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*Original article*

# A Community-based Study on Magnitude and Determinants of Delayed Registration of Pregnancy in a Rural Block of West Bengal, India.

**Rabindra Nath Sinha*, Arupratan Ghosh**, Soumendra Nath Ari***, Asim Sarkar******

## ABSTRACT:

**Background & objectives**: Antenatal care is required for management of pregnancy, early identification and appropriate timely management of complications, promotion of good health, both for the mother and the growing foetus and to teach the mothers about child care, nutrition, sanitation and hygiene. Early registration of pregnancies within first trimester and a minimum number of four antenatal check-ups are essential requirements of quality essential antenatal care. A community-based cross-sectional study was organized to generate community-based data on the distribution of the time of antenatal registration, extent of delayed registration and factors associated with delayed registration of pregnancies. **Methodology:** WHO Thirty Cluster sampling method was followed to select women from the study area. Data were collected from mothers who had delivered babies in last one year by trained Post graduate students of All India Institute of Hygiene & Public Health,

* Professor, All India Institute of Hygiene and Public Health, Kolkata

** Post-Graduate Student (MD), Physical Medicine & Rehabilitation, R.G. Kar Medical College, Kolkata
*** Technical Officer (SPSRC), Swastha Bhavan, Kolkata

**** Chief Medical Officer (NFSG), All India Institute of Hygiene and Public Health, Kolkata

Corresponding author:
Dr. Rabindra Nath Sinha, Professor, All India Institute of Hygiene and Public Health, Kolkata
e-mail –rnsinha57@yahoo.co.in/ Moblile: 9433101001

Kolkata.**Results:**About four fifths (79.1%) of mothers had timely registration (within 12 weeks) of last pregnancy. Common causes for delayed registration were 'lack of knowledge about importance of early registration' (60.0%), followed by 'lack of motivation' (24.0%). Time of antenatal registration was not significantly related to education of women or their husbands, occupation, religion, caste, parity and distance from health facilities. A trend of delayed registration was observed with increase of per capita monthly income of families. Proportion of early registration was significantly higher (87.1%) in mothers having knowledge about importance of early registration than mothers with lack of knowledge about recommended ideal time of antenatal registration (33.3%). **Conclusion:** The study highlights the role of health workers for awareness generation among mothers for early registration.

**Key Word :** Registration of pregnancy, delayed registration, determinants, magnitude, community-based study.

## Introduction:

The burden of high maternal mortality and morbidity is a matter of great concern to India. However, the country is committed to reduce Maternal Mortality Ratio (MMR) to 109 per 100.000 live births by 2015 to meet the Millennium Development Goals(MDG - 5)[1]. Essential antenatal care for all pregnant women is crucial for reduction of maternal mortality. Regular antenatal check-ups provide necessary care to the mother and the growing foetus and helps early detection and timely management of complications of pregnancy in the mother and slow/inadequate growth of the foetus. Early registration of pregnancy and first antenatal check-up within 12 weeks of pregnancy is very important to ensure quality of antenatal care received by women[2]. National Family Health Survey(NFHS) - 3 of West Bengal reveals that though 92 % of pregnant women received antenatal care only 39% received antenatal care during the first trimester of pregnancy[3]. Government of India has introduced '*Nischay Kit'* in the national programme which is a low cost home-based system for early detection of pregnancy[2]. These kits are being available to the sub centers and also being provided to Accredited Social Health Activists(ASHAs)[4]. The study was conducted to generate community based data on the distribution of the time of antenatal registration, extent of delayed registration and factors associated with delayed registration in a rural block of West Bengal, India.

## Methodology

The community-based cross sectional study was conducted in Bishnupur-II Community Development block of South 24 Parganas district of West Bengal.There were two primary health centers and 26 subcenters catering primary health care services to 83 villages with a total population of 2,19,309[5]. WHO Thirty Cluster Sampling method, with eight randomly selected mothers per cluster, as recommended by UNICEF for field work as used in earlier studies [6,7,8], was followed to select the study participants.All the selected clusters were

arbitrarily divided,in consultation with local key informants' into four quadrants of more or less equal households. From each quadrant of the selected clusters, randomly selected two mothers who had live birth in last one year, were interviewed. Data were collected by trained post graduate students of public health using pre-designed, pre-tested and semi-structured schedule. Eligible women selected for the study were briefed about the nature and purpose of the study and informed consent was obtained. Sick/ moribund and non-willing mothers were not interviewed. Field data for the study were collected in the month of January 2013.
Collected data from the study subjects were checked for consistency and completeness and were entered into Microsoft Excel sheet for analysis. Analysis was done by IBM Statistical Package for Social Sciences (SPSS) version 19. Chi square test was applied as test of significance for categorical variables and significance level was set at p value <.05.

## Results and Discussion:

Early registration of pregnancies within first trimester and a minimum number of four antenatal check-ups are essential requirements of quality essential antenatal care[2]. The present community-based study was organized to seek reasons for delayed registration of pregnancies in a block of South 24 Parganas district of West Bengal. A total of 240 women were included in the study. Majority (90.4%) were home makers, 60.4% were Hindus and 32.6% were SC / ST / OBC. Illiteracy was 9.2% and per-capita monthly income of less than Rs.1000/- was 55.5%. Health workers were the main source of health information and care provider for 83% of pregnant women. Most of the antenatal registrations for the last pregnancies were done in Govt. set up (92.1%), mostly by ANM/ Health Workers. Table – 1 depicts some of the background characteristics of the study participants.

