

## Assessment of High-Risk Factors in Pregnancy and Their Association with Demographic Variables Among Women in Urban and Rural Communities of West Bengal.

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### Abstract

A descriptive study was conducted to assess the high-risk factors of pregnancy among women attending selected outpatient department of urban and rural community, West Bengal with the objectives to identify the high-risk factors of pregnancy and its association with selected demographic variables. Nonexperimental survey research approach with descriptive survey research design was used. Conceptual frame work was based on epidemiological study developed by Kathleen Abu Saad and Drora Fraser. Research variable was high risk factors. Nonprobability convenience sampling techniques was used for collecting 200 sample study subjects through interview schedule. Study finding revealed that maximum subject was low risk group in both (urban= 57.45%, rural-70.59%) community. Number of high-risk pregnancies was seen more in urban community than rural community (urban= 17.02%, rural-7.84%). Anaemia was the common present pregnancy factors was found as high risk factors (urban – 14.89%, rural-17.65%). Abortion was found maximum as past obstetrical history factors in both community (urban=36.17%, rural-39.21%). Association found between risk scores and selected demographic variables like age (2- 8.78/ 17.98) education (2- 6.15 / 9.61), types of family 2- 7.33 / 7.89), family income 2– 7.2 / 8.26) were significant at 0.05 level of pe field of nursing practice and administration, education and research. Based on the study findings the recommendations were made on a large sample in different setting. Study conclude that high risk conditions were still existing in both setting.

### INTRODUCTION

The antenatal period is a vital phase in a woman's life, beginning from conception and continuing until the onset of labor. It is during this time that comprehensive health assessments and timely interventions play a crucial role in promoting maternal and fetal well-being. The primary goal of antenatal care is to ensure a healthy mother and a healthy baby through early identification, prevention, and management of potential complications.

Despite pregnancy being a natural physiological process, it carries inherent risks for both the mother and the fetus. Therefore, antenatal care serves as a preventive and promotive measure that addresses these risks through systematic screening, health education, and proper nutrition.

In India, several initiatives such as the Maternal and Child Health (MCH) Programme, Child

Survival a Safe Motherhood (CSSM) Programme, and Reproductive and Child Health (RCH-II) Programme have been implemented to reduce maternal and infant mortality and morbidity. These programs emphasize the importance of early detection of high-risk pregnancies, adequate nutrition, and accessible maternal health services, especially in rural and underserved areas.

High-risk pregnancies may arise due to maternal factors such as age, nutritional status, pre-existing diseases, or socioeconomic conditions, as well as fetal factors including growth restriction or congenital anomalies. The collaboration of medical and nursing professionals is essential to provide specialized care and continuous monitoring to ensure favorable outcomes.

Globally, maternal mortality remains a major public health issue, particularly in developing countries, where cultural and economic barriers often hinder women from seeking timely care. Therefore, strengthening antenatal services, improving awareness, and enhancing the quality and accessibility of maternal health care are imperative. By providing effective antenatal care and addressing high-risk factors early, it is possible to significantly reduce maternal and neonatal mortality and promote safe motherhood for all women.

## RESEARCH METHODOLOGY

This research methodology adopted to assess the high-risk factors of pregnancy among antenatal women attending selected outpatient departments of urban and rural communities in West Bengal. A non-experimental descriptive survey design was chosen as the most appropriate method to meet the study objectives. The study utilized both descriptive and inferential statistics for analysis. The research variables included high-risk factors of pregnancy and selected demographic characteristics such as age, religion, education, family structure, occupation, age at marriage, income, gravida, and height.

The study population consisted of antenatal women attending OPDs, and a total of 200 samples were selected—100 each from urban and rural settings—using a non-probability convenient sampling technique. Data were collected using two tools: a semi-structured interview schedule for demographic data and a high-risk assessment tool based on the prenatal scoring system developed by Dutta and Das (1990), a modification of the Coopland et al. system (1977). Validity and reliability of the tools were ensured through expert evaluation, linguistic validation, pretesting, and pilot study. The reliability coefficient of 0.99 indicated excellent consistency.

Ethical approval was obtained from the institutional ethics committee, and informed consent was taken from all participants. The pilot study confirmed the feasibility and clarity of the tools and procedures. Final data collection was carried out smoothly with full cooperation from participants and authorities.

The data were analysed systematically in four sections, focusing on demographic characteristics, comparison of risk factors between urban and rural groups, identification of high-risk factors, and association between risk scores and demographic variables. Overall, the methodology provided a sound framework to generate reliable data for understanding high-risk pregnancies, thereby contributing valuable insights for improving antenatal care and maternal health outcomes.

