

## Retrospective study on the effect of pregnancy care on neonatal health and malnutrition in slum colonies of Jabalpur

Archana Singh<sup>1</sup> and Dhruv Kumar Dixit<sup>2</sup>

1. Rani Durgawati University, Jabalpur – 482 001, M.P., India

2. Kesarwani College, Jabalpur – 482 002, M.P., India

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The development of a foetus starts soon after the conception and continues to the entire gestation period. The dietary intake and care of a pregnant mother lays the foundation for overall development and birth of a healthy child. Therefore, balanced nutrition, regularity in health check-up, vaccination, intake of prescribed dietary supplements, family care and moral support are crucial for a healthy pregnancy and birth of a healthy child.

The industrialization over the last two decade has attracted more and more rural (agricultural) laborers from the Indian countryside to growing metros in search of employment and better wages. Unable to afford an informal housing and basic services such as sanitation, health care and education, these laborers started living in contiguous settlement with inadequate housing and basic services, which attributed to the formation and expansion of slums. Urbanization creates slums because local governments are unable to manage urbanization, and migrant workers without an affordable place to live in, dwell in slums. According to the UN-HABITAT (2002) a slum is a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services.

The malnutrition of mothers during pregnancy renders the neonates prone to development of neonatal diseases, hampered physical development and reduced cognitive abilities (Verma, 2012). Due to lack of awareness on nutrition and inability of afford a balanced diet, various health and pregnancy complications are developed among pregnant mothers and foetus, which is also a major cause of malnutrition in children.

Eighty percent of the world's undernourished children live in 20 countries, with India being home to nearly 60 million children who are underweight (Bryce *et al.*, 2008). The cases of malnutrition are continuously on rise, therefore it is necessary to conduct periodical studies on the trend, pattern, and various factors

associated with child malnutrition so as to device the measures for its comprehensive management.

The current study therefore, was conducted to access the impact of pregnancy care on neonatal health and malnutrition in slum colonies of Jabalpur city.

### Materials and Methods

The current study was conducted between the year 2015-17 among mothers of 222 malnourished children (0-6 years) residing in 324 slum colonies of Jabalpur city (Plate-1 and 2).

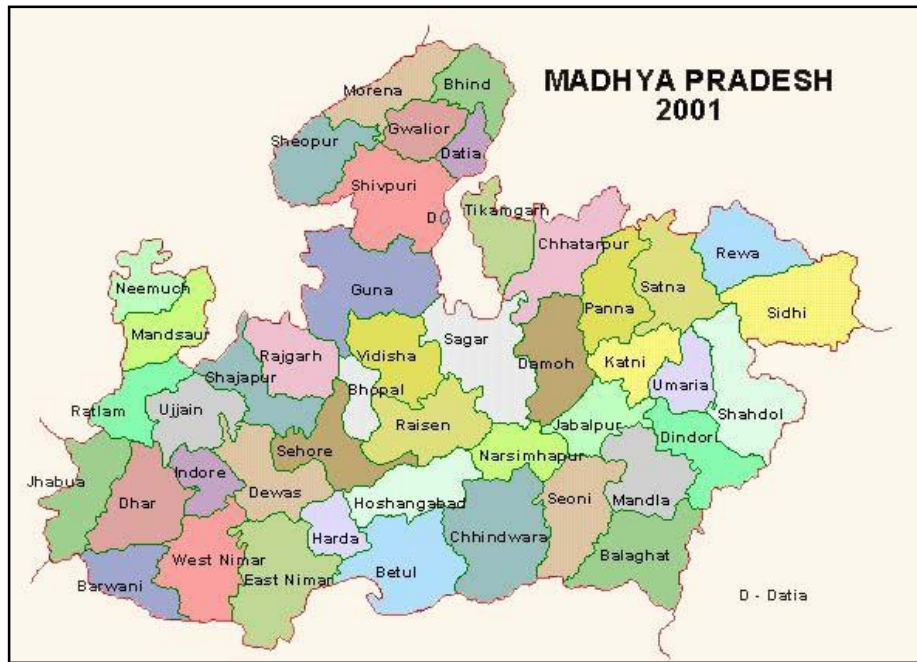
A multistage random sampling was used to select the respondents; and retrospective survey was conducted to collect information pertaining to family care of mothers during pregnancy and its impact on the neonatal health and nutrition. The information and data were collected from primary and secondary resources. Under primary resources direct observation, group discussions, personal interview and questionnaire surveys were performed, while secondary data was collected from the published literatures, internet and reports from government and Non Government Organizations (Plate-3).

