

## Perception of Primigravida Women on Birth Preparedness for a Safe Childbirth and Complication Readiness

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### Abstract

**Background:** Birth preparedness and complication readiness, a novel concept created by WHO. BPACR is a procedure for getting prepared for a normal delivery and anticipating actions that would be vital in any obstetric emergency, raising knowledge of danger signs, and teaching people to recognize and minimize the three delays. **Aim:** The aim of this study was to assess perception of primigravida women on birth preparedness for a safe childbirth and complication readiness. **Design:** descriptive design was used to conduct this study. **Setting:** the study was conducted at antenatal care clinic at Beni-Suef university hospital. **Sample:** A convenient sample of one hundred and twenty-eight primigravida women. **Tools:** three tools were used for the data collection, the first tool was divided into two parts, structured interviewing questionnaire to assess socio-demographic data of women and obstetric data, and the second tool was divided into two parts, 1- women knowledge about danger signs during pregnancy, labor and postpartum 2- knowledge of women about birth preparedness & complication readiness and third tool assessed the practices of pregnant women toward birth preparedness and complication readiness. **Results:** The mean age of women was 23.71 ±3.87 years, there was more than four fifths of women had unsatisfactory knowledge, more than one third of them had sufficient practices regarding birth preparedness and complication readiness. **Conclusion:** There was a statistically significant difference between studied women's knowledge and practice with socio-demographic characteristics of them and there was a significant correlation between the knowledge of the studied women and their practice. **Recommendations:** Constant educational programs for women and health care providers about BPACR are required to increase their awareness.

**Keywords:** Pregnancy, Perception, birth preparedness, complication readiness.

### Introduction:

Maternal and newborn health is still a major concern worldwide. Around 99% of maternal mortality rates (MMR) occur in low- and middle-income countries (LMICs). Complications during pregnancy and childbirth that contribute to maternal and infant mortality are preventable in many cases through appropriate care before and throughout pregnancy and delivery deaths <sup>(1)</sup>.

Internationally, 303,000 primigravida women die every year because of pregnancy-related causes. From these maternal deaths, high-income nations have the most reduced number, which accounts for roughly less than 1%. Contrary, Low and Middle-Income nations (LMIC) have about 99%, with sub-Saharan Africa (SSA) alone representing 66% of maternal passing. In 2017, MMR was 37 deaths per 100,000 live births in Egypt <sup>(2)</sup>.

Birth preparedness and complication readiness (BPCR) is the way toward making arrangements for normal delivery and anticipating activities required in emergency cases. It assists to ensure that women can arrive at skilled delivery care when labor begins and diminish postponement to look for care and to arrive at health care facilities that occur when women experience obstetric complications <sup>(3)</sup>.

Worldwide support has been given to the Birth Preparedness and Complication Readiness (BP/CR) strategy as a crucial element of safe motherhood programs. Delays brought on by moms in labor who have obstetric problems, it aims to reduce maternal death. This approach recognizes the

necessity for birth preparedness among families, communities, healthcare professionals, and policymakers in addition to women <sup>(5)</sup>.

BPACR is a strategy that involves preparing for a normal delivery and anticipating the actions that will be required in an emergency. It is also a technique to increase the proper use of specialist maternal and neonatal care, based on the idea that being ready for labor and any obstetric difficulties minimizes the time it takes to seek and reach the necessary care <sup>(7)</sup>.

When letting women use the BP/CR method, they have a plan for giving birth and dealing with problems or crises that may arise during pregnancy, labor, or the postpartum period. Letting women and their families are also encouraged to quickly select skilled birth attendants, choose a preferred location for delivery, prepare for transportation in the event of a round, save money or find other ways to pay for skilled and round care, and select a blood donor prior to delivery <sup>(4)</sup>.

Exposure to BPACR interventions was linked to a statistically significant decrease of 18% in the risk of newborn death and a reduction of 53% in the risk of matter deaths in previous research that was carried out in developing nations. On the other hand, families that are not prepared for childbirth waste time determining the issue, getting ready, finding transportation, and getting to the appropriate referral institution <sup>(3)</sup>.