## ANALYSIS AND INTERPRETATION

### Organization of the findings of final study according to section, analysis and interpretation

#### Section I

Findings related to demographic characteristics of pregnant women

presented in frequency and percentage distribution.

#### Section II

Findings related to comparison of risk of pregnancy in urban and rural community, infrequency and percentage distribution.

**Section III**

Findings related to identification of high risk factors of pregnancy presented

in frequency and percentage distribution.

**Section IV** Finding the association between risk score with selected demographic variables.

**Section I** Findings related to demographic characteristics of pregnant women presented in frequency and percentage distribution.

**Table 2 Frequency and percentage distribution of pregnant women by their age, religion, education level**

n = 200 (100+100)

Demographic characteristics	Urban		Rural	
	Frequency	Percentage	Frequency	Percentage
Age (in years)				
< 20	19	19	24	24
21-25	40	40	49	49
26-30	19	19	18	18
31- 35	19	19	4	4
>35	3	3	5	5
Religion				
du				
Muslim				52
Christian	70	70	52	48
Any others	30	30	48	---
	nil	---	nil	--
Education level	nil	---	nil	
Illiterate				25
Primary		10	25	47
Secondary	10	27	47	13
Higher secondary	27	27	13	14
Graduation or above	27	26	14	1
	26	10	1	
	10			

Data presented in table 2 shows that in the age group of below 20 years 19 (19%) pregnant women were from urban community, whereas 24 (24%) from the rural community, in the age group of 21-25 years 40 (40%) of the pregnant women were from the urban community, whereas 49 (49%) from rural community, in the age group of 26-30 years, 19 (19%) of the pregnant women were from urban community whereas 18 (18%) of the pregnant women from rural community, in the age group of 31-35 years, 19 (19%) pregnant women were from urban community whereas 4 (4%) of the pregnant women from in rural community, in the age group above 35 years, 3 (3%) of the pregnant women were from urban community whereas 5 (5%) of the pregnant women were from rural community.

It also shows that under Hindu religion 70 (70%) pregnant women were from urban community whereas 52 (52%) women were from rural community, in the Muslims

religion 30 (30%) women were from urban community whereas 48 (48%) women were from rural community. None of them were found in Christianity and other religion in both community.

It also depicts that 10 (10%) women were illiterate from urban community whereas 25 (25%) women were from rural community, 27 (27%) women were educated up to primary from urban community whereas 47 (47%) women were educated up to primary level from in rural community, 27 (27%) women were educated up to secondary level from urban community, 13 (13%) women were from rural community, 26 (26%) women were up to higher secondary from urban community whereas in rural community 14 (14%) women completed higher secondary education and 10 (10%) women were graduate or above education from urban community whereas 1 (1%) women was with same education level from rural community

**Table 3 Frequency and percentage distribution of pregnant women according to their types of family, occupation, age at marriage**

n = 200 (100 + 100)

Demographic characteristics	Urban		Rural	
	Frequency	Percentage	Frequency	Percentage
<b>Types of family</b>				
Nuclear	71	71	74	74
Joint	29	29	26	26
<b>Occupation.</b>				
Housewife.	86	86	81	81
Labour.	12	12	16	16
Service	12	12	3	3

Age at marriage ( in years )

Below 18				
18-21				
22—25	20	20	29	29
26 -- 30	35	35	56	56
Above 30	32	32	13	13
	12	12	2	2
	1	1	Nil	--

Data presented in table 3 indicates that 71 (71%) pregnant women in urban community whereas 74 (74%) women in rural community belonged to nuclear family and 29 (29%) women from urban community whereas 26 (26%) women in rural community belonged to joint family.

It also depicts that 86 (86%) pregnant women from urban community whereas 81 (81%) women from rural community were house wife, 12 (12%) pregnant women from urban community whereas 16 (16%) women from rural community were labourer, and 12 (12%) pregnant women from urban community whereas 3 (3%) women from rural community were doing service.

n=200(100+100)

It also enumerates that 20 (20%) pregnant women from urban community whereas 29 (29%) from rural community were married at the age of below 18 years, 35 (35%) pregnant women from urban community whereas 56 (56%) from rural community were married at the age of 18 to 21 years, 32 (32%) pregnant women from urban community whereas 13 (13%) from rural community were married at the age of 22 to 25 years, 12 (12%) pregnant women from urban community whereas 2 (2%) from rural community were married at the age of 26 to 30 years and 1 (1%) pregnant women from urban community married above 30 years of age whereas none of them was found to get married at this age group from rural community.

