Factors Affecting Quality of Antenatal Care in Jammu & Kashmir

(A Case Study of Jammu and Kashmir, NHHS-4 experience)

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PREFACE

Antenatal care (ANC) is the care of a woman throughout her pregnancy. Many women in developing countries do not receive such care. The World Health Organization(WHO) recommends a minimum of four antenatal visits, comprising interventions such as tetanus toxoid(TT) vaccination, screening and treatment of infections and identification of warning signs during pregnancy. The reasons for high MMR in India are inadequate access, underutilization of health services, high illiteracy among females, early marriages, ignorance, malnutrition, social factors etc.

Reproductive & child health programme recommends that as a part of antenatal Care, women should get registered & receive at least three antenatal checkups which include weight and height measurement, blood pressure records, abdominal examination along with General Physical Examination (GPE) and investigations to detect any complication. It also includes provision of two doses of tetanus toxoid vaccine, 100 tablets of Iron and Folic Acid (IFA) prophylactically to prevent anemia, dietary advice, intranatal and postnatal care which includes, new born care, family planning etc. The reproductive age group (15-49 years) owing to their vulnerability deserves special attention. Because of the universality of marriage & social pressure to bear children early, women are subjected to added risk of morbidity & higher mortality. With a paradigm shift in approach from "Top Down" to "Grass root level Micro planning" in the Reproductive & Child Health Programme, it is imperative to assess the felt needs of the population for providing the appropriate and optimum range of maternal health services. Hence the present study was carried out to know the prevalence of utilization of antenatal services and to compare the quality of services provided by doctors and health workers in the State of Jammu & Kashmir by their socio-economic status of the beneficiaries through NFHS-4.

The study was successfully completed due to the support and guidance of a number of individuals at different levels. I wish to express my thanks to the Ministry of Health and Family Welfare, Government of India for giving us an opportunity to be part of this study.

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1. Executive Summary

- The study reveals that utilization of antenatal care services is a significant determinant of secure delivery care, after controlling many factors which influence the care during pregnancy. The study also suggests for a special drive among society regarding better antenatal care and its benefit to women and children. This study aims to identify barriers to early initiation of antenatal care among women utilizing maternity services from the NFHS-4 and who have delivered during 5 years prior to the survey. Identifying these barriers by analysis of the data provides the opportunity to find more targeted approaches in providing antenatal care to women at greatest need in the community it serves.
- The overall scenarioof the survey sample indicates that in NFHS-4 a total number of 5895 pregnant women who delivered during five years preceding the survey were interviewed in J&K.
- It is obvious from the last 3 rounds of NFHS that the first trimester registration is not more than 60 percent in contrast to 45 percent against India. Further 13 percent of the pregnant women did not receive any antenatal checkup as against 25 percent of the country as a whole.
- The women not receiving any antenatal checkup has significantly diminished from 16 percent in 1998 to 8 percent in 2015-16 in J&K.
- ANC services not provided by any health provider decreased from 17 percent in 1998-99 to 8 percent in 2015-16.
- In General Physical Examination (GPE) and different tests done to the pregnant women shows a significant improvement during the span of 16 years. The data shows that in 1998-99, only 23 percent of women were weighed and this percentage increased to 87 percent in 2015-16 leading an increase of 64 percentage points. The blood pressure measured and abdominal examination also increased from 81 percent and 87 percent in NFHS-2 to 96 percent each in NFHS-4 respectively.
- The analysis shows that women aged above 40 years are least interested in availing the full ANC checkups (16%). Education and utilization of antenatal care have a positive relationship. As the education of female is increasing the number of ANC visit is increasing. Women with higher education go for more health check-ups than the illiterate or less educated women. This is substantiated by the fact that about 34 per cent of women with no education or less than 5 complete did go for ANC visits and this percentage reaches to 41 percent among those who have education 12 classes or above.
- The utilization of full antenatal care among scheduled tribe women across the State is very poor (17%).
- The attainment of ANC on their wealth index reflects that only 28 percent of women from poor families have achieved full ANC while as 73 percent from rich families have attained the same. This indicates that the living standard of the people has to be increased by innovations of newly schemes for the poor people.
- The NFHS-4 presents the scenario regarding the pregnant women who first time visits the health centre as such more than three-fourths of women (77%) received antenatal care during the first trimester of pregnancy, as is recommended. The proportion of women who had their first antenatal care visit in the first trimester of pregnancy for their last births increased by 22 percentage points in the 10 years since NFHS-3.