### Significance of the study:

Consistently during 2015, complications of pregnancy and labor led to the death of around 830 women every day.

Practically these deaths take place in low-income settings. Most of them are preventable. The Hemorrhage, hypertension, infections were outstanding leadings to their deaths. Also, there were indirect causes, because of the presence of different conditions before emergence that interferes with maternal health <sup>(5)</sup>.

Tragically, skilled birth attendant utilization is low even in areas of available services. For previous occasions, maternal deaths are thought to happen because of three delays: delay in deciding to seek suitable care; delay in reaching an appropriate health facility; and receiving sufficient emergency care once at a facility postponement <sup>(7)</sup>.

In many societies in the world, cultural beliefs and the absence of awareness hinder preparation in advance for the delivery of the expected baby. Since no action is taken before the delivery, the family attempts to act just when labor begins. Most of the primigravida women and their families do not have a clue how to perceive the danger signs of complications. At the point when complications occur, the unprepared family will waste a great deal of time in recognizing the issue, getting organized, getting money, finding transport, and arriving at the proper referral facility <sup>(7)</sup>.

#### **Aim of the study:**

The study aims to assess the perception of primigravida women on the birth preparedness for a safe childbirth and complication readiness at Beni-Suef University hospital **through:**

- Assess knowledge of primigravida women on birth preparedness for a safe childbirth and complication readiness at Beni-Suef University Hospital.
- Assess practices of primigravida women on birth preparedness for a safe childbirth and complication readiness at Beni-Suef University Hospital.

#### **Research Questions**

To fulfill this study purposes, the following research questions were answered:

- Do primigravida women have correct knowledge about birth preparedness for safe childbirth and complication readiness?
- What is a primigravida level of practice regarding birth preparedness for safe childbirth and complication readiness?

#### **Subjects and Methods:**

##### **Research design: -**

A descriptive research design was used to fulfill the aim of this study.

##### **Setting: -**

The current study was conducted in antenatal care clinic at the university hospital of Beni-Suef.

##### **Subjects:**

A sample of primigravida women was recruited from the eligible group. The sample included every woman pregnant

for the first time who was attending the antenatal care clinic 2 days a week for 6 months. Total sample size was 128 women.

#### **D- Tool of the data collection:**

To achieve the aim of the current study, three tools were used for the data collection.

##### **Tool I: A Structured Interview Questionnaire.**

It was developed by the investigator after reviewing related literatures, it included two parts:

**Part 1:** Socio-demographic characteristics of studied women such as: age, place of residence, educational level, occupation and income ... etc.).

**Part 2:** Obstetric data (e.g., gestational age of the current pregnancy, number of the antenatal visits, any previous obstetric complications, menstrual history ... etc.).

##### **Tool II: Women Knowledge of Birth Preparedness and Complication Readiness.**

It consists of two parts:

**Part 1:** Knowledge of pregnant woman regarding danger signs during pregnancy, labor, and postpartum.

**Part 2:** Knowledge of pregnant woman regarding birth preparedness and complication readiness.

##### **Scoring system:**

For the women's knowledge, yes answers were scored 2 and no answers were scored zero, and don't know answers were scored 1.

- The total knowledge was further divided into the following score:
  - if the score was (>60%) it considered Satisfactory level.
  - if the score was (<60%) it considered Unsatisfactory level.

##### **Tool III: Practice of pregnant woman toward birth preparedness and complication readiness.**

##### **Scoring system:**

Women's reported practice was scored (one) for the "done" practices and (zero) for "not done" practices. Total practice score level further divided into the following;

- **Sufficient practice** (> 60%)
- **Insufficient practice** (< 60%)

##### **Content validity:**

Face and content validity of tools of the study was assessed by a group of 5 experts in nursing department of the faculty of nursing, Beni-Suef University for accuracy, comprehensiveness, and language clarity.

##### **Reliability of Tool**

the tools reliability was assessed through measuring their internal consistency by Cronbach Alpha Coefficient test, its value was (0.89).

