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RESEARCH ARTICLE

# Knowledge, Attitude, and Practice of Primigravida Women on Birth Preparedness

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**Abstract:**

***Background:***

Preparedness for birth involves advance planning and preparation for delivery. Birth Preparedness (BP) includes preparation for normal delivery, readiness to deal with complications, and postnatal and newborn care. Inadequate knowledge and insufficient preparation for quick intervention in case of emergencies lead to a delay in receiving health services. This situation, wherein the potential for poor maternal and fetal outcomes is great, is an especially worrying concern for women of childbearing age.

***Aim:***

This study aimed to assess the BP knowledge, attitude, and practice of primigravida women.

***Methods:***

An exploratory descriptive cross-sectional study was conducted. Two hundred primigravida women constituted the study sample. A self-administered questionnaire was used to collect the data.

***Results:***

Approximately two-thirds of the primigravida women (65.0%) had a moderate level of knowledge of BP, and 96.5% had a favorable attitude toward BP. A good level of practice was observed in 58.5% of the primigravida women. Univariate analyses revealed that the level of knowledge had a significant and strong association with the level of attitude, whereas the level of practice showed a good but not statistically significant association with the level of attitude.

***Conclusion:***

Primigravida women had a moderate level of BP knowledge, good BP practice, and a highly favorable attitude toward BP. Hence, antenatal care clinics are vitally important for pregnant women because they can provide BP education. Governmental institutions and their affiliates that are assigned to the sector of maternal health should develop strategies to improve BP at the individual and community levels.

**Keywords:** Birth preparedness, Primigravida, Knowledge, Attitude, Practice, Women.

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|---|---|---|---|

## 1. INTRODUCTION

Pregnancy is a normal physiological process. During this period, pregnant women undergo drastic physiological changes to nourish and host the developing fetus and prepare for labor [1]. Pregnancy is a critical period that includes the antenatal, natal, and postnatal periods, during which pregnant women's needs are increasing in different aspects.

Antenatal Care (ANC) must call attention to birth preparedness (BP) and expected complication readiness. This approach is vital for reducing antenatal and/or perinatal illnesses that may lead to death [2]. Maternal and fetal health can be ensured in ANC when sufficient numbers of skilled healthcare providers are available in hospitals and clinics. Evidence shows that meting out the right kind of ANC practices at the appropriate time has life-saving potential for the betterment of the mother and her fetus [3].

Regular ANC visits have many advantages, such as

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promoting nutritional status and health; increasing the chances of detecting gestational risks; providing psychological and counseling support to pregnant women and their families; and increasing the chances of carrying out a safe delivery with the assistance of skilled birth attendants; these advantages subsequently reduce maternal and fetal deaths [4]. According to the World Health Organization (WHO), the services that are provided during the ANC visits include nutritional care; the administration of clinical tests and the testing of maternal and fetal health statuses; protective steps, such as vaccinations and blood tests; the treatment of common illnesses; and steps to improve the overall care and wellbeing of women [3].

Davidson, London, and Ladewig [5] stated that the number of subsequent visits must be determined by a pregnant woman's individual needs and risk assessment. The WHO recommends that women without complications during pregnancy require a minimum of four ANC visits [3].

Mere ANC visits are not at all sufficient. The quality and standards of ANC practices are also crucial. Islam and Masud [6] stated that most ANC services compromise on at least three broad parameters. These parameters include the assessment process (history taking, clinical examination, and diagnostic tests); promoting and building awareness to raise health standards (disseminating information regarding nutrition, birth control, and family planning, as well as information related to pregnancy, delivery, and breastfeeding practices); and lastly, care provisions (including vaccine administration and immunization, recordkeeping, and postpartum care and support).

Pregnancy is an extremely demanding nutritional period. During this period, the pregnant woman and her fetus need additional nutrients to improve fetal growth and enable milk production during lactation [7]. However, when misunderstandings regarding nutrition or food taboos are prevalent, pregnant women's abilities to meet their necessary nutritional requirements can be compromised, leading to an increased risk of pregnancy-related complications [8].

