

# A Study to Assess The Nutritional Status Of Primi Para ANC Patient In Selected Hospital Of Pune

Dr. Bhagyashree Jogdeo<sup>1\*</sup>, Ms. Mayuri Shripad Ramdasi<sup>2</sup>, Ms. Kalyani Suresh Pisolkar<sup>3</sup>

<sup>1\*</sup> Principal, Bharati Vidyapeeth College of Nursing, Pune (Corresponding Author)

<sup>2,3</sup> S.Y. P.B.B.Sc Nursing, Bharati Vidyapeeth College of Nursing, Pune

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## ABSTRACT

Gestation is a physiological stage that is muscular in nature and demands extra energy in order to satisfy the requirements of the developing embryo and the tissue that supports it. Mothers' nutritional deficiencies are exacerbated by this misalignment between consumption and resources. The mother's lack of resources prior to conception is not implausible. The World Health Organization ranks iron deficiency anaemia (IDA), the most common type, as the third most common reason for women aged 15 to 44 to lose disability-adjusted life years.

**Aims of the Study:** To Assess the Nutritional Status of Primi Para ANC Patient in Selected Hospital of Pune.

**Methodology:** This quantitative study used a descriptive research design to assess the nutritional status of primipara antenatal women in selected hospitals of Pune. A total of 100 participants were selected using non-probability purposive sampling. The study included primipara women between 12–36 weeks of gestation who were admitted for antenatal care and willing to give informed consent, while excluding those with chronic illnesses, multiple gestations, or those unwilling to participate. The primary variable studied was the nutritional status, and data was collected in a structured hospital setting. **Results:** The study found that most primi para antenatal women were aged 26–30 years, from low-income, joint families, and were homemakers. Nutritional assessment showed 52% had good nutrition, 45% were at moderate risk, and 3% at high risk, indicating a need for nutritional interventions. The mean score was 5.53 (SD = 1.93). No significant association was found between nutritional status and demographic factors, suggesting other influences on maternal nutrition. The study concludes that targeted antenatal nutritional programs are essential to improve maternal and fetal health.

**Conclusion:** The study concludes that although more than half of the primi para antenatal women had good nutritional status, a considerable proportion were at moderate or high nutritional risk. No significant relationship was observed between nutritional status and demographic variables, indicating that other factors may influence maternal nutrition during pregnancy. Therefore, targeted antenatal nutritional interventions, along with education and regular monitoring, are essential to promote better maternal and fetal health outcomes.

**Keywords:** Assess, Nutritional status, Primi Para ANC, Patient, Hospital.

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## INTRODUCTION

Severe anaemia can have a lot of bad effects on both the mother and the foetus. For instance, it can lead to low birth weights, early delivery, growth restriction in the pregnancy, a higher risk of asphyxia during delivery, a low APGAR score at birth, and a greater risk of death both for the expecting mother and the infant. Eclampsia is typically connected to profuse bleeding before and after giving delivery. Iron deficiency anaemia is a very frequent type of anaemia, so it's crucial to find out what's causing it. A new meta-analysis showed that the risk of a mother's death goes down by 20% for every 1 g/dl rise in the quantity

of haemoglobin found.<sup>1</sup>

During a women life period, Pregnancy and childbirth are indeed significant events in the lives of their families. Pregnancy is the most important thing that happens in a woman's life. It requires special care from the moment of conception until after birth. Pregnancy is a normal process that causes a lot of changes in the body and mind of a woman who is expecting. Pregnancy is a natural process; however, it does not imply that it is devoid of challenges. Antenatal care (ANC) is a careful, organised way to check on a pregnant woman and make sure she and her baby are as healthy as possible. It includes

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education, counselling, screening, and treatment.<sup>2</sup> Pregnancy is a very important time in both the lives of the mother and the baby. It needs to be taken care of when it involves food, exercise, and health. One of the biggest public health concerns is women's nutrition. It comprises the nutritional needs of young people, women who are trying to get pregnant, and women who are already pregnant or breastfeeding. It has a big effect on women's health and is thought to be the health of future generations.<sup>3</sup>