##### **Ethical Consideration**

An oral consent was being obtained from each woman to participate in the study sample. They were

informed about the aim of the study and about the right to refuse or withdraw at any time of the study without giving reasons. Anonymity and confidentiality of the data were assured and maintained. Additionally, all participants were assured that their anonymity and confidentiality secured through coding the data. Moreover, participants were informed that their data not reused for any research purposes without the permission.

**Declaration of conflict of interest:** The authors declare that they have no conflict of interest.

**Data Access Statement:** Data are available in a repository.

## II. Operational Design:

The operational design for the study included three phases included preparatory phase, pilot study and fieldwork.

### Preparatory phase:

This phase included reviewing of local and international literature related to the research problem. This helped the investigator to be acquired with the seriousness and magnitude of the problems and guided to prepare the required data collection tools.

### Pilot study:

A pilot study was conducted on 13 of primigravida women, it was done for evaluation of clarity and applicability of the tools, feasibility assessment of fieldwork, and detecting any obstacles that might face the investigator and interfere with the collection of data. Necessary modifications were done based on the pilot study findings. The sample of the pilot study was 10% of total sample and was excluded from the total study sample.

### Field work:

Data collection of the study was started at the period of April 2022 until of September 2022.

The investigator attended at antenatal care clinic at Beni-Suef university hospital. The interview was done through two days (Saturday, Monday) per week from 10am to 1pm, for meeting the primigravida women in antenatal care clinic. With average from 3-4 primigravida women a day. Each woman was interviewed individually after oral consent for participation in the study according to ethical issues.

The investigator introduced herself firstly to the woman in antenatal care clinic and giving a brief explanation of the aim and nature of the study was done before each interview.

The time needed for completing one questionnaire was about 30 minutes. The time needed of a woman who couldn't read and write was about 45 minutes.

## III-Administrative Design

An approval was obtained from the Research and Ethics committee at Faculty of medicine Beni-Suef University. An official approval was obtained from Dean of Faculty of Nursing-Beni-Suef University to conduct the study. A letter containing the title and aim of the study and was be directed to the director of the Beni-Suef university hospital to seeking the permission for collection of data. Total confidentiality of any obtained information was ensured. Also, the study maneuvers couldn't harm the participants.

## IV. Statistical Design:

The data were collected and encoded in special format to be suitable for computer feeding. Following data entry, checking and verification process were carried out in order to avoid any errors. Data were analyzed using the statistical package for social science SPSS. The following statistical analysis measures were used.

- **Descriptive statistical measures**, which include number, percentages, and averages (Minimum, Maximum, Arithmetic mean (X), Standard deviation (SD).
- **Statistical analysis tests**, which include Chi square, T test.

## Results:

**Table 1:** shows that regarding age of the participated women, 39.8% their ages was 20 – 25 years old with mean  $\pm$  SD  $23.71 \pm 3.87$ . 60.2 % of them were lived in rural areas. 46.1% of the studied women were housewives. 52.3% of their husbands had freelancer. The table also clears that 60.9% of them were had sufficient income.

**Figure (1):** illustrates that 32.8% of the studied women had secondary education, 32% of them were illiterate, 18% of women had university education; meanwhile 17.2% of the studied women had primary education.

**Table (2):** reveals that in relation to obstetric data of the studied women, 53.9% of them were in the first trimester, 25% of them had 4 antenatal visits. 67.2% had less than 4 times checkup, 48.4% were perform checkup at hospital and 85.9% were made RH investigation test.

**Table (3):** illustrates that regarding total knowledge of birth preparedness & complication readiness among studied women, 85.9% and 81.3% of them had unsatisfactory knowledge about danger signs during pregnancy and labor. Meanwhile, 35.9% and 23.4% had satisfactory knowledge about danger signs during post-partum and birth preparedness & complication readiness.

