WORKING PAPER 145

NORMATIVE AND ACTUAL PROVISION OF ANTENATAL HEALTH CARE SERVICES IN KARNATAKA

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2004

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Abstract

An attempt has been made in the present study, by using the RCH data in Karnataka, to know the level of utilisation of all the services that are considered essential for safe delivery. The utilisation of the entire essential antenatal health care services is found to be only 8.5 per cent while 10.7 per cent have not received any services. The percentage of women receiving all essential antenatal health care services is higher among those living in urban areas, Coastal and Malnad regions, and pucca houses.

Introduction

Provision of maternal and child health service in the country has received added emphasis in recent years. In 1992-93, the Child Survival and Safe Motherhood Programme was started and run along with the Family Planning Programme. In 1996, these programmes were incorporated into the Reproductive and Child Health (RCH) Programme. This programme aims at achieving actual care rather than meeting targets. Some important elements of this programme include:

- Provision of antenatal care including at least three antenatal visits, iron prophylaxis tablets for pregnant and lactating mothers, two doses of tetanus toxoid vaccine, detection and treatment of anaemia in mothers and management and referral of high risk pregnancies;
- Encouragement of institutional deliveries or home deliveries assisted by trained health personnel;
- Provision of postnatal care including at least three postnatal visits, and
- Identification and management of reproductive tract and sexually transmitted infections.

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In rural areas, institutions run by the Government such as sub-centres, primary health centres, and community health centres as well as private institutions provide these services. Auxiliary Nurse-cum-Midwives, commonly called ANM, play a crucial role in reaching these services to rural women. In urban areas the role of Government institutions is limited as private practitioners and institutions take the major share in providing these services. Antenatal health care (ANC) services refer to pregnancy related services provided by a doctor or a health worker in a medical facility or at home. Natal and postnatal health care services relate to services during delivery and after delivery respectively. A pregnant woman is expected to receive a set of minimum antenatal health care services according to the Manual on Child Survival and Safe Motherhood (CSSM) programme (Ministry of Health and Family Welfare 1994). The RCH programme includes other health services in addition to those specified in the CSSM programme (Ministry of Health and Family Welfare 1997). It includes comprehensive health provision for women including adolescent girls and other women who are not currently married.

An attempt has been made in this paper to study the *normative* and *actual* provision of antenatal health care services in Karnataka. The actual antenatal service received is defined as the actual amount of each service received by those women who have received all the antenatal health care services. The quality of each service is measured as specified in the RCH Manual. A majority of studies carried out so far have documented the proportion of women receiving each service, but the proportion of women receiving all the minimum required services together is not known. It may be of interest for programme managers and policy makers to know the actual proportion of women receiving full, partial and no service to assess the programme and its impact on the health of the woman and the infant. Such an analysis will not only help in designing programme interventions to improve the actual care by identifying the deficiencies in service of the delivery system, but also to improve its coverage. Further, it will also help in assessing the database required for the study on quality of the antenatal health care delivery system.

Quality care is a very broad concept and may be measured in a variety of ways. However, in a large-scale survey, eliciting detailed information on quality care may not be possible. An attempt has been made for the first time in the District Rapid Household Survey under the RCH programme to collect some vital information on quality care at the time of antenatal, natal and postnatal health care services. In the paper, all the information that was collected in the survey on antenatal health

care services has been used to assess the quality of care. Data have been presented in percentages for easy understanding of the underlying phenomena.

The set of antenatal health care services that a pregnant woman should receive according to the CSSM programme has been used as the yardstick to study the actual care provided under the antenatal and delivery care services. These services are listed below:

Pregnant Women

I Essential care for all

- Register by 12 – 16 weeks
- Antenatal check-up at least 3 times
- Immunisation with TT
- Give IFA large tablets to all (1 tablet a day for 100 days)
- Treat those with clinical anaemia (2 tablets a day for 100 days)
- Deworm with mebendazole (during $2^{nd}/3^{rd}$ trimester) in areas where prevalence of hook worm infection is high
- Provide safe and clean delivery services
- Prepare the women for exclusive breast feeding and timely weaning
- Post-natal care, including advice and services for limiting and spacing births

II Early detection of complications

- Clinical examination to detect anaemia
- Bleeding indicating APH (before labour) or PPH (after delivery)
- Weight gain of more than 5 kg in a month or systolic BP more than 140 mmHg or more or diastolic BP of 90 mmHg or more
- Fever – 39^{o}C and above after delivery or after abortion
- Prolonged or obstructed labour (labour pain for more than 12 hours)

III Emergency care for those who need it

- Early identification of obstetric emergency
- Provide initial management and refer to identified referral units
- Use fastest available mode of transport

District Rapid Household Survey Under RCH

The Reproductive and Child Health interventions being implemented by the Government of India are expected to provide quality services and achieve multiple objectives. There has been a paradigm shift from method-mix-target based activity to client-centred demand-driven actual services. The Central Government desires to reorient the programme and strengthen the services at the outreach level. The new approach requires decentralisation of planning, monitoring and evaluation of the services at the basic level, which is a district.

Keeping the above objectives in view, the Government of India desired to generate district level data on utilisation of services provided by the government health facilities and people's perception of the quality of these services. In order to achieve this goal, the Government of India decided to undertake a Rapid Household Survey (RHS) in all the districts of the country so that the progress of the RCH programme can be monitored. About fifty per cent of the districts in the country were covered in the first year of the project (1998) and the remaining in the second year (1999). The main focus of the Rapid Household Survey was on the following aspects (PRC, ISEC and IIPS, Mumbai, 1998; PRC, ISEC and IIPS 1999):

- Coverage of ANC and immunisation services;
- Proportion of safe deliveries;
- Contraceptive prevalence rate;
- Unmet need for Family Planning;
- Awareness about RTI/STI and HIV (AIDS); and
- Utilisation of health services and the user's satisfaction.

