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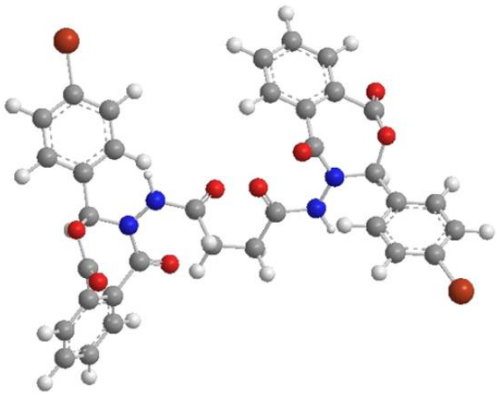

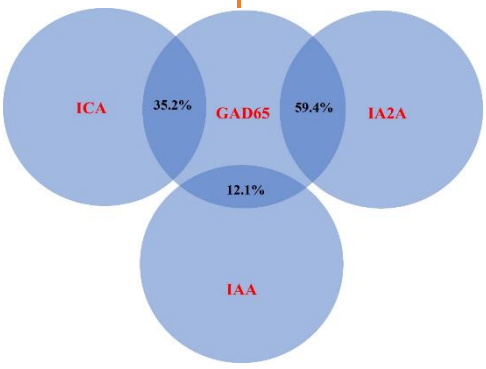

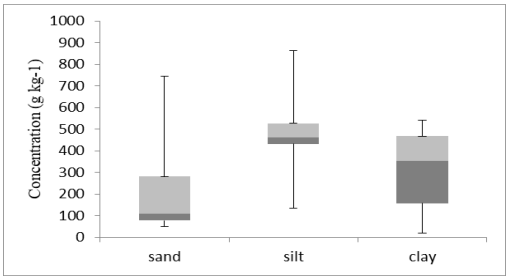

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Knowledge of Obstetric Danger Signs during Pregnancy in Prime Gravida Women Attending Ali Kamal Health Center, Sulaimaniyah, Iraq

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Abstract

Background: Pregnant mothers experience a number of physical and psychological changes due to pregnancy, which are part of a normal process. However, vaginal bleeding, severe headaches, blurred vision, high fever, swollen hands or face, and decreased foetal activity can be warning indicators. These warning signs typically point to an obstetric problem that could develop during pregnancy. Understanding these warning signs can empower women to make informed decisions and seek medical attention. **Objective:** The current study aims to assess the knowledge of danger signs during pregnancy of primigravidal women attending the Ali Kamal Health Center in Sulaimaniyah City. **Materials and Methods:** A non-probability, Purpousive sample of 126 pregnant women was used in this descriptive study. It was conducted at the Ali Kamal Health Center in Sulaimaniyah, Iraq from 16 January 2023 to 16 March 2023. A well-designed questionnaire was constructed, in which the first section focused on sociodemographic characteristics and the second section consisted of questions regarding obstetric characteristics. Ten questions about participants' knowledge of danger signs comprised the final section. **Results:** The findings revealed that 61.1% of participants had no knowledge of danger signs during pregnancy, 26.6% of mothers had adequate knowledge, and just 12.7% of participants had good knowledge. Age and education level have statistically significant or positive relationships with maternal knowledge. However, no statistically significant or positive relationships exist between maternal knowledge and occupation, monthly income, or place of residence. **Conclusions:** There was a lack of awareness of pregnancy danger signs among expectant mothers at the Ali Kamal Health Center. Pregnant women should be educated to be more aware of the warning indicators, as this will empower them to make informed decisions and seek the necessary medical attention.

Introduction

Pregnant mothers undergo a multitude of physiological and psychological transformations due to the natural process of pregnancy. However, a typical pregnancy can also encompass a range of challenges and complications that potentially jeopardize the well-being and survival of both the mother and the developing fetus **[1]**.

These complications may arise from various factors, such as pre-existing health conditions, gestational complications, or unforeseen medical emergencies. It is essential to recognize that, despite pregnancy being a normal phenomenon, such risks necessitate vigilant monitoring, early detection, and timely intervention to safeguard the health and lives of both the mother and the unborn child. Adhering to a comprehensive approach encompassing regular prenatal care, education about warning signs, and access to quality healthcare services can significantly mitigate these risks and contribute to optimal maternal and fetal outcomes. Many complications during pregnancy, labor, or after delivery can result in maternal mortality. However, if women experiencing these difficulties can recognize them and promptly seek appropriate emergency obstetric care, most of these deaths can be prevented **[2]**.

Numerous complications during pregnancy, labor, or after delivery can lead to maternal mortality. However, if women facing these life-threatening problems are able to recognize the signs and promptly seek urgent and appropriate obstetric care, the majority of these deaths can be prevented **[3]**.