Pregnant women are usually assessed for the normal progress of pregnancy because they must be observed for pregnancy complications [9]. The WHO [10] states that more than 80% of the total number of maternal deaths are due to improper obstetric care that leads to complications, such as infections, internal hemorrhages, obstructed or prolonged labor conditions, self-induced abortions, and lack of care in hypertensive pregnancy cases. Women may also suffer from other diseases, such as malaria, anemia, hypertension, malnutrition, hepatitis, diabetes, or severe cardiovascular diseases. These diseases may cause pregnancy complications and may lead to fatal conditions in the mother and her fetus.

Childbirth is a remarkable experience in a woman's life that can affect her physical and mental health positively and negatively. As reported by Hatamleh, Sinclair, Kernohan, and Bunting [11], some women have pointed out that they suffer from insecurity and fears during delivery due to the dearth of proper information related to childbirth. Thus, every pregnant woman should be aware that labor is designed beautifully to keep birth as safe as possible; such knowledge also affects the course of the postpartum period [12].

The postpartum period is also crucial. Many maternal and newborn deaths occur during this period because of the poor standards of postpartum care meted out to the mother and her newborn. The WHO recommends that mothers must receive essential postnatal Care (PNC) on the first day after delivery, after which a minimum of three PNC visits must be made within the time periods of 48-72 h postdelivery, 7-14 days postdelivery, and 1-2 months postdelivery [13]. The WHO also provides recommendations for postpartum care, including nutritional care and medical care for the mother and her newborn, the timely conduction of laboratory tests to assess the status of the mother and her newborn, the detection of complications, and psychological support and counseling [13].

Preparedness for birth involves advance planning for delivery. The elements of BP include an arrangement for the mode of transportation, saving money for the delivery, selecting a skilled birth professional for conducting the delivery, selecting a healthcare facility for emergency situations, and identifying a blood donor for any exigency [2]. Pregnant women should have a written plan for birth and to counter adverse situations during their pregnancy, delivery, or postnatal period [14]. This detailed plan can be recorded on a BP card and reviewed by a medical professional at each antenatal assessment [15]. The aforementioned steps ensure that families can depend on the use of skilled maternal and neonatal care because they can start understanding the importance of preparing for childbirth and preparedness for reducing delays in obtaining necessary care [16]. Therefore, BP assists pregnant women to gain the skills and confidence required to make the birth journey a positive experience and a time to remember [17]. The main aims of the current study are to

**1-** Assess the knowledge of BP among primigravida women.
**2-** Identify the attitude towards BP among primigravida women.
**3-** Identify the relationship between the knowledge and attitude of primigravida women toward BP.

## 2. METHODS

### 2.1. Study Design

The research method chosen for this study was an exploratory, descriptive cross-sectional research design.

### 2.2. Sampling

A convenience sample of 200 primigravida women who attended King Fahad Specialist hospital and were available at the time of data collection constituted the study sample.

### 2.3. Inclusion Criteria

- Primigravida women aged 20 years old to less than 35 years old.
- Primigravida women who could read and write.
- Free from any medical diseases.

- Free from any obstetric disorders.
- Primigravida women who were willing to participate and give their full consent.

#### *2.3.1. Ethical Considerations*

Ethical approval was obtained from the Institutional Review Board, General Director of Health Affairs, Tabuk City, Saudi Arabia (registration number: H-07-TV-077; date of approval 13 November 2018).

### 2.4. Statistical Analysis Method

Continuous variables were presented as mean ± standard deviation or as medians with interquartile ranges if appropriate. Categorical variables were presented by using numbers and percentages. The relationship or the association of the knowledge, attitude, and practice regarding BP with the sociodemographic and obstetric history of women were analyzed by using $\chi^2$ test. $P < 0.05$ (two-sided) was used to indicate statistical significance. All data analyses were performed with IBM SPSS Statistics for Windows, version 21 [18].

### 2.5. Data Collection Tools

Two tools were used to collect the necessary data.

