Pregnant Women's Perception Regarding Risky Pregnancy And Their Current Pregnancy Risk Condition: Correlational Study

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Abstract

Background : Globally; high-risk' pregnancies account for a significant proportion of perinatal morbidity and mortality worldwide. Risk perception in relation to pregnancy and birth is a complex process influenced by multiple personal, psychological and societal factors. **Aim**: This study aimed to assess pregnant women's perception regarding risky pregnancy and it's correlation to their current pregnancy risk condition. **Design:** A descriptive correlational design was utilized in this study. **Setting**: This study conducted in Al-Hadeka center at Fayoum governorate, Egypt. **Sample**: A purposive sample of 200 pregnant women was included in this study. **Tools of data collection**: Four tools were utilized to collect data in this study (1) Structured Interviewing schedule, (2)Modified high risk pregnancy scoring tool, (3) Women's perception regarding risky pregnancy questionnaire and (4): Perception of pregnancy risk Questionnaire(self-rating) (PPRQ). **Results**: This study revealed that the highest percentage of participants was reported low and fair level of perception regarding risky pregnancy (72%). More than half of participants were categorized as high and moderate risk pregnancy (53%), and a significant negative correlation was reported between pregnant women's perception regarding risky pregnancy and their current pregnancy risk score (P. 0.0001). **Conclusions**: A statistical significant negative correlation reported between pregnant women's perception regarding risky pregnancy and their current pregnancy risk condition score (r = -0.42) with (P.0.0001). **Recommendations**: Designing extensive intervention program is recommended to improve women perception in relation to risky pregnancy, and further studies can be replicated on large sample at different settings to validate and generalize findings of the current study.

Keywords: Pregnant women's risk perception, risky pregnancy

Introduction

Pregnancy in women's lives is typically a peaceful phase of unequaled joy and hope. It is also suggested in the safe people 2020 plan that pregnancy is a good time to recognize existing maternal risk factors. A high-risk pregnancy is a condition that raises the risk of complications relative to normal pregnancies in pregnant women and fetuses. These complications can occur at any time during pregnancy and childbirth, which can in turn affect the mother and fetus' health and overall survival (**Alkema, et al.**, **2016**). Almost one-fifth of all pregnant women can experience life-threatening complications that may require professional treatment, with some needing significant survival intervention **(Bernard, and Baliga, 2019).**

The World Health Organization has stated that, nearly 830 women die every day due to complications during the pregnancy period and childbirth, There are five major causes for pregnant women to die, such as severe bleeding, maternal diseases, un safe abortion, pregnancy-related hypertension conditions such as preeclampsia and eclampsia, and medical problems such as heart disease, HIV/AIDS, or pregnancy-complicating diabetes **(WHO, 2018)**

The perception of risk in relation to pregnancy and birth is a dynamic process dependent on multifactorial issues beyond the context of childbirth and pregnancy-specific factors about risk perception **(Bernard, and Baliga, 2019).**The degree of perceived control involved in the risk process, the manner in which risk information is provided, and the degree of trust imposed in the information source are all factors that influence the general perception of risk **(Kolluru, and Reddy, 2016).** Pregnant women's fears about their babies' well-being and the degree to which they regard

childbirth as benefiting from medical management are two factors that are unique to them **(Koblinsky, et al., 2012).**

Pregnancy Risk perception is a factor which significantly affects the care received by high-risk women during their pregnancy and their prenatal care decisions. It is crucial for practitioners involved in prenatal care to consider women's awareness of risk perception, even well-designed policies can't be successful without such an understanding **(Annisa, 2018).**

The self-rating of women for the risk of pregnancy can differ from the evaluation of the practitioner. Therefore, for high-risk pregnancy, all pregnant need to be evaluated by regular antenatal care delivered by health care practitioners. Also in helping pregnant women make sense of the knowledge they are exposed to, maternity nurses have a vital role. An appreciation of the complexities of the risk perception concept in pregnancy will help to enable nurses and midwives to reaffirm the normalcy of pregnancy **(Lee, 2016).**

Previous studies have shown that the higher rate of high-risk pregnancy mortality and morbidity is directly linked to women's insufficient understanding of the reasons that place pregnancy at risk **(Annisa, 2018).**Therefore; the need to conduct this study to assess pregnant women's perception, regarding this problem and compare it with their current risk category was important.