The first step in accepting the need for an appropriate and timely referral to obstetric treatment is awareness of the dangers of pregnancy **[4].** Knowledge about a particular issue can influence how one seeks assistance from a health professional. High rates of maternal mortality can be reduced by arming women with information about pregnancy danger indicators and encouraging an appropriate healthcare-seeking attitude **[5]**.

It is crucial for every woman to recognize that complications can arise at any stage of pregnancy and be knowledgeable about the warning signs. These warning indicators encompass diminished fetal movement, severe headaches, visual disturbances, high fever, vaginal bleeding, and swelling of the hands or face. It is imperative to emphasize the importance of raising awareness among pregnant women regarding these symptoms in order to facilitate timely medical intervention and mitigate potential risks **[5]**.

Nearly all (99%) of the 358,000 women who lose their lives yearly due to pregnancy-related causes reside in underdeveloped nations, particularly in sub-Saharan Africa. On a global scale, maternal deaths are attributed to both direct and indirect causes, although approximately 80% of all maternal deaths are primarily associated with direct obstetric danger signs and their subsequent complications **[6]**.

A comprehensive understanding of these warning signs can empower women to make informed decisions and proactively seek the medical attention. By recognising these indicators, women are better equipped to assess their health and promptly respond to any potential complications that may arise during pregnancy. This knowledge enables them to advocate for their well-being and ensures timely access to essential obstetric care, thereby increasing the chances of a safe and healthy pregnancy outcome **[7]**. The study was conducted to assess women's knowledge about danger signs during pregnancy. Because a lack of awareness of signs and symptoms causes low awareness, ultimately resulting in inadequate management of pregnancy, labor, and postpartum problems.

Materials and methods

Patients and study setting

A non-probability, purposive sample of 126 pregnant women was used in this descriptive study at the Ali Kamal Health Center in Sulaimaniyah, Iraq, from 16 January 2023 to 16 March 2023. Each woman was interviewed for 15 minutes. For all women, the researcher read the questions to the patients and chose answers based on their opinions. Individual interviews were conducted for the study.

Inclusion criteria

Only primigravida women who agreed to participate in our study and who were pregnant and attending the Ali Kamal Health Center throughout the specified period were included.

Exclusion criteria

Non-pregnant women, multigravidal women with mental health disorders, and critically unwell patients were excluded from our study.

Questionnaire

The information was collected using a structured questionnaire and conducting interviews with the sample. The well-designed questionnaire was comprised of three elements. Sociodemographic information about the patients was contained in the first section. This information included specifics such as age, education level, occupation, place of residence, monthly income, and current gestational age. The second section asked questions concerning the woman's obstetric history, such as the number of antenatal visits, the number of different types of chronic conditions, the distance to the nearest medical facility, and whether she was aware of any warning signs and the causes of them. Ten questions about participants' knowledge of danger signs formed the final section. There were several correct answers to each question, which could be used to assess a pregnant woman's knowledge of danger signs. For each correctly selected response, a mark was awarded, and a score of zero was given for incorrect responses. To quantify knowledge, a percentage was determined. The method used to determine the percentage is described below.

Percentage = Obtained score/Total score*100

Participants in the sample received the following grades based on the percentage scored:

50 < below average were considered (poor knowledge)

50-75 average regarded as (fair knowledge)

>75 above average considered (good knowledge)

Patient consent and ethical approval

After the study's goals were explained to the participants, informed consent was acquired. The Nursing College Council approved this study, and the Ali Kamal Health Centre in Sulaimaniyah City was informed and given official authorisation by the head of the nursing college to conduct the research.

Data Analysis

After data collection, SPSS version 22 was used to analyse the data. Any significant correlation between variables was assessed using the chi-square test. P-values lower than 0.05 were considered significant.

Results

Table 1 reveals that the majority 46.8% of study participants were between the ages of 30 and 34 years. In addition, the majority of the sample 74.6% were housewives, and the majority of them 32.5% were secondary-school graduates. This study also highlights that the monthly income of 61.9% of the sample was barely able to meet their needs, 58.7% of the women in the study lived in cities, and 55.5% of the women in the study were in their third trimester.

Table 2 demonstrates that the majority of participants (83.3%) had no chronic disorders and only 16.7% of participants did have chronic diseases, with 6.3% of those having hypertension. Antenatal clinics were visited fewer than four times by 52.4% of women, and 68.3% of participants lived within a two-hour drive of the clinics. Regrettably, 61.1% of the participants were unaware of the danger signs of pregnancy, and the majority of women (22.3%) obtained their information from family and friends.

