

Assessment of Primigravida Women Perception to Pregnancy Risk

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1.ABSTRACT

Background: Pregnancy risk perception is a complex process influenced by a variety of factors. Pregnancy risk causes physical, psychological, and socioeconomic complications to pregnant women as it needs for close monitoring throughout pregnancy and the immediate postpartum which may require hospitalization. **Aim:** The study aimed to assess primigravida perception to pregnancy risk. **Subjects and Method:** A descriptive study was utilized with a purposive sample of 250 primigravida Setting: The study was conducted at antenatal clinics of inpatient department Mansoura University Hospital's. **Tools of data collection:** two tools were used, Assessment sheet of personal and general characteristics of women and pregnancy risk perception questionnaire. **Results:** there is a highly statistically significant difference regarding total knowledge score and to perception level about pregnancy risk and pregnancy risk perception. Advanced maternal age primigravida women perceived pregnancy risk more than young age group primigravida women. **Conclusion:** The study concluded primigravida women's perception of pregnancy risk is different in two maternal age groups. **Recommendations:** Stress on increasing awareness about pregnancy risk through antenatal classes which include information regarding pregnancy risks and its effect on mother and fetus should be given to primigravida women.

Keywords: assessment, perception, pregnancy risk, primigravida

2.Introduction:

Pregnancy is a natural process that causes a woman's body to undergo a number of physiological and psychological changes some of them are transient during pregnancy, while others last for a length of time following delivery, and yet others are permanent. Dealing with such changes in an ineffective manner might lead to major problems. Despite the fact that pregnancy is a physiological process, several conditions can harm maternal or foetal health, turning pregnancy into a high-risk pregnancy (HRP) and putting women under stressful conditions^(1&2).

According to the World Health Organization, around 830 women die every day in the world as a result of pregnancy or childbirth complications. Pregnancy risk affects around 20-30% of all pregnancies, accounting for 70–80% of perinatal mortality and morbidity⁽³⁾. Pregnancy risk can be defined as "any unexpected or unanticipated medical or obstetric problem linked with pregnancy that poses a real or prospective hazard to the mother's or foetus' health or well-being." fetus⁽⁴⁾.

Pregnancy risk perception has been defined as the thoughts, feelings, and awareness of pregnant women concerning the possible danger to

pregnant women and their babies⁽⁵⁾. Individuals' risk perception has a significant impact on how pregnant women assess risk, make decisions, and act⁽⁶⁾. People's instinctive assessments of hazards to which exposed are referred to as risk perceptions. Although risk perceptions serve as prompts for cautious action, participation in preventive health activities is impacted not just by knowledge of real health dangers, but also by health beliefs and unique health cognitions⁽⁷⁾.

For a variety of reasons, pregnancy might be considered a risky pregnancy, including the following: Poor obstetric history, such as two or more previous abortions, history of stillbirth, preterm birth, history of birth with congenital anomaly, caesarian section, , and history of chronic medical disorders such as severe anaemia, diabetes, and thyroid disorder also pre-eclampsia and gestational high blood pressure are more likely in teenagers and women aged 35 and up⁽⁸⁾.

Risk perception in pregnancy is a complicated phenomenon because it affects not only the pregnant mother but also the unborn baby⁽⁹⁾.

Pregnancy anxiety, gestational age, medical risks, perceived internal control, and maternal age are all factors that influence risk perception in primigravida women also the level of risk perception is influenced by several factors, including a lack of knowledge and attitudes among women and mothers about maternal risk factors, medical risk, psychological elements, and clinical characteristics of the risk, gestational age, and the perspectives of healthcare providers ⁽¹⁰⁾.

Early detection of risk factors in all pregnant women will be able to avert difficulties throughout pregnancy, childbirth, and the puerperium, hence preventing and reducing maternal mortality ⁽¹¹⁾. Pregnancy is an essential time to encourage good habits, avoid and identify problems early, and treat pregnant women to ensure the best possible health and development for both the mother and unborn child ⁽¹²⁾.

Nurses understand the physiological needs of risky pregnancies and give optimal care, as well as giving emotional support to the pregnant woman and administering appropriate medicine doses in the optimal care of risky pregnancies ⁽¹³⁾.

Nurses, together with other professionals, prioritize prenatal care for risk detection or as early as possible. In the follow-up dynamics of pregnant/puerperal women, they are vigilant for a reclassification of risk at each visit, as well as during labor and throughout the puerperium. For the test, the physical fitness test, the general physical exam, the gynecological examination and the obstetrics, in addition to the educational activities developed individually with a woman, in order to meet the specific needs ⁽³⁷⁾.