### NEED OF THE STUDY

According to the 2011 National Nutrition Survey, 68.9% of Pakistani nursing mothers did not receive enough vitamin D, 46% did not receive enough folic acid, and 51% were anaemic.<sup>4</sup> The health and nutrition of women have a big impact on pregnancy. Many pregnant women don't eat well, resulting in them sick and unhappy. Mothers' health and the health of generations to come depend on their nutrition. Undernutrition is one of the most common reasons why women die during pregnancy.<sup>5</sup>

The World Health Organisation says that about 32 million pregnant women around the globe are anaemic. South Asia is the most common place for this to happen. 40% of pregnant women around the world have anaemia, and not getting enough food while pregnant is responsible for almost 20% of maternal deaths.<sup>6</sup> According to the National Family Health Survey (NFHS-5, 2019–21), 52.2% of pregnant women across the nation are anaemic, and 18.2% of women between the ages of 15 and 49 have a BMI below 18.5 kg/m<sup>2</sup>.<sup>7</sup> In Maharashtra, NFHS-5 data show that 49.7% of pregnant women are anaemic and 17.1% of women aged 15–49 years are underweight. In urban Maharashtra, only 35.6% of pregnant women take the recommended iron-folic acid supplementation.<sup>8</sup>

Kanupriya et al. (2022) conducted a cross-sectional study at AIIMS Rishikesh among 151 pregnant women. Results showed 37.09% had moderate to severe anaemia linked to gestational age and previous abortions. Most anaemic women had 30–60% protein and calorie deficits, with severe anaemia cases showing up to 60% calorie deficiency despite iron supplementation.<sup>9</sup>

The nutritional status of primi para antenatal women is crucial for the health of both mother and foetus. Poor nutrition during pregnancy can lead to complications such as anaemia, low birth weight, and delayed recovery. Assessing their nutritional status helps identify deficiencies and risk factors early. This study is needed to develop targeted interventions and

promote awareness to improve maternal and fetal health outcomes in antenatal care settings.

### MATERIALS AND METHODS

The present study adopted a quantitative research approach with a descriptive research design to assess the nutritional status of primi para antenatal women in selected hospitals of Pune. The research setting included selected hospitals in Pune, with the target population comprising all antenatal mothers and the accessible population being primi para antenatal women admitted to these hospitals. A total of 100 antenatal women were selected using a non-probability purposive sampling technique.

The research tool consisted of two sections. Section I included demographic data such as age, educational qualification, occupation, monthly family income, type of family, gestational age,

BMI, and any known medical condition. Section II comprised a structured questionnaire with 15 questions to assess the nutritional status of primi para antenatal women, focusing on dietary habits, nutritional supplementation, and clinical signs. Reliability of the tool was established using Karl Pearson's formula (test-retest method). Data were analyzed using descriptive statistics such as mean, mode, and standard deviation, along with inferential statistics, where the chi-square test was applied to determine the association between nutritional status and selected demographic variables.

### RESULTS

#### Section I: Demographic Variables

**Table No. 1 Demographic Table**

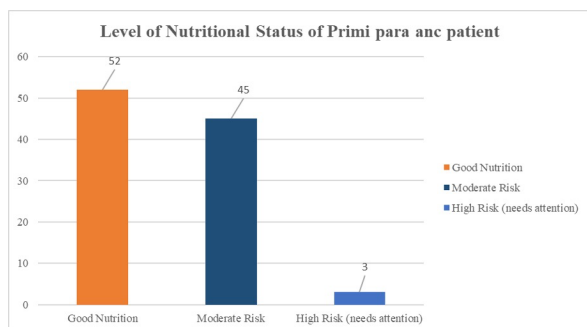
Demographic Variables	F	%
<b>1. Age</b>		
a. Below 20 year	17	17.00
b. 20-25 years	25	25.00
c. 26-30 years	40	40.00
d. Above 30 years	18	18.00
<b>2. Educational Qualification</b>		
a. No formal education	15	15.00
b. Primary school	31	31.00
c. Secondary school	22	22.00
d. Graduate and above	32	32.00
<b>3. Occupation</b>		
a. Homemaker	36	36.00
b. Employed	18	18.00
c. Daily wage laborer	26	26.00
d. other	20	20.00
<b>4. Monthly Family Income</b>		
a. <10,000	30	30.00
b. 10,000-20,000	34	34.00
c. 20,000-30,000	23	23.00
d. >30,000	13	13.00
<b>5. Type of Family</b>		
a. Nuclear	17	17.00
b. Joint	57	57.00
c. Extended	26	26.00
<b>6. Gestational Age</b>		
a. First trimester	31	31.00