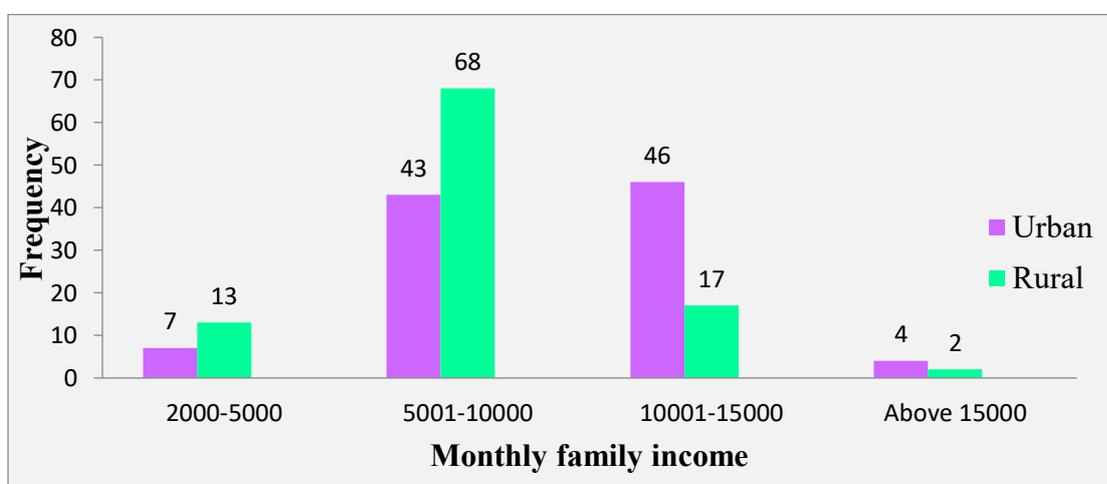


Figure4 Bar diagram showing frequency distribution of monthly family income

Data presented in figure 4 shows that 7 (7%) pregnant women from urban community whereas 13 (13%) women from rural community had monthly family income within Rs 2000-5000, 43 (43%) pregnant women from urban community whereas 68 (68%) women from rural community had monthly family income within Rs 5001-10000, 46 (46%)

pregnant women from urban community whereas 17 (17%) women from rural community had monthly family income within Rs 10001 -15000, and 4 (4%) pregnant women from urban community whereas 2 (2%) women from rural community had monthly family income Rs above 15000.

**Table 4 Frequency and percentage distribution of pregnant women by age of last child birth, gravida and height**

n=200 (100+100)

Demographic characteristics	Urban		Rural	
	Frequency	Percentage	Frequency	Percentage
<b>Age at last child birth ( in years )</b>				
15 -- 20	6	6	2	2
21 -- 25	16	16	23	23
26 -- 30	14	14	9	9
> 30	1	1	2	2
<b>Gravida</b>				
Prime				
2nd	57	57	41	41
3rd	32	32	40	40
4th or more.	9	9	9	9
	2	2	10	10
<b>Height (in cm)</b>				
< 135				
135 -- 145	nil		3	
146 —155	34	--	55	3
156 ---165	37	34	33	55
>165	29	37	9	33
	Nil	29	nil	9
		--		--

Data presented in table 4 indicates that 6 (6%) pregnant women's from urban community whereas 2 (2%) women from rural community age at the time of last child birth were within 15-20 years, 16 (16%) pregnant women's from urban community whereas 23 (23%) from rural community age at the time of last child birth were within the age group of 21-25 years, 14 (14%) pregnant women's from

urban community whereas 9 (9%) from rural community age was within 26-30 years, 1 (1%) pregnant women was from urban community, whereas 2 (2%) were from rural community age at last child birth above 30 years.

It also shows that 57 (57%) pregnant women from urban community whereas 41 (41%) women from rural community were primi