Significance of the study

In 2015, the maternal mortality ratio (MMR) in Egypt was 43.5 per 100,000 live births. According to the 2015 Millennium Development Goals, some Egyptian governorates have high MMR rates, such as 60–65 deaths per 100,000 live births in Assiut, Gharbia, Beni Suef, Qena, and Sohag, while others have low MMR rates, such as 24–37 deaths per 100,000 live births in New Valley, Ismailia, Suez, and Port Said. According to the Egyptian Ministry of Health, the maternal mortality rate in Upper Egypt is greater than in Lower Egypt (74–61%). Furthermore, the most common cause of maternal mortality in Egypt is postpartum haemorrhage (19.7%), while cardiovascular disease is the most common indirect cause. ⁽¹⁴⁾.

Despite the fact that the majority of researchers believe that most maternal deaths and

neonatal problems can be avoided if mothers receive essential and continuous healthcare before, during, and after childbirth, maternal health care utilization remains low among both rural and urban mothers in general, and adolescents' mothers in particular ⁽¹⁵⁾.

Antenatal classes in Egypt are still lacking, so there is no awareness of pregnancy risk and its effects on pregnancy. Antenatal classes also aid in increasing women's awareness of maternal mortality causes, which is an important step in reducing MMR rates and understanding misconceptions about women's knowledge. As a result, several health behavior theories, such as the health belief model, protective motive theory, and prospect theory, place a premium on risk perception. ⁽¹⁶⁾.

The way high-risk women perceive risk has a significant impact on the treatment they receive throughout pregnancy and the prenatal care decisions they make. As a result, focusing on pregnant perception will help pregnant women safeguard themselves and their fetus, allowing Egypt to reach its 2030 goal and attain woman health.

Study Aim

The current study aimed to assess primigravida perception of pregnancy risk.

Research question

What are the differences about perception of pregnancy risk among two different ages of primigravida?

3. Subjects and Method

Study Design

A descriptive study research design was utilized to accomplish the aim of this study.

Study Setting

This study was carried at antenatal clinics of inpatient department Mansoura University Hospital's

Subjects:

250 of primigravida women involved in the study sample during six months of data collection who were 18-35 years old, in 1st and 2nd trimester, had single viable fetus and free from history of medical or psychiatric disease.

Sample size calculation:

A purposive sample of 250 primigravida women based on data from literature ⁽¹⁷⁾, The sample size was estimated using the following formula, using a threshold of significance of 5%

and a power of study of 80%, using data from the literature: $[(Z_{1-\alpha/2})^2 \cdot SD^2] / d^2 = \text{sample size}$

Where, $Z_{1-\alpha/2}$ = is the typical normal variate, for 5 percent type 1 error ($p < 0.05$) it is 1.96.

SD stands for standard deviation of variable, d stands for "absolute error" or "precision." As a result, the sample size is $[(1.96)^2 \cdot (16.12)^2] / (2.0)^2 = 249.6$. The sample size required for the study is 250, based on the formula above.

Tools of data collection:

Two tools were used for data collection:

Tool I: Assessment sheet of personal and general characteristics of women, it developed by the researcher based on literature review it was included three parts:

Part (1). General characteristics of primigravida such as age, level of education, occupation, residence, marriage duration, husband's education and smoking status.

Part (2). Family history and type of pregnancy risk and current pregnancy situation as gestational age, number of antenatal visits, weight, height, BMI, blood pressure measurement.

Part (3). Primigravida woman's knowledge about pregnancy risk it is developed by the researcher and includes; Definition of pregnancy risk, predisposing factors, impact of pregnancy risk condition on pregnancy & how to deal with pregnancy risk conditions. It included 4 questions.

Scoring system:

Each question will be given two options (correct, incorrect), scores range from 1-2. Score two will be given for the correct answer, score one will be given for the wrong answer. The total knowledge scores = 8.

Tool II: Pregnancy risk perception questionnaire: It is adapted from ⁽¹⁸⁾. this questionnaire consists of two sub scales that involves, four questions about risk for baby and six questions about risk for self (mother), yielding a score ranging from 0 to 100, high score means high level of perception, risk for chronic disease during pregnancy, for blood clots during pregnancy, for hemorrhaging, cesarean section, for dying of mother, for baby being born prematurely, for the baby having a birth defect, for baby needing to go to the NICU & for baby dying.

Validity of the tool

The study tools were reviewed by three experts in the field of obstetrics the experts assessed the tools for clarity, relevance and

applicability. Changes were considered according to their comments as suggestions and minor changes in translation.

Reliability

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Reliability

The reliability of tool used in this study done using the Cronbach's Alpha test and found to be for knowledge 0.914 and for risk perception 0.871, so the tool was reliable.

Pilot Study

A pilot study was conducted on 25 primigravida women (10 % from the sample size). Primigravida women who attended the antenatal clinics of inpatient department Mansoura University Hospital's according previous inclusion criteria. The pilot study was used to assess the tool's questions and statements for clarity and applicability, as well as the tool's feasibility, objectivity, and consistency, as well as to identify ambiguity in the study tool and check that the questions had the intended meaning. It also made it easier to estimate how long it will take to complete the questionnaire. The women in the pilot study were not included in the sample. This period lasted two weeks.