Significance of the study:

Pregnancies classified as "high-risk" account for a significant portion of global perinatal morbidity and mortality. A potentially life-threatening complication may affect nearly 15% of all pregnant women. Women's pregnancy and childbirth decisions are influenced by their perceptions of these complications ant its consequent risk. According to the WHO, 2018, the maternal mortality rate in developed countries was 239 per 100,000 live births (as opposed to 12 per 100,000 in developed countries). As part of the Sustainable Development Goals (SDGs), the aim is to reduce global maternal mortality to less than 70 per 100,000 live births by 2030. Early detection of high-risk pregnancies can have a significant impact on the perinatal outcome **(WHO, 2018)**.Therefore; regular risk status assessment in pregnancy provides an opportunity to reduce maternal morbidity and mortality levels. In view of the above-mentioned evidence, an attempt was made to evaluate the perception of pregnant women regarding risky pregnancy and its correlation to their perception of current pregnancy risk status.

Study aim

This study aimed to assess pregnant women's perception regarding risky pregnancy and it's correlation to their current pregnancy risk condition through the following objectives:

1- Assess pregnant women's perception regarding risky pregnancy

2- Evaluate the current pregnancy risk status of pregnant women

3- Explore women's perception (self-rating) for their current pregnancy risk condition

4- Identify the associated factors shaping women's perception regarding risk pregnancy, and their current pregnancy risk condition.

Research questions

1- Are pregnant women with a risk pregnancy aware of the high-risk pregnancy?

2- What is the current pregnancy risk score?

3- How pregnant women's perception to risky pregnancy correlate with their current pregnancy risk status perception over the pregnancy continuum?

4- What are the factors associated with the risk perception of pregnant women regarding their pregnancy?

Operational definitions

- Pregnant women's risk perception: it concerned with the women understanding, judgments and evaluations of risks they might be exposed to during their current pregnancy. Also, it includes how women know, and see susceptibility to the risk, and the severity of the possible consequences.
- Risky pregnancy: is the pregnancy that complicated by a factor which threatens the

well-being of the pregnant mother and/or their fetus.

Subjects and Methods:

Study Design: A descriptive correlational design was utilized in this study. This type of research design is one of the non-experimental descriptive study in which a researcher looks at two variables, analyzes and assesses their statistical relationship, and does so without using any other variables.

Setting: This study conducted in the antenatal clinic at Al-Hadeka center, which affiliated to Ministry of Health Fayoum, Egypt. This center offers a variety of free services to include essential antenatal care, follow-up, for normal and risky pregnancy, family planning, and vaccinations services for all cases that come from rural and urban areas in the Fayoum , Governorate.

Sample: A purposive sample of 200 pregnant women attending previously mentioned setting during study period, from the beginning of Jun to the end of October, 2020. Were recruited in this study ***according to the following criteria***

Inclusion criteria:

1- Pregnant women who attending antenatal clinics during study period

2- Pregnant women with risk pregnancy either low, moderate, or high (have risk factors such as: reproductive health factors e.g., (maternal age (<18 or >35), obstetrics history factors e.g., (bad obstetric history), present pregnancy factors e.g., (hemorrhage, abnormal presentation), associated medical disorders factors e.g., (hypertension, heart disease, diabetes, kidney disease, or mental illness such as depression).

3- Pregnant women who willing to participate in the study

4- Pregnant women of all ages and trimesters were included.

Exclusion criteria

1- Pregnant women with no risk

2- Pregnant women who refuse to participate in the study.

The sample size calculation :

As assuming that total number of women attended the clinic during one year are 2000 women, percentage of high risk pregnancy was 21%, at confidence level 95% , and power of test 80%,the sample was calculated to be 200 women calculated by Epi. info version 6.02 . The researchers used the Epi statistical program from the Open-Source Statistics for Public Health. The assumptions were: a two-sided confidence level of 95% = (1- α); a power (1- β) or (% chance of detecting) of 80%; ratio of sample size.

Tools of Data Collection:

Data of the current study collected by using the following four tools:

Tool 1: A structure interviewing schedule:

It developed and constructed by the researchers after reviewing the related literature and expertise' opinions, it included three sections:

Section 1 : Socio-demographic data such as: women age, occupation, residence, and educational level.

Section 2: Obstetrical history data such as: no. of gravidity, parity, abortion, still birth, and number of neonatal deaths.

Section 3: Antenatal care follow- up data such as numbers, setting, and pattern of ANC visits

Tool 2: Prenatal risk scoring system questionnaire (modified Dutta & Das, 1990): The questionnaire was based upon a prenatal scoring system (proposed by Coopland et al at the University of Manitoba, 1977, modified for use in India by **Dutta & Das 1990**. This is a 32-item scoring system, classified into 4 subsections: 'reproductive history factors, past obstetrical history, present pregnancy factors, associated disease factors'. Two items from the present pregnancy category of the original prenatal scoring system were omitted – namely 'prolonged labour' (in present pregnancy) and ´premature rupture of membranes' – because they related to end stage of pregnancy only, and were therefore not applicable to participants of all trimesters. (Table 1).