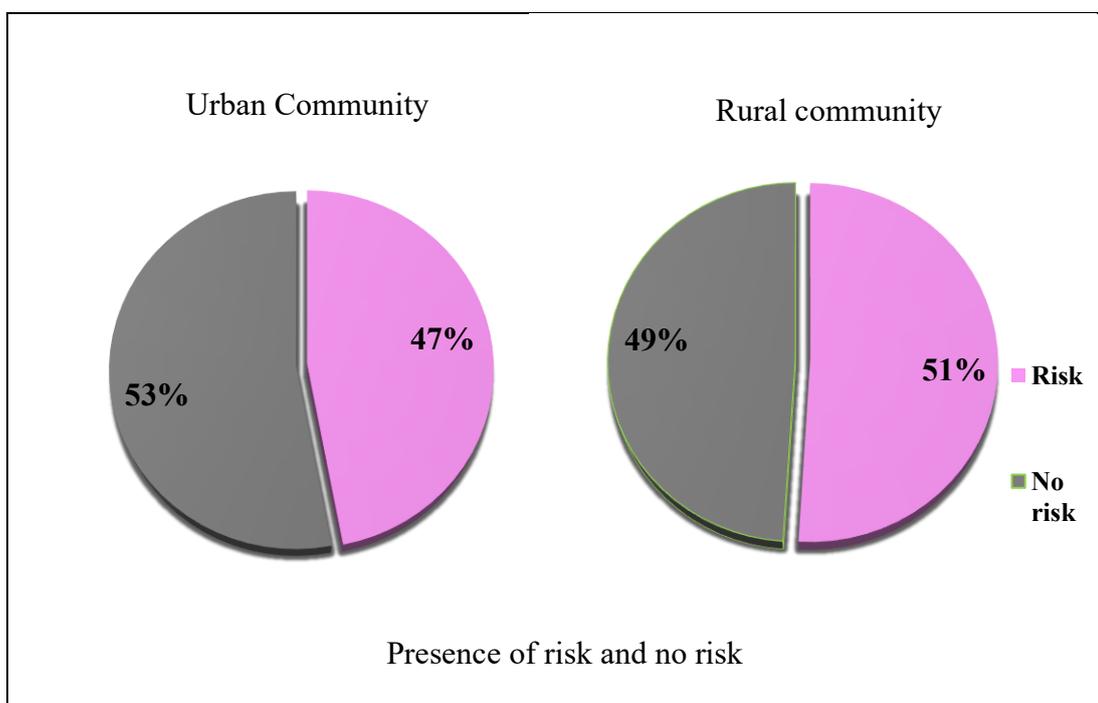
gravida, 32 (32%) pregnant women from urban community whereas 40 (40%) women from rural community were 2nd gravida, 9 (9%) pregnant women were found from both urban and rural community were 3rd gravida, 2 (2%) pregnant women from urban community whereas 10 (10%) from rural community were 4th and more gravida .

It also depicts that none of the pregnant women from urban community whereas 3 (3%)

women from rural community had height below 135 cm, 34 (34 %) pregnant women from urban community whereas 55 (55%) from rural community had height within 135-145cm, 37 (37%) from urban community whereas 33 (33%) from rural community had height within 146-155 cm, 29 (29%) pregnant women from urban community whereas 9 (9%) from rural community had height within 156-165 cm, none of them were found had height above 165 cm in urban and rural community.

**Section II** Findings related to the comparison of risk of pregnancy in urban and rural community.

n = 200 (100+100)

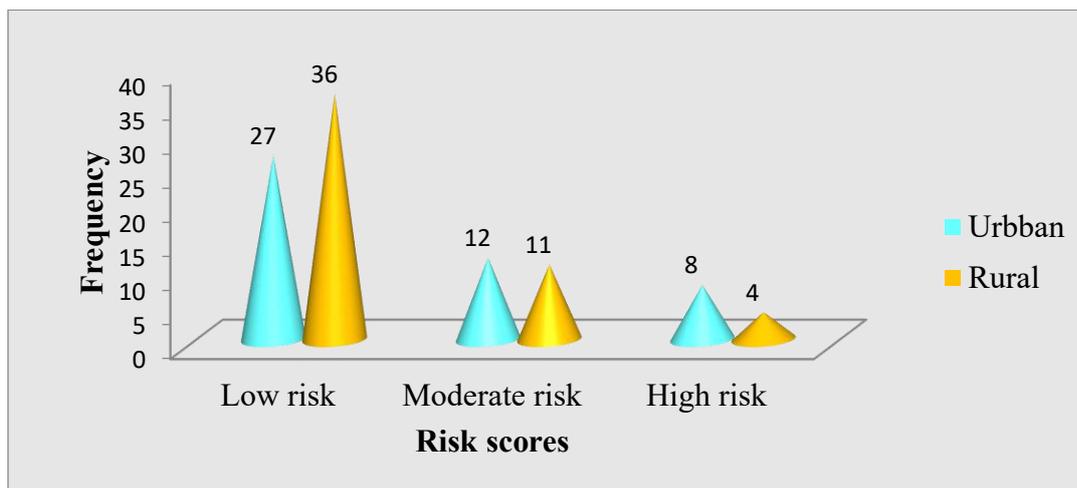


**Figure 5** Pie diagram showing the percentage distribution of risk and no risk of pregnancy

Data presented in figure 5 shows that in urban community 47 (47%) women had risk where as in rural community 51 (51%) women had risk .

$$n_1 + n_2 = 47 + 51$$

It also indicates that in urban community 53 (53%) women had no risk where as in rural community 49 (49%) women had no risk .



**Figure 6** Bar diagram showing frequency distribution of high risk, moderate risk, and low risk score

Bar diagram figure 6 shows that in urban community 27 (57.45%) women had low risk score where as in rural community 36 (70.59%) women had low risk score .