**Tool I: Self-administered questionnaire:** This tool was developed by Kaur and Varghese [19]. It was translated into the Arabic language and translated back into English. It included three parts. The first part involved primigravida sociodemographic data, such as age, marital status, educational level, employment status, family income, and place of residence. The second part included primigravida reproductive history, which included the duration of pregnancy, the start of the initial antenatal visit, and the number of antenatal visits. While the last part consisted of 40 multiple choice questions (the original section included 36 questions, and question numbers 35, 36, 39, and 40 were added after modification) with one correct answer. It was used to assess the level of the BP knowledge of primigravida women. Each correct response received 1 point, whereas each wrong response received 0 points. The minimum knowledge score was 0, whereas the maximum score was 40.

The scoring system was as follows:

- Scores of 0-13 were considered as a poor level of knowledge.
- Scores of 14-27 were considered as a moderate level of knowledge.
- Scores of 28-40 were considered as a good level of knowledge.

**Tool II: Attitude scale:** A two-point Likert-like scale consisting of 10 items was used to assess the attitude towards BP of the primigravida women attending the antenatal clinic. This scale was developed and validated by Kaur and Varghese [19]. It was translated into the Arabic language and back-translated into English. A favorable statement was given a score of 1, whereas an unfavorable statement received a score of 0. The scores, which ranged from 0 to 10, were calculated by summing the response scores.

The scoring system of the attitude scale was as follows:

Scores indicating a favorable attitude toward BP ranged from 5 to 10.

Scores indicating an unfavorable attitude toward BP were less than 5 in total.

The practice levels of primigravida women were assessed on the basis of the time of the initiation of the antenatal visit and the commitment of the primigravida women to subsequent antenatal visits.

## 3. RESULTS

### 3.1. Sociodemographic Characteristics of Primigravida Women

A total of 200 primigravida women were involved in this study. Nearly one half (40.0%) of the participants were in the middle-aged group (25-less than 30 years), the majority (96.50%) were married, and approximately two thirds (60.5%) had a university degree or higher. Most of the women were living in urban areas (91.0%), and more than two thirds (71.0%) were housewives. In addition, more than three-quarters (76.50%) stated that they had an adequate monthly income, and only 15.0% indicated that their income was insufficient.

### 3.2. Obstetrics History of Primigravida Women

More than one-half of the women (60.0%) had a gestational age of 30 weeks or more. The majority of the women (90.5%) began antenatal visits during their first trimester, with 61.5% reporting antenatal visits of four times or more.

### 3.3. Level of the BP Knowledge of Primigravida Women

Approximately two-thirds of the primigravida women (65.0%) had a moderate level of knowledge, 28.0% had a good level of knowledge, and only 7.0% had a poor level of knowledge.

### 3.4. Level of the BP Attitude of Primigravida Women

The majority of primigravida women (96.5%) were classified as having a favorable attitude toward BP, and only a few women (3.5%) had an unfavorable attitude toward BP.

### 3.5. Level of the BP Practice of Primigravida Women

More than one half (58.5%) of the primigravida women had a good level of BP practice, 35.0% had a moderate level of practice, and the rest had a poor level of practice (6.5%).

### 3.6. Relationship between the Level of BP Knowledge and the Level of BP Attitude of Primigravida Women

The relationship between the level of BP knowledge and the level of BP attitude of the primigravida women was statistically significant ($P < 0.001$, Table **1**).

**Table 1. Relationship between the level of knowledge and level of attitude of primigravida women in relation to BP$^{(n = 200)}$.**

| Level of knowledge | Level of Attitude | | |
|---|---|---|---|
| | **Unfavorable N (%)** (n = 07) | **Favorable N (%)** (n = 193) | **P value** |
| **• Poor** | 3 (21.4%) | 11 (78.6%) | **<.001 **** |
| **• Moderate** | 3 (2.3%) | 127 (97.7%) | - |
| **• Good** | 1 (1.8%) | 55 (98.2%) | - |

§ P value was calculated by using the $\chi^2$ test.
** Significant at the P < .05 level.