The sampling procedure is self-weighted and designed to yield estimates for rural and urban areas of each district. In every district 1100 households were selected from 50 clusters of villages in rural areas and census enumeration blocks in urban areas. All eligible women (currently married and aged 15-44 years) available in selected households were covered in the survey. To minimise the recall bias, information on pregnancies that occurred in the four years preceding the survey was collected. The data were obtained using a uniform questionnaire, sample design and field procedures in 1998 and 1999 across the country. The survey thus provided comparable data for all the districts covered. The Rapid Household Survey (RHS) is the first of its kind in the country ever conducted to generate basic data at the district level. In the paper, district level data have been pooled to facilitate state level analysis. Although we

have not attempted to weight the samples to be more representative of households from each district, we hold constant key characteristics that reflect the sampling biases.

In Karnataka, the first phase of the survey in 1998 covered ten districts, contacting 10,882 households. The second phase of the survey in 1999 covered the remaining ten districts contacting 11000 households. The state had 20 districts according to the 1991 census and the same classification was followed to cover all districts in the state. At present, there are 27 districts in the state. Seven new districts were carved out in 1998-99. It may be noted that the collection of data on antenatal, natal and postnatal care services has been restricted to all eligible (currently married and aged 15-44 years) women who had their last live or stillbirth since January 1995 in Phase1 and since January 1996 in phase 2.

Actual Antenatal Health Care Services

Actual antenatal check-up

Antenatal check-up is the most essential part of the total antenatal health care service delivery system, through which a pregnant woman receives health care services and advice on various issues related to safe motherhood and child survival. It also facilitates the identification of potentially complicated deliveries and the referring of emergency obstetric cases to the first referral centre. A woman may seek antenatal check-up in a health institution or receive it at home through an ANM. Rural areas and some parts of urban localities are covered by ANM in Karnataka. Data were obtained on antenatal check-ups in two streams, when women received ANC services at home and when they sought it at health institutions.

Actual antenatal check-up received by women at home

When a woman received antenatal check-up at home, information was collected on whether the ANM ever visited the woman, timing of the first visit (month of gestation when first visited by ANM) and number of visits. For women who received advice on check-up, information about the type of health institution that they went to check-up was also collected. The actual antenatal check-up is calculated as the number of all women who had been visited at home in the first trimester more than twice and had been advised on check-ups. In practice, the ANM are expected to visit women at home in each trimester. But information on ANM visits by trimester was not collected. The information collected on advice on check-

up is very vague and does not reflect actual antenatal check-up *per se* because kind of check-up is not specified.

Table 1: Percentage of women receiving antenatal check-ups at home by household characteristics

Household characteristics	Number of cases	ANM visited	In the 1st trimester	More than 2 visits	Advised on check-up	All services (actual)
All women[a]	6068	44.1	24.0	31.7	35.4	17.9
Residence						
Rural	4729	52.7	28.9	38.3	42.2	21.8
Urban	1339	13.9	6.7	8.3	11.4	4.5
Region[b]						
Southern Maidan	2236	39.5	21.2	29.7	35.6	16.1
Northern Maidan	2326	33.6	12.0	19.0	19.3	5.9
Coastal and Malnad	1506	67.3	46.7	54.2	59.8	39.4
Type of house						
Pucca	1023	36.5	23.7	28.5	32.1	20.1
Semi-pucca	3488	46.9	26.0	33.9	37.9	19.4
Katcha	1192	41.8	18.0	27.1	30.3	11.5
Source of drinking water						
Tap	1499	31.9	19.1	24.1	27.4	15.1
Hand-pump	2507	42.3	20.3	29.4	32.0	14.5
Well	1488	55.2	32.3	39.4	45.6	25.0
Others	565	55.6	31.9	41.4	44.8	22.5
Religion						
Hindus	5074	45.0	24.3	32.1	35.9	18.0
Muslims	815	37.9	20.6	28.2	31.0	16.6
Christians	124	46.8	29.8	34.7	39.5	23.4
Others	46	54.3	34.8	43.5	43.5	28.3
Caste						
Scheduled Castes	1115	46.0	23.9	31.3	35.8	16.6
Scheduled Tribes	503	44.3	20.1	31.6	34.6	14.3
Other Hindus	3456	44.7	25.1	32.4	36.1	19.0
Other religions	985	39.8	22.4	29.4	32.7	18.0

a: Women who had last live or still birth since January 1995 in phase 1 and since January 1996 in phase 2.

b: Southern maidan includes Bangalore, Bangalore Rural, Chikmagalur, Chitradurga, Hassan, Kolar, Mandya, Mysore and Tumkur districts. Northern Maidan includes Belgaum, Bellary, Bidar, Bijapur, Dharwad, Gulbarga and Raichur districts. Coastal and Malnad includes Dhakshina Kannada, Kodagu, Shimoga and Uttara Kannada.

Percentage of women who were visited by the ANM, those visited in the first trimester, those visited more than twice and those who received advice on check-up by household characteristics are presented in Table 1. Percentage of women who received all the services is also given in the table. About 18 per cent of all women have received all antenatal check-up services at home as provided by the ANM. It is about 22 per cent in rural areas and only 5 per cent in urban areas. Some Primary Health Centres (PHC) cover urban localities and are served by the ANM. Women in urban areas often utilise antenatal services in health institutions. Therefore, the proportion of women receiving all antenatal check-up services at home is expected to be higher in rural than in urban areas. The proportion of women who received all antenatal check-up services at home is about 39 per cent in Coastal and Malnad regions of the State and is much higher than in other regions. To provide all antenatal check-up services at home in Coastal and Malnad region is rather difficult compared to other regions of the State as houses are scattered over large areas located in agriculture or garden lands of the owners. Despite these handicaps, the proportion of women receiving all antenatal check-up services at home is very high. In the Coastal and Malnad region, literacy levels are high and hence, a high demand for such services has been observed in this region.

Percentage of women receiving all antenatal check-up services at home is lower for those living in katcha houses compared to those living in other types of house. Percentage of women receiving all antenatal check-up services at home is lower among those using tap or hand-pump compared to well or 'others' for drinking water. Percentage of women receiving all antenatal check-up services at home is lower among Hindus and Muslims than among those of other religions. Similarly, the proportion of women receiving all antenatal check-up services is lower among Scheduled Castes (SC) and Scheduled Tribes (ST) as compared Non SC/ST.