It also depicts that in urban community 12 (25.53%) women belonged to moderate risk score and where as in rural community 11 (21.57%) women belonged to moderate risk score.

It also shows that in urban community 8 ( 17.02% ) women were high risk score in urban community, where as in rural community 4 (7.84 %) women were high risk score.

**Section III** Findings related to the identification of high risk factors of pregnancy among women attending OPD in urban and rural community

**Table 6** Frequency and percentage distribution of high risk factors of pregnancy among women regarding reproductive history factors

$$n_1 + n_2 = 47 + 51$$

High risk factors	Urban ( n <sub>1</sub> )		Rural( n <sub>2</sub> )	
	Frequency	Percentage	Frequency	Percentage
Reproductive history factors				
Age				
< 16	nil	--	nil	---
16 < 35	44	93.62	46	90.20
> 35	3	6.38	5	9.80
Parity				
0	nil	--	nil	--
1-4	47	100	44	86.27
5 and above	nil	--	7	13.73

Data presented in table 6 shows that below 16 years of age, none of women from urban and rural community, within the age group of above 16 years to below 35 years 44 (93.62%) of the women from urban community, whereas 46 (90.20%) from rural community and above 35 years of age 3 (6.38%) women from urban community whereas 5 (9.80%) women from rural community.

It also shows that in both urban and rural community none of the women had 0 parity. Within 1 to 4 parity 47 (100%) from urban community whereas 44 (86.27%) women from rural community. And 5 and above parity none of the women from urban community whereas 7 (13.73%) women from rural community among reproductive history factors.

**Table 7 Frequency and percentage distribution of high risk factors of pregnancy among women regarding Past Obstetrical History**

$$n_1 + n_2 = 47 + 51$$

High risk factors	Urban (n <sub>1</sub> )		Rural (n <sub>2</sub> )	
	Frequency	Percentage	Frequency	Percentage
<b>Past Obstetrical History</b>				
Abortion	17	36.17	20	39.21
Postpartum haemorrhage/	Nil	---	Nil	--
Manual removal of placenta	Nil	---	Nil	--
Baby wt > 4 Kg	Nil	---	1	1.96
Baby wt < 2.5 Kg	1	2.13	4	7.84
Pregnancy induced-	Nil	--	1	1.96
hypertension				
Infertility	2	4.26	2	3.92
Previous Caesarean section	14	29.79	10	19.61
Still birth/ Neonatal death	6	12.77	7	13.73
Prolonged/ Difficult labour	1	2.13	2	3.92

\* Multiple responses included

Data presented in table 7 indicates that in urban community 17 (36.17%) women had past obstetrical history of abortion, whereas in rural community 20 (39.21%) women had abortion history. It also shows that none of them had history of post partum haemorrhage or manual removal of placenta in both community. In urban community none of them had history of baby weight more than 4 kg, whereas in rural community 1 (1.96%) women had history of baby weight more than 4 kg. Again in urban community (2.13%) women had history of baby weight below 2.5kg, whereas in rural community 4 (7.84%)

women had history of baby weight below 2.5kg. In urban community none of the women had pregnancy induced hypertension history, whereas in rural community 1 (1.96%) women had pregnancy induced hypertension history. It also shows that in both community 2 (4.26%) women had infertility history. In urban community 14 (29.79%) women had previous caesarean section history, whereas in rural community 10 (19.61%) women had history of previous caesarean section. Again in urban community 6 (12.77%) women had still birth/neonatal death history whereas in rural community 7 (13.73%) women had still birth

/neonatal death history . In urban community 1 (2.13%) women had history of prolonged/difficult labour, where as in rural

community 2 (3.92%) women had prolonged/difficult labour history.

**Table 8** Frequency and percentage distribution of high risk factors of pregnancy among women regarding Present Pregnancy Factors

$n_1 + n_2 = 47 + 51$

High risk factors	Urban ( $n_1$ )		Rural( $n_2$ )	
	Frequency	Percentage	Frequency	Percentage
<b>Present Pregnancy Factors</b>				
Bleeding < 20 weeks	1	2.13	Nil	--
Bleeding > 20 weeks	2	4.26	1	1.96
Anaemia(Hb < 10gms)	7	14.89	9	17.65
Hypertension	18	38.30	3	5.88
Oedema	Nil	--	1	1.96
Albuminuria	Nil	--	Nil	--
Multiple Pregnancy	1	2.13	1	1.96
Breech	2	4.26	Nil	--
Rh Isoimmunisation	Nil	--	Nil	--
Prolonged labour	Nil	--	Nil	--
Premature rupture of membrane	1	2.13	1	1.96
Polyhydramnios	2	4.26	1	1.96
Small foetus	1	2.13	2	3.92