**Table 2. Relationship between the level of knowledge and level of practice of primigravida women in relation to BP$^{(n = 200)}$.**

| Level of knowledge | Level of Practice | | | |
|---|---|---|---|---|
| | **Poor N (%)** (n = 13) | **Moderate N (%)** (n = 70) | **Good N (%)** (n = 117) | **P value** |
| • Poor | 0 | 5 (35.7%) | 9 (64.3%) | .321 |
| • Moderate | 12 (9.2%) | 45 (34.6%) | 73 (56.2%) | - |
| • Good | 1 (1.8%) | 20 (35.7%) | 35 (62.5%) | - |

§ P value was calculated by using the $\chi^2$ test.

**Table 3. Relationship between the level of attitude and level of practice of primigravida women in relation to BP$^{(n = 200)}$.**

| Attitude | Level of Practice | | | P value |
|---|---|---|---|---|
| | **Poor N (%)** (n = 13) | **Moderate N (%)** (n = 70) | **Good N (%)** (n = 117) | |
| Level of attitude | - | - | - | - |
| • Unfavorable | 1 (7.7%) | 5 (7.1%) | 1 (0.9%) | **.023 **** |
| • Favorable | 12 (92.3%) | 65 (92.9%) | 116 (99.1%) | |

§ P value was calculated by using the $\chi^2$ test.
** Significant at the P < .05 level.

### 3.7. Relationship between the Level of BP Knowledge and the Level of BP Practice of Primigravida Women

Table **2** presents the relationship between the level of knowledge and the level of practice. No statistically significant relationship (P = 0.321) was observed between the level of knowledge and the level of practice of primigravida women.

### 3.8. Relationship between the Level of BP Attitude and the Level of BP Practice of Primigravida Women

Table **3** shows the relationship between the level of practice and the level of attitude. A statistically significant relationship was found between the level of BP practice and the level of BP attitude of the primigravida women (P = 0.023).

### 3.9. Association between the Level of BP Knowledge and the Sociodemographic Characteristics of Primigravida Women

Table **4** presents the association between the level of BP knowledge and sociodemographic characteristics of the primigravida women. A statistically significant relationship was found between the level of knowledge and the educational level of the primigravida women (P < 0.001). On the other hand, the relationship among age group in years (P = 0.085), marital status (P = 0.142), occupation (P = 0.175), monthly family income (P = 0.552), and place of residence (P = 0.462) was not statistically significant.

### 3.10. Association between the Level of BP Attitude and Sociodemographic Characteristics of Primigravida Women

Table **5** shows the association between the level of BP attitude and the sociodemographic characteristics of the primigravida women. Statistical evidence showed no statistically significant relationship between the levels of attitude and the sociodemographic characteristics of the primigravida women.

### 3.11. Association between the Level of BP Practice and the Sociodemographic Characteristics of Primigravida Women

Table **6** shows the association between the level of BP practice and sociodemographic characteristics of the primigravida women. The results revealed that marital status had a statistically significant association with the level of practice (P = 0.036). However, no other statistically significant relationships were identified between the level of practice and the other sociodemographic characteristics of the primigravida women.

**Table 4. Association between the level of knowledge and sociodemographic characteristics of primigravida women in relation to BP (n = 200).**

| Sociodemographic Characteristics | Level of Knowledge | | | P value § |
|---|---|---|---|---|
| | Poor N (%) (n = 13) | Moderate N (%) (n = 130) | Good N (%) (n = 56) | |
| Age group | - | - | - | - |
| • <25 years | 08 (57.1%) | 49 (37.7%) | 15 (26.8%) | 0.085 |
| • ≥25 years | 06 (42.9%) | 81 (62.3%) | 41 (73.2%) | |
| Marital status | | | | |
| • Married | 14 (100%) | 123 (94.6%) | 56 (100%) | 0.142 |
| • Divorced | 0 | 7 (5.4%) | 0 | |
| Educational level | | | | |
| • Secondary or below | 08 (57.1%) | 61 (46.9%) | 10 (17.9%) | **<0.001 **** |
| • University or higher | 06 (42.9%) | 69 (53.1%) | 46 (82.1%) | |
| Occupation | | | | |
| • Housewife | 09 (64.3%) | 98 (75.4%) | 35 (62.5%) | 0.175 |
| • Employed or student | 05 (35.7%) | 32 (24.6%) | 21 (37.5%) | |
| Monthly family income | | | | |
| • Inadequate | 02 (14.3%) | 22 (16.9%) | 06 (10.7%) | 0.552 |
| • Adequate or more | 12 (85.7%) | 108 (83.1%) | 50 (89.3%) | |
| Place of residence | | | | |
| • Urban | 14 (100%) | 117 (90.0%) | 51 (91.1%) | 0.462 |
| • Rural | 0 | 13 (10.0%) | 5 (8.9%) | |

§ P value was calculated by using the $\chi^2$ test.
** Significant at the P < 0.05 level.