Percentage of women who were visited at home by the ANM, visited in the first trimester, visited more than twice and received advice on check-ups by woman's characteristics are presented in Table 2. Percentage of women who received all antenatal check-up services is also presented in the table. Percentage of women receiving all antenatal check-up services at home is low among illiterate, very young (age group of 15–19) and very old (age group of 40–44) women and those who had more than two live births or had experienced child mortality.

Table 2: Percentage of women receiving antenatal check-up at home by woman's characteristics

Woman's characteristics	Number of cases	ANM visited	In the 1st trimester	More than 2 visits	Advised on checkup	All services (actual)
All women[a]	6068	44.1	24	31.7	35.4	17.9
Years of schooling						
0	3168	44.6	20.9	30.1	33.0	14.2
1- 4	284	48.9	29.6	37.3	45.1	23.2
5- 9	1355	54.4	27.5	33.9	39.6	21.5
10-14	1060	58.5	27.5	33.4	36.1	22.8
15+ 2	01	69.2	22.4	23.9	26.9	19.9
Current age of woman						
15-19	774	40.1	20.2	25.1	29.8	12.7
20-242	472	44.2	24.6	31.6	35.4	17.9
25-29	1857	44.9	24.7	33.3	37.0	19.7
30-34	682	46.6	25.7	34.9	38.4	20.8
35-39	236	44.1	20.8	31.4	33.5	16.1
40-44	47	40.4	21.3	34.0	25.5	6.4
Number of live births[b]						
<=1	1694	40.5	25.1	29.2	34.8	18.9
2	1898	46.8	27.9	35.1	38.6	22.2
3	1186	45.8	22.7	32.8	35.9	15.9
4+	1290	43.4	17.9	28.8	30.9	12.2
Sex composition of living children[b]						
More males	2209	44.9	23.0	31.1	36.4	17.4
Equal	1445	44.3	25.4	33.1	37.0	20.1
More females	2414	43.3	24.0	31.3	33.5	17.1
Child mortality[b]						
None	4925	44.3	25.2	32.1	36.3	19.1
At least one	1143	43.5	18.9	29.6	31.4	13.0

a: as in Table 1.

b: Information on antenatal care was available for all the births that occurred during three years prior to the interview date. These births are included in the independent variables such as number of live births, sex composition of living children, and child mortality hence the results should be treated with caution.

Actual antenatal check-up services sought by women in a health institution

Women who were not visited at home by ANM were asked whether they went for antenatal check-up to any health institution. For those who went to a health institution for ANC check-up, information about type of health institution, timing of first visit and number of visits were collected. Actual care is calculated by taking those women who went for antenatal check-up in the first trimester more than twice. While calculating actual care, information on type of health institution where antenatal check-up services were sought has not been considered because the motive of this paper is to see the actual antenatal care services received. Percentage of women, who went for antenatal check-up to a health institution, went in the first trimester and went more than twice by household characteristics are presented in Table 3. The percentage of women who sought all antenatal check-up services is also presented in this table.

About 28 per cent of all women have sought all antenatal check-up services in a health institution. Percentage of women seeking all antenatal check-up services in a health institution is far higher among urban (56 per cent) than among rural (20 per cent) women.

The actual antenatal check-up service is higher when women receive antenatal services in a health institution than when they receive it at home. A woman's motivation to get all antenatal check-up services is expected to be better when she seeks them in an institution compared to receiving them at home. Comparatively 55 per cent of those who went for antenatal check-up to a health institution have received actual ANC as compared to 44 per cent of those who received it at home. It is interesting to note that a considerable percentage of women even in rural areas have sought antenatal check-up services in health institutions. Rural women receiving all antenatal check-up services in health institutions are 20 per cent and at home 22 per cent.

Percentage of women receiving all antenatal check-up services in a health institution is higher (39 per cent) in the Southern Maidan than in other regions in Karnataka because Bangalore urban agglomeration is a part of this region. Though religious differentials are not large, the proportion of those receiving all antenatal check-up services in a health institution is high among women belonging to other Hindu castes.

Table 3: Percentage of women seeking antenatal check-up in a health institution by household characteristics

Household characteristics	Number of cases	Went for ANC checkups	In the 1st trimester	More than 2 visits	All services (actual)
All women	6068	45.2	30.3	37.5	27.8
Residence[a]					
Rural	4729	35.8	22.2	28.2	19.8
Urban	1339	78.5	58.8	70.5	55.9
Region[b]					
Southern Maidan	2236	55.4	41.1	49.6	38.7
Northern Maidan	2326	44.4	24.5	32.0	20.9
Coastal and Malnad	1506	31.5	23.4	28.0	22.2
Type of house					
Pucca	1023	59.7	48.6	55.1	47.1
Semi-pucca	3488	44.1	29.4	37.0	26.8
Katcha	1192	36.3	17.8	24.0	14.7
Source of drinking water					
Tap 1	499	61.4	46.2	55.0	43.8
Hand-pump	2507	44.8	27.7	35.6	24.8
Well 1	488	33.5	22.2	26.3	19.6
Others	565	35.2	21.6	29.4	20.7
Religion					
Hindus	5074	44.0	29.8	36.5	27.2
Muslims	815	52.3	32.9	43.6	30.8
Christians	124	47.6	36.3	41.1	32.3
Others	46	45.7	32.6	37.0	28.3
Caste					
Scheduled Castes	1115	40.7	23.8	31.4	20.7
Scheduled Tribes	503	37.0	20.5	27.2	17.9
Other Hindus	3456	46.2	33.1	39.5	30.7
Other religions	985	51.4	33.3	42.9	30.9

a and b as in Table 1.