- ❖ Standard of living index also have significant impact on the use of first trimester registration among women. Women with higher standard of living visit the hospital during their pregnancy in early stage than the women with lower standard of living. The early registration for ANC on their wealth index reflects that only 61 percent of women from poor families have gone for early registration while as 83 percent of women from rich families have visited for the same. This indicates that there is a need of strong motivation to people living with low standard for visiting health centre during the first three months of their pregnancy.
- ❖ It has been seen that the nuclear families has its own merits and demerits, similarly, the joint families has also its own merits and demerits. It is evident from the data that women living in a family having less than 5 members have visited in high proportion (79%) for early registration while as women living in larger families having more than 9 members are visiting in low proportion (77%) for early registration.
- ❖ Among mothers who gave birth in the five years preceding the survey, 90 percent received antenatal care (ANC) for their last birth from a skilled provider at least 5 times.
- ❖ The highest proportion of women received ANC from a skilled health provider is the district Kulgam (99%) and the lowest is district Doda (61%).
- ❖ The analysis indicates that highest proportion of women who seeks the ANC from a doctor belongs from district Leh (96%) and the lowest proportion of women who seeks the ANC from a doctor belongs from district Doda (48%).
- ❖ Women in the highest wealth quintile are much more likely to receive ANC from a skilled provider (94%) than those in the lowest quintile (79%).
- ❖ Women with a first birth are more likely to receive ANC from a skilled provider than women with a birth of order 3 and above (93% versus 86%).
- ❖ The analysis reveals that only 77 percent of women had received full ANC investigations in J&K which is a cause of great concern for the health planners and health functionaries.
- ❖ As the education of female is increasing the number of full diagnostic tests is also increasing. Women with higher education go for more health investigations than the illiterate or less educated women.
- ❖ The attainment of fully tests conducted on their wealth index reflects that only 60 percent of women from poor families have done full ANC tests while as 86 percent from rich families have conducted the same.
- ❖ Surprisingly, the analysis of the data points out that when the schooling of the women increases, the incidence of complications also increases.
- ❖ The analysis also made it clear that the complications during pregnancy are higher in Hindus (37%) followed by Muslims (31%) and by Sikhs (30%). It is also evident that the complications are most prevalent in other backward classes by (40%) followed by SC (36%). Amazingly the complications are higher in rich people (37%) than the poor people (26%). The data depicts that the complications are more common in those women who have exposure of media (34%) than those women who did not have media exposure (24%). The major role in providing the knowledge of complications is the private sector (37%) followed by government sector (32%) and self-homes by 25 percent.

- ❖ Among women with a live birth in the five years preceding the survey who visited for ANC services for their most recent live birth, about one-half (49%) received full ANC advice on each of the five different areas.
- ❖ The analysis reveals that the highest percentage of full ANC counseling received by district Udhampur (76%), followed by district Reasi (69%) and again followed by district Leh (68%). While as the lowest full ANC counseling received by district Anantnag (18%), followed by district Bandipora (20%) and again followed by district Samba (26%). It is obvious that in Jammu and Ladakh region there is better performance with regard to full ANC counseling about 57% each than the Kashmir region (41%).
- ❖ The analysis indicates that education has no impact on receiving the ANC counseling. This is substantiated by the fact that a good percentage of women (46%) without schooling has given ear to the health professionals, followed again by a good proportionate of women (30%) having education less than 5th class. Forty-nine percent of women did listen to the health worker with education completed 5-9 class and 48 percent receive advice who have completed 10-11 class and lastly 56 percent get advice with schooling 12th class or above.
- ❖ The analysis reveals that the highest percentage of counseling on institutional deliveries received by district Leh and Srinagar (91% each) and followed by district Kargil (90%). While as the lowest received by district Doda (54%), followed by district Samba (57%) and again followed by district Ganderbal (71%).
- ❖ The analysis reveals that the highest percentage of counseling on institutional deliveries received by district Leh and Srinagar (91% each) and followed by district Kargil (90%). While as the lowest received by district Doda (54%), followed by district Samba (57%) and again followed by district Ganderbal (71%). Women with higher standard of living receive counseling in higher proportion than the women with lower standard of living.
- ❖ The highest percentage of counseling on family planning received by district Leh (90%), followed by district Udhampur (86%) and followed by district Reasi (83%). But the lowest percentage received by district Anantnag (23%), followed by district Kulgam (37%), followed by district Bandipora (38%).