**Table 5. Association between the level of attitude and sociodemographic characteristics of primigravida women in relation to BP (n = 200).**

| Sociodemographic Characteristics | Level of Attitude | | P value § |
|---|---|---|---|
| | Unfavorable N (%) (n = 7) | Favorable N (%) (n = 193) | |
| Age group | - | - | - |
| • <25 years | 04 (57.1%) | 68 (35.2%) | 0.235 |
| • ≥25 years | 03 (42.9%) | 125 (64.8%) | |
| Marital status | | | |
| • Married | 07 (100%) | 186 (96.4%) | 0.608 |
| • Divorced | 0 | 07 (03.6%) | |
| Educational level | | | |
| • Secondary or below | 04 (57.1%) | 75 (38.9%) | 0.331 |
| • University or higher | 03 (42.9%) | 118 (61.1%) | |
| Occupation | | | |
| • Housewife | 04 (57.1%) | 138 (71.5%) | 0.411 |
| • Employed or student | 03 (42.9%) | 55 (28.5%) | |
| Monthly family income | | | |
| • Inadequate | 02 (28.6%) | 28 (14.5%) | 0.306 |
| • Adequate or more | 05 (71.4%) | 165 (85.5%) | |
| Place of residence | | | |
| • Urban | 05 (71.4%) | 177 (91.7%) | 0.065 |
| • Rural | 02 (28.6%) | 16 (8.3%) | |

§ P value was calculated by using the $\chi^2$ test.
** Significant at the P < 0.05 level.

**Table 6. Association between the level of practice and sociodemographic characteristics of primigravida women in relation to BP$^{(n = 200)}$.**

| Sociodemographic Characteristics | Level of practice | | | P value § |
|---|---|---|---|---|
| | Poor N (%) (n = 13) | Moderate N (%) (n = 70) | Good N (%) (n = 117) | |
| Age group | - | - | - | - |
| • <25 years | 07 (53.8%) | 25 (35.7%) | 40 (34.2%) | 0.374 |
| • ≥25 years | 06 (46.2%) | 45 (64.3%) | 77 (65.8%) | |
| Marital status | - | - | - | - |
| • Married | 11 (84.6%) | 67 (95.7%) | 115 (98.3%) | **0.036 **** |
| • Divorced | 02 (15.4%) | 03 (04.3%) | 02 (01.7%) | |
| Educational level | | | | |
| • Secondary or below | 08 (61.5%) | 29 (41.4%) | 42 (35.9%) | 0.184 |
| • University or higher | 05 (38.5%) | 41 (58.6%) | 75 (64.1%) | |
| Occupation | | | | |
| • Housewife | 09 (69.2%) | 48 (68.6%) | 85 (72.6%) | 0.829 |
| • Employed or student | 04 (30.8%) | 22 (31.4%) | 32 (27.4%) | |
| Monthly family income | | | | |
| • Inadequate | 02 (15.4%) | 14 (20.0%) | 14 (12.0%) | 0.330 |
| • Adequate or more | 11 (84.6%) | 56 (80.0%) | 103 (88.0%) | |
| Place of residence | | | | |
| • Urban | 12 (92.3%) | 64 (91.4%) | 106 (90.6%) | 0.968 |
| • Rural | 01 (07.7%) | 06 (08.6%) | 11 (09.4%) | |

§ P value was calculated by using the $\chi^2$ test.
** Significant at the P < 0.05 level.