Table 4: Percentage of women receiving antenatal check-up outside home by woman's characteristics

Woman's characteristics	Number of cases	Went for ANC checkups	In the 1st trimester	More than 2 visits	All services (actual)
All women[a]	6068	45.2	30.3	37.5	27.8
Years of schooling					
0	3168	37.8	20.8	28.2	17.9
1- 4	284	42.6	28.5	35.2	26.1
5- 9	1355	50.3	35.1	43.5	32.8
10-14	1060	57.3	47.0	53.1	45.4
15+201	69.2	62.2	65.2	59.2	
Current age of woman					
15 – 19	774	49.2	30.6	38.8	26.7
20 – 24	2472	46.4	31.0	38.5	28.7
25 – 29	1857	45.3	30.8	38.2	28.5
30 – 34	682	41.5	30.8	35.6	28.6
35 – 39	236	30.9	18.2	23.3	15.3
40 – 44	47	42.6	21.3	34.0	21.3
Number of live births[b]					
<=1	1694	54.8	41.1	48.5	38.9
2	1898	45.9	32.4	38.8	29.3
3	1186	43.1	27.0	35.2	24.6
4+	1290	33.6	16.0	23.4	13.8
Sex composition of living children[b]					
More males	2209	44.6	29.6	37.0	27.5
Equal	1445	46.6	30.9	38.7	28.0
More females	2414	45.0	30.6	37.3	28.0
Child mortality[b]					
None	4925	47.0	32.5	39.6	29.9
At last one	1143	37.4	20.9	28.5	18.6

a and b as in Table 2.

Percentage of women who went for antenatal check-up to a health institution, went in the first trimester and went more than twice, as per the woman's characteristics are presented in Table 4. Percentage of women seeking all antenatal check-up services in a health institution is positively associated with years of schooling. Percentage of women seeking all antenatal check-up services in a health institution is high in the age 15–34. Percentage of women seeking all antenatal check-up services in a health institution is negatively associated with number of earlier live births. While sex composition of living children has not shown any differentials in the percentage of women seeking all antenatal check-up services in a health institution, child mortality has shown a substantial differential. A higher percentage of women who had experienced child mortality than of those who had not experienced child mortality sought antenatal check-up services in a health institution.

Actual measurement of weight and blood pressure

To identify probable complications during delivery, every woman's weight and blood pressure should be measured three times during her pregnancy and monitored for any abnormality. A pregnant woman is more likely to have complications during delivery when her weight increases 5 kg in a month or her systolic blood pressure exceeds 140 mm Hg. All women receiving antenatal check-up at home or in a health institution were asked whether their weight was measured and blood pressure checked. However information on the number of times it was measured and the readings of these measurements is not elicited. Also, such information may not be easily available from women in the absence of good record keeping. Collecting such limited data in the survey on weight and blood pressure may not be meaningful in a study monitoring probable complicated deliveries during antenatal care.

Percentage of women who had their weight and blood pressure measured is presented in Table 5, classified by household characteristics. Higher percentages of women have received these services in urban areas, in the Coastal and Malnad regions, and among those living in pucca house and having tap water for drinking. Percentage of women receiving these services is lower among Hindus than other religions. The number of women receiving these services is low among Schedule Castes and Scheduled Tribes.

Table 5: Percentage of women who had their weight and blood pressure measured by household characteristics

Household characteristics	Number of cases	Weight measured (actual)	Blood pressure measured (actual)
All women[a]	6068	54.2	66.7
Residence			
Rural	4729	49.0	62.2
Urban	1339	72.4	82.2
Region[b]			
Southern Maidan	2236	66.7	76.1
Northern Maidan	2326	31.9	44.8
Coastal and Malnad	1506	70.0	86.5
Type of house			
Pucca	1023	77.7	88.1
Semi-pucca	3844	55.6	68.0
Katcha	1192	29.6	44.4
Source of drinking water			
Tap	1499	68.9	79.5
Hand-pump	2507	46.9	58.9
Well 1	488	49.3	65.5
Others	565	60.4	71.0
Religion			
Hindus	5074	53.3	65.5
Muslims	815	56.2	71.0
Christians	124	69.4	78.2
Others	46	78.3	89.1
Caste			
Scheduled Castes	1115	43.5	55.0
Scheduled Tribes	503	41.0	50.1
Other Hindus	3456	58.2	71.2
Other religions	985	58.9	72.8

a and b are as in Table 1.

Percentage of women who had their weight and blood pressure measured by woman's characteristics is presented in Table 6. Percentage of women who had their weight and blood pressure measured is positively associated with years of schooling. In general, a high percentage of women has received these services in the age groups 15-34. Percentage of women receiving these services is negatively associated with number of earlier

live births. Sex composition of living children has not indicated any major differentials. Lower proportion of women received these services among those who had experienced child mortality rather than those who had not experienced child mortality.

Table 6: Percentage of women who had their weight and blood pressure measured by woman's characteristics

Woman's characteristics	Number of cases	Weight measured (actual)	Blood pressure measured (actual)
All women[a]	6068	54.2	66.7
Years of schooling			
0	3168	36.9	50.0
1- 4	284	53.9	72.9
5- 9	1355	65.2	80.1
10-14	1060	84.0	91.8
15+	201	95.0	98.0
Current age of woman			
15 – 19	774	45.9	61.2
20 – 24	2472	55.1	67.5
25 – 29	1857	57.1	69.5
30 – 34	682	56.7	68.8
35 – 39	236	45.3	52.1
40 – 44	47	34.0	46.8
Number of live births[b]			
<=1	1694	68.5	80.2
2	1898	61.7	73.9
3	1186	48.6	63.0
4+	1290	29.4	41.8
Sex composition of living children[b]			
More males	2209	54.7	66.5
Equal	1445	56.1	70.1
More females	2414	52.5	64.8
Child mortality[b]			
None	4925	58.2	70.5
At least one	1143	37.0	50.5

a and b as in Table 2.