Scoring system: the classifications of low, moderate, and high risk adapted accordingly to (0) no risk, (1-2) low risk, (3-4) moderate risk, (>5) high risk.

Reproductive History Factors	Score	Past Obstetrical History	Score	Present Pregnancy Factors	Score	Associated Disease Factors	Score
Age	Abortion	1	Bleeding < 20 weeks	1	Diabetes	3	
<16	1	Postpartum haemorrhage/ Manual removal of Placenta	1	Bleeding > 20 weeks	3	Cardiac disease	2
16<35	0			Anaemia (Hb< 10gms)	1	Previous gynaecological surgery	1
>35	2	Baby wt> 4 Kg	1	Hypertension	2	Chronic renal disease	2
Parity	Baby wt< 2.5 Kg	1	Oedema	3	Infective hepatitis	1	
0	2	Pregnancy induced hypertension	1	Albuminuria	3	Pulmonary tuberculosis	2
1-4	0	Infertility	1	Multiple Pregnancy	3	Other diseases according to severity	1-3
5 and above	2	Previous Caesarian section	2	Breech	3	Under –nutrition	2
	Still birth/ Neonatal death	3	Rh Isoimmunisation	3			
	Prolonged/ Difficult labour	1	Prolonged labour	1			
		Premature rupture of membranes	2				
		Polyhydramnios	2				
		Small foetus	1				

Tool 3 : Women's perception, regarding high risk pregnancy questionnaire (Eni-olorunda study, 2015): This questionnaire adopted from the Eni-olorunda study, 2015. It used to elicit responses from the participants women's regarding their perception of high risk pregnancy it consists of 32 questions (Definition of risk pregnancy(1), Signs of risk pregnancy(1)Underlying causes of risk pregnancy, Maternal age(2), Life style factors(3), Medical history(6), Past obstetrical history(6), Current obstetric history(5), Environmental factors(2), Antenatal related factors(1), And outcome (5)

Scoring system: Using 3 point Likert Scale for this tool in which the three possible responses for each statement was ' yes' response was scored by (2), ' No' scored (1) and 'don't know ' was scored by (0). **Total score was =64 (100%) .** High level >66.7% (44-64), Fair level >33.3%-66.7% (21-43) , and Low level≤33.3% (0-20).

Tool 4: Perception of Pregnancy Risk Questionnaire (PPRQ): (Heaman & Gupton, 2009): it is a nine visual analogue scale used to measure the perception of current pregnancy risk condition (self- rating). This questionnaire consists of two sub scales that involves, five questions about risk for baby and four questions about risk for self (mother), yielding a score ranging from 0 to 100. This questionnaire consists of two sub scales, mean scores for each subscale and total scale was calculated, higher scores demonstrate higher levels of perceived risk.

Scoring system : The total score, which was between 0 and 100, a score of less than 40 was considered the low , a score between 40 and 60 was considered the moderate , and a score higher than 60 was considered the high self-risk perception

Pilot Study

A pilot study was carried out on 10% of the study subjects those were excluded from the entire study sample after the development of the study tools and before embarking on the actual study (data collection). It was conducted to test tools applicability & feasibility, and to estimate the time required for filling the required forms.

Validity and reliability

The questionnaires validity evaluated by a jury of 5 experts in the fields of obstetrics and gynecology nursing and medical through face, content validity of the questionnaire. In addition to the reliability test done by using Cronbach's alpha reliability method. It reflected that Cronbach's alpha was (0.97) for women's perception, awareness regarding high risk pregnancy questionnaire, (0.87) for PRPQ with and (0.90) for the Prenatal risk scoring system that indicated ahigh reliability for all study tools **.**

Field Work:

After obtaining all permissions for conducting the study, the researchers visited the designated study setting three days/week to thoroughly collect data. The researcher approached and interviewed each woman who attended the ANC clinic of El-Hadeka center seeking for antenatal care in this center and began to explain the nature and aim of the study to take oral consent from these women to be included in the study according to the inclusion criteria. Depending on the response of women to complete the study tools, each questionnaire took 5 to 10 minutes to complete. The first used tool was the structured interviewing schedule, in which the researcher asked each participants woman individually questions related to her age, occupation, residence, educational level, no. of gravidity, parity, abortion, still birth, number of neonatal deaths, numbers, setting, and pattern of ANC visits to complete tool (1). Then the researchers assessing and calculating the score of current pregnancy risk status for each participant by using tool(2) :Prenatal risk scoring system it does so by asking them questions related to their 'reproductive history, past obstetrical history, present pregnancy, associated disease factors then the classifications of low, moderate and high risk were adapted accordingly while women with no risk were excluded. As regards tool (3) that concerned with assessment of participant women's perception regarding the risky pregnancy it fulfilling so by asking each participant 32 questions regarding (Definition, Signs, Underlying causes, complications, and outcomes of risky pregnancy). The last study tool (4) Perception of Pregnancy Risk Questionnaire (PPRQ): it accomplished by the women while the researcher told the participants who could read and write to report her self- rating assessment for their current pregnancy risk status as they perceived on a nine visual analogue scale , yielding a score ranging from 0 to 100. Meanwhile; participants who couldn't read and write assisted by the researcher in filling the scale.

Administrative design

For conduction the current study, a formal letter was issued from the Faculty of Nursing, Fayoum University to obtain an official approval from the director of El -Hadeka center where the data were collected. The letter explained and clarified the study aim and its procedures.

Ethical considerations

The aims and importance of the study were adequately explained to the participants. The anonymity, confidentiality, consent, and the right to refuse participating in the study have been assured

Statistical analysis

All data were collected, tabulated and statistically analyzed using SPSS 20.0 for windows (SPSS Inc., Chicago, IL, USA 2011)). Quantitative data were expressed as the mean ± SD & (range), and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). Percent of categorical variables were compared using Chi-square test . Mc nemar test was used to compare between two dependent groups of categorical data or Spearman correlation coefficient was calculated to assess relationship between various study variables, (+) sign indicate direct correlation & (-) sign indicate inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. All tests were two sided. P-value < 0.05 was considered statistically and p-value ≥ 0.05 was considered statistically insignificant.

Results

Table1. Demonstrated that mean age of studied participants was 25.9± 5.68 ranged between 15-40 years, more than half of them

58% were living in rural areas. Also 55% of respondents were illiterate and had a basic education .More over; the great majority of participant women 97% were house wives.

Table 2. Clear up the obstetrics profile of participants women as more than two thirds of participants women 69% were had 2-4 pregnancies and great majority of multigravida participants 96.3% were had 1-4 parity . Furthermore ; it was obvious that the minority of studied participants 18% , 10%, and 8% had a history of abortion , still birth ,and neonatal deaths.

Table 3. Revealed that pattern of ANC follow up were irregular among more than two thirds of studied participants 68.5% , great majority of them 95% were followed their pregnancy in MCH center. Nearly more than two thirds of participant 63% initiated their first ANC visit while they were in 2nd and 3rd trimester . Also approximately two third of studied participants 66% were had one visit per month to ANC setting. More over; the majority of participant 83% &83%were had near ANC follow up setting and spending nearly ≤30 minute to reach it.

Regards risky pregnancy perception among studied participants **table 4.** showed that there were low level of total mean score of risky pregnancy perception among studied participants 10.42±12.03 that was obvious in definition, signs and some of underlying causes of high risk pregnancy (0.35±0.47& 0.35±0.48) as well as maternal age, current obstetrical history and ANC related factors (.86±1.2, .61±0.88, and 28±0.45) respectively .

Figure 1. Illustrated that nearly more than two thirds 61% of studied participants had low level of perception regarding risky pregnancy, the remaining of them were had high & fair level of perception regarding risky pregnancy (11% & 28%) respectively .

The current pregnancy risk condition and the participant's perception of having a risk for her current pregnancy, revealed statistical significant differences p. 0.0001 % & 0.0001 as the majority of participants 80 % reported their current pregnancy risk status as a moderate risk and remaining of them 20% reported it as a high risk pregnancy. Although; the actual current pregnancy risk score were categorized as low risk among nearly half 47% of total studied participants, moderate to high risk among the remaining half of participants **table 5. & figure 2.**

Table 6. Pointed to that there was a statistical significant negative correlation between studied participant's risky pregnancy perception score and their current pregnancy risk condition score (r = - 0.42) with (P.0.0001) this denoted to the low perception score associated with high risk pregnancy score.

Table 7. Demonstrated that there were statistical significant relation among participant's current pregnancy risk and their age, residence, and level of education P. 0.014, 0.012, 0.047 whoever the participant's occupation didn't revealed statistical difference p.0.17.