## 4. DISCUSSION

### 4.1. Sociodemographic Characteristics of the Study Sample

This sample consisted of 200 primigravida women. Approximately one-half of the women were young adults (25-less than 30 years), and more than one-half had a university degree or higher. A large proportion of the women were married, and more than two-thirds were housewives. In addition, the majority of the women were living in urban areas, and more than three-quarters had an adequate monthly income.

### 4.2. BP Knowledge of Primigravida Women

BP involves advance planning and preparation for birth and concerns the knowledge of pregnant women regarding the antenatal, natal, and postnatal periods. Furthermore, BP is crucial in reducing deaths related to delays in seeking care. The WHO reported that in 2017, almost 810 women died everyday from avoidable causes related to the antenatal, natal, and postnatal periods of pregnancy [20]. Therefore, pregnant women must possess knowledge about BP.

In the current study, the level of BP knowledge was moderate in more than two-thirds of the primigravida women, whereas good knowledge was observed in a small proportion of the study sample. This finding is not in line with the result of Dasanayake *et al*. [21], who found conflicting results. Specifically, they observed that the majority of pregnant women had above-average BP knowledge. In addition, the results of the current study were inconsistent with those of Endeshaw *et al*. [22], who indicated that less than one-half of the participants had birth preparedness and complications readiness (BPACR) knowledge. Furthermore, the findings of the current study conflicted with those of an Ethiopian study, which showed that pregnant women had inadequate BPACR knowledge [23].

The moderate level of the BP knowledge of the primigravida women in the present study could be attributed to the fact that more than one-half of the study sample had a university degree or higher. Moreover, more than 40.0% of the participants were in the middle-aged group. These young adults had been exposed to a huge amount of information from relatives, friends, and the Internet. The moderate knowledge level of the primigravida women in the present study was supported by the results of Padaguggari *et al*. [24], who tackled the BPACR knowledge and practices of pregnant mothers. They documented that knowledge is highly prevalent among the study sample.

### 4.3. Attitude of Primigravida Women toward BP

Attitude toward behaviors reflects an individual's positive or negative evaluations of performing a specific behavior [25]. Generally, a highly positive attitude toward a behavior reflects a strong intention to perform the behavior. In the present study, most of the primigravida women showed favorable attitudes toward BP. This result was consistent with the results of Ifeanyichukwu, Obehi, and Richard [26], who reported that a large proportion of pregnant women has a positive attitude toward BPACR, whereas a small percentage has a negative attitude. In addition, the findings of this study were nearly congruent with those of Mbonu [27].

Furthermore, the results of this study were nearly

consistent with those of Debelew, Afework, and Yalew [16], who reported that pregnant women have favorable attitudes toward BPACR, but disagreed with those of a Nigerian study that showed that pregnant women have unfavorable attitudes toward BPACR [28].

The favorable attitude toward BP shown by most of the participants in the present study might be related to different factors. For example, the participants had moderate knowledge scores, and the majority started antenatal visits during their first trimester and benefitted from such visits. Therefore, a pregnant woman would have positive thoughts regarding the importance of BP once she obtains BP knowledge and starts BP practices.

To the best of the researcher's knowledge, the current study might be the first in the Saudi Arabia that has shown the level of the BP attitude of primigravida women. Although most related works have discussed the BP knowledge and practice of pregnant women, the additional studies on the attitude would certainly improve the BP awareness of pregnant mothers. Nevertheless, further studies are needed to obtain additional insights on the level of the BP attitude of primigravida women.

### 4.4. BP Practice of Primigravida Women

The BP practice of the primigravida women included in this study was adequately good. This finding was in accordance with the result of Padaguggari *et al*. (2018), who illustrated that pregnant women have good BPACR practices. It also showed good agreement with the result reported by Dasanayake *et al*. [21], who demonstrated that most mothers have sufficient BPACR practice. By contrast, Endeshaw *et al*. [22] reported below-average (43.4%) BPACR practices. Their results reported less rates of knowledge than those in the present study.

The difference between the former and latter studies could be attributed to the fact that most of the participants of the present study have been living in urban areas wherein health services are available from private and governmental health institutions with qualified healthcare providers. Furthermore, most of the participants had an adequate monthly income and could therefore seek medical care independently.