\* Multiple responses included

Data presented in table 8 shows that in urban community 1 (2.13%) women have bleeding less than 20 weeks, whereas in rural community none of them have bleeding less than 20 weeks. It also shows that in urban community 2 (4.26%) women have bleeding more than 20 weeks, whereas in rural community 1 (1.96%) women have bleeding more than 20 weeks. Again it reveals that in urban community 7 (14.89%) women have anaemia Hb less than 10gms whereas in rural community 9 (17.65%) women have anaemia Hb less than 10gms. It also depicts that in urban community 18 ( 38.30%) women have hypertension and whereas in rural community 3 (5.88% ) women have hypertension . It also shows that in urban community none of them

have oedema where as in rural community 1 (1.96%) have oedema. Again it shows that none of the women have albuminuria in both community .It also shows that in urban community 1 (2.13 %) women have multiple pregnancy whereas in rural community 1 (1.96%) women have multiple pregnancy. Again it shows that in urban community 2 (4.26 %) women have breech where as none of them have breech in rural community. In both urban and rural community Rh Isoimmunisation and prolong labour are absent . It shows that in both urban and rural community 1 (2.13% ) and 1 (1.96%) women respectively have premature rupture of membranes. It reveals that in urban community 2 (4.26% ) women were polyhydramnios whereas in rural community

( 1.96%) women were polyhydramnias. It also shows that in urban community 1 (2.13%) women have small fetus , whereas in rural

community 2 ( 3.92%) women have small fetus .

**Table 9 Frequency and percentage distribution of high risk factors of pregnancy among women regarding associated disease factors**

$$n_1 + n_2 = 47 + 51$$

High risk factors	Urban( n <sub>1</sub> )		Rural( n <sub>2</sub> )	
	Frequency	Percentage	Frequency	Percentage
<b>Associated Disease Factors</b>				
Diabetes	14	29.79	3	5.88
Cardiac disease	nil	-	nil	-
Previous gynaecological surgery	nil	-	nil	-
Chronic renal disease	nil	-	nil	-
Infective hepatitis	nil	-	nil	-
Pulmonary tuberculosis	nil	-	nil	-
Other diseases according to severity	nil	-	nil	-
Under –nutrition	nil	-	nil	-

Data presented in table 9 shows that in urban community 14 (29.79 %) women have diabetes, where as in rural community 3 (5.88% ) women have diabetes among associated disease factors and other associated diseases factors are absent in both community.

**Section IV** Finding related to the association between high risk factors with selected demographic variable of women attending OPD in urban and rural community

**Table 10 Chi square test showing association between high risk score with age, education, types of family, occupation among pregnant women in urban community.**  
n<sub>1</sub> = 47

Variable	Low risk	Moderate risk	High risk	Total	Chi square value
<b>Age</b>					
Below 30 yrs	21	4	3	28	8.78 *
Above 30 yrs	6	8	5	19	
<b>Education</b>					
Literate	23	11	4	38	6.15 *
Illiterate	4	1	4	9	
<b>Types of family</b>					
Nuclear	19	8	5	32	7.33 *
Joint	8	4	3	15	
<b>Occupation</b>					
House-wife	24	9	7	40	1.30
Working	3	3	1	7	

$\chi^2$  df( 2) 5.99; p< 0.05\*

Data presented in table 10 shows that 21 women had low risk, 4 women had moderate risk, 3 women had high risk among below 30 yrs of age. Whereas 6 women had low risk, 8 women had moderate risk, 5 women had high risk among above 30 yrs age. The Chi-square computed value was 8.78. At degree of freedom 2 the compute chi-square value were greater than tabulated value at 0.05 level of significance, which indicates that there was association between the risk score and age of the pregnant women in urban community.

It also depicts that 23 women had low risk, 11 women had moderate risk, 4 women had high risk among literate mother. Whereas 4 women

had low risk, 1 women had moderate risk, 4 women had high risk among illiterate mother. The Chi-square computed value was 6.15. At degree of freedom 2 the computed chi-square value were greater than tabulated value at 0.05 level of significance, which indicates that there was a association between the risk score and level of education of the pregnant women in urban community.

It depicts that 19 women had low risk, 8 women had moderate risk, 5 women had high risk among nuclear family. Whereas 8 women had low risk 4 women had moderate risk and 3 women had high risk among joint family. The Chi-square computed value was 7.33. At degree

of freedom 2 the computed chi-square value was greater than tabulated value which was significant at 0.05 level of significance, which indicates that there was association between the risk score and types of family of the pregnant women in urban community.

