

INVESTIGATING THE PREVALENCE OF HIGH-RISK PREGNANCY AMONG PREGNANT WOMEN IN A LOCAL HEALTH CARE CENTRE: A COMPREHENSIVE STUDY

Praveena Agarwal¹, Akansha Sahare², Avneet Arora Khiwani³, Rimjhim Sahu⁴

Received : 24/02/2023
Received in revised form : 31/03/2023
Accepted : 14/04/2023

Keywords:
High risk pregnancy, parity, pregnant women.

Corresponding Author:
Dr. Rimjhim Sahu
Email: sahurimjhim71@gmail.com

DOI: 10.47009/jamp.2023.5.3.264

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2023; 5 (3): 1297-1300



¹Associate Professor, Department of Obstetrics and Gynaecology, Mahaveer Institute of Medical Science and Research Centre, Bhopal M.P, India.

^{2,3}Senior Resident, Department of Obstetrics and Gynaecology, Mahaveer Institute of Medical Science and Research Centre, Bhopal M.P, India.

⁴ Associate Professor, Department of Pharmacology, PCMS & RC, Bhopal M.P, India.

Abstract

Background: A high-risk pregnancy refers to anything that puts the mother, the fetus or newborn at increased risk of morbidity and mortality during pregnancy and childbirth. The present study was conducted to assess prevalence of High-Risk Pregnancy among Pregnant Women. **Material & Methods:** A cross-sectional study was carried out to assess prevalence of High-Risk Pregnancy Among Pregnant Women. All pregnant women were interviewed using pre-tested, pre-designed questionnaire. Sample size was 500. Data was analyzed by using statistical package of social sciences (SPSS) version 17.0. **Results:** In the present study, out of 500 pregnant women 30.4% women were having high risk pregnancies and 69.6% pregnant women were non high risk pregnancies. Maximum pregnant (84.86%) women of age group 20-29 years were high risk pregnancies. 79.60% multigravida women were high risk pregnancies. In present study, significant association of high risk was found with age ($p=0.0004$) and parity of pregnant women ($p=0.001$). Anemia was found in total 38% subjects and 32% subjects had thyroid disorders. **Conclusion:** The study concluded that prevalence of high risk pregnancy in the study was 30.4%. There was a significant association of high risk was found with age and parity of pregnant women.

INTRODUCTION

Pregnancy is the time during which one or more offspring develops inside a woman. Antenatal care (ANC) is an umbrella term used to describe the medical procedures and care carried out during pregnancy.^[1] High-risk pregnancy is defined as one which is complicated by factor or factors that adversely affects the pregnancy outcome (maternal, perinatal or both). Although only 10-30% of the mothers seen in antenatal period can be classified as high risk but they account for 70-80% of perinatal mortality and morbidity.^[2] A high-risk pregnancy is one in which the life or health of the mother or fetus are compromised or threatened by a conjugate or disorder unique to pregnancy. Risk factors may be pre-existing factors before or during the prenatal visit or can develop later in the current pregnancy. Nearly 50% of all maternal complications and 60% of primary cesarean come from a high-risk group.^[3] High risk pregnancy may result because of various conditions which are there either before getting

pregnant such as diabetes or high blood pressure, and complications from a previous pregnancy, or conditions during pregnancy or delivery.^[4] In India about 20-30% pregnancies belong to high risk category, which is responsible for 75% of perinatal morbidity and mortality. Early detection and effective management of high risk pregnancy can contribute substantially in reduction of maternal and foetal adverse outcomes.^[5] Adequate antenatal care identifies, predicts and manages pregnancy complications to ensure acceptable maternal and perinatal outcomes.^[6] The present study was conducted to assess prevalence of High-Risk Pregnancy among Pregnant Women.

MATERIALS AND METHODS

A cross-sectional study was carried out to assess prevalence of High-Risk Pregnancy among Pregnant Women. Before the commencement of the study ethical approval was taken from the Ethical Committee of the institute. All pregnant women

attending antenatal clinic were enrolled for the study and they were interviewed using pre-tested, pre-designed questionnaire after obtaining written informed consent from the participants. Sample size was 500. Study was carried out for a period of six months. The obstetric and clinical history in detail were taken from the pregnant women. Blood sample were collected hemoglobin, T3, T4 and TSH levels were analyzed. The women were categorized into 3 groups of anemia depending upon the hemoglobin level as recommended by ICMR.

- i. Mild Anemia: 10.10.9g/dl
- ii. Moderate Anemia: 7-9.9 g/dl
- iii. Severe Anemia: <7g/dl

Hemoglobin level was measured using acid Hematin method (Sahli's method) and the levels of thyroid hormones were analyzed by ELISA. Data was analyzed by using statistical package of social sciences (SPSS) version 17.0.

RESULTS

In the present study, out of 500 pregnant women 30.4% women were having high risk pregnancies and 69.6% pregnant women were non high risk pregnancies.