Actual Immunisation Services

Actual consumption of IFA tablets against anaemia

Iron deficiency anaemia is a major problem among pregnant women in India. The negative impact of iron deficiency anaemia on safe motherhood and survival of infants has been well documented in the literature (IIPS and ORC Macro, 2000). For safe motherhood and survival of the infant, all pregnant women are expected to consume 1 IFA tablets a day for 100 days. If a pregnant woman is diagnosed as anaemic clinically, she is supposed to consume 2 tablets a day for 100 days. IFA tablets are supplied free through ANM or women can buy them at a medical store. However, free supply of IFA tablets may sometimes be irregular. Information on the consumption of IFA tablets of all women who had antenatal check-up at home or in a health institution were collected in the survey. Data were obtained on whether IFA tablets were received, number in which those were received, which month of gestation they were first received, and number of tablets regularly consumed in a day. From the data, actual consumption of IFA tablets is taken as the number of women who received more than 100 IFA tablets before the 7th month of gestation and regularly consumed one tablet a day. It is assumed that any woman receiving IFA tablets before 7th month of gestation will have 3 months time to consume the full course of one tablet a day. Information on clinical diagnosis of anaemia, followed by treatment of anaemic women with 2 IFA tablets per day for 100 days was not collected in the survey. In addition, no information was collected in the survey on the history of passing worms and treatment for worms.

Percentage of women who received IFA tablets, received more than 100 tablets, received them before the 7th month of gestation and regularly consumed one tablet a day, and the actual consumption of IFA tablets by household characteristics is presented in Table 7. About 25 per cent of women have received all ante-natal care services. Rural-urban differentials are marginal. In general, the percentage of women regularly consuming one tablet a day for three months is high in Coastal and Malnad region, and among those living in pucca houses and depending on well or 'others' as the source of drinking water. Religious and caste differentials are not significant.

Table 7: Percentage of women received IFA tablets, received more than 100 IFA tablets, received before the 7th month of gestation, consumed at least one tablet a day, and all services (actual) by household characteristics

Household characteristics	Number of cases	Received IFA tablets	Received more than 100 IFA tablets	Received before 7th months of gestation	Consumed at least one tablet a day	All services (actual)
All women[a]	6068	71.9	25.5	66.6	68.1	24.9
Residence						
Rural	4729	73.3	26.1	67.8	69.3	25.5
Urban	1339	67.1	23.3	62.7	64.1	22.9
Region[b]						
Southern Maidan	2236	80.0	28.1	76.0	77.1	27.7
Northern Maidan	2326	54.2	11.2	46.9	49.1	10.6
Coastal and Malnad	1506	87.3	43.6	83.2	84.4	43.0
Type of house						
Pucca	1023	76.9	34.5	72.5	74.4	34.2
Semi-pucca	3844	74.2	26.2	69.0	70.1	25.7
Katcha	1192	60.4	15.4	53.9	56.7	14.7
Source of drinking water						
Tap	1499	73.6	26.4	68.6	69.9	26.0
Hand-pump	2507	68.3	20.5	62.1	63.7	19.8
Well	1488	75.3	31.9	71.2	72.8	31.6
Others	565	74.5	28.1	69.6	71.3	27.6
Religion						
Hindus	5074	72.4	25.9	67.0	68.6	25.4
Muslims	815	67.9	22.0	62.8	64.3	21.5
Christians	124	75.0	27.4	71.8	72.6	26.6
Others	46	80.4	39.1	78.3	76.1	39.1
Caste						
Scheduled Castes	1115	70.9	24.8	66.2	67.4	24.1
Scheduled Tribes	503	67.4	21.7	60.8	63.8	21.5
Other Hindus	3456	73.6	26.9	68.2	69.7	26.3
Other religions	985	69.3	23.5	64.7	65.9	22.9

a and b as in Table 1.

Percentage of women who received IFA tablets, received more than 100 tablets, received them before 7th month of gestation, regularly consumed one tablet a day, and the actual consumption of IFA tablets by woman's characteristics is presented in Table 8. The percentage of women regularly consuming one tablet a day for three months is positively associated with the number of years of schooling. Percentage of women regularly consuming one tablet a day for three months is low among younger women of age 15-19 and older women of age 35-44. Percentage of women regularly consuming one tablet a day for three months is negatively associated with number of live births. Sex composition of living children has not indicated any significant differentials. A higher percentage of women, who had not experienced child mortality compared to those who had experienced child morality, regularly consumed one tablet a day for three months.

Actual dose of tetanus toxoid immunisation

Tetanus is a major cause of neonatal and maternal mortality in India. Immunising pregnant women with TT vaccine can prevent tetanus. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are highly effective in preventing tetanus among infants and mothers. When pregnant women are immunised against tetanus, the foetus also gets immunity. The tetanus toxoid (TT) immunisation programme for expectant mothers was initiated in 1975-76 and was integrated with the Expanded Programme of Immunisation (EPI) in 1978. Universal Immunisation Programme (UIP) was initiated in 1985-86, with the objective of vaccinating all pregnant women against tetanus by 1990. In 1992-93, UIP was integrated into Child Survival and Safe Motherhood Programme, which in turn, have been integrated with Reproductive and Child Health Programme. According to the National Immunisation schedule, pregnant woman should receive two doses of TT injection, the first dose should be administered when a woman is 16 weeks pregnant, and the second dose when she is 20 weeks pregnant. Re-inoculation is recommended every three years. If two doses were received less than three years earlier, a simple booster injection is recommended.

Table 8: Percentage of women received IFA tablets, received more than 100 IFA tablets, received before the 7th month of gestation, consumed at least one tablet a day, and all services (actual) by woman's characteristics

Woman's characteristics	Number of cases	Received IFA tablets	Received more than 100 IFA tablets	Received before 7th months of gestation	Consumed at least one tablet a day	All services (actual)
All Women[a]	6068	71.9	25.5	66.6	68.1	24.9
Years of schooling						
0	3168	65.9	19.7	60.2	61.9	19.2
1- 4	284	77.1	27.1	71.5	73.2	26.8
5- 9	1355	77.0	28.8	71.4	72.9	28.0
10-14	1060	79.8	33.9	75.7	76.7	33.3
15+	201	83.1	47.3	81.1	81.6	47.3
Current age of woman						
15 – 19	774	68.2	19.5	62.0	64.1	19.0
20 – 24	2472	74.2	25.9	69.7	70.6	25.4
25 – 29	1857	72.9	27.1	67.2	68.9	26.6
30 – 34	682	69.5	28.9	63.9	66.0	28.0
35 – 39	236	61.9	19.5	57.2	58.9	19.1
40 – 44	47	59.6	14.9	48.9	51.1	14.9
Number of live births[b]						
<=1	1694	76.6	30.5	73.5	74.3	30.2
2	1898	76.9	29.5	71.1	72.2	28.8
3	1186	71.1	23.3	65.1	66.7	22.8
4+	1290	59.1	15.0	52.5	55.3	14.4
Sex of living children[b]						
More males	2209	71.8	24.3	66.8	68.0	23.9
Equal	1445	73.3	28.1	67.6	69.1	27.3
More females	2414	71.2	24.9	65.9	67.6	24.5
Child mortality[b]						
None	4925	73.9	27.1	68.9	70.3	26.6
At least one	1143	63.3	18.5	57.0	58.7	17.7

a and b as in Table 2.

