

## Quality & Coverage of Antenatal Care among Mothers Confined At ARural Medical College Of West Bengal, India

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### Abstract:

**Introduction:** Mothers are at risk during pregnancy and childbirth. Antenatal period is crucial due to the fact that most of the complications during pregnancy and childbirth can be prevented or detected at the earliest through regular antenatal check-up and maternal mortality could be reduced.<sup>1</sup> The current emphasis of care by National Health System is not only provision of care but Coverage and Quality of Care so that it becomes available and acceptable to the target client resulting in reduction of health problem.

**Objectives:** To assess the coverage & quality of antenatal care at Malda Medical College.

**Methodology:** It is a descriptive study, cross-sectional in design; conducted at Malda Medical College, West Bengal during February 2015. All the 122 mothers confined during the period of study were included in the study. Mothers were interviewed with a structured data collection form. Data were analysed in Microsoft Excel software in computer.

**Result:** Among 122 mothers under study 1.64% were below 18 years aged, 98.36% were aged between 18 – 35 years, mean being 22.17±7.60 year; 55.74% were primigravidae, 36.89% secondgravidae, 6.56% -third gravidae and 0.82% were fourth gravidae. For first antenatal care 27.05% mothers came before 12 weeks gestation, mean gestational age at 1<sup>st</sup> visit for the group was 12.80± 9.40 weeks. 72.13% mothers had three or more number of antenatal visits, 89.34% mothers were fully immunized, 41.80% mothers had adequate Iron and Folic Acid tablet consumption. 86.07% were weighed in every antenatal visit, 80.33% mothers had blood pressure checked in each visit. 72.95% mothers received advice on diet, 71.13% on rest, 54.10% on hygiene, 57.38% on baby feeding, 38.52% on other baby care and 34.43% on family planning. 83.61% mothers were tested for pregnancy, in 91.80% blood group was determined, in 95.08% haemoglobin level estimated, 49.18% tested for VDRL, 25.41% screened for HIV, in 62.30% Blood sugar estimated, 13.11% routine examination of stool was done, 68.03% routine examination of urine done and 72.95% screened with ultrasonography.

**Conclusion:** There is a need for improving coverage and quality of antenatal care so that routine examinations, advices, investigations are carried out universally in the present setting.

**KeyWords:** Antenatal care, Quality, Coverage, West Bengal.

### I. Introduction

Health of the mother is health of the nation. A healthy mother leads to healthy baby. Healthy babies are future of our nation. However, mothers are at risk during pregnancy and childbirth. Antenatal period is crucial due to the fact that most of the complications during pregnancy can be prevented or at least identified early, through a regular antenatal check-up and maternal mortality could be reduced.<sup>1</sup> Antenatal care is the systemic medical supervision of women during pregnancy. Its aim is to preserve the physiological aspect of pregnancy and labour and to prevent or detect, as early as possible, all that is pathological. Early diagnosis during pregnancy can prevent maternal ill-health, injury, maternal mortality, foetal death, infant mortality and morbidity. Hence, the earlier in pregnancy a woman comes under the supervision. Antenatal care begins with 'history taking' and is followed by a complete examination of the pregnant mother. Thereafter, the mother to be receives advice and instructions about her lifestyle, diet and regular antenatal check-ups till labour sets in.<sup>2</sup> Health system of India has a scientific Antenatal Care Provision Programme through National Health Mission. The current emphasis of care by National Health System is not only provision of care but coverage and quality of Care so that it becomes available and acceptable to the target client resulting in reduction of health problem.

With this background it is imperative to study assessment of coverage and quality of care provided at all levels. The current study was also planned in this direction.

## **II. Methodology**

It is a descriptive quality assessment study, cross-sectional in design; conducted at Malda Medical College, a rural medical college of West Bengal, India during February 2015. All the 122 mothers confined during the period of study were included in the study. No sampling done, i.e., census method applied. Mothers were interviewed with a structured data collection form. Data were analysed in Microsoft Excel software in computer.