Field work

After taking written consent from antenatal clinics in the inpatient department at Mansoura University Hospital, data collection lasted 6 months (from October 2020 to the end of March 2021). The researcher attended the health unit for three days weekly (Saturday, Sunday & Tuesday) from 9 a.m. to 2 p.m. there was about 30 women per day at the clinic. The researcher introduced herself and clarified the purpose of the study.

The researcher interviewed each woman individually for about 15 - 20 minutes to collect data by using assessment sheet of personal and general characteristics of women & pregnancy risk perception questionnaire to assess primigravida women about pregnancy risk among 250 primigravida women. During interview, there were two groups of primigravida women (173

were 18-30 years old and (77) were 31-35 years old.

Data analysis:

The results of data analysis and presentation were presented as descriptive results in the form of frequency and percentage, as well as mean and standard deviation. To examine the relationship between categorical variables, the Chi-square test (χ^2) was used. The association was statistically significant at a p value of 0.05, and it was highly statistically significant at a p value of 0.001.

Ethical Considerations

- A written consent was taken from the primigravida women after taking a written permission from the Faculty of Nursing - Mansoura University's Research Ethics Committee and taking an official letter from the head of the Antenatal clinics in the inpatient department at Mansoura University Hospital after clarifying the aim of the study.
- All participants were given their right to withdraw voluntarily, their privacy, and their confidentiality.

4. Results

Table1: shows distribution of primigravida women according to their general characteristics (**n=250**). Shows that more than two thirds (69.2%) of primigravida women were 18-30 years old, with Mean \pm SD 26.6 \pm 5.1. Regarding their educational level, data reveals that more than half of them (60.8%) were highly educated while (6.4%) of them had primary education. more than two thirds (69.2%) of women were housewife and more than half (55.6%) of them were from urban area. More than one quarter (39.6%) of them were married since less than 2 years with Mean \pm SD 3.6 \pm 1.8. More than two thirds of husbands (69.2%) had high level of education. As regards the women's smoking status less than three quarters (73.2%) were nonsmokers.

Table 2: Shows that most (82.4%) of primigravida women didn't have family history of pregnancy risk and more than half (55.6%) of primigravida women with family history had hypertension in their families. Regarding women's gestational age more than half (59.2%) of them were 14–26-week gestation with Mean \pm SD (15.3 \pm 6.8). Regarding their numbers of antenatal visits, more than half (55.6%) of them were attended 4-6 times. More than half (60.4%) of primigravida women weight were between 70-90 kg with Mean \pm SD 77.6 \pm 13.3. Most of them (83.6%) was ranged from 150-170 cm height with Mean \pm SD 162.0 \pm 10.1. Most (87.6%) of them had normal blood

pressure. Less than half (40.4%) of primigravida women were obese while (3.6%) of them were underweight with Mean \pm SD 28.1 \pm 5.3.

Table (3): Shows that nearly two thirds (61.6%) of the studied primigravida women defined pregnancy risk correctly. More than two thirds (68.4) of primigravida women correctly identified precipitating factors of risky pregnancy. More than two thirds (67.2%) of primigravida women correctly knew impact of pregnancy risk and more than three quarter of them (77.6%) knew how to deal with pregnancy risk conditions.

Table (4): Shows that regarding risk for mother, (38%, 45.2%, 41.6% & 66, 8%) of studied primigravida women perceived that woman with risky pregnancy will suffer from mild risk of chronic disease, blood clots, hemorrhage and infection during pregnancy respectively. Less than half (41.6%) of the studied primigravida women perceived that woman with risky pregnancy will

need caesarean section and less than half (44.4%) of them perceived that woman with risky pregnancy will not die during risky pregnancy. Regarding risk for baby, less than half (42.2%) of studied primigravida women perceived that in risky pregnancy there is moderate risk baby being born prematurity, (58 % & 32.8%) of them perceived that in risky pregnancy there are mild risk for having baby with birth defect and dying during pregnancy respectively while less than half (41.2%) of them perceived that in risky pregnancy there is severe risk for baby needing to go to neonatal intensive care unit.

Table (5): Shows comparison between two age groups of primigravida regarding their pregnancy risk perception (N250). It was found that there were highly statistically significant differences among the studied primigravida between two age groups regarding their perception of pregnancy risk (**p<0.001**).

