RISK FACTORS FOR ANEMIA IN PREGNANCY: A CASE CONTROL STUDY

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ABSTRACT

Aim of the study was once to locate the threat elements main to Anemia in pregnancy. The foremost goal used to be to find out about a variety of sociodemographic elements main to anemia. And to verify the understanding about anemia amongst find out about participants. The present Case-control study was carried out at Primary Health Centre, to decide the danger elements main to anemia in pregnancy. A whole of 308 pregnant women have been registered. Among them two companies have been made, the team I instances and crew II controls. Each crew had 50 instances each. Laboratory take a look at had been finished and women having hemoglobin much less than 11mg/dl had been viewed anemic. Anemic women have been viewed instances and girls having Hb >11mg/dl have been viewed controls. Data evaluation was once achieved the use of SPSS software. The ordinary suggest hemoglobin (Hb) used to be 11.55g/dL in controls, whereas it was once considered that amongst the instances it was once 9.58g/dL. It would appear that diet, household size, education, social class, gravida, and parity are related with anemia in pregnancy. After adjusting for all the viable covariates there appears to be huge affiliation between Hb degrees and age group, training level, household size, diet, gravida, and parity.

Keywords: Anemia, pregnancy, knowledge, sociodemographic

INTRODUCTION

The nutritional status of the expectant mom is the most necessary determinant of being pregnant outcomes, which includes the start weight of the newborn. (**1**) Anemia is specially excessive for girls with no education, girls from scheduled tribes, and female in the two lowest wealth quantiles(**2**). Anemia is an indicator of each terrible diet and bad health. Iron deficiency in its most extreme structure affects anemia – IDA – and due to the fact hemoglobin awareness is especially effortless to determine, the occurrence of anemia has frequently been used as a proxy for IDA. Food-based procedures to make bigger iron consumption thru meals fortification and dietary diversification are necessary sustainable techniques for stopping iron deficiency and IDA in the popular population. However, tactics that mix iron interventions with different measures are wished in settings the place iron deficiency is no longer the solely motive of anemia.

Strategies must be constructed into the important fitness care gadget and current programs such as maternal and child health, built-in administration of childhood illness, adolescent health, making being pregnant safer/safe motherhood, roll-back malaria, deworming (including activities antihelminthic manipulate measures), and stop-tuberculosis (**3**). Anemia is viewed as extreme public fitness trouble by using World Health Organization when anemia occurrence is equal to or larger than 40% in the population. Anemia prevalence's in the course of being pregnant differed from 18% in developed nations to 75% in South Asia (**4**). The demand for iron will increase about six to seven instances from early being pregnant to the late being pregnant (**5**). Besides terrible nutrition, standard labor,

multiparity, abortions, parasitic infestations, ingesting extra tea or espresso after foods decided as the predictors of anemia in reproductive age ladies(6). Worldwide, anemia contributes to 20% of all maternal deaths(7).

The World Health Organisation defines a non-pregnant female with hemoglobin of much less than 12 g/dl at sea stage as probable to be anemic. Accounting for the physiological adjustments in pregnancy, the equal price for pregnant girls is 11g/dl or a hematocrit much less than 33% (WHO, 1972) (8). This finds out about used eleven g/dl as the standards for anemia in being pregnant following the WHO suggestions (8). Knowledge of the sociodemographic elements related with anemia in being pregnant can be used to formulate a multipronged approach to assault this necessary public fitness problem. Hence, a case manage find out about was once undertaken to be aware of the more than a few hazard elements main to anemia in pregnancy.

Aim: To find the risk factors leading to Anemia in pregnancy.
Objectives:
• To study the various sociodemographic elements main to anemia.
• Find the affiliation between sociodemographic elements and anemia.
• To determine the understanding about anemia amongst learn about participants.