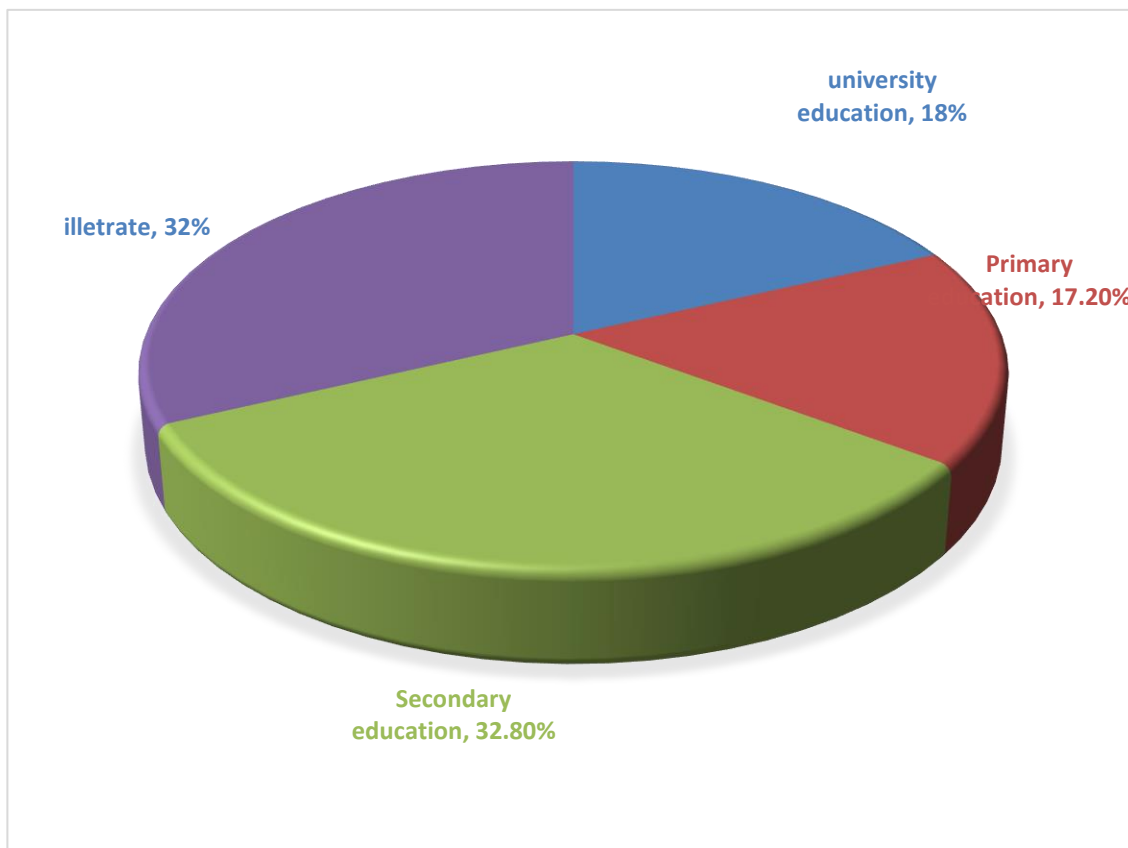
**Figure (2):** illustrates that regarding accompanied person during antenatal visits, 38.3% of the studied women accompanied their mother, 30.3% of them accompanied their husband, 28.4% of women accompanied their sisters meanwhile 3.0% accompanied their mother in low.

**Table (4):** indicates that concerning total practices toward birth preparedness & complication readiness, 64.8% had insufficient practice meanwhile 35.2% had sufficient practice.

**Table (5):** reveals that there was a highly statistically significant relation between the studied women's knowledge and their education and occupation. There was a statistically significant relation between the studied women's knowledge and their monthly income. There was no statistically significant relation between the studied women's knowledge and their age, residence and husband occupation.