### 4.5 Factors Influencing the BP Knowledge, Attitude, and Practice of Primigravida Women

Being educated was determined as a significant factor of having good knowledge, whereas being married was determined as the significant factor of having a good practice level. However, the level of attitude did not differ significantly among the sociodemographic characteristics of primigravida women. To the best of the researcher's knowledge, only one study has discussed the association between the sociodemographic characteristics and the attitude of pregnant women. Their findings were consistent with those of the present study and showed that sociodemographic characteristics are not significantly associated with the attitude of primigravida women toward BPACR [26].

The findings of this study pointed out that being educated was significantly associated with the BP knowledge of primigravida women and were congruent with those of Mukhopadhyay *et al*. [29], who reported that except for formal education, none of the other sociodemographic variables has a significant effect on BPACR knowledge. Furthermore, the results of the present study were consistent with those of Maroof *et al*. [30], who found that education is significantly associated with the BPACR knowledge of pregnant women. The similarity between the results of the present and previous studies could be attributed to the fact that the majority of the primigravida women in the current study were highly educated. Moreover, the information revolution is currently at its height, during which various information sources that educated women can easily access to obtain information regarding BP are available.

In addition, the current study found a statically significant association between being married and having good BP practice. Specifically, married women had better BP practices than women who were separated. However, this study result was incongruent with that of Ibadin, Adam, Adeleye, and Okojie [31], who discovered no statistically significant association between marital stability and BPACR practices. The difference between the former and present studies could be attributed to the fact that in stable marriages, husbands could support primigravida women in seeking care.

However, several studies have provided conflicting reports on BP practice. Dasanayake *et al*. [21] in Sri Lanka and Kaso and Addisse [32] in Ethiopia reported a statistically significant association between improved educational level and BPACR practices. Another Ethiopian study showed that knowledge of BPACR, knowledge of pregnancy danger signs, gestational age, and ANC follow-up starting time are significantly associated with BPACR practice [22]. Furthermore, marital status, educational level, ANC utilization, planned pregnancy, and gestational weeks are significantly associated with BP practices [33]. These works provide better significant factors than the current study.

### 4.6. Implications for Practice

- Imparting knowledge and providing health education are important functions of nursing personnel, and their accountability should be stressed.
- Nursing interventional programs can be used as a teaching strategy in medical institutions, as well as in the community.
- Health education can be imparted through social media and mass media, such as through radio and television programs, documentary films, pamphlets, leaflets, booklets, and mobile applications.
- Women must be empowered to ask questions to their physicians regarding preparation for pregnancy and birth.

## CONCLUSION

The aim of this study was to assess the BP knowledge, attitude, and practice of primigravida women. A descriptive cross-sectional design was used. The findings showed that the majority of the primigravida women in this study had a moderate level of BP knowledge. In addition, most of them had

a favorable attitude toward BP. Good, moderate, and poor practice levels were observed in 58.5%, 35.0%, and 6.5% of the women, respectively. The level of knowledge had a significant strong association with the level of attitude ($P < 0.001$), whereas the level of practice did not reach statistical significance ($P = 0.321$) but showed good association with the level of attitude ($P = 0.023$).

## CONTRIBUTION TO AUTHORSHIP

The study was conceptualized and designed by Munirah Alatawi, Wafaa Faheem, and Hawa Alabdulaziz. Data were acquired by Munirah Alatawi and Hawa Alabdulaziz. Data were analyzed and interpreted by Munirah Alatawi and Wafaa Faheem. Munirah Alatawi, Wafaa Faheem, and Hawa Alabdulaziz performed the critical revision of the manuscript for important intellectual content.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the Institutional Review Board, General Director Of Health Affairs, Tabuk City, Saudi Arabia (registration number: H-07-TV-077; date of approval 13 November 2018).

## HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All human research procedures were followed in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national) and with the Helsinki Declaration of 1975 as revised in 2013.

## CONSENT FOR PUBLICATION

Informed consent was obtained from all participants.

## AVAILABILITY OF DATA AND MATERIALS

Not applicable.

## FUNDING

None.

## CONFLICTS OF INTEREST

No conflicts of interest to disclose.

## ACKNOWLEDGEMENTS

None.

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