It also reveals that 24 women had low risk, 9 women had moderate risk, 7 women had high risk among house wife whereas 3 women had

low risk, 3 women had moderate risk, 1 women had high risk among working women. The calculated Chi-square value was 1.30. At degree of freedom 2 the computed chi-square value was less than tabulated value which was not significant at 0.05 level of significance. which indicates that there was no association between the risk score and occupation of the pregnant women in urban community.

**Table 11 Chi square test showing association between risk score of pregnant women and family income, gravida and height in urban community**

n<sub>1</sub> = 47

Variable	Low risk	Moderate risk	High risk	Total	Chi square value
<b>Family income</b>					
Below 10000	20	4	3	27	7.2 *
Above 10000	7	8	5	20	
<b>Gravida</b>					
Primi gravid	5	7	2	14	6.41 *
Multi gravida	22	5	6	33	
<b>Height</b>					
Below 145 cm	11	5	7	23	5.74
Above 145cm	16	7	1	24	

$\chi^2$  df( 2) 5.99; p< 0.05\*

Data presented in table 11 shows that 20 women had low risk, 4 women had moderate risk, 3 women had high risk among monthly family income in below 10000 and 7 women had low risk, 8 women had moderate risk, 5 women had high risk among monthly family income above 10000. The computed chi-square value was 7.2. At degree of freedom 2 the chi-square computed value was greater than tabulated value which was significant at 0.05 level of significance. Which indicates there was association between the risk score and monthly family income of pregnant women in urban community.

Table also depicts that, 5 women had low risk, 7 women had moderate risk, 2 women had high risk among primi gravida. Where as 22 women had low risk, 5 women had moderate risk, 6 women had high risk among multi gravid. The calculated Chi-square value was 6.41. At degree of freedom 2 Calculated value was greater than tabulated value which was significant at 0.05 level of significance which indicates there was association between the risk score and gravida of pregnant women in urban community.

It also reveals that 11 women had low risk, 5 women had moderate risk, 7 women had high risk among height below 145cm. Where as 16

women had low risk, 7 women had moderate risk, 1 women had high risk among height above 145cmn.The calculated Chi-square value was 5.74 . At degree of freedom 2 calculated value was less than tabulated value which was

not significant at 0.05 level of significance,which indicates that there was no association between the risk score and height of pregnant women in urban community.

**Table 12 Chi square test showing association between risk score and with age, education, types of family, occupation among pregnant women in rural community.**

$n_2 = 51$

Variable	Low risk	Moderate risk	High risk	Total	Chi square value
<b>Age</b>					
Below 30 yrs	35	8	1	44	17.98 *
Above 30 yrs	1	3	3	7	
<b>Education</b>					
Literate	32	8	1	41	9.61*
Illiterate	4	3	3	10	
<b>Types of family</b>					
Nuclear	29	10	1	40	7.89 *
Joint	7	1	3	11	
<b>Occupation</b>					
House-wife	29	7	1	37	6.12 *
Working	7	4	3	14	

$\chi^2$  df( 2) 5.99;  $p < 0.05^*$

Data presented in table 12 shows that out of 51 risk women 35 women had low risk,8 women had moderate risk, 1 women had high risk among below 30 yrs of age. Whereas 1 women had low risk, 3 women had moderate risk, 3 women had high risk among above 30 yrs age . The calculated Chi-square value was 17.98.. At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance. Which indicates that there was association between the risk score and age of the pregnant women in rural community.

The table also depicts that 32 women had low risk,8 women ha moderate risk,1 women

had high risk among literate mother. Whereas 4 women had low risk, 3 women had moderate risk, 3 women had high risk among illiterate mother. The computed chi-square was 9.61. At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance, which indicates that there was association between the risk score and level of education of the pregnant women in rural community.

It also depicts that 29 women had low risk, 10 women ha moderate risk, 1 women had high risk among nuclear family. whereas 7 women had low risk 1 women had moderate risk and 3 women had high risk among joint family. The

compute Chi-square value was 7.89. At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance which indicates that there was association between the risk score and types of family of the pregnant women in rural community.

It also reveals that 29 women had low risk, 7 women had moderate risk, 1 women had high

risk among house wife and 7 women had low risk, 4 women had moderate risk, 3 women had high risk among working women. The calculated Chi-square value was 6.12. At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance, which was association between the risk score and occupation of the pregnant women in rural community.

