medical Science and Clinical Research, 08(11). doi:10.18535/jmscr/v8i11.66.
Sodere Nurgi , Erdaw Tachbele , Wondwosen Dibekulu & Mulugeta Aseratie Wondim. (2017)Assessment of Knowledge, Attitude and Practice of Obstetric Danger Signs During Pregnancy Among Mothers in DebreBirhan City Administration, North Shewa, Amhara Region, Ethiopia. Ethiop J Health Dev,
Tilahun M, Bitewlegn G, Fekadu T (2018): Assessment of Knowledge and Attitude towards Obstetric Danger Signs During Pregnancy among Pregnant Mothers Attending Antenatal Care in MizanAman Public Health Facilities, Bench Maji Zone, Southwest Ethiopia. J Gynecol Women's

Health.11(3): 555813. DOI: 10.19080/JGWH.2018.11.555813.
WHO maternal mortality (2020). Available from: https://www.who.int/news-room/fact-sheets/detail/maternal-mortality
Woldeamanuel, G. G., Lemma, G., &Zegeye, B. (2019): Knowledge of obstetric danger signs and its associated factors among pregnant women in AngolelaTera district, northern Ethiopia. BMC Research Notes, 12(1).doi:10.1186/s13104-019-4639-8.
Yibalih, N. K., Dugassa, W., &Alemu, A. (2020): Awareness of obstetric danger signs and associated factors among pregnant women who attend antenatal care in public health institutions of adama city, oromia, Ethiopia. International Medical Science Research Journal, 1(3), 79-92. doi:10.51594/imsrj.v1i3.68.
Zaki, A., Fouad, S., &khedr, N. (2021): Assessment of knowledge and practices of pregnant women toward danger signs of pregnancy. Mansoura Nursing Journal, 8(1), 13-32. doi:10.21608/mnj.2021.179792