Table (1): Distribution of primigravida women according to their general characteristics (250):

Age (Years)		
18-30	173	69.2
31-35	77	30.8
Mean \pm SD	26.6 \pm 5.1	
Educational level		
Can't read and write	28	11.2
Primary education	16	6.4
Secondary education	54	21.6
High education	152	60.8
Occupation		
House wife	173	69.2
Working	77	30.8
Residence		
Rural	111	44.4
Urban	139	55.6
Marriage duration		
< 2 Years	99	39.6
2 – 3 Years	79	31.6
> 4 Years	72	28.8
Mean \pm SD	3.6 \pm 1.8	
Husband Education Level		
Illiterate	33	13.2
Primary education	13	5.2
Secondary education	31	12.4
High education	173	69.2
Smoking Status		
Negative	67	26.8
Non-Smoker	183	73.2

Table (2): Distribution of primigravida women according to their family history and current pregnancy situation (n=250):

Family history of pregnancy risk		
Yes	44	17.6
No	206	82.4
Type of pregnancy risk n=(44)		
Hypertension	24	54.6
Preeclampsia	10	22.7
Gestational diabetes	10	22.7
Gestational age		
1 –13 week	102	40.8
14 – 26 weeks	148	59.2
Mean ± SD	15.3 ± 6.8	
Number of antenatal visits		
1 – 3 visits	103	41.2
4 – 6 visits	139	55.6
> 6 visits	8	3.2
Mean ± SD	4.0 ±1.8	
Weight (kg)		
<70	67	26.8
70 – 90	151	60.4
>90	32	12.8
Mean ± SD	77.6 ± 13.3	
Height (cm)		
< 150	8	3.2
150 – 170	209	83.6
>170	33	13.2
Mean ± SD	162.0 ± 10.1	
Blood pressure (mmHg)		
Low	2	0.8
Normal	219	87.6
High	29	11.6
BMI Status		
Underweight	10	4.0
Normal	75	30.0
Overweight	64	25.6
Obese	101	40.4
Mean ± SD	28.1 ±5.3	

Table 3. Distribution and frequency of primigravida women according to knowledge regarding pregnancy risk and current pregnancy situation (250)

Knowledge regarding	N		%	
	N	%	n	%
1. Definition of pregnancy risk	96	38.4	154	61.6
2. Precipitating factors	79	31.6	171	68.4
3. Impact of pregnancy risk	82	32.8	168	67.2
4. How to deal with risk conditions	56	22.4	194	77.6
Total Knowledge	N		%	
Poor knowledge	72		28.8	
Fair knowledge	93		37.2	
Good knowledge	85		34.0	

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Table 4. Distribution and frequency of the studied primigravida women according to their pregnancy risk perception.

Variables	No		Mild		Moderate		Severe		Extremely high	
	n	%	n	%	N	%	n	%	n	%
	Risk for mother									
1. Risk of chronic disease	31	12.4	95	38.0	79	31.6	43	17.2	2	0.8
2. Risk of blood clots	43	17.2	113	45.2	59	23.6	32	12.8	3	1.2
3. Risk of hemorrhage (loss too much blood) during this pregnancy	22	8.8	104	41.6	85	34.0	37	14.8	2	0.8
4. Risk of having a caesarean section	7	2.8	35	14.0	99	39.6	104	41.6	5	2.0
5. Risk of infection	37	14.8	167	66.8	35	14.0	11	4.4	0	0.0
6. Risk of dying during pregnancy	111	44.4	92	36.8	33	13.2	14	5.6	0	0.0
Risk for baby										
7. Risk of prematurity	6	2.4	51	20.4	106	42.4	82	32.8	5	2.0
8. Risk of having birth defect	17	6.8	145	58.0	65	26.0	23	9.2	0	0.0
9. Risk of needing to go to neonatal intensive care unit	4	1.6	16	6.4	92	36.8	103	41.2	35	14.0
10. Risk of dying during this pregnancy	26	10.4	82	32.8	71	28.4	67	26.8	4	1.6

Table (5): Relation of pregnancy risk perception and age group of primigravida women: (n=250):

Variables	18-30 (years) N (173)					31-35 (years) N (77)					X ² p
	No	m.	mo.	S.	Ex.	no.	m.	Mo.	s.	Ex.	
	N	N	N	N	N	N	N	N	N	N	
Risk for mother											
Risk of chronic disease	31	79	49	12	2	0	17	30	30	0	56.843 <0.001**
Risk of blood clots	43	85	35	7	3	0	28	24	25	0	58.723 <0.001**
Risk of hemorrhage (loss too much blood) during this pregnancy	22	86	53	10	2	0	18	32	27	0	52.310 <0.001**
Risk of having a caesarean section	7	34	79	50	3	0	1	19	55	2	45.068 <0.001**
Risk of infection	37	119	14	3	0	0	48	21	8	0	39.874 <0.001**
Risk of dying during pregnancy	97	58	13	5	0	14	34	20	9	0	39.983 <0.001**
Risk for baby											
Risk of prematurity	6	46	86	34	1	0	6	19	48	4	54.950 <0.001**
Risk of having	17	110	40	6	0	0	34	27	16	0	32.039 <0.001**

birth defect											
Risk of needing to go to neonatal intensive care unit	4 2.3	17 9.8	79 45.7	59 34.1	14 8.1	0 0.0	0 0.0	13 16.9	43 55.8	21 27.3	41.515 <0.001**
Risk of dying during this pregnancy	26 14.7	70 39.5	46 26.0	27 15.3	4 2.3	0 0.0	12 15.6	25 32.5	40 51.9	0 0.0	50.312 <0.001*
Total Perception Level	7 4.0	99 55.9	48 27.1	19 10.7	0 0.0	0 0.0	0 39.0	17 22.1	30 39.0	30 39.0	136.520 <0.001**

5. Discussion

The present study was implemented to assess primigravida perception of pregnancy risk and the differences about perception of pregnancy risk among two different ages of primigravida. The current study results found that there was a significant difference in primigravida perception of pregnancy risk between two age groups of primigravida.