Table 1: Distribution of samples according to their sociodemographic data.

Socio demographic characteristics		Frequency	Percentage
Age	15-19 years	11	8.7
	20-24 years	29	23.0
	25-29 years	7	5.6
	30-34 years	59	46.8
	≥35 years	20	15.9
Education Level	Illiterate	13	10.3
	Primary school graduated	39	31.0
	Secondary school graduated	41	32.5
	Institute graduated	11	8.7
	College graduated and post graduated	22	17.5
Occupation	Housewife	94	74.6
	Employed	23	18.3
	Student	9	7.1
Residency	Urban	74	58.7
	Suburban	49	38.9
	Rural	3	2.4
Economic status	Sufficient	37	29.4
	Barely sufficient	78	61.9
	Insufficient	11	8.7
Present gestational ages	First trimester	22	17.5
	Second trimester	34	27.0
	Third trimester	70	55.5
Total		**126**	**100**

Table 2: Distribution of mother's to obstetrical information of the study sample

Mother's to obstetrical information		Frequency	Percentage
Chronic disease	Yes	21	16.7
	No	105	83.3
If yes types of chronic disease	Diabetes mellitus	7	5.6
	Hypertension	8	6.3
	Other problem	6	4.8
Number of antenatal visits	< 4 visits	66	52.4
	≥ 4 visits	60	47.6
Time to nearest health faculty	2 hours or less	86	68.3
	More than 2 hours	3	2.4
	I do not know	37	29.4
Does she have information about danger sign?	Yes	49	38.9
	No	77	61.1
If yes source of information	Health workers	11	8.7
	Family and friends	28	22.3
	Internet	10	7.9
Total		**126**	**100**

Regarding mothers' understanding of danger indicators during pregnancy, Table 3 demonstrates that more than half of participants (61.1%) considered vaginal bleeding a danger sign during pregnancy. The majority of participants judged that the other symptoms (1, 3, 4, 5, 6, 7, 8, 9, and 10) were not warning signs while pregnant.

Table 3: Distribution of Mother's knowledge about danger signs during pregnancy of the study sample.

Mother's knowledge	**Yes**		**No**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Convulsions	58	46.0	68	54.0
Vaginal bleeding	77	61.1	49	38.9
Severe and lasting abdominal pain/cramps	52	41.3	74	58.7
Severe headache	28	22.2	98	77.8
Absence of fetal movement	60	47.6	66	52.4
Edema of face and hands	16	12.7	110	87.3
High fever	23	18.3	103	81.7
Loss of consciousness	33	26.2	93	73.8
Difficulty with breathing	33	26.2	93	73.8
Blurred vision	24	19.0	102	81.0

According to Table 4, just 12.7% of participants had good knowledge of danger signs during pregnancy, compared to 26.6% of mothers who had adequate knowledge and 61.1% of participants who had no knowledge of these signs.

Table 4: Distribution overall knowledge mothers about danger signs during pregnancy.

Overall knowledge	**N=126**	
	Frequency	**Percentage**
Above average	16	12.7
Average	33	26.2
Below average	77	61.1

The

Association between sociodemographic variables and maternal knowledge of obstetric warning sign can be viewed in Table 5. The p-value is lower than the usual alpha 0.05, indicating a statistically significant association between age group or education level and maternal knowledge. However, there is no correlation between other sociodemographic characteristics and maternal knowledge because the p-value is higher than the standard alpha 0.05.

Table 5: Association between socio-demographic characteristics and knowledge regarding dangers sign of pregnancy.

Variables	N=126						Total	
	Above average		Average		Below average			
	F	%	F	%	F	%	F	%
Age								
15-19 years	1	9.1	0	0	10	90.9	11	8.7
20-24 years	4	13.8	10	34.5	15	51.7	29	23.0
25-29 years	2	28.6	3	42.9	2	28.6	7	5.6
30-34 years	5	8.5	16	27.1	38	64.4	59	46.8
≥35 years	4	12.7	4	26.2	12	61.1	20	15.9
P. value <0.001 Highly Significant FET= 4.418								
Education								
Illiterate	0	0	1	7.7	12	93.2	13	10.3
Primary graduated	7	17.9	14	35.9	18	46.2	39	31.0
Secondary graduated	3	7.3	8	19.5	30	73.2	41	32.5
Institution graduate	1	9.1	4	36.4	6	54.5	11	8.7
College graduate and post graduate	5	22.7	6	27.3	11	50.0	22	17.5
P. value 0.017 Significant FET= 13.704								
Occupation								
Housewife	12	12.8	28	29.8	54	57.4	94	74.6
Employee	3	13.0	5	21.7	15	65.2	23	18.3
Student	1	11.1	0	0	8	88.9	9	7.1
P. value 0.357 Not Significant x^2= 4.422								
Monthly income								
Sufficient	13	17.6	20	27.0	41	55.4	74	58.7
Barely sufficient	3	6.1	12	24.5	34	69.4	49	38.9
Insufficient	0	0	1	33.3	2	66.7	3	2.4
P. value 0.312 Not significant x^2=4.522								
Residency								
Urban	6	16.2	11	29.7	20	54.1	27	29.4
Suburban	7	9.0	21	26.9	50	64.1	78	61.9
Rural	3	27.3	1	9.1	7	63.6	11	8.7
P. value 0.296 Not significant x^2=4.901								