2. Rationale

Pregnancy is a physiological condition but great care should be taken during this period as it involves the life of both mother and growing fetus in the womb. Worldwide annually, an estimated 5, 15,000 women die of causes related to pregnancy and childbirth, of which 99percent occur in developing countries. In developing regions of world Maternal Mortality Ratio (MMR) averages to 450 per lakh population. Health of pregnant women is associated with a number of factors such as availability, accessibility and above all affordability of health care services. There is a denoted need for prenatal care and referral because 10-12 percent of women presented with a poor obstetric history and a significant number with different type of problems like as anemia, bleeding, hypertension, toxemia and urinary tract infections during the pregnancy. One of the important millennium developmentalgoals set in the year 2000 was three-quarters reduction in maternal and infant mortality rates by the year 2015.

Many women in developing countries do not receive antenatal care.The World Health Organization(WHO) recommends a minimum of four antenatal visits, comprising interventions such as tetanus toxoid(TT) vaccination, screening and treatment of infections and identification of warning signs during pregnancy.In India, it is heartening to note that maternal mortality ratio(MMR) has declined from 212 in 2007-2009 to 178 in 2010-12. The reasons for high MMR in India are inadequate access and underutilization of health services. Other common reasons are high illiteracy among females, earlymarriages, ignorance, malnutrition, social factors etc. So utilization of these services by the beneficiaries remainsunsatisfactory. Two of the most important indicators of health of a country are life expectancy and maternal mortality rates. In India, apart from deaths, 50 million women suffer from maternal morbidity due to acute complications from pregnancy, which could be reduced by encouraging women to deliver with the assistance of skilled birth attendants or in a health-care institution.Some studies have already shown that less educated, poor and older women are less likely to seek medical help during pregnancy.

Quality of antenatal, intranatal, and postnatal care is the single most important determinant of infants' as well as mothers' morbidity and mortality. The inequality in the health and well-being of women in the developing world is a cause of immense concern. Despite an array of national programs since independence for improving the health of the child as well as the mother, inadequate access and underutilization of modern health services are among the prime reasons for the high maternal mortality rate in India. Other common reasons include high illiteracy among females, early marriages, ignorance, low quality as well as high cost of service, social structure, detrimental health beliefs, personal characteristics, and malnutrition, especially among the rural and tribal populations. So, utilization of these services by the beneficiaries remains unsatisfactory.It is very important to comprehensively understand the various factors that affect the utilization of maternity care during pregnancy so that the respective programs are implemented more effectively. If we are able to identify these bottlenecks, efforts can be made to increase the utilization rates by removing those bottlenecks. Though studies have been conducted in the past on this subject, it was an attempt to see the status of mothers' knowledge and the utilization of ANC services.

3. Introduction

Antenatal care (ANC) is the care given to pregnant women so that they have safe pregnancy and healthy babies. ANC is the pivotal factor for safe motherhood but its utilization varies widely across the vast swathes of our country where the population by and large resides in urban slums and rural areas. ANC is potentially one of the most effective health interventions for preventing maternal morbidity and mortality, particularly in places where the general health status of women is poor. The World Health Organization (WHO) recommends a minimum of four antenatal visits, comprising interventions such as tetanus toxoid (TT) vaccination, screening and treatment for infections, and identification of warning signs during pregnancy. Antenatal care (ANC) services are considered to be the key element in the primary health care delivery system of a country, which aims for a healthy society. Over the past 70 years, the maternal health situation in the country has been staggering despite several changes in a rapidly evolving socioeconomic environment. The roles and responsibilities of primary care physicians have also been revised continuously in this context. Under their leadership, different cadres of health workers have been appointed to address the problem. As deadline for Millennium Development Goals is approaching, the need for improving the standard of maternal care is more than ever.

In the last decade, as per the National data, health indicators including utilization of antenatal care services were as poor as 60% in rural India. Keeping in view the gap between the target and reality, National Rural Health Mission (NRHM) was launched in April 2005, to improve the rural health care delivery system and health status of the people. Accredited Social Health Activists (ASHAs) were introduced at the village level for motivating the beneficiaries to utilize the antenatal care services provided by the government health facilities. Under supervision of Auxiliary Nurse Midwives (ANM) and physicians at primary health care level, ASHAs were planned to play the role of a connecting bridge between community and first level government health sector. These groups of health care providers, along with Anganwadi workers (AWW), build the base line of rural health services in the country. These basic field workers, under the mission, seek to provide universal access to equitable, affordable and quality maternal health care, as well as to bring about an improvement in the health status of the pregnant women belonging to underprivileged sections of the society.