According to general characteristics, the current study revealed that more than two thirds of the primigravida women were 18-30 years old. This study result was in agreement with the study conducted by ⁽¹⁹⁾ who reported that more than two thirds of the studied women were 18-30 years old. Regarding educational level, the current study revealed that around two thirds of the studied women were highly educated. Contradictory to this finding a study by ⁽⁵⁾ revealed that less than one quarter of the studied women were highly educated.

Concerning occupation, study finding revealed that more than two thirds of primigravida women were house wife. Contradictory to our study a study by ⁽¹⁹⁾ who reported that more than three quarters of the studied primigravida women were house wife. Also, regarding residence, the current study revealed that more than half of the studied women were from urban. This is in agreement with a study by ⁽²⁰⁾ who reported that more than half of the studied women were from urban.

In addition, the current study reported the majority of primigravida women had no family history of pregnancy risk. This result is in agreement with a study by ⁽²¹⁾ who reported that the majority of the studied women had no family history of pregnancy risk. The current study revealed that more than half of the studied primigravida women with family history of pregnancy risk had hypertension in their families.

Contradictory to the study a study by ⁽³⁶⁾ who revealed that less than of the studied sample had family history of hypertension in their families this variation is attributed to difference in sample regions, populations and size.

According to the findings of the current study, more than half of the studied primigravida women were 14-26-week gestation. Also, the Mean and SD was 15.3 ± 6.8 . Contradictory to this study a study by ⁽⁵⁾ reported less than half of the studied women were 14-26-week gestation with Mean and SD was 31.60 ± 4.77 .

Regarding antenatal visits, this study revealed that more than half of the studied women with Mean and SD of 4.0 ± 1.8 reported 4-6 antenatal visits as they are primigravida. This is in agreement with a study by ⁽²²⁾ who reported that more than half of the studied sample reported 4-6 antenatal visits with Mean and SD of 5.33 ± 2.27 . As regard to weight and height of the studied primigravida women, the current study revealed that Mean \pm SD weight (kg) $77, 6 \pm 13.3$ and Mean \pm SD height (cm) 162.0 ± 10.1 . this is contradictory to a study by ⁽²³⁾ who reported that Mean \pm SD weight (kg) 59.3 ± 8.90 , Height (cm) 154.0 ± 4.13

Concerning to body mass index, the present study revealed that less than half of the studied primigravida women were obese. This result is in agreement with a study by ⁽³⁵⁾ who reported that less than half of the studied women were obese. Also, a study by ⁽²⁴⁾ reported less than half of the studied women were obese. Contradictory to this study, a study by ⁽²⁵⁾ reported that more than half of the studied sample were obese this difference is contributed to difference in regions, populations, methodologies, and diagnostic criteria.

As regard to definition of pregnancy risk the present study revealed that, around two thirds of the studied women correctly defined pregnancy risk. This find is in agreement with a study

conducted by ²⁶ found that whatever definition of high-risk pregnancy is used, it will entail a degree of risk to mother and/or baby caused by a medical condition.

The current study revealed that more than two thirds of primigravida women correctly knew all the main risk factors in pregnancy that cause risky pregnancy because more than two thirds of the studied women were highly educated. Contradictory to this finding a study by ⁽²⁷⁾ who reported more than two thirds of the studied women have good knowledge regarding the main maternal risk factors in pregnancy that cause risky pregnancy.

As regard to dealing with pregnancy risk conditions, the current study found that more than three quarters of the studied women seeking for medical advice and care for dealing with pregnancy risk conditions. This results in agreement with a study by ⁽²⁷⁾ who reported that more than three quarters of studied women receive information from physician.

Also, in current study around two thirds of the studied women considered asking for advice from family and friends in dealing with pregnancy risk conditions. This is in agreement with a study by ⁽²⁸⁾ who reported that participants consider family and friends as one of the main sources for information and dealing with risky pregnancy.

As regard to primigravida women source of information regarding risky pregnancy, the current study revealed that less than half of primigravida women use social media as a source of information regarding risky pregnancy. This result is in agreement with a study by ⁽²⁹⁾ who reported that less than half of the studied sample use social media as a source of information regarding risky pregnancy.

While in concurrent with a study by ⁽³⁰⁾ who reported that more than half of the studied women use social media as a source of information this difference may be due to could be attributed to the variation in sample size and the selection criteria.