Table 8. Exhibited that the participant's socio-demographic variable; namely age, residence, level of education, and their occupation were had a significant statistical relation with their level of perception regarding risky pregnancy P. 0.0001, 0.024, 0.017. Respectively

Table 9: Illustrated that there were statistical significant relation between level of studied participant's perception regarding risky pregnancy and the ANC follow up visits pattern, number and the time of initial visit of P. 0.023, 0.043, and 0.048 respectively.

Table (1): Socio-demographic characteristics of studied participants (No.200).

Variables	No.	%
Age (years)		
<20	24	12.0
20-35	164	82.0
>35	12	6.0
Mean± SD	25.9± 5.68	
Range	15-40.	
Residence		
Rural	116	58.0
Urban	82	42.0
Level of education		
Illiterate	72	36.0
Basic education	38	19.0
Secondary education	76	38.0
University education	14	7.0
Occupation		
House wives	194	97.0
Employed	6	3.0

Table (2) : Obstetric profile of studied participants (No.200):

variables	No.	%
No. of gravidity		
Primi gravid	40	20.0
2-4	138	69.0
>4	22	11.0
No. of parity (n.160)		
1-4	154	96.3
>4	6	3.7
No. Abortion		
None	164	82.0
Yes	36	18.0
No. of living children		
None	50	25.0
1-4	144	72.0
>4	6	3.0
History of still birth	20	10.0
History of neonatal deaths	16	8.0

Table (3): Pattern of antenatal care among studied participants (No.200)

Variables	No.	%
Pattern of ANC follow up		
Regular	63	31.5
Irregular	138	68.5
Number of ANC visit/ month		.
One visit	132	66.0
Two visits	68	34.0
Setting of ANC follow up		.
MCH	190	95.0
Private clinic	10	5.0
Time of the initial ANC visit		.
1st trimester	74	37
2nd trimester	74	37
3rd trimester	52	26.0
Order of the current ANC follow up visit/ trimesters.		
1st visit	132	66.0
1st visit / 1st trimester	50	37.8
1st visit /2nd trimester	50	37.8
1st visit / 3rd trimester	32	24.4
2nd visit	68	34.0
2nd visit / 1st trimester	0	0.0
2nd visit / 2nd trimester	16	23.5
2nd visit / 3rd trimester	52	76.5
Distance to reach ANC sitting		.

Variables	No.	%
Near	166	83.0
Far	34	17.0
Time to reach ANC care site		.
≤30 minute	166	83.0
>30 minute	34	17.0

Table (4): Distribution of mean score of risky pregnancy perception among studied participants (No.200)

Items	**Mean + SD**
Definition of risky pregnancy(1)*	0.35±0.47
Signs of risky pregnancy(1)*	0.35±0.48
Underlying causes of risk pregnancy(25)	
Maternal age(2)*	.86±1.2
Life style factors(3)*	2.25±2.6
Medical history(6)*	2.08±2.6
Past obstetrical history(6*)	1.59±2.1
Current obstetrical history(5)*	.61±0.88
Environmental factors(2)*	.34±0.47
Antenatal related factors(1)*	.28±0.45
Complications (1)	.86±1.2
Outcome (4)*	1.12±1.47
Total perception score (32)*	10.42±12.03

(*) maximum score

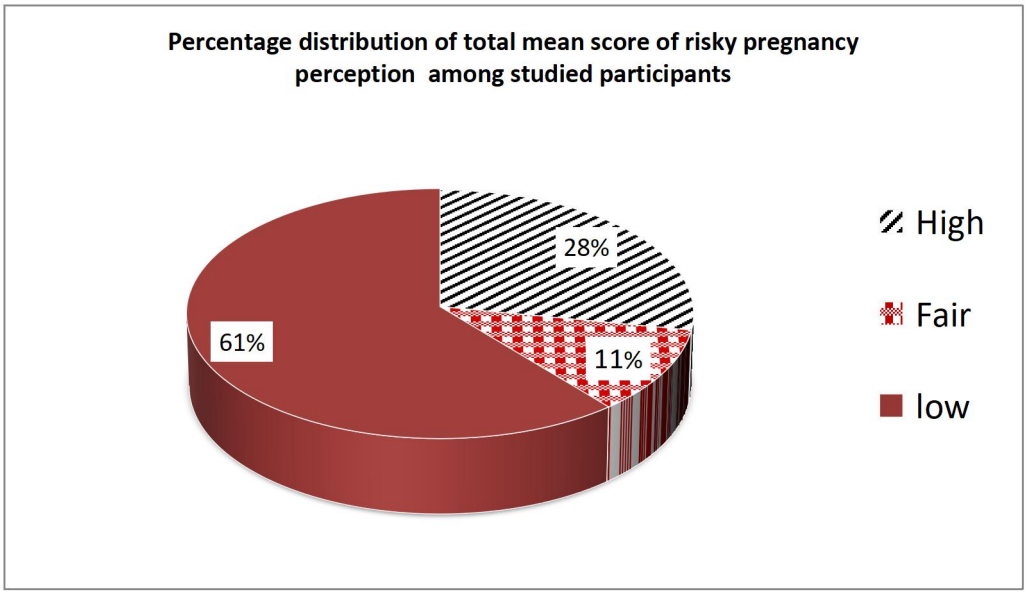

Figure (1): Distribution of total mean score of risky pregnancy perception among studied participants (No.200)