**Table (1):** Distribution of the participant regarding socio-demographic characteristics (n=128).

Demographic characteristics	No.	Percentage
<b>Age</b>		
<20	35	27.4
20 – 25	51	39.8
26 - 30	39	30.5
> 30	3	2.3
Mean ± SD	23.71 ± 3.87	
<b>Residence</b>		
Rural	77	60.2
Urban	51	39.8
<b>Occupation of women</b>		
Employee	49	38.3
Freelancer	20	15.6
Do not work	59	46.1
<b>Occupation of husband</b>		
Employee	47	36.7
Freelancer	67	52.3
Do not work	14	11
<b>Monthly Income</b>		
Sufficient	78	60.9
Sufficient and saving	24	18.8
Insufficient	26	20.3

**Figure (1):** Distribution of the studied women regarding to their level of education (n=128).

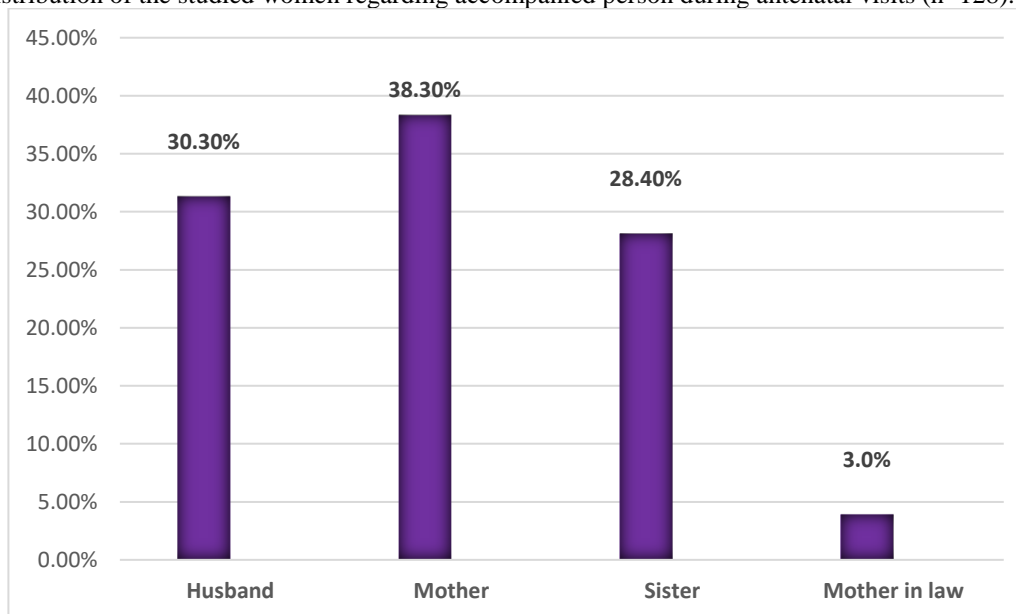
**Table (2):** Distribution of the participant regarding obstetric data (n=128).

Obstetric data	No.	Percentage
<b>Gestational age</b>		
First trimester	<u>69</u>	<u>53.9</u>
second trimester	37	28.9
Third trimester	22	17.2
<b>Antenatal visits</b>		
1 visit	26	20.3
2 visits	11	8.5
3 visits	31	24.2
4 visits	<u>32</u>	<u>25.0</u>
5 visits	12	9.4
6 visits	10	7.9
7 visits	6	4.7
<b>Previous medical checkups during pregnancy</b>		
> 4	<u>86</u>	<u>67.2</u>
4 – 8	39	30.5
< 8	3	2.3
<b>Checkup location</b>		
Hospital	<u>62</u>	<u>48.5</u>
MCH center	33	25.8
Private clinic	30	23.4
Other???	3	2.3
<b>Investigation done*</b>		
Urine analysis	86	67.2
CBC	70	54.7
RH	<u>110</u>	<u>85.9</u>
Blood sugar	37	28.9
Ultrasound	90	70.3

\* Numbers are not mutually exclusive.