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b. Second Trimester	29	29.00
c. Third Trimester	30	30.00
<b>7. BMI</b>		
a. Underweight (<18.5)	14	14.00
b. Normal (18.5-24.9)	28	28.00
c. Overweight (25-29.9)	24	24.00
d. Obese (>30)	34	34.00
<b>8. Any known medical condition</b>		
a. Yes	36	36.00
b. No	34	34.00

The data show that the majority of primi para antenatal women (40%) were aged 26–30 years. Most participants had completed graduate or higher education (32%), and 36% were homemakers. Regarding income, 34% belonged to the ₹10,000–₹20,000 range. A joint family structure was common (57%). Most were in the third trimester (40%), 34% were obese, and 54% reported no known medical condition.

### Section II: Assess The Nutritional Status Of Primi Para Anc Patient



**Figure No.1 Level of Nutritional Status of Primi para ANC patient**

The figure shows the distribution of nutritional status among primi para antenatal patients. More than half of the participants (52%) had good nutrition, indicating adequate dietary intake and supplementation. About 45% were at moderate nutritional risk, suggesting the need for dietary improvement, while 3% were at high risk and required immediate nutritional intervention and medical attention.

### Section III: Association of Nutritional Status

The table presents the chi-square analysis of demographic variables and nutritional status among primi para antenatal women. Results indicate that no significant association ( $p > 0.05$ ) was found between nutritional status and variables such as age, education, occupation, income, family type, gestational age, BMI, or medical condition. This implies that nutritional status is independent of demographic factors, suggesting that other influences—such as dietary habits, lifestyle, or awareness—may play a more critical role in determining maternal nutrition during pregnancy.

### DISCUSSION

The current descriptive quantitative study assessed the nutritional status of primipara antenatal women

admitted in selected hospitals of Pune. Using a purposive sampling technique, 100 women between 12–36 weeks of gestation who consented to participate were included. Women with chronic illnesses, multiple gestations, or those unwilling to participate were excluded. The study provides important insights into the nutritional health of primipara ANC patients in the selected setting.

Arora et al. (2022) conducted a cross-sectional study at AIIMS Rishikesh on 151 antenatal women, reporting 37.09% anaemia with significant calorie and protein deficits. In contrast, the present descriptive study on 100 primipara antenatal women found 48% at moderate to high nutritional risk, with no significant link between nutrition and demographics. Both studies highlight socio-economic influences and stress the need for comprehensive maternal nutrition interventions.<sup>10</sup>

Hassan Abduljabbar's study at King Abdulaziz University assessed 187 pregnant women using dietary questionnaires and hemoglobin levels, finding 8.56% with poor diets and 25.7% with low hemoglobin, linked to fetal complications. In contrast, the present Pune study on 100 primipara women found 48% at moderate to high nutritional risk, with 34% obese. Both studies stress the importance of routine nutritional screening and improved maternal nutrition interventions.<sup>11</sup>

### CONCLUSION

The present descriptive study assessed the nutritional condition of primipara antenatal patients at a specific hospital in Pune. The results showed that more than half of the participants (52%) had good nutritional status, while 45% were at moderate risk and 3% were at high risk. This shows that the respondents had different nutritional profiles. Analysis revealed no significant correlation between nutritional status and demographic variables, including age, educational attainment, occupation, family income, family structure, gestational age, BMI, or pre-existing medical conditions. suggesting that nutritional risk was widespread across different groups. The mean nutritional status score was  $5.53 \pm 1.93$ , reflecting moderate overall nutritional health in the sample. These findings highlight the necessity of regular nutritional evaluations and specific interventions during pregnancy to enhance maternal and foetal outcomes. The study emphasises the necessity for thorough antenatal nutritional counselling and monitoring in hospital environments to tackle both malnutrition and overweight in primipara women. It is advisable to conduct additional research utilising

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larger samples and interventional designs to assess the impact of nutrition-focused programs on pregnancy outcomes.

### DECLARATION BY AUTHORS

**Ethical Approval:** The study was approved by the institutional ethics committee of Bharati Vidyapeeth College of Nursing, Pune. The study participants were briefed about the purpose and nature of the study and written informed consent was obtained before data collection.

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**Conflict of Interest:** The authors declare no conflict of interest.

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