### Results and Discussion

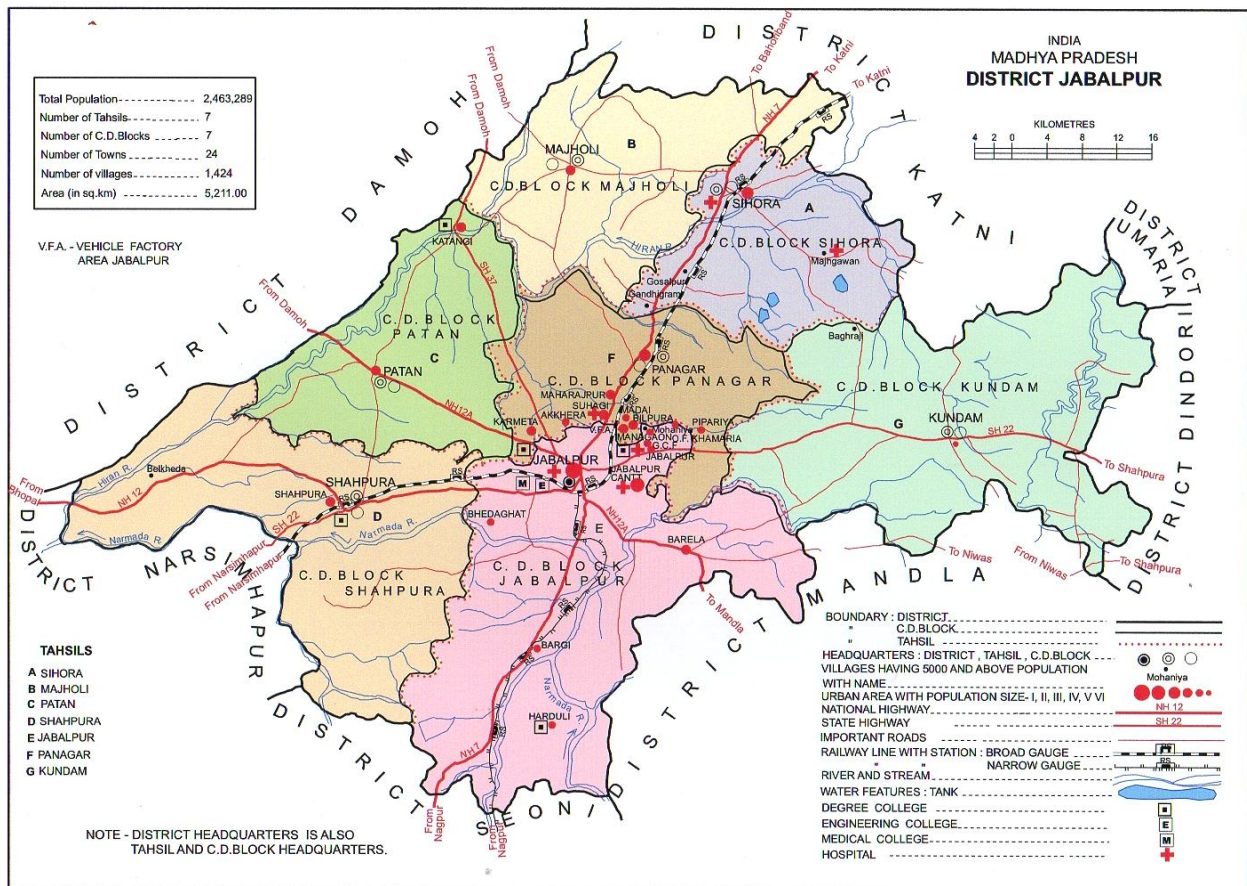
The information pertaining to pregnancy care and family support with special reference to neonatal health and malnutrition was collected. The findings of the study depicting effect of pregnancy care on neonatal health and nutrition is presented in this section.