In the survey, information on TT immunisation was elicited for all women who had antenatal check-up at home or in a health institution. Data were obtained on whether the women really received TT immunisation and the number of doses. Percentage of women receiving TT immunisation and receiving two doses of TT immunisation by household characteristics is presented in Table 9. About 26 per cent of all women have received two doses of TT immunisation. Women receiving two doses of TT immunisation is marginally higher in rural than in urban areas. This trend may be due to the fact that urban women may be taking TT immunisation more often and not necessarily during pregnancy. Also, urban women may be taking TT immunisation from private sources. Immunity lasts for three years when a woman first receives two doses of TT immunisation one month apart. Then one booster dose every three years is sufficient to maintain immunity against tetanus. Higher percentages of women in Coastal and Malnad region have received two doses of TT immunisation, as also women living in pucca houses, followed by women living in semi-pucca and katcha houses. Higher percentages of women have received two doses of TT immunisation among those having wells or 'other' sources of drinking water. Relatively lower percentages of women have received TT immunisation among Muslims than other religions; and among Scheduled Tribes than other castes.

The percentage of women receiving TT immunisation and receiving two doses of TT immunisation by woman's characteristics is presented in Table 10. Percentage of women receiving two doses of TT immunisation is positively associated with the number of years of schooling. Percentage of women receiving two doses of TT immunisation is high among those of age 20-34. Percentage of women receiving two doses of TT immunisation is negatively associated with number of live births. The differentials by sex composition of living children are marginal in women receiving two doses of TT immunisation. A higher percentage of women who experienced child mortality received two doses of TT immunisation as compared to those who have not experienced child mortality.

Table 9: Percentage of women receiving TT immunisation and 2 doses of TT immunisation by household characteristics

Household characteristics	Number of cases	TT immunisation	Two doses of TT immunisation (actual)
All women[a]	6068	71.9	25.5
Residence			
Rural	4729	73.3	26.1
Urban	1339	67.1	23.3
Region[b]			
Southern Maidan	2236	80.0	28.1
Northern Maidan	2326	54.2	11.2
Coastal and Malnad	1506	87.3	43.6
Type of house			
Pucca	1023	76.9	34.5
Semi-pucca	3844	74.2	26.2
Katcha	1192	60.4	15.4
Source of drinking water			
Tap	1499	73.6	26.4
Hand-pump	2507	68.3	20.5
Well	1488	75.3	31.9
Others	565	74.5	28.1
Religion			
Hindus	5074	72.4	25.9
Muslims	815	67.9	22.0
Christians	124	75.0	27.4
Others	46	80.4	39.1
Caste			
Scheduled Castes	1115	70.9	24.8
Scheduled Tribes	503	67.4	21.7
Other Hindus	3456	73.6	26.9
Other religions	985	69.3	23.5

a and b as in Table 1.

Table 10: Percentage of women receiving TT immunisation and two doses of TT immunisation by woman's characteristics

Woman's characteristics	Number of cases	TT immunisation	Two doses of TT immunisation (actual)
All Women[a]	6068	71.9	25.5
Years of schooling			
0	3168	65.9	19.7
1- 4	284	77.1	27.1
5- 9	1355	77.0	28.8
10-14	1060	79.8	33.9
15+	201	83.1	47.3
Current age of woman			
15 – 19	774	68.2	19.5
20 – 24	2472	74.2	25.9
25 – 29	1857	72.9	27.1
30 – 34	682	69.5	28.9
35 – 39	236	61.9	19.5
40 – 44	47	59.6	14.9
Number of live births[b]			
<=1	1694	76.6	30.5
2	1898	76.9	29.5
3	1186	71.1	23.3
4+	1290	59.1	15.0
Sex composition of living children[b]			
More males	2209	71.8	24.3
Equal	1445	73.3	28.1
More females	2414	71.2	24.9
Child mortality[b]			
None	4925	73.9	27.1
At least one	1143	63.3	18.5

a and b as in Table 2.

Actual proportion of women who had abdominal check-up

Abdominal check-up is vital in antenatal care because it monitors abnormal or complicated deliveries by regularly checking the position of the foetus in the womb during 4th to 9th month of gestation. Information on the timing of abdominal check-up and the number of check-ups was collected for all women who had antenatal check-up at home or in a health institution. The actual proportion of abdominal check-up is calculated as those women who had abdominal check-up more than twice before 7 months of gestation. It is assumed that a woman has had a minimum of three abdominal check-ups if she has had the first check-up before 7 months of gestation.

Percentage of women who had abdominal check-up before 7 months of gestation and more than twice by household characteristics is presented in Table 11. About 49 per cent of all women had abdominal check-up more than twice before the 7th month of gestation. It is higher in urban than in rural areas. Percentage of women who had abdominal check-up more than twice before the 7th month of gestation is 72 in Coastal and Malnad region compared to only 44 in the Southern Maidan and 39 in the Northern Maidan. Percentage of abdominal check-up done more than twice before the 7th month of gestation is high for those women living in pucca house, among Christians and 'other' religious groups, and among other Hindu castes.

Percentage of women who had abdominal check-up before the 7th month of gestation and more than twice by woman's characteristics, is presented in Table 12. Percentage of abdominal check-up more than twice before the 7th month of gestation is positively associated with the number of years of schooling and negatively associated with the number of live births. In general, women of age 20 to 34 have higher percentage of abdominal check-ups more than twice before 7 months of gestation. Sex composition of living children has not shown any trend in the percentage of abdominal check-ups more than twice before 7 months of gestation. This percentage is higher among women who had not experienced any child mortality than among women who had experienced child mortality.