**Table (3):** Total Knowledge of birth preparedness & complication readiness among participants (n=128).

The Knowledge	Mean $\pm$ SD	Range	Unsatisfactory		Satisfactory	
			No.	%	No.	%
Danger Signs during Pregnancy	3.85 $\pm$ 2.81	0-10	110	<u>85.9</u>	18	14.1
Danger Signs during Labor	1.86 $\pm$ 1.74	0-6	104	<u>81.2</u>	24	18.8
Danger Signs during Postpartum Period	2.13 $\pm$ 1.48	0-5	82	64.1	46	<u>35.9</u>
Birth Preparedness & Complication Readiness	2.88 $\pm$ 2.29	0-7	98	76.6	30	<u>23.4</u>
Total	10.72 $\pm$ 7.20	0-28	107	83.6	21	16.4

**Figure (2):** Distribution of the studied women regarding accompanied person during antenatal visits (n=128).**Table (4).** Total Practices toward Birth Preparedness & Complication Readiness among participants (n=128).

Practices	Mean $\pm$ SD	Range	Insufficient		Sufficient	
			No.	%	No.	%
Total	8.44 $\pm$ 2.99	0-16	83	64.8	45	35.2

**Table (5).** Relation between Sociodemographic Characteristics and Knowledge of Birth Preparedness & Complication Readiness participants (n=128).

Demographic characteristics		Knowledge				X <sup>2</sup> Sig.
		Unsatisfactory		Satisfactory		
		No.	%	No.	%	
Age	< 20	32	29.9	3	14.3	3.014 <sup>FE</sup>
	20 – 25	42	39.3	9	42.9	0.357
	26 – 30	30	28.0	9	42.9	
	> 30	3	2.8	0	0.0	
Residence	Rural	65	60.7	12	57.1	0.095
	Urban	42	39.3	9	42.9	0.758
Education	Illiterate	23	21.5	0	0.0	30.413 <sup>FE</sup>
	Primary education	22	20.6	0	0.0	0.000**
	Secondary education	39	36.4	3	14.3	
	University education	23	21.5	18	85.7	
Occupation Woman	Employee	34	31.8	15	71.4	12.319 <sup>FE</sup>
	Freelancer	20	18.7	0	0.0	0.002**
	Do not work	53	49.5	6	28.6	
Occupation Husband	Employee	38	35.5	9	42.9	3.099 <sup>FE</sup>
	Freelancer	55	51.4	12	57.1	0.225
	Do not work	14	13.1	0	0.0	
Monthly Income	Sufficient	63	58.9	15	71.4	8.264 <sup>FE</sup>
	Sufficient and saving	18	16.8	6	28.6	0.016*
	Insufficient	26	24.3	0	0.0	

X<sup>2</sup> Chi square test, <sup>FE</sup> Expected cell count less than 5, Fisher's Exact test was used.

\* Statistically significant at  $p \leq 0.05$

\*\* Highly statistically significant at  $p \leq 0.01$

**Discussion:**

The findings of the current study revealed that the mean age of the investigated women was  $23.71 \pm 3.87$  years in terms of their socio-demographic features (**Table 1**). This was consistent with the research done by <sup>(8)</sup>, which discovered that 63.7% of the participants were between the ages of 20 and 30.

According to the present study's explanation of the study's subjects' occupations, over half of the women were housewives and more than half of their husbands were independent contractors (**Table 1**). These results were also made public by <sup>(10)</sup>, who discovered that 49% of the study respondents were unemployed and that their husbands were also independent contractors.

Almost two-thirds of the participants in the present research were from rural regions, according to the report (**Table 1**). This result was consistent with <sup>(16)</sup>, who discovered that the majority of participants were from rural regions. These findings concurred with <sup>(15)</sup>, which shows that more than half of the research participants were women from rural regions. This agreement in the results of different studies may be due to that most of the women in the antenatal clinics were comes from rural areas.

Regarding the educational level, the current study revealed that more than one-third of the studied women were secondary educated, (**Figure 1**). The present study findings were in difference with the study carried out by <sup>(9)</sup>, who found that over than half of the studied women had basic and less educational level.

Half of the women who participated in the study were in the first trimester (**Table 2**). According to research by <sup>(17)</sup>, which indicated that more than half of the study participants were in the second trimester, this outcome was in contrast to that study's findings.

The present study's findings about prenatal visits showed that 25% of the women who participated in it were sustaining four or more visits (**Table 2**). These outcomes were validated by <sup>(3)</sup>. Who said that the necessary four prenatal visits were completed by 30% of the study's participants. These results were also refuted by <sup>(15)</sup>, who showed that more than half of the study women only attended two prenatal visits.