#### Pregnancy check-up

The findings on general health check-up of the mothers during pregnancy revealed that most women availed this facility at government hospitals (42.34%), followed by Private Hospitals (14.87%) and Aaganwadi Centers (38.74%), while remaining 4.05% did not go for any check-up. It is evident that most slum dweller women are dependent upon government institutions for pregnancy check ups, while a percentage of women also exists, who do not go for any checkups.



**Plate-1:** Topographical map of Madhya Pradesh, India  
(Source: Ministry of Home Affairs, Government of India)



**Plate-2:** Topographical map of Jabalpur, Madhya Pradesh  
(Source: Ministry of Home Affairs, Government of India)



**Plate-3 :** Collection of information on pregnancy care of mothers, neonatal health and malnutrition.

**Table-1:** Place of pregnancy check-up

Place	Frequency	Percentage (%)
Government Hospital	94	42.34
Private Hospital	33	14.87
Anganwadi Centre	86	38.74
No check-up	9	4.05
Total	222	100

#### Problems faced by mothers during pregnancy

During pregnancy most of the women faced difficulty in acquiring proper nutrition (33.33%), followed by those who developed anaemia (18.87%), low weight (17.12%), lacked moral support (10.36%), problems for medical check-up (8.56%) and 9.01% had other kinds of problems viz. tuberculosis, Blood Pressure etc.; however 3.15% women did not face any kind of problem.

**Table-2 :** Problems faced by mothers during pregnancy.

Kind of problem	Frequency	Percentage (%)
Low weight	38	17.12
Anaemia	41	18.87
Lack of proper nutrition	74	33.33
Problems in health check up	19	8.56
Lack of moral support	23	10.36
No problem	7	3.15
Others	20	9.01
Total	222	100

It is evident from the table that problems related with nutrition such as lack of proper nutrition, anaemia and low weight were most pertinent in the study; while lack of moral support from the family was also an important issue reported.

#### Source of counselling for proper nutrition during pregnancy

On the issue of nutrition, most of the women replied, they got advice from the Anganwadi Centres (55.85%) followed by consultation with physician (26.13%) while remaining 18.02% did not consult anyone.

**Table-3:** Source of counselling for proper nutrition during pregnancy.

Source for counselling	Frequency	Percentage (%)
Anganwadi Center	124	55.85
Physician	58	26.13
No counseling	40	18.02
Total	222	100

#### Details of family care and behavior during pregnancy

Most of the women in the study faced negative attitude (41.89%) of the family during pregnancy, followed by so-so behavior (36.94%), while only 21.17% experienced positive response from the family.



**Table-4:** Details of family care and behavior during pregnancy.

Family care and behaviour	Frequency	Percentage (%)
Positive	47	21.17
So-so	82	36.94
Negative	93	41.89
Total	222	100

**Particulars of the reasons for lack of proper nutrition**

The respondents experienced poor economic condition of the family (54.95%) being prime reason for lack of proper nutrition, followed by lack of awareness (51.35%) and discrimination with women (20.72%).

**Table-5 :** Particulars of the reasons for lack of proper nutrition during pregnancy.

Particulars	Frequency	Percentage (%)
Poor economic state	122	54.95
Lack of awareness	114	51.35
Discrimination with women	46	20.72

**Intake of iron capsules and vaccination during pregnancy**

The regular intake of iron capsules is necessary to reduce any chance of anaemia. However, only 31.98% of the women took iron capsules regularly, followed by 52.25% who had it in irregular way, while 15.77% did not take the capsules.

**Table-6:** Intake of iron capsules during pregnancy.

Intake of iron capsules	Frequency	Percentage (%)
Regular intake	71	31.98
Irregular intake	116	52.25
No intake	35	15.77
Total	222	100

On the issue of pregnancy vaccination 70.27% of the respondents informed that took the vaccination, while remaining 29.73% did not receive vaccination for

various reasons.

**Place of child birth**

Most of the respondent mothers delivered their child at the government hospitals (71.17%), followed by private hospitals (12.16%), home (15.32%) and other places (1.35%).