## **III. Result**

There were 122 mothers confined during the month of February 2015 at Malda Medical College. All the mothers were interviewed at the postnatal ward. 2(1.64%) mothers were below 18 years aged, 120(98.36%) were aged between 18 – 35 years which is considered as optimum age for child bearing and none were found above 35 years of age. Mean age was  $22.17 \pm 7.60$  years. Among the participant mothers 113(92.62%) had residence at rural area, 2(1.64%) came from semi-urban area and 7(5.74%) from urban area. 76(62.30%) mothers were Hindu, 45(36.89%) were Muslim and 1(0.82%) were Christian. Assessing literacy status, it was found that 19(15.57%) mothers were illiterate, 23(18.85%) were just literate, 46(37.70%) were primary educated, 21(17.21%) had secondary education, 8(6.56%) were higher-secondary passed and 5(4.10%) were graduate. 29(23.77%) mothers came from nuclear family & 93(76.23%) had joint family of living. 104(85.25%) mothers were homemakers, 11(9.02%) occupied in bidi making, 3(2.46%) were agricultural worker, 2(1.64%) were in service, 1(0.82%) each were labourer & still studying. Socio-economic status of the surveyed mothers families were assessed according to B.G.Prasad's scale for Socio-economic status assessment. The Scale was updated with 2013's price index. 10(8.20%) mothers belonged to Class II (Per capita monthly income Rs. 2578-5155), 22(18.03%) were from Class III (Rs. 1547 – 2577), 31(25.41%) from Class VI (Rs. 773 – 1546) & rest 59(48.36%) belonged to Class V (Below Rs. 773).

Among the mothers under study 68(55.74%) were primigravidae, 45(36.89%) were second gravide, 8(6.56%) were third gravidae and 1(0.82%) were fourth gravidae. (Dig. 1)

For first antenatal care 33(27.05%) mothers came before 12 weeks gestation, 87(71.31%) between 12 – 24 weeks and 2(1.64%) after 24 weeks gestation; average age of gestation at 1<sup>st</sup> visit for the group was  $12.80 \pm 9.40$  weeks; earliest at 4 weeks and latest at 30 weeks of gestation. 88(72.13%) mothers had three or more number of antenatal visits which is recommended and 34(27.87%) had less than three visits. It is recommended that to prevent neonatal tetanus every pregnant mother should be immunised with two doses of tetanus toxoid 4 weeks apart, first being given at the earliest. It was found that 109(89.34%) mothers were fully immunized, 12(9.84%) were partially immunized and 1(0.82%) were unimmunized.

As per Reproductive & Child Health Programme every pregnant mother should receive and consume a minimum of 100 tablets of Iron & Folic acid. Considering 100 tablet consumption as adequate it was found that 51(41.80%) mothers had adequate Iron and Folic Acid Tablet consumption, 49(40.16%) had inadequate intake, 21(17.21%) had no consumption and for 1(0.81%) information was not available.

Measuring body weight and recording blood pressure should be done during each antenatal visit. It was found that 105(86.07%) were weighed in every antenatal visit and 17(13.93%) were weighed during some visit. 98(80.33%) mothers were found to have blood pressure checked during each antenatal visit, 19(15.57%) had in some visit and 5(4.10%) did not have any blood pressure recording. (Table 1)

Advice on diet, rest, hygiene, baby feeding, other baby care and family planning are essential component during antenatal visit. It was found that 89(72.95%) mothers received advice on diet, 88(71.13%) on rest, 66(54.10%) on hygiene, 70(57.38%) on baby feeding, 47(38.52%) on other baby care and 42(34.43%) on family planning. (Table 2)

Pregnancy test, determining blood group, haemoglobin level estimation, VDRL test, HIV screening, blood sugar estimation, urine and stool routine examination & ultrasonography scanning are some essential investigation during antenatal visit. It was found that 102(83.61%) mothers were tested for pregnancy, in 112(91.80%) blood group estimation was done, in 116(95.08%) haemoglobin level was estimated, 60(49.18%) tested for VDRL, 31(25.41%) screened for HIV, in 76(62.30%) Blood sugar was estimated, for 16(13.11%) routine examination of stool was done, for 83(68.03%) routine examination of urine was done and 89(72.95%) were screened with sonography. (Table 3)

## **IV. Discussion**

Considering the need for regular assessment of quality and coverage several Indian and international studies were found. In the study of A. Gupta and P. Chhabra mean age of women was 25.05 years, 37.3 % were illiterate, 92% of mothers received antenatal care and 76.5 % had three or more visits. Women having lower education and low income group mothers were more likely to have less than three visits. Iron and folic acid

tablets were given to 88.2 % females but only 52.4 % had taken more than 50 tablets. 92.2% of the women had received Tetanus toxoid injection during their antenatal period.<sup>3</sup>In the present study, the mean age of pregnant woman was 22.17±7.60 years. 15.57% mothers were illiterate and 41.80% mothers had adequate Iron & Folic Acid Tablet consumption. It was found that 89.34% mothers were fully immunized.