**Table 13 Chi square test showing association between the risk score and family income, gravida and height of pregnant women in rural community**

$n_2 = 51$

Variable	Low risk	Moderate risk	High risk	Total	Chisquare value
<b>Family income</b>					
Below 10000	31	8	1	40	8.26 *
Above 10000	5	3	3	11	
<b>Gravida</b>					
Primi gravid	4	2	0	6	0.981
Multi gravida	32	9	4	45	
<b>Height</b>					
Below 145 cm	30	7	1	38	7.33 *
Above 145cm	6	4	3	13	

$\chi^2_{df(2)} 5.99; p < 0.05^*$

Data presented in table 13 shows that out of 51 risk women 31 women had low risk, 8 women had moderate risk, 1 women had high risk among monthly family income in below 10000 whereas 5 women had low risk, 3 women had moderate risk, 3 women had high risk among monthly family income above 10000. The calculated Chi-square value was

8.26 . At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance, which indicates that there was association between the risk score and monthly family income of pregnant women in rural community .

It also depicts that, 4 women had low risk, 2 women had moderate risk, no one high risk among primi gravida whereas 32 women had low risk, 9 women had moderate risk, 4 women had high risk among multi gravida. The calculated Chi-square value was 0.981. At degree of freedom 2 calculated value was less than tabulated value which was not significant at 0.05 level of significance which indicates that there was no association between the risk score and gravida of pregnant women in rural community.

It also reveals that 30 women had low risk, 7 women had moderate risk, 1 woman high risk among height below 145cm whereas 6 women had low risk, 4 women had moderate risk, 3 women had high risk among height above 145cm. The calculated Chi-square value was 7.33. At degree of freedom 2 calculated value was more than tabulated value which was significant at 0.05 level of significance. So it indicates that there was association between the risk score and height of pregnant women in rural community.

## DISCUSSION

The present study highlights significant demographic, obstetric, and health-related factors influencing pregnancy risk among women in urban and rural communities. The findings reveal that most pregnant women in both communities were aged 21–25 years, with urban women generally having higher educational attainment compared to their rural counterparts. The majority in both settings belonged to nuclear families and were housewives, reflecting sociocultural patterns that may influence health-seeking behavior. Economic disparities were evident, with urban families reporting higher monthly incomes than rural families. The study also identified that a considerable proportion of women were at risk during pregnancy, with 47% in urban and 51% in rural communities, and risk stratification revealed that while most women fell under the low-risk category, urban women had higher prevalence of moderate and high-risk

pregnancies. Analysis of reproductive history and obstetric factors showed that advanced maternal age, high parity, previous abortions, caesarean sections, and history of stillbirths or neonatal deaths contributed to increased risk, with variations between urban and rural settings. Present pregnancy complications such as hypertension and diabetes were more common in urban women, whereas anemia was more prevalent in rural women, highlighting differential healthcare needs. Statistical analysis further demonstrated a significant association between pregnancy risk scores and demographic variables, including age, education, family type, income, occupation, gravida, and height, emphasizing the multifactorial nature of high-risk pregnancies. These findings are consistent with prior studies and underscore the critical importance of early identification and management of risk factors to reduce maternal and neonatal morbidity and mortality. The study advocates for targeted, community-specific antenatal interventions, enhanced health education, and strengthened healthcare access to ensure optimal pregnancy outcomes for both urban and rural populations.

## CONCLUSION

The present study highlights the multifaceted factors influencing pregnancy risk among women in urban and rural communities, emphasizing the interplay of demographic, obstetric, and health-related variables. Most women were aged 21–25 years, reflecting the reproductive age distribution, with urban women demonstrating higher educational attainment, which may positively influence health awareness and care-seeking behaviors. Nuclear family structures and the predominance of housewives in both settings indicate sociocultural patterns that could affect maternal support systems and decision-making regarding healthcare. Economic disparities were apparent, with urban families reporting higher incomes, suggesting differential access to resources that may impact maternal and fetal outcomes. Pregnancy risk was considerable,

affecting nearly half of the participants, with urban women showing a higher prevalence of moderate and high-risk pregnancies despite most women being classified as low-risk. Obstetric history, including advanced maternal age, high parity, previous abortions, cesarean deliveries, and prior stillbirths or neonatal deaths, contributed to elevated risk, with variations between urban and rural populations. Health complications also differed, with hypertension and diabetes more prevalent among urban women and anemia more common in rural women, indicating divergent healthcare priorities and intervention needs. Statistical associations between pregnancy risk scores and variables such as age, education, family type, income, occupation, gravida, and height underscore the multifactorial nature of high-risk pregnancies. These findings reinforce the critical importance of early risk identification, tailored antenatal care, and continuous monitoring to reduce maternal and neonatal morbidity and mortality. The study advocates for community-specific interventions, strengthened healthcare access, and targeted health education programs to address the unique needs of urban and rural populations. By addressing demographic, socioeconomic, and clinical determinants of pregnancy risk, such strategies can promote safer pregnancies, improve maternal and child health outcomes, and contribute to equitable healthcare delivery across diverse communities.

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