Table 1: Distribution of pregnant women according to high risk

Distribution of pregnant women according to high risk	N(%)
High risk	152(30.4%)
Non risk	348(69.6%)
Total	500(100%)

Table 2: Distribution of high risk pregnant women according to sociodemographic variables

Variables	High risk N(%)	Non risk N(%)	p value
Age (years)			0.0004
< 19	10(6.57%)	15(4.31%)	
20– 29	129(84.86%)	315(90.51%)	
>30	13(8.55%)	18(5.17%)	
Parity			0.001
Primi	31(20.39%)	180(51.72%)	
Multi	121(79.60%)	168(48.27%)	

Maximum pregnant (84.86%) women of age group 20-29 years were high risk pregnancies. 79.60% multigravida women were high risk pregnancies. In present study, significant association of high risk was found with age (p=0.0004) and parity of pregnant women (p=0.001).

Table 3: Distribution of pregnant women according to Thyroid disorders

Thyroid disorders	N(%)
Hypothyroidism	35 (7%)
Hyperthyroidism	30 (6%)
Subclinical Hypothyroidism	75 (15%)
Subclinical Hyperthyroidism	20 (4%)
Normal	340 (68%)

Table 4: Distribution of pregnant women according to Anemia

Anemia	N(%)
Mild Anemia	45 (9%)
Moderate Anemia	120(24%)
Severe Anemia	25 (5%)
Normal	310 (62%)

[Table 3] shows thyroid disorders among pregnant women results found that 68% women did not had risk of thyroid disorder, 15% subjects had Subclinical Hypothyroidism, 7% Hypothyroidism and 6% Subclinical Hyperthyroidism. [Figure 1]

Table 4 shows anemia was found in total 38% subjects out of them maximum 24 % subjects were moderate anemic, 9% mild and 5% were severe anemic. [Figure 2]

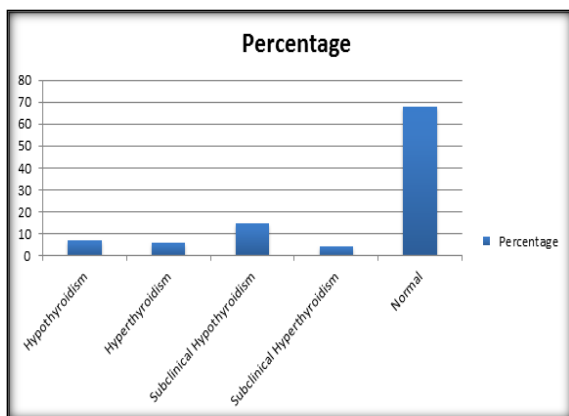


Figure 1: Distribution of pregnant women according to Thyroid disorders

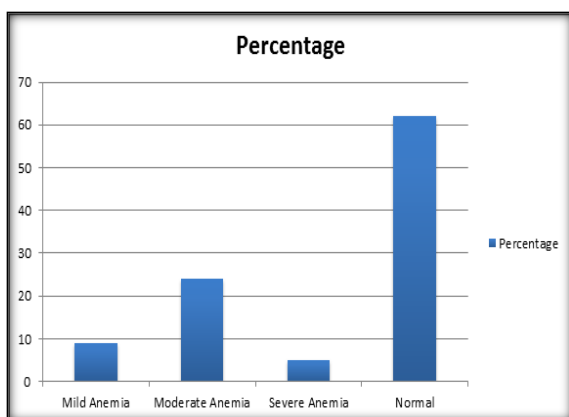


Figure 2: Distribution of pregnant women according to Anemia

DISCUSSION

A pregnancy is considered high risk when there are potential complications that could affect the mother and the baby, or both. To ensure the best outcome for both the mother and the baby, HRP's must be managed by a specialist.^[7]

In the present study, out of 500 pregnant women 30.4% women were having high risk pregnancies and 69.6% pregnant women were non high risk pregnancies. Maximum pregnant (84.86%) women of age group 20-29 years were high risk pregnancies. 79.60% multigravida women were high risk pregnancies. In present study, significant association of high risk was found with age ($p=0.0004$) and parity of pregnant women ($p=0.001$).