Table (5): Comparison between current pregnancy risk condition score and studied participant's perception for their current pregnancy risk condition

Variables	Current pregnancy risk score		Studied participant's perception for their current pregnancy risk condition		^p
	No.	%	No.	%	
low risk	94	47.0	0	0.0	0.0001
Moderate risk	66	33.0	160	80.0	0.0001
High risk	40	20.0	40	20.0	1

^p Mcnemar Test of sig

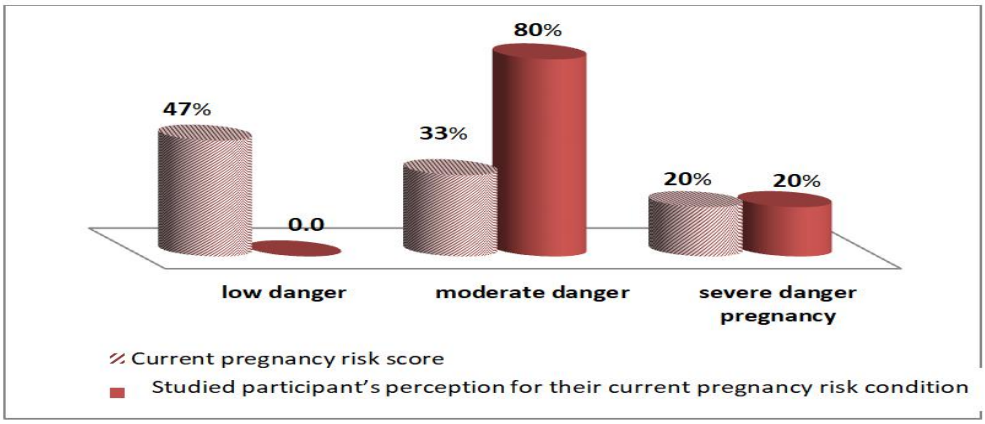

Figure (2): Percentage distribution of current pregnancy risk score and studied participant's perception for their current pregnancy risk condition (No.200)

Table (6): Correlation between risky pregnancy perception score and current pregnancy risk score among studied participants (No.200):

	pregnancy risk perception score of studied participants	
	(r)	p
Current pregnancy risk score	-0.42	0.0001

(r) Correlation coefficient significant p<0.05

Table (7): Relation between current pregnancy risk score of studied participants and their socio-demographic characteristics (No. 200).

Variables	Current pregnancy risk score						Number (No.)	χ^2	p
	low risk n.94		moderate risk n.66		High risk n.40				
	No.	%	No.	%	No.	%			
Age									
<20	18	75.0	4	16.7	2	8.3	24		
20-35	74	45.1	60	36.6	30	18.3	164	12.5	0.014*
>35	2	16.7	2	16.7	8	66.7	12		
Residence									
Rural	40	34.5	46	39.7	30	25.9	116	8.8	0.012*
Urban	54	64.3	20	23.8	10	11.9	84		
Education									
Illiterate	22	30.6	26	36.1	24	33.3	72		
Basic education	24	63.2	6	15.8	8	21.1	38	12.7	0.047*
Secondary education	38	50.0	30	39.5	8	10.5	76		
University education	10	71.4	4	28.6	0	.0	14		
Occupation									
House wives	88	45.4	66	34.0	40	20.6	194	3.5	0.17
Employed	6	100.0	0	.0	0	.0	6		

χ^2 Chisquare test *significant p<0.05 non- significant p>0.05

Table (8): Relation between studied participant's perception regarding risky pregnancy and their socio-demographic data(No.200).