MATERIAL & METHODS

Study design:
The present was a Case-control study
Study area:
Carried out at Primary Health Centre
The PHC was located Khonagiria, Jaipur. The total population covered by the PHC was approximately 35,066 people. It had 13 villages & 6 subcentres. The total population of the location is 5,959 people.
Sample size:
Pregnant women visiting the ANC clinic had been enrolled with the aid of health worker separately for the first & the subsequent visit of pregnant women. A complete 308 pregnant women visiting the health middle were enrolled. two groups have been made by means of system aticrandom sampling. Among two groups 50 were cases and 50 have been controls.
Inclusion criteria:
For cases were, hemoglobin count less than 11gm% & for controls was hemoglobin count more than 11gm %.

Study procedure:
Informed consent was once bought & clarification as to the reason of find out about was offered. Thus, pregnant women have been interviewed with a predesigned, pretested, semi-structured questionnaire. A detailed demographic profile of the women, that is, age, age at first pregnancy, religion, family size, education, and occupation was once collected. Socioeconomic classification advised via the name of the doctor was once adopted & updated **(9)**.
Laboratory method:
Hemoglobin level was estimated by Sahli's acid hematin method of hemoglobin estimation **(10)**. According to World Health Organization (WHO), hemoglobin level below 11g/dL is labeled as anemia during pregnancy. The same criteria were used for diagnosing anemia in pregnancy **(11)**.
Ethical approval:
Ethical approval for the study was obtained from the ethical committee at the name of Medical College Institute for Medical Sciences and Research Centre, Jaipur National University, Jaipur
Data analysis:
Data analysis was performed using SPSS 21. Descriptive statistics, including mean, range, & standard deviations, were calculated for all variables. Proportions were compared using Chi-square tests & chi-square for trend at 0.05 level significance.

RESULTS

The present study revealed that the age of the respondents ranges from 19 to 29 years. It was seen that majority of the age of study participants ranged from 20 to 25 years. With the mean age being 22 years.

Table 1: Association between Sociodemographic factors and anemia among the study population.

Information acquired retrospectively	Cases (50)	Controls (50)	Significance
Maternal Age (mean)	21.92+2.35	21.86+2.1	n.s
Education (literate)	41	30	p<0.0076
Occupation (unemployed)	39	44	n.s
spacing 2 or <2 years	18	16	n.s
Family size (>3)	39	27	p=0.0056
Diet (non veg)	15	5	p=0.0062

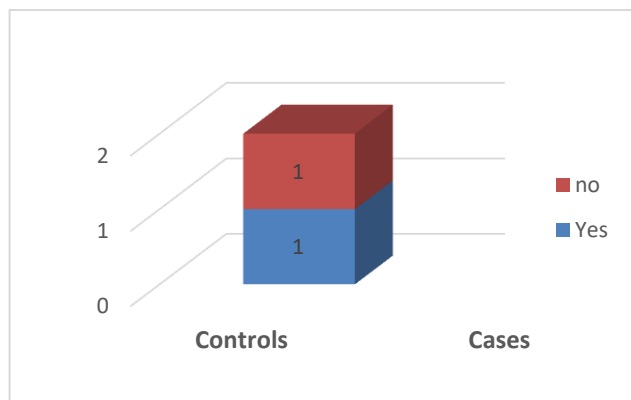**Figure 2: Knowledge about Anemia Among Controls & Case**

Figure 3: Family Size and anemia among the study population
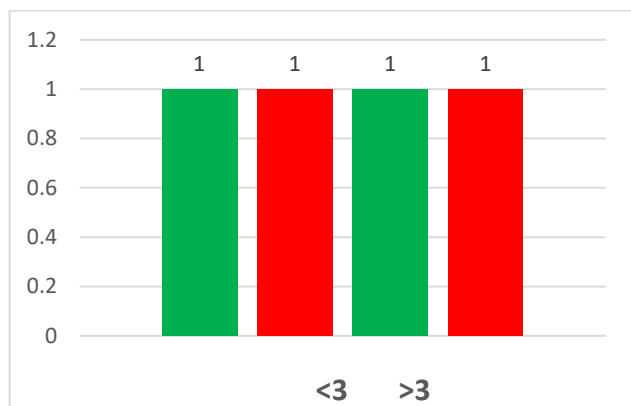