Regarding pregnancy risk perception, the current study showed that, there was a highly statistically significant difference between two age groups of primigravida women regarding mother risk for chronic disease and risk for blood clots. This finding is in concurrent with a study by ⁽¹⁶⁾ this difference could be attributed to the variation in sample size and age plays a role in perception of risk. As regard to mother risk for hemorrhage, the current study results revealed that there was a significant difference between two age groups of

primigravida women regarding hemorrhage. This result in consistent with a study by ⁽³¹⁾ who reported a significant difference between two age groups of primigravida women regarding hemorrhage. Furthermore, the current study results in disagreement with a study by ⁽¹⁷⁾ and ⁽¹⁶⁾ who reported no statistical difference between two age groups regarding hemorrhage this may be due to could be attributed to the variation in sample size, culture and selection criteria.

Regarding mother risk for caesarean delivery, the present study results revealed that there was a highly statistically significant increase in risk of caesarean delivery in advanced age primigravida women when compared to younger age primigravida women. this finding in consistent with a study by ⁽¹⁷⁾ and consistent with a study by ⁽³²⁾ who reported a highly statistically significant increase in risk of caesarean delivery in advanced age primigravida women when compared to younger age primigravida women.

Also, our study results revealed that there was a significant difference between two age groups of primigravida women regarding infection. This result in consistent with a study by ⁽³³⁾ who reported that there was statistically significant difference between studied and control group regarding perceived risk of infection.

More over our results regarding mother risk of dying during risky pregnancy showed that elderly primigravida women have high perception of risk of their death during risky pregnancy than lower age group of primigravida women. this finding contradictory with a study by ⁽¹⁷⁾ who reported that lower age group primigravida women have high perception of risk of their death during risky pregnancy than higher general criteria.

In addition, the present study revealed that, there was statistically significant difference between two age groups regarding baby risk of having a birth defect. This result is in agreement with a study by ⁽¹⁶⁾. Also, our result is contradictory with a study by ⁽¹⁷⁾ this may be due to could be attributed to the variation in sample size and its general criteria.

Regarding baby risk of prematurity, the current study results revealed that elderly primigravida women have high perception of risk of baby being born prematurity during risky pregnancy. This result is in disagreement with a study by and ⁽¹⁶⁾ who reported no statistical difference between two age groups regarding baby risk of prematurity.

The current study showed that, there was a highly statistically significant difference between two age groups of primigravida women regarding baby risk of needing to go to intensive care unit. This finding is in agreement with a study by ⁽⁵⁾ who reported a highly statistically significant difference between two age groups of primigravida women regarding baby risk of needing to go to intensive care unit. Also, the current study is in contradictory with a study by ⁽¹⁷⁾ who reported no statistically significant difference between two age groups of primigravida women regarding baby risk of needing to go to intensive care unit.

Regarding baby risk of dying during pregnancy, the current study results revealed that elderly primigravida women have high perception of risk of baby dying during risky pregnancy. This finding is in consistent with a study by ⁽³⁴⁾ Also, the current study is in disagreement with a study by ^(17&16) who reported no statistical difference between two age groups regarding baby risk of dying during pregnancy attributed to the variation in sample size and age plays a role in perception of risk.

Finally, it was evidenced from study results, the difference in primigravida women age plays a role in perception of pregnancy risk.

6. Conclusion

Based on the present study findings, it is concluded that there is a highly statistically significant difference regarding total knowledge score and to perception level about pregnancy risk among different age groups; also, there is association between total knowledge level and seeking for medical advice and care. There is highly statistically significant difference among the studied primigravida between two age groups regarding precipitating factors in pregnancy. In addition, there is a highly statistically significant between total risk perception level and total knowledge level. Also, advanced maternal age primigravida women perceive pregnancy risk more than young age group primigravida women.

7. Recommendation:

The following recommendation are made in the light of the current study's findings:

- Stress on increasing awareness about pregnancy risk through Antenatal classes which include information regarding pregnancy risks and its effect on mother and fetus should be given to primigravida women.
- Stress on importance of counseling about impact of pregnancy risk on pregnancy outcomes.

Further study

- Suggestions for further study include the need to assess how perception of risk influences fetus and mother wellbeing.
- Comparative study about perception of pregnancy risk among normal and high-risk pregnancy.