Variables	Studied participant's perception level						n.	χ^2	p
	High No.56		Fair No.22		Low No.122				
	No.	%	No.	%	No.	%			
Age/ years									
<20	6	25.0	4	16.7	14	58.3	24	0.89	0.93
20-35	46	28.0	16	9.8	102	62.2	164		
>35	4	33.3	2	16.7	6	50.0	12		
Residence									
rural	16	13.8	10	8.6	90	77.6	116	16.8	0.0001*
urban	40	47.6	12	14.3	32	38.1	84		
Education									
Can't read and write	10	13.9	6	8.3	56	77.8	72		
Basic education	10	26.3	2	5.3	26	68.4	38	14.6	0.024*
Second education	26	34.2	12	15.8	38	50.0	76		
University education	10	71.4	2	14.3	2	14.3	14		
Occupation									
House wives	50	25.8	22	11.3	122	62.9	194	7.9	0.017*
Employed	6	100.0	0	.0	0	.0	6		

$\chi 2$ Chisquare test *significant p<0.05 non- significant p>0.05

Table (9): Relation between total score of studied participant's perception regarding risky pregnancy and their antenatal care pattern (N.200).

Variables	Studied participant's pregnancy risk perception level						Number	χ^2	p
	High No.56		Fair No.22		Low No.122				
	No.	%	No.	%	No.	%			
Pattern of ANC follow up									
Regular	40	58.8	20	28.4	8	11.7	68	12.2	0.023*
Irregular	16	12.1	2	1.5	114	86.4	132		
Number of ANC visits	.	.	.	.	.	.	.		
One visit	16	12.1	2	1.5	114	86.4	132	13.8	0.043*
Two visits	40	58.8	20	28.4	8	11.7	68		
Setting of ANC follow up	.	.	.	.	.	.	.		
MCH	50	44.2	22	34.7	118	42.1	190	5.8	0.055
Private clinic	6	100.0	0	.0	4	.0	10		
Time of the initial ANC visit									
1st trimester	40	54.0	11	14.9	57	77.0	74	14.6	0.048*
2nd trimester	10	13.5	11	14.8	57	77.0	74		
3rd trimester	6	11.5	0	0.0	8	15.4	52		

χ^2 Chi-square test significant p<0.05 non-significant p>0.05

Discussion

High-risk pregnancies are responsible for a significant portion of global perinatal morbidity and mortality. In the context of pregnancy and birth, risk perception is a dynamic mechanism influenced by a variety of personal, psychological, and societal factors. Pregnant women are often told that pregnancy and childbirth are incredibly risky because they require medical care and management. Women are subjected to societal pressures that determine appropriate behavior during pregnancy. As a result of these advances, pregnant women are more aware of their risk **(Ziba, et al., 2017).**

The current study aimed to explore how pregnant women's perception to risky pregnancy and its correlate with their current pregnancy risk condition perception over the pregnancy continuum. Risk perception in pregnancy is a complicated mechanism influenced by a variety of factors. Beyond the topic of pregnancy-specific conditions, it is affected by risk perception factors **(Lee, et al., 2019).**

According to current results, there were large individual variations in the perception of pregnancy risks, as the large proportion of studied participants had low level of perception regarding risky pregnancy , as there were low level of total mean score of pregnancy risk perception among studied participants that was obvious in definition, signs and some of underlying causes of high risk pregnancy as well as maternal age, current obstetric history and ANC the studied participants had low level of perception regarding risk pregnancy , the remaining of them were had high & fair level of risk pregnancy perception .

In contrast to present findings, **Mosha, and Philemon, (2009)** in Morogoro Municipality, Tanzania found that majority of the pregnant women were aware of the risk factors that could adversely affect the pregnancy outcomes. In addition, Simarpreet et al., 2015; who analyzed pregnant women's awareness of high-risk pregnancy factors, theyfound that 34.7 percent of pregnant women had a low average level of awareness of high-risk pregnancy factors. Whoever they were, the vast majority had a good level of awareness. This may be attributed to sample size differences and cultural differences. **(Simarpreet, et al., 2015).**

Also findings of this current study reported that there were statistical significant relation between women socio-demographic variables as (namely age, level of education, residence, and occupation), current pregnancy risk, and their pregnancy risk perception.

As evidenced by large individual variations in pregnancy risk perception, different age groups had different perceptions of pregnancy risk mean scores, the highest percentage score of low perception of pregnancy risk observed in both ends of the age spectrum (20 and 35 aged group women), it seems that the main concern related to the effect of maternal age on pregnancy begins around 35 years of age. So that risk perception in pregnancy is individualized. These findings confirmed by **(Lee, 2016)** who pointed to that maternal age can be considered as an important factor affecting perception of pregnancy risk.