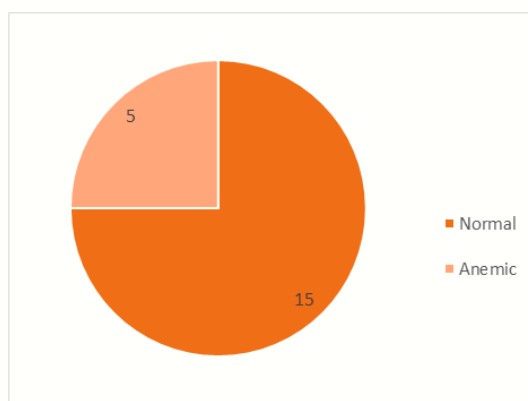**Figure 4: Diet and Anemia among the study population**

Table 2: Assessment of knowledge among the study population

Assessment of knowledge	Cases (n=50)	Controls (n=50)	Significance
Knowledge (present)	34	17	p=0.00033

DISCUSSION

The overall mean hemoglobin (Hb) was 11.55g/dL in controls, whereas it was once viewed that amongst the instances it used to be 9.58g/dL. It would appear that diet, household size, education, social class, gravida, and parity are related with anemia in pregnancy. Resent learn about confirmed that as the degree of schooling goes on growing the proportion of anemia in pregnant female goes on decreasing. The learn about additionally confirmed that as the household dimension improved the proportion of anemia additionally increased. The pregnant female having a vegetarian eating regimen have been extra susceptible to the sickness as in contrast to these having combined diet. Table no 1 exhibits that elements like education, household size, diet, information are related significantly. Whereas elements like maternal age, occupation, preceding obstetrics history, and so on are no longer significant.

As compared to different research like; Haniff et al **(12)**, they observed that age, ethnicity, education, social class, city rural residence, gestational age, gravida, and parity are additionally related with anemia in pregnancy.

A study via Taner et al **(13)** also showed that 41.6% had hemoglobin ranges <11g/dl. This excessive occurrence of anemia amongst pregnant ladies in Taner's find out about used to be defined with the aid of the distribution of socioeconomic reputation of the population. It confirmed that low socioeconomic popularity had greater anemic cases.

Ahmad Z et al **(8)** in their find out about referred to that the age of the mom is extensively related with anemia, with the majority of moms (56.6%) who are greater than forty years historic being anemic at the first antenatal visit. By parity, 37.5% of the primigravida, 47.1% of the multigravida, 52.9% of the grand multipara, and 64.0% of the exceptional grand multipara had been anemic. Again, parity is proven to be considerably related with anemia.

A learn about in Pakistan confirmed that anemic topics had been barely older than nonanemic subjects; whereas nonanemic females had been substantially taller and heavier, and a decrease share had been underweight (BMI < 18.5). In addition, anemic ladies had been extra probably to have no formal training and to be employed outdoor the home. The range of prior pregnancies used to be inversely associated to imply hemoglobin level. Women who stated consumption of pink meat or

fowl two or extra instances per week earlier than being pregnant had greater hemoglobin concentrations, however solely the variations in imply hemoglobin concentrations associated with consumption of crimson meat have been substantial (10.03 vs. 9.87 g/dL,p = .004).**(14)**

In a study by Leyla K **(15),** it was once viewed that the suggest a long time of anemic and nonanemic girls have been similar, 26.9 and 26.4 years respectively (p > 0.05). Of the women, 10.2% had been illeterate, 55.1% have been principal college graduates. Anemia used to be majorly viewed in vegetarian (37.0%) (p < 0.05).

CONCLUSION

• Future research are wished to appear into the cutoff tiers of Hb related with the relative dangers & odds ratio.

• After adjusting for all the feasible covariates there appears to be a large affiliation between Hb ranges and age group, training level, household size, diet, gravida, and parity.

• A find out about is in development to verify the result of anemia in being pregnant in the Primary Health Centre.

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