**Table-7 :** Place of child birth.

Place of child birth	Frequency	Percentage (%)
Government Hospital	158	71.17
Private Hospital	27	12.16
Home	34	15.32
Other places	3	1.35
Total	222	100

**Problems related with child birth**

The most common problem related with child birth was Preterm baby (18.47%), followed by less amniotic fluid (15.76%), Post term delivery (11.71%), uncertain position of baby (9.91%) and excessive bleeding (9.01%), while 35.14% mothers did not have any kind of problem.

**Table-8:** Problems related with child birth.

Problems related with child birth	Frequency	Percentage (%)
Preterm baby	41	18.47
Excessive bleeding	20	9.01
Post term delivery	26	11.71
Less amniotic fluid	35	15.76
Uncertain position of baby	22	9.91
No problem	78	35.14
Total	222	100

**Child birth weight**

Most of the newborns were reported for malnutrition with weight less than 2 kg (15.31%) and 2-2.49 kg (35.59%); those falling under 2.5-2.99 kg category were 25.23% and 3 kg or more 11.71%, while remaining 12.16% were not weighed by concerned families.

**Table-9** : Child birth weight.

Weight (in kg)	Frequency	Percentage (%)
Less than 2	34	15.31
2-2.49	79	35.59
2.5-2.99	56	25.23
3 or more	26	11.71
No weighing	27	12.16
Total	222	100

**Health problems in neonates after birth**

Most of the new born babies had one or more mixed kind of health problems or they developed neonatal diseases. The commonest problem was low birth weight (50.90%), followed by jaundice (11.71%), diarrhoea (11.26%), pneumonia (8.56%), anaemia (6.76%), pre-term babies (5.85%), skin diseases (4.50%) and tuberculosis (1.80%). The health of remaining 16.22% babies was normal.

**Table-10** : Health problems in neonates after birth.

Neonatal health problems	Frequency	Percentage (%)
Jaundice	26	11.71
Low birth weight	113	50.90
Skin diseases	10	4.50
Pneumonia	19	8.56
Diarrhoea	25	11.26
Tuberculosis	4	1.80
Pre term baby	13	5.85
Anaemia	15	6.76
No problem	36	16.22

The most common problems during pregnancy were associated with the lack of proper nutrition, while lack of moral support from the family was also an important issue. These problems can be resolved by creating awareness and proper counseling of mothers and families. Good social environment during pregnancy leads to better development of the foetus. The impact of which can be seen by good weight of the newborns. Whereas, the women who lived in tense atmosphere gave birth to preterm and underweight babies. The child history showed, most of the babies born under-

weight, which continued till six years of ages. Even those with normal weight later developed low weight and showed the symptoms of malnutrition.

The poor economic condition of the family, lack of awareness on pregnancy nutrition and discrimination were the main problems faced by the women. Slum dwellers are mostly low income group people; hence, proper nutrition is not affordable to them. Interventions are desired to encourage the women for regular intake of iron capsules and pregnancy vaccination. Some of the women did not even go for health checkups during pregnancy, which also needed to be addressed. The institutional delivery was practiced by most of the slum dwelling families. However, those practicing child deliveries at home should be encouraged and to take the help of trained nurses or ANM. The percentage of mother who had different kind of problems during child birth was high, which could be minimized by proper nutrition and health care during pregnancy.

The study showed that the slum dweller families lacked knowledge on the nutrition, maternal health and care, which rendered the mothers susceptible to various pregnancy related consequences. It ultimately led to birth of malnourished child. Such babies also developed different neonatal diseases and disorders. It is advocated from the study that proper nutrition, health care and moral family support to the mothers during pregnancy lays the foundation for a healthy baby in future. The lack of pregnancy care has lasting consequences on child health and nutrition level. Most of the new born babies had one or more mixed kind of health problem or they developed neonatal diseases. The impact of poor economic status of the families was considerably responsible for lack of proper nutrition of pregnant mothers, which also resulted in a decline in neonatal health and nutrition. The effective participation of mothers and child in government schemes, run at Anganwadi Centres, has to be addressed to resolve such problems.

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