8. References

- 1- Mirzakhani, K., Ebadi, A., Faridhosseini, F., & Khadivzadeh, T. (2020). Well-being in high-risk pregnancy: an integrative review. *BMC Pregnancy and Childbirth*, 20(1). doi:10.1186/s12884-020-03190-6.
- 2- Jessie Ange, D.A. & Vishakha, C. (2021). A study to Evaluate the effectiveness of Structured Teaching Programme on Knowledge regarding antenatal care among Primigravida mothers in a selected Villages of Mehsana District. *Indian Journals Vol. (8), issue (1), pages 93-95*
- 3- Arjariya, R. & Tiwari, P. (2021). Prevalence of High Risk Pregnancy: in A Tertiary Care Centre of Sagar Division of M.P. *International Journal of Physiology*.9(1).
- 4- Badakhsh, M., Hastings-Tolsma, M., Firouzkohi, M., Amirshahi, M., & Hashemi, Z. S. (2020). The lived experience of women with a high-risk pregnancy: a phenomenology investigation. *Midwifery*, 102625. doi:10.1016 /j.midw. 2019.102625.
- 5- Sangin, S., & Phonkusol, C. (2021). Perception of Pregnancy Risk and Related Obstetric Factors among Women of Advanced Maternal Age. *Pacific Rim International Journal of Nursing Research*, 25(3), 494-504.
- 6- Li, Z., Sha, Y., Song, X., Yang, K., ZHao, K., Jiang, Z., & Zhang, Q. (2020). Impact of risk perception on customer purchase behavior: a meta-analysis. *Journal of Business & Industrial Marketing*, 35(1), 76–96. doi:10.1108/jbim-12-2018-0381.
- 7- Cori, L., Bianchi, F., Cadum, E. & Anthonj, C. (2020). Risk Perception and COVID-19. *International Journal of Environmental Research and Public Health*.;17(9):3114. <https://doi.org/10.3390/ijerph17093114>.
- 8- Muhammed, O.A., Khalil, N.A., Omara, M.A. & Khattab, M.A. (2017). Risky pregnancy among women attending a rural, family healthcare unit. *Menoufia Med J*;301093-7.

- 9- Lennon S. L. (2016). Risk perception in pregnancy: a concept analysis. *Journal of advanced nursing*, 72(9), 2016–2029. <https://doi.org/10.1111/jan.13007>.
- 10- Shojaeian Z, Khadivzadeh T, Sahebi A, Kareshki H, Tara F.(2021). Perceived risk in women with high risk pregnancy: A qualitative study. *Iranian J Nursing Midwifery Res* [serial online] 26:168-74. Available from: خطأ! مرجع الارتباط التشعبي غير صالح.
- 11- Sulyastini, N.K., Armini,L.N., Ayu Desi Sekarini,N.N.& Pratiwi,P.I.(2020). Risk Factors for Risky Pregnancy in Patas Village, the Working Area of Gerokgak I Health Center Risk Factors for Risky Pregnancy in Patas Village, the Working Area of Gerokgak I Health Center. *Advances in Social Science, Education and Humanities Research*, volume 394. Doi <https://doi.org/10.2991/assehr.k.200115.035>.
- 12- Manyeh, A.K., Amu, A., Williams, J. et al (2020). Factors associated with the timing of antenatal clinic attendance among first-time mothers in rural southern Ghana. *BMC Pregnancy Childbirth* 20, 47. <https://doi.org/10.1186/s12884-020-2738-0>.
- 13- Pinar, G.& Pinar, T.(2020). “Identifying Pregnant Women at Risk for Perinatal Factors Using a Modified Scoring Model”. *Gynaecology and Perinatology* ,vol. 3.issue 2: pages 03-16.
- 14- Mahmoud, G.A.& Omar, A.M. (2018). Women’s awareness and perceptions about maternal mortality in rural communities in Assiut and Fayoum Governorates, Egypt. *Egyptian Nursing Journal*, 15(1):21-29 DOI: 10.4103/ENJ.ENJ_28_17.
- 15- Metwally, A. M., Abdel-Latif, G. A., Mohsen, A., El Etreby, L., Elmosalami, D. M., Saleh, R. M., ... & Abdelrahman, M. (2020). Strengths of community and health facilities based interventions in improving women and adolescents’ care seeking behaviors as approaches for reducing maternal mortality and improving birth outcome among low income communities of Egypt. *BMC Health Services Research*, 20(1), 1-14.
- 16- Bayrampour, H., Heaman, M., Duncan, K. A., & Tough, S. (2012). Advanced maternal age and risk perception: A qualitative study. *BMC Pregnancy and Childbirth*, 12(1). doi:10.1186/1471-2393-12-100.
- 17- Taghizadeh, Z., Cheraghi, M. A., Kazemnejad, A., Pooralajal, J.&Aghababaei, S. (2017). Difference in Perception of Pregnancy Risk in Two Maternal Age Groups , 11(5), QC09-QC12doi: 10.7860/JCDR/2017/23661.9915.
- 18- Heaman, M. I., & Gupton, A. L. (2009). Psychometric testing of the Perception of Pregnancy Risk Questionnaire. *Research in nursing & health*, 32(5), 493–503. <https://doi.org/10.1002/nur.20342> .
- 19- AlAbedi, G. A., Arar, A., & Radhi, T. A. (2019). Assessment of Knowledge for Pregnant Women toward Risk of Pregnancy in Al-Amara Primary Health Care Centers at Southern of Iraq. *Indian Journal of Public Health*, 10(6), 57.
- 20- Aljoher, A. M., Alsaeed, M. A., AlKhlfan, M. A., Almethen, A. W., Almkhaitah, M. A., Zareen, H., & Alia, S. I. (2018). Pregnant women risk perception of medications and natural products use during pregnancy in Alahsa, Saudi Arabia. *The Egyptian Journal of Hospital Medicine*, 70(1), 13-20.
- 21- Gudeta, T. A., & Regassa, T. M. (2019). Pregnancy induced hypertension and associated factors among women attending delivery service at mizan-tepi university teaching hospital, tepi general hospital and gebretsadik shawo hospital, Southwest, Ethiopia. *Ethiopian journal of health sciences*, 29(1).
- 22- Omar, A. M., Hussein, A. A., & Shahin, H. E. A. (2020). Correlation of neonatal danger signs at different times with perinatal obstetrical danger signs and complications. *International journal of Nursing Didactics*, 10(02), 48-57.
- 23- Damor, A., & Mehta, S (2021). Knowledge and Attitude of Antenatal Mother Regarding High-risk Pregnancy in a Tertiary Care Hospital in Western India. *Parity*, 12(1):11-14.