Furthermore, numerous studies have shown that socioeconomic factors play a role in deciding a woman's pregnancy risk status **(Papiernik, et al. 1997, Heaman and Gupton, 2001**; **Headley and Harrigan 2009**) discovered a connection between socioeconomic status and risk perception .Women from higher socioeconomic classes were more likely to choose for a medically assisted birth. This may be an illustration of healthism, a phenomenon defined by a high degree of health consciousness as well as the desire and ability to search around for healthcare. Such behavior is more generally associated with a semi-professional, university trained community **(Greenhalgh, and Wessely, 2004)**

On the other hand; **kathrein & Sulakshana (2019),** stated in their study that there was no statistically significant associations were found between risk status and the socio-demographic characteristics investigated as age, religion and socioeconomic status. This is most likely due to a sample size variation. It's critical to comprehend how people think about pregnancy risk. because it can affect women's health care use, motivations to seek care, pregnancy and labor decisions, adherence to medical recommendations, and health behavior. Moreover; Perceptions of risk has a significant impact on the decision-making process, also for informing better decision-making (**Headley and Harrigan 2009**).

So current study findings revealed a statistical significant relation between level of women perception regarding risk pregnancy and the pattern and number of ANC follow up visits as evidenced in the large proportion of women who had low and fair level of perception decided to start their initial ANC too late than normal and sequentially had an irregular pattern of ANC follow-up visits that .

Widya (2014) reported a significant association between awareness of the high risk of pregnancy and routine pregnancy checks, which is consistent with these findings. The more pregnant women are aware of the high risk of pregnancy, the more often they will have their pregnancy checked. How women with high-risk pregnancies view their risks can influence their pregnancy behavior and perinatal care decisions.

Pregnant women′s risk perception is therefore important for professionals involved

in their care. However, a systematic review of seven quantitative studies of risk perception suggests pregnant women and healthcare professionals do not perceive pregnancy risk in the same way **(Suzanne, et al., 2012).**

The majority of participants in current study reported their current pregnancy risk condition as a moderate risk and the minor of them reported their current pregnancy risk as a high risk pregnancy. Meanwhile; the actual screening were categorized it as low risk among nearly half of total studied participants, moderate to high risk among the remaining half of participants this explain that women's self-rating of the risk of pregnancy may vary from the practitioner's assessment . This difference may be due to multifactorial such as; women knowledge, attitude, level of education and due to cultural factors.

Pregnant women and healthcare professionals don't really interpret pregnancy risk in the same way, according to a systematic analysis of quantitative studies. The findings for the relationship between women's perceived risk scores and healthcare professionals' risk ratings for high-risk pregnancies were contradictory. Women with high-risk pregnancies consistently viewed their risk as higher than women with low-risk pregnancies **(Suzanne, et al., 2012).**

Study by **Maidelwita, 2010** stated that there is a significant relationship between the level of knowledge of pregnant women and high-risk pregnancies. The lower the level of knowledge

Lastly these study findings reported that there was a statistical significant negative correlation between level of perception of studied participants regarding risky pregnancy and their current pregnancy risk condition score this denoted to the low perception level score associated with high risk pregnancy score.

The study did not look into the explanations for the variations in pregnant women's risk perceptions, but they have traditionally been due to women's more subjective, beside knowledge-based view of risk.

Major strength of our study is the use of standard guidelines for the diagnosis of high-risk pregnancy which will help to compare the current study findings across various studies from others. The current study adds to the limited literature available regarding correlation of pregnant women's perception to risky pregnancy with their current pregnancy risk status perception over the pregnancy continuum. Pregnant women with varying degrees and perceptions of risk in their own pregnancies were included in the study due to the sampling strategy.

Limitations of the study

Flow rate of cases during the period of data collection were low due to Covid-19 confinement and, many of cases were anxious, fear from Covid -19 infection.

Conclusion:

Based on the findings of the current results and research question it concluded that:

A statistical significant negative correlation reported between pregnant women's perception regarding risky pregnancy and their current pregnancy risk condition score (r = - 0.42) with (P.0.0001) that evidenced by the low perception score were associated with high risk pregnancy score. Also there was a statistical significant relation between pregnant women socio-demographic variables namely (age, level of education, residence, and occupation), current pregnancy risk, and their pregnancy risk perception. Moreover; women Perceptions of pregnancy risk has a significant impact on their decision-making regarding pattern and number of ANC follow -up (P. 0.023, 0.043).

Recommendation:

On the light of current study findings we recommended the following :

- Design an extensive interventions program to improve women perception in relation to risk pregnancy.
- Restructure the orientation programmers relating to high risk pregnancy delivered by PHCs, hospitals, and the mass media for better awareness, which sequentially affect on perception among women of childbearing age .

- Further studies can be replicated on large sample and at different settings to validate and generalize its findings.

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Conflicts of interest disclosure

The author declares that there is no conflict of interest statement.

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