M Ansari and Z Khan conducted study in the rural areas of Aligarh, showed 72.1 % pregnant woman did not have any antenatal care check-up. Among women who had antenatal care check-up, 25.6 % had more than three antenatal visits.53.9% mothers did not receive any TT vaccination, 21.4 % women received only one Tetanus toxoid injection, while 24.7 % had two Tetanus toxoid injections including a single booster dose. 75.3 % pregnant women did not receive any iron-folic acid tablets. Among those who received iron-folic acid tablets only 3.3 % women got more than 100 tablets. In pregnant women who received antenatal services, weight was measured only in 16.3 % women, height taken in 41.9 %, blood pressure was recorded in 46.5 %; abdomen examination was done in 51.2 % and routine urine and blood examinations ( Haemogram, blood group) were carried out in 53.5 % and 44.2 % women respectively.<sup>4</sup>In the present study it was found that 86.07% weighed in every antenatal visit &13.93% were weighed during some visit, in 80.33% mothers blood pressure was checked during each visit, 15.57% in some visit and 4.10% did not have any recording. It was found that 83.61% mothers tested for pregnancy, for 91.80% blood group estimation was done, in 95.08% haemoglobin level estimated, 49.18% tested for VDRL, 25.41% screened for HIV, in 62.30% Blood sugar was estimated, for 13.11% routine examination of stool done, for 68.03% routine examination of urine done and 72.95% screened with sonography.

S. Edward and R H Iyer showed in their study, the mean age of the participants was 24 years. 89.6 % mothers were literate and 73 % of mothers belonged to the better standard of living. Nearly 79 % of mothers availed at least three visits, one TT injection received and 100 iron-folic acid tablets consumed.<sup>1</sup>

In the study of A. Singh et. al. 22.9 % of mothers have received full antenatal care. Receiving full antenatal care is significantly associated with mother's education, religion, caste, household wealth, parity, exposure to health care messages and region of residence.<sup>5</sup>

N Chandhiok and B S Dhillon in their study showed, awareness of care during pregnancy and knowledge of pregnancy related complications were associated with increased utilization of antenatal care services.<sup>6</sup>M G Kadapatti and A H M Vijyalaxmi showed, antenatal care of mother was significantly and positively associated with weight of the newborn indicating that more number of visits and treatment taken during pregnancy was related to their outcomes. Incidence of low birth weight babies was found much more among mothers who did not receive any antenatal care during their pregnancy period.<sup>2</sup>

J Kaur and K Kaur showed in their study, that improving socioeconomic status and increasing women literacy rate may increase the number pregnant women requiring antenatal care. Majority of primiparous mothers had no attendance at antenatal clinic while multiparous mothers approached for antenatal care.<sup>7</sup>

All the above studies correlate with the present study.

## **V. Conclusion**

Antenatal care plays an important role to achieve an uncomplicated labour and delivery process resulting in a healthy mother and healthy baby. Regular antenatal check-up help in the physical and mental preparation of women and help them relax during those last months. Considering the gap in expectation and coverage in the present and referred studies, there is a continuous need for improving quality and coverage of antenatal care by increasing education, awareness and dispelling false taboos with better utilization of facilities.

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**Tables:**

**Table 1. Distribution of mothers under study according to receipt of antenatal examination.**

Antenatal examination & advice	Mother No.(%)
Weight recorded	
In every visit	105(86.07)
In some visit	17(13.93)
Never	-
Blood pressure measured	
In every visit	98(80.33)
In some visit	19(15.57)
Never	5(4.10)

**Table 2. Distribution of mothers under study according to receipt of antenatal advice.**

Antenatal advice	Frequency of Mothers	
	Yes No.(%)	No No. (%)
Diet	89(72.95)	33(27.05)
Rest	88(71.13)	34(27.87)
Hygiene	66(54.10)	56(45.90)
Baby feeding	70(57.38)	52(42.62)
Other baby care	47(38.52)	75(61.48)
Family planning	42(34.43)	80(65.47)

**Table 3. Distribution of mothers under study according to different antenatal investigation done.**

Antenatal investigations	Frequency of Mothers	
	Yes No.(%)	No No.(%)
Pregnancy test	102(83.61)	20(16.39)
Blood group	112(91.80)	10(8.20)
Hemoglobin %	116(95.08)	6(4.92)
VDRL	60(49.18)	62(50.82)
HIV	31(25.41)	91(74.59)
Blood sugar	76(62.30)	46(37.70)
Stool routine examination	16(13.11)	106(86.89)
Urine routine examination	83(68.03)	39(31.97)
Ultrasonography of abdomen	89(72.95)	33(27.05)

**Diagram:**