- 24- Simko, M., Totka, A., Vondrova, D., Samohyl, M., Jurkovicova, J., Trnka, M., ... & Argalasova, L. (2019). Maternal body mass index and gestational weight gain and their association with pregnancy complications and perinatal conditions . *International journal of environmental research and public health* , 16(10), 1751.
- 25- Lewandowska, M., Więckowska, B., & Sajdak, S. (2020). Pre-pregnancy obesity, excessive gestational weight gain, and the risk of pregnancy-induced hypertension and gestational diabetes mellitus. *Journal of clinical medicine*, 9(6), 1980.
- 26- Lee, S., Ayers, S., & Holden, D. (2012). Risk perception of women during high risk pregnancy: a systematic review. *Health, risk & society*, 14(6), 511-531.
- 27- Razik, G. S. E. S., Shabana, K.R. & Shehata, S. (2018). Women's Knowledge, Attitudes and Behavior about Maternal Risk Factors in Pregnancy. *Port Said Scientific Journal of Nursing*, 5(1), 145-164.
- 28- Shojaeian, Z. (2020). Knowledge Valuation by Iranian Women with High-Risk Pregnancy: A Qualitative Content Analysis. *International Journal of Community Based Nursing and Midwifery*, 8(3), 243.
- 29- Bjelke, M., Martinsson, A. K., Lendahls, L., & Oscarsson, M. (2016). Using the Internet as a source of information during pregnancy—A descriptive cross-sectional study in Sweden. *Midwifery*, 40, 187-191. <https://doi.org/10.1016/j.midw.2016.06.020>
- 30- Hamzehei, R., Kazerani, M., Shekofteh, M., & Karami, M. (2018). Online health information seeking behavior among Iranian pregnant women: A case study. *Library Philosophy and Practice*, 1659. <https://digitalcommons.unl.edu/libphilprac/1659>
- 31- Singh, A., Khatri, R., Rana, S., Malla, R., Thapa, S., & Acharya, I. (2017). High risk pregnancy and Fetal outcome at Shree Birendra Hospital. *Journal of Society of Surgeons of Nepal*, 20(2), 20-23. <https://doi.org/10.3126/jssn.v20i2.24377>.
- 32- Singh, K., Shrestha, P., Baaniya, J., & Gurung, P. (2020). Pregnancy Outcome Among Primigravidae Aged 35 Years and Above: A Comparative Study. *Journal of Lumbini Medical College*, 8(1), 17-21.
- 33- Mohamed, N. R., Omar, H. H. H., Abd-Allah, I. M., & Nour, S. A. (2020). Effect of Health Beliefs Model-Based Education on the Control of Urinary Tract Infection among Pregnant Women. *shock*, 12, 13.
- 34- Frick, A. P. (2021). Advanced maternal age and adverse pregnancy outcomes. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 70, 92-100.
- 35- Wu, D. D., Gao, L., Huang, O., Ullah, K., Guo, M. X., Liu, Y., ... & Huang, H. F. (2020). Increased adverse pregnancy outcomes associated with stage 1 hypertension in a low-risk cohort: evidence from 47 874 cases. *Hypertension*, 75(3), 772-780.
- 36- Grandi, S. M., Vallée-Pouliot, K., Reynier, P., Eberg, M., Platt, R. W., Arel, R., ... & Fillion, K. B. (2017). Hypertensive disorders in pregnancy and the risk of subsequent cardiovascular disease. *Paediatric and perinatal epidemiology*, 31(5), 412-421.
- 37- Rodrigues, P. B., Zambaldi, C. F., Cantilino, A., & Sougey, E. B. (2016). Special features of high-risk pregnancies as factors in development of mental distress: a review. *Trends in psychiatry and psychotherapy*, 38(3), 136-140. <https://doi.org/10.1590/2237-6089-2015-0067>