Jaideep KC et al did a study to study the prevalence of high risk among antenatal women and also to know the socio demographic factors associated with high risk. In present study, prevalence of high risk pregnancy was 30.7% and 59.8 were having bad obstetric history, 4% were having pregnancy induced hypertension, 5.5% were elderly gravida, 3.2% were Rh negative and 22.3% were having other risk factors. Factors such as education status of pregnant women, age at pregnancy and parity of

pregnant women were found to be significantly associated with the prevalence of high risk.^[8]

A study done in Puducherry, South India by Marie Gilbert Majella, Gokul Sarveswaran et al also reported the prevalence of high-risk pregnancy were 18.3%.^[9]

Another study done in Rohtak, Haryana showed that prevalence of high risk pregnancy was 13.7% in multigravida.^[10]

Arjariya R et al did a study to know the prevalence of high-risk pregnancies and associated high risk factors. Among 3898 antenatal case record reviewed. Results of this study show that the prevalence of high-risk pregnancy among study participants was 16.54%. Most of the pregnant women were in age group of 20-35 years that is 94.72%. Most of the pregnant women were multigravida 57.20% by gestation. Regarding obstetric and neonatal outcomes, majority had normal vaginal delivery (60.6%). The most common high risk factors were history of previous cesarean section 31.94 %, Hypertension in Pregnancy 22.17% & Abnormal Presentation were 13.95%.^[4]

The present study presented that 68% women did not had risk of thyroid disorder, 15% subjects had Subclinical Hypothyroidism, 7% Hypothyroidism and 6% Subclinical Hyperthyroidism and Anemia was found 38% subjects out of them maximum 24 % subjects were moderate anemic, 9% mild and 5% were severe anemic. A study conducted by Saleha Shaheen and Shahnawaz Hasan 2017 found 47.5% of pregnant women were anemic of which 15.83% had mild, 21.67% had moderate and 10% had severe anemia. Prevalence of hypothyroidism was high in both non anemic and anemic pregnant women with the rate much higher in case of anemic females. 21.05%, 30.76% and 33.33% of pregnant women with mild, moderate and severe anemia respectively had the hypothyroidism while subclinical hypothyroidism was observed in 31.57%, 23.07% and 16.7% of those with mild, moderate and severe anemia respectively.

CONCLUSION

The study concluded that prevalence of high risk pregnancy in the study was 30.4%. There was a significant association of high risk was found with age and parity of pregnant women. Hence, early detection of high-risk pregnancy needs to be done to improve the maternal, obstetric, and neonatal outcomes. There is room for improvement in ensuring that women at risk deliver in hospitals where the most appropriate level of care can be provided.

REFERENCES

1. Proposed framework for making focused antenatal care services accessible: a review of the nigerian setting. Ekabua J, Ekabua K, Njoku C. ISRN Obstet Gynecol. 2011;2011:253964.

2. Pradeep MK, Gnanadeep NV, Umesh RD, Pushpa SP. Prevalence Of High Risk Pregnancy In Rural Dharwad. IOSR Journal of Dental and Medical Sciences. 2015;10:29-32.
3. Ferrer, R.L., Sibai, B.M., Murlow, C.D., Chiquette, E., Stevens, K.R. and Cornell, J. (2000) Management of Mild Chronic Hypertension during Pregnancy: A Review. *Obstetrics & Gynecology*. 96, 849.
4. Tiwari RA. Prevalence of High Risk Pregnancy: in A Tertiary Care Centre of Sagar Division of MP. *International Journal of Physiology*. 2021 Jan;9(1):35.
5. NHP (National Health Portal of India) in Oct 14, 2019.
6. GO, Elizabeth UN, Peter NE. Assessment of the risk status of pregnant women presenting for antenatal care in a rural health facility in Ebonyi State, South Eastern Nigeria. *N Am J Med Sci*. 2011;3(9):424–7.
7. Prajapati AK, Kumar V, Soni K, Singh NP, Jain PK, Ruchi. Prevalence of high-risk pregnancy among pregnant women enrolled under Pradhan Mantri Surakshit Matritva Abhiyan in government health facilities of district Etawah, Uttar Pradesh: A cross-sectional study. *J Family Med Prim Care*. 2022 May;11(5):1876-1882. doi: 10.4103/jfmmpc.jfmmpc_1636_21. Epub 2022 May 14. PMID: 35800511; PMCID: PMC9254766.
8. Jaideep KC, Prashant D, Girija A. Prevalence of high risk among pregnant women attending antenatal clinic in rural field practice area of Jawaharlal Nehru Medical College, Belgavi, Karnataka, India. *Int J Community Med Public Health* 2017;4:1257-9.
9. Marie Gilbert Majella, Gokul Sarveswaran, Yuvaraj Krishnamoorthy, K. Sivaranjini, Kalaiselvy Arikrishnan, and S. Ganesh Kumar A longitudinal study on high risk pregnancy and its outcome among antenatal women attending rural primary health centre in Puducherry, South India. *J Educ Health Promot*. 2019; 8: 12.
10. Mehta B, Vijay K, Amandeep K, Sumit C, Manisha M. Prevalence and correlates of high risk pregnancy in rural Haryana: A community based study. *Int J Basic A Med Sci*. 2013;3:212–7.
11. Saleha Shaheen and Shahnawaz Hasan. Prevalence of Anemia and Its Effects on Thyroid Function in Pregnant Women. *Int J Med Res Prof*. 2017; 3(3):155-57.