Table 11: Percentage of women who had abdominal check-up before 7 months of gestation and who had abdominal check-up more than twice by household characteristics

Household characteristics	Number of cases	Women who had abdominal check-up before 7 months gestation	Women who had abdominal check-up more than twice	All service (actual)
All women[a]	6068	78.7	49.3	49.1
Residence				
Rural	4729	76.4	47.1	46.9
Urban	1339	86.9	57.2	56.8
Region[b]				
Southern Maidan	2236	84.7	44.2	44.1
Northern Maidan	2326	64.0	39.6	39.3
Coastal and Malnad	1506	92.8	71.8	71.6
Type of house				
Pucca	1023	90.6	65.7	65.4
Semi-pucca	3844	80.9	49.8	49.3
Katcha	1192	61.8	33.8	33.6
Source of drinking water				
Tap	1499	86.3	56.8	56.4
Hand-pump	2507	73.5	41.6	41.5
Well	1488	78.7	50.3	50.1
Others	565	82.7	61.6	61.4
Religion				
Hindus	5074	78.1	48.8	48.6
Muslims	815	81.8	51.4	51.0
Christians	124	83.9	56.5	56.5
Others	46	87.0	58.7	58.7
Caste				
Scheduled Castes	1115	72.3	40.7	40.6
Scheduled Tribes	503	67.6	36.8	36.8
Other Hindus	3456	81.5	53.1	52.8
Other religions	985	82.3	52.4	52.1

a and b as in Table 1.

Table 12: Percentage of women who had abdominal check-up before 7 months of gestation and who had abdominal check-up more than twice by woman's characteristics

Woman's characteristics	Number of cases	Women who had abdominal check-up before 7 months gestation	Women who had abdominal check-up more than twice	All service (actual)
All women[a]	6068	78.7	49.3	49.1
Years of schooling				
0	3168	68.1	37.1	37.0
1- 4	284	84.2	56.7	56.3
5- 9	1355	87.9	57.6	57.1
10-14	1060	94.4	68.5	68.5
15+	201	95.0	74.6	73.6
Current age of woman				
15 - 19	774	77.0	41.2	40.8
20 - 24	2472	79.6	48.7	48.5
25 - 29	1857	80.9	53.2	53.0
30 - 34	682	78.4	54.3	54.1
35 - 39	236	63.1	40.3	40.3
40 - 44	47	59.6	34.0	34.0
Number of live births[b]				
<=1	1694	88.5	59.2	59.1
2	1898	84.2	53.6	53.1
3	1186	77.2	44.8	44.8
4+	1290	59.2	34.2	34.0
Sex of living children[b]				
More males	2209	78.4	49.8	49.6
Equal	1445	81.4	50.0	49.6
More females	2414	77.5	48.4	48.3
Child mortality[b]				
None	4925	81.6	52.0	51.7
At least one	1143	66.3	37.9	37.7

a and b as in Table 2.

Actual antenatal health care services received

Percentage distribution of women who have received actual ANC care by household characteristics is presented in Table 13. It is interesting to note only about 9 per cent of women have received all services while 11 per cent have not received any antenatal service. A majority of women, about 81 per cent, have received partial service. In general, women receiving all services, and none at all are negatively associated with any given household characteristic. Percentage of women receiving all services is high in urban areas (10 per cent), Coastal and Malnad region (18.5 per cent), among those living in pucca house (18 per cent), Christians (13.7 per cent), and other Hindu castes (10 per cent). Percentage of women receiving no service at all is high in rural areas (11.5 per cent), Northern Maidan (22 per cent), living in Katcha house (21.9 per cent), Hindus (11 per cent), Muslims (9.8 per cent), Scheduled Castes (13.3 per cent) and Scheduled Tribes (18.7 per cent).

Percentage distribution of women, who have received actual ANC care as per woman's characteristics is presented in Table 14. Percentage of women receiving all services is positively associated with number of years of schooling. Association between the percentage of women receiving all services and number of live births is positive while association between the percentage of women receiving no service at all and number of live births is negative. The actual care is very low among older women of age 35-44, as they have been receiving only partial or no service at all. Sex composition of living children has not shown any major differentials in the actual care. Percentage of women receiving actual care is relatively better among those who have not experienced child mortality than among those who have experienced child mortality.

Table 13: Percentage distribution of women receiving all antenatal health care services by household characteristics (actual care)

Household characteristics	Number of cases	Women receiving actual care			
		All the services	Some of the services	None	Total
All women[a]	6068	8.5	80.8	10.7	100.0
Residence					
Rural	4729	8.1	80.4	11.5	100.0
Urban	1339	10.1	82.3	7.6	100.0
Region[b]					
Southern Maidan	2236	8.4	86.5	5.1	100.0
Northern Maidan	2326	2.2	75.8	22.0	100.0
Coastal and Malnad	1506	18.5	80.2	1.3	100.0
Type of house					
Pucca	1023	18.2	78.0	3.8	100.0
Semi-pucca	3844	7.6	83.5	8.9	100.0
Katcha	1192	3.2	74.9	21.9	100.0
Source of drinking water					
Tap	1499	11.7	81.6	6.7	100.0
Hand-pump	2507	5.1	81.9	13.0	100.0
Well	1488	11.0	77.8	11.2	100.0
Others	565	9.2	81.6	9.2	100.0
Religion					
Hindus	5074	8.6	80.4	11.0	100.0
Muslims	815	7.0	83.2	9.8	100.0
Christians	124	13.7	80.7	5.6	100.0
Others	46	17.4	82.6	0.0	100.0
Caste					
Scheduled Castes	1115	5.8	80.9	13.3	100.0
Scheduled Tribes	503	5.2	76.1	18.7	100.0
Other Hindus	3456	10.0	80.9	9.1	100.0
Other religions	985	8.3	82.9	8.8	100.0

a and b as in Table 1.