Discussions

One sociodemographic element that affects knowledge of pregnancy warning indicators is maternal age. The fact that older mothers have more pregnancy experience, which is a valuable source of information, especially for those who have experienced obstetric issues in the past, maybe the cause of their increased awareness of pregnancy danger signs **[8]**.

Our research highlights a relationship between maternal age and maternal knowledge of obstetric danger signs. Women who are younger than 30 years old are more likely than older women to have limited knowledge. A similar Tanzanian study found that women between the ages of 31 and 39 were eight times more likely to be aware of pregnancy warning signs **[9].**

Another study in Malaysia is comparable with our study as it also found that women's knowledge levels were highly correlated with maternal age. An excellent understanding of pregnancy warning signs was displayed by 69% of women over 35 **[10]**.

Our research, however, disagrees with a southeast Nigerian study that found that 53% of women under 30 years old were more likely to know about pregnancy risk signs **[11]**.

Another aspect that affects women's understanding is their education level. Healthcare professionals must offer health education by utilising a variety of teaching methods. Pregnant women with lower levels of education have been found to have an increased awareness of pregnancy danger signs. Women with higher levels of education may find it easier to process and comprehend the information given to them while they are receiving antenatal care **[8]**.

Our study demonstrates that understanding of pregnancy danger signs is substantially correlated with mothers' education level. Compared to their illiterate counterparts, mothers who had received a secondary education were more likely to be familiar with pregnancy warning indicators. In that regard, the study highlights that women who complete secondary education are more likely than illiterate mothers to be aware of the danger indicators for obstetric complications **[12]**.

A study similar to ours in Tanzania found that women in rural areas who have completed primary education were more likely to understand information on danger signs than those who did not complete their primary education **[13]**.

Regrettably, the results of our study reveal that 61.1% of participants do not know what a danger sign is. The findings of Gebrehiwot et al. (2014) in Mekelle, Ethiopia **[14]** and Kavitha et al. (2014) in Nigeria **[15]** are in agreement. They also identified that women often had little knowledge of pregnancy warning signs.

According to our recent study, more than half of participants (61.1%) only consider vaginal bleeding to be a pregnancy danger sign, while other warning indicators are deemed not to be a threat. Due to a lack of educational opportunities and poor awareness of danger indicators and potential complications, many women might not be familiar with how problems present themselves and think that they are common occurrences in pregnancy. In research conducted in Yenagoa, South-South Nigeria in 2022, 90% of the respondents mentioned vaginal bleeding as an obstetric danger indicator during pregnancy. Our findings are consistent with those results **[16]**.

There is statistically no association between maternal knowledge and occupation, monthly income, or residency in our study. However, our results are contrary to a community-based cross-sectional study conducted in the Raya Kobo district of Ethiopia that found that a mother's occupation was a significant factor influencing her knowledge of obstetric danger signs during pregnancy **[12]**. Another study that contradicts our findings concluded that knowledge of pregnancy warning indicators was significantly correlated with job status **[10]**. The study includes a number of limitations. The findings might not be transferable to other hospitals or regions of Kurdistan or Iraq and may only relate to the Ali Kamal Health Center in Sulamaini City. The study's limited sample size may have an impact on how well the findings generalize to a larger population of primigravida women in the region. The socioeconomic standing of the study's participants may have an effect on their understanding of obstetric danger signals, which may be a key factor in the context of healthcare knowledge and access.

Conclusions

There was a lack of awareness of pregnancy danger signs among expectant mothers at the Ali Kamal Health Centre. The results of this study allow us to draw the conclusion that maternal age and education level are related to women's knowledge of pregnancy danger signs. In addition, this study concludes that understanding pregnancy danger indicators among women is unrelated to occupation, monthly income, or place of residence.

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Conflict of interest

The authors confirm that they are not affiliated with or involved in any organization or entity with financial interests.

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