**Table: 1: Background characteristics of the study population** (n= 240)

| | **No. (%)** |
|---|---|
| ***Age distribution (yrs)*** ≤ 19 | 4 (1.7%) |
| 20-30 | 211 (87.9%) |
| >30 | 25 (10.4% |
| ***Religion*** Hindu | 145 (60.4%) |
| Muslim | 95 (39.6%) |
| | |
| ***Caste*** SC/ ST/ OBC | 78 (32.6% |
| | |
| ***Education*** Illiterate | 22(9.2%) |
| Upto class X | 184(76.7) |
| HS and above | 34(14.1%) |
| ***Occupation*** Home maker | 217(90.4%) |
| others | 23 (9.6%) |
| ***Type of family*** Nuclear | 136(56.7%) |
| Joint | 104 (43.3%) |
| ***Per capita monthly income (Rs.)*** < 1000 | 132 (55.0%) |
| | 83 (34.6%) |
| 1000 – 1999 | 20 (8.3%) |

| | |
|---|---|
| 2000 – 2999<br>> 3000 | 5 (2.1%) |
| ***Main source of health information***<br>Doctor<br>Health workers<br>Neighbours/relatives<br>Husband<br>Others | <br><br>14 (5.8%)<br>213(88.8%)<br>8 (3.3% )<br>3(1.25%)<br>2(0.8%) |
| ***Service provider for registration of last pregnancy***<br>Govt. doctor<br>ANM/ Health worker<br>Anganwadi Worker<br>Private doctor<br>Not done | <br><br>15 (6.3%)<br>199(82.9%)<br><br>7(2.9%)<br>18(7.5%)<br>1 (0.4%) |

Out of 240 mothers, only one did not register and had no antenatal check up. Of those who registered, 79.1% had their registration within 12 weeks. About one fifth of antenatal mothers did not have their registration and first antenatal check up within first trimester of pregnancy.(Table-2)

**Table-2: Respondents according to time of registration of pregnancy (n=239)**

| Time of Antenatal registration | No. of women | % |
|---|---|---|
| ≤12 weeks | 189 | 79.1 |
| 12-16 weeks | 37 | 15.5 |
| >16 weeks | 13 | 5.4 |

The commonest cause of delayed registration was found to be lack of knowledge about the necessity of early registration within first twelve weeks of pregnancy. Twelve mothers stated various reasons for delayed registration, though they were aware of the recommended ideal time of registration. (Table -3)

**Table – 3: Causes of delayed antenatal registration (after 12 weeks) of last pregnancy (n= 50)**

| Causes | Frequency | % |
|---|---|---|
| Lack of knowledge about importance of early registration | 30 | 60.0 |
| Lack of motivation | 12 | 24.0 |
| Not aware of pregnancy detection kits | 5 | 10.0 |

| | | |
|---|---|---|
| No complication in previous pregnancy | 4 | 8.0 |
| Uneventful early pregnancy (1st trimester) | 4 | 8.0 |
| Long distance | 3 | 6.0 |
| Unaware of JSY/ JSSK benefits | 2 | 4.0 |
| Multiparity | 2 | 4.0 |
| Influence of family members/ friends | 2 | 4.0 |
| Others | 5 | 10.0 |

- Multiple responses

Time of antenatal registration was not significantly related to education of women or their husbands, occupation, religion, caste, parity and distance from health facilities. A trend of delayed registration was observed with increase of per capita income. Delayed registration (after 12 weeks) were 15.2% among women with per capita monthly income of Rs. < 1000/- whereas it was 26.1% and 32.0% among women with per capita monthly income of Rs. 1000-1999/- and Rs. 2000/- and above respectively. Proportion of early registration was significantly higher (87.1%) in mothers having knowledge about importance of early registration than mothers with lack of knowledge (33.3%). Table -4

**Table - 4: Respondents according to knowledge about ideal time of antenatal registration and actual time of registration of last pregnancy (n=239)**

| **Knowledge about ideal time of antennal registration** | **Actual time of registration of last pregnancy** | | | | **Total** | **%** |
|---|---|---|---|---|---|---|
| | **≤12 weeks** | **%** | **>12 weeks** | **%** | | |
| ≤12 weeks | 175 | 87.1 | 26 | 12.9 | 201 | 84.1 |
| >12 weeks | 12 | 33.3 | 24 | 66.7 | 36 | 15.9 |
| Total | 189 | 79.1 | 50 | 20.9 | 239 | 239 |

**$X^2 = 52.95$, d.f. =1, $p < 0.01$, significant**

District Level Household Survey-3 (DLHS) of West Bengal (2007-08)[9] revealed that though 96.1% of pregnant women received any antenatal check up only 67% had three or more ANCs. The survey also found that only 42.4% pregnant mothers had antenatal check up in first trimester. It can be assumed that to ensure a minimum of four antenatal check ups as

recommended in national programme[2] more stress should be given on early registration of pregnancies. The introduction of Nischay Kit in the RCH programme also would certainly facilitate early confirmation of pregnancy and first antenatal check up within first 12 weeks of pregnancy. Study conducted at Madhya Pradesh by Sarosheet al[10] has found a definite increase in the utilization of RCH services (early ANC registration & increased institutional delivery) due to early detection of pregnancy with the help of home-based pregnancy detection kits.

## Conclusion and recommendations:

The study has demonstrated importance of awareness generation of women in favor of early registration of pregnancy and the role that our health workers could play in achieving the objective of early registration of all pregnant women to deliver the essential components of antenatal care in a timely manner. More concerted efforts are needed to educate mothers, family members and community members in favor of 100% timely registration of pregnancy to ensure good quality of essential antenatal care to be achieved by all pregnant mothers as desired in the national programme.

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