Table 14: Percentage distribution of women receiving all antenatal health care services by woman's characteristics

Woman's characteristics	Number of cases	Women receiving actual care			
		All the services	Some of the services	None	Total
All women[a]	6068	8.5	80.8	10.7	100.0
Years of schooling					
0	3168	4.2	78.1	17.7	100.0
1- 4	284	8.1	85.6	6.3	100.0
5- 9	1355	9.5	86.4	4.1	100.0
10-14	1060	16.2	82.6	1.2	100.0
15+	201	30.3	69.7	0.0	100.0
Current age of woman					
15 - 19	774	5.2	84.1	10.7	100.0
20 - 24	2472	8.5	82.1	9.4	100.0
25 - 29	1857	9.6	80.5	9.9	100.0
30 - 34	682	10.7	77.4	11.9	100.0
35 - 39	236	6.8	68.2	25.0	100.0
40 - 44	47	0.0	83.0	17.0	100.0
Number of live births[b]					
<=1	1694	13.2	82.1	4.7	100.0
2	1898	10.7	82.0	7.3	100.0
3	1186	5.3	83.6	11.1	100.0
4+	1290	2.2	74.8	23.0	100.0
Sex composition of living children[b]					
More males	2209	7.8	81.7	10.5	100.0
Equal	1445	10.2	80.7	9.1	100.0
More females	2414	8.2	80.1	11.7	100.0
Child mortality[b]					
None	4925	9.7	81.6	8.7	100.0
At least one	1143	3.4	77.4	19.2	100.0

a and b as in Table 2.

Summary of findings

The foregoing analysis suggests that the actual care is not as high as one would expect on the basis of the information collected about each service. The actual care is poor because of some of the inadequacies in the services, which have been highlighted below:

Antenatal check-up in the first trimester

A low level of antenatal check-up services received at home or sought outside home in the first trimester is the major factor in lowering the "full" antenatal check-up services. This may be due to lack of awareness or any discomfort associated with the early stage of pregnancy. It is also possible that women may not be aware that they are pregnant until it is physically visible. Secondly, it may also have something to do with their attitude in seeking these services. They may think that these services are needed only in the second or third trimester.

Immunisation

The actual consumption of IFA tablets is low because women receiving more than 100 tablets is low. In Karnataka, IFA tablets are given in 3 instalments (30+30+40) to avoid wastage if women don't consume them. This may have to be changed. Also, the actual TT immunisation is low because women receiving two doses of TT immu*nisation are few.*

Abdominal check-up

Although a large percentage of women do undergo abdominal check-up, those undergoing this thrice are few.

When all the services are pooled together, considering actual services in each area of care, only 8.5 per cent of all women have received qualitative care. Those receiving any care at all are 10.7 per cent and those receiving partial care are as high as 80.8 per cent. When these percentages are translated into estimated volume of currently married women of age 15-44, according to the 2001 census, out of the total 89 lakh women, only 7.5 lakh receive actual care, followed by 9.5 lakh who do not receive any care and 72 lakh who receive partial care. This achievement is definitely not in accordance with the existing norms and health infrastructure facilities either in public or in private in the state.

It is interesting to note the socio-economic and demography sub-groups of population receiving poor actual care. The differentials presented in actual care in Tables 1 to 14 show that a large percentage of women belonging to socially and economically disadvantaged sections are left out of actual care or receive only partial care. Very few of them receive actual care. The disadvantaged women are illiterate, mostly belong to Scheduled Castes and Scheduled Tribes, live in Katcha houses and have experienced child mortality. Hence, efforts should be focussed to bring about universal coverage of ANC.

As expected, maternal education has a very strong positive impact on actual care. The negative association between actual care and number of live births is disturbing. While women at higher order births are considered to be at a greater risk of maternal and infant mortality, they are deprived of actual care.

Programme Interventions

Some of the findings of the study are not new excepting that we have attempted to measure actual care by taking each service into account. It has often been documented that socially and economically disadvantaged women do not receive adequate health care (IIPS, 1995; PRC, ISEC and IIPS, 1995). The study shows that they also do not receive actual care. Attempts are being made to bring them into the main steam of health coverage. These attempts should be pursued more vigorously in providing actual care.

Actual care is low because of inadequate coverage of some of the services. One of these factors is that of woman not seeking/receiving antenatal check-up in the first trimester. Women should be sensitized about the symptoms of pregnancy and the advantages of seeking antenatal check-up services in time and as early as possible through IEC activities. Actual immunisation is low because of consumption of less than 100 IFA tablets and not taking two doses of TT immunisation. Both these services can be strengthened by regular supply of sufficient IFA tablets and insisting on the ANM advising two doses of TT immunisation.

Monitoring the Reproductive Child Health (RCH) programme is not possible in the absence of adequate and reliable data. To generate such data, repeated sample surveys, though expensive are very necessary.

Inadequacies in data

Not much information on antenatal care was collected in the survey for

effective monitoring of the Reproductive and Child Health (RCH) programme. The range of services that a pregnant woman should receive was listed in the manual for safe motherhood and child survival under three broad categories, namely: i) essential care, ii) early detection of complications, and iii) emergency obstetric care (EmOC). Under essential care, only partial information was elicited. Information was collected on registration by 12-16 weeks, TT immunisation and IFA tablets. Only partial information was elicited on the measurement of weight and blood pressure, reducing its utility to the minimum. No information was collected on the clinical diagnosis of anaemia, history of passing of worms and follow-up treatment and advice on rest. Some questions are vague thus rendering their utility to the minimum, like on women receiving advice on check-ups.

No information was collected on early detection of complications listed in the manual. Information was collected on abdominal check-ups, which was not listed in the manual. However, information on complications during pregnancy and follow-up treatment was collected. This information is not included in the calculation of actual care because they do not reflect the process of early detection of complications to assess actual care. It is possible to collect fairly reliable information on the process of detection of early complications from women on some of the items listed in the manual. To that extent the survey has failed to monitor detection of early complications during antenatal check-up services. No information was collected on emergency obstetric care. Collecting such information from women is however difficult. Information on emergency obstetric care is not available even in the health institutions providing such services (Bhattacharjee and Raju, 2001).

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