Regarding the frequency of medical examinations, half of the participants had examinations no more than four times, with almost half undergoing these examinations in hospitals. Also, four-fifths of the participants completed the RH inquiry test (**Table 2**). These findings were at variance with those of <sup>(18)</sup>, who showed that 60% of the research participants had examinations more than four times in a private laboratory.

In regard to participants' overall understanding of pregnancy risk signs, the current study revealed that the majority had poor knowledge (**Table 3**). This is consistent with research by <sup>(19)</sup>, which found that the majority of the study population had little understanding of pregnancy hazard symptoms. And in agreement with <sup>(10)</sup>, who demonstrated that two-thirds of the investigated women had

a limited understanding of pregnancy hazard indicators. These findings contrasted with those of research by <sup>(9)</sup>, which found that more than half of the study group had a strong understanding of pregnancy hazard indicators.

The current study's findings on women's overall awareness of labor's danger signs indicated that more than 75% of the researched women had unsatisfactory understanding of labor's danger signs (**Table 3**). <sup>(18)</sup>, who stated that two-thirds of the investigated women had a strong understanding of labor hazard indicators, disagreed with these findings.

The research's findings on women's total understanding of danger indicators during the postpartum period revealed that more than two-thirds of the women under study had poor knowledge of these signs (**Table 3**). This result supported research by <sup>(14)</sup>, which found that more than half of the study participants were well-informed about postpartum risk symptoms.

The findings of the current study indicated that less than a quarter of the participant had sufficient knowledge of birth preparedness and complication readiness in relation to the overall Level of birth preparedness and complication readiness among examined women (**Table 3**). These findings were consistent with those of <sup>(3)</sup>, who added that a quarter of the respondents had adequate understanding of birth preparedness and complication readiness.

**From the investigator's point of view, this finding** may be due to a lack of educational programs about birth preparedness and complication readiness.

Regarding accompanying persons during antenatal visits, the results of the study revealed that more than one-third of the studied women accompanied their mothers (**Figure 2**). These results were in agreement with the results obtained by <sup>(1)</sup>, who showed that two fifths of study participants were accompanied by their mothers.

According to the current study, one-third of the women had a predisposition to complications during labor and delivery. The four practices that were most frequently highlighted were identifying the birth site, signing up for ANC during the first trimester, talking with and counseling the husband about the delivery site, and identifying an accompanying person in case of emergency. While more than half of the study's female participants failed to set aside money for emergencies, organize blood donors, or know where to go in an emergency or when it might happen (**Table 4**). These findings were corroborated by <sup>(19)</sup>, who found that 34% of the women in the study were ready for complications and delivery.

The study's findings showed that there was a highly statistically significant relationship between the knowledge of the investigated women and their employment and education levels. The study women's knowledge and monthly income had a statistically significant relationship (**Table 4**). These findings were supported by <sup>(12)</sup>, which demonstrated the importance of the respondent's educational background and employment situation.

From the investigator's point of view, the educational status of women can increase their awareness. And occupational status helps in increasing good practices.

According to the study's findings, there was a highly statistically significant relationship between the practice of the women under examination and their level of education and employment. The investigated women's practice had no statistically significant relationship to their age, place of residence, husband's job, or monthly income (Table 5). These findings contrasted with those of (20), who showed that there was a very statistically significant relationship between the investigated women's practice, where they lived, and the jobs of their husbands.

## Conclusion

The present study showed that there was a statistically significant relation between women's socio-demographic characteristics and their knowledge and practice toward birth preparedness and complication readiness. Finally, there was a highly statistically significant correlation between knowledge and practice of women toward birth preparedness and complication readiness.

## Recommendations

Increase women's awareness regarding birth preparedness and complication readiness through MCH centers. Increase knowledge of women about danger signs of pregnancy, labor and postpartum at outpatient clinics and MCH centers. Raise women's awareness about how to deal with danger signs that may occur during pregnancy, labor and postpartum.

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