Maternal mortality ratio (MMR) of India has declined from 437 in 1990-1991 to 178 per 100,000 live births in 2010-2012 period. This decline was mainly attributed to the Government of India's Reproductive Maternal, Newborn, Child Health Adolescent (RMNCH+A) interventions that include many programmes such as promotion of institutional births through *Janani Suraksha Yojna*; comprehensive obstetric care and tracking of each and every pregnant woman, antenatal, intra-natal and postnatal care. Despite these efforts, little progress has been achieved in eliminating the disparity that exists in reducing maternal mortality and morbidity among the women belonging to scheduled tribes and castes.

Studies conducted in India and globally recognize the contribution of the antenatal care (ANC) in not only sustaining better maternal health but also in reducing maternal mortality and morbidity. In an effort to reduce maternal mortality, the reproductive and child health

(RCH) programme under National Health Mission, Government of India is aimed at providing at least three antenatal check-ups which include a weight and blood pressure check, abdominal examination, immunization against tetanus, iron and folic acid prophylaxis, as well as anemia management. India in 2005 is to reduce MMR. Government statistics shows that after the implementation of the NRHM there is considerable decrease in MMR and increase in health care utilization by antenatal women in India and also in Jammu & Kashmir. Hence the analysis of this studyas per NFHS-4 (2015-16) throws light on ground realities of health status of pregnant women and antenatal care services in Jammu and Kashmir, which would help the healthcare providers to strengthen maternal and child health care services. In this perspective, the present study aimed to find out the determinants of utilization of antenatal care services by the beneficiaries.

The figures of NFHS-4 and that of earlier rounds may not be strictly comparable due to differences in sample size and NFHS-4 will be a benchmark for future surveys. NFHS-4 fieldwork for Jammu & Kashmir was conducted in all 22 districts of the State from 31 January to 16 November 2016 by the Population Research Centre (PRC), University of Kashmir, Srinagar. For Jammu & Kashmir information was collected from 17,894 households, 23,800 women age 15-49 (including 7,163 women interviewed in PSUs in the state module), and 6,013 men age 15-54. Survey response rates were 98 percent for households, 97 percent for women, and 92 percent for men.

The high lights of different NFHS surveys regarding utilization of ANC services in Jammu & Kashmir indicates that the millennium development goal is still far away. It is obvious from the last 3 rounds of NFHS that the first trimester registration is not more than 60 percent in contrast to 45 percent against India. Further 13 percent of the pregnant women did not receive any antenatal checkup as against 25 percent of the country as a whole. The women not receiving any antenatal checkup has significantly diminished from 16 percent in 1998-99 to 8 percent in 2015-16 in J&K. While as there is reverse trend with regard to the first trimester registration both in J&K and country as a whole which shows that in 1998-99, 33 percent of pregnant women in India and 48 percent in J&K got registered in first trimester which gradually increases to 59 percent in India and 77 percent in J&K in the year 2015-16. Hence the low rate of the first trimester registration of the pregnant women is of a great concern which needs greater attention even though the huge number of ASHAs have been recruited at the grass root level.More than 3 ANC check-ups also show an increased trend from 66 percent in NFHS-2 to 81 percent in NFHS-4 in J&K. But on contrary the IFA consumption has gone down drastically by 56 percentage points from 86 percent in NFHS-2 to 30 percent in NFHS-4 in J&K. Eighty-two percent of last births were protected against neonatal tetanus through tetanus toxoid vaccinations given to the mother in 2015-16 against 78 percent in 1998-99 (Table 1).

It is obvious from the NFHS surveys that the major source of providing the ANC services is the doctor. In NFHS-2, 75 percent of pregnant women checked by the doctor which increased to 82 percent in NFHS-4 in J&K. The same services provided by other health personnel also show an increased trend from NFHS-2 to NFHS-4 by 2 percentage points. However, the ANC

services not provided by any provider decreased from 17 percent in 1998-99 to 8 percent in 2015-16 (Table 2).

In General Physical Examination (GPE) and different tests conductedby the pregnant women showasignificant improvement during the span of 16 years. The data shows that in 1998-99, only 23 percent of women were weighed and this percentage increased to 87 percent in 2015-16 leading an increase of 64 percentage points. The blood pressure measured and abdominal examination also increased from 81 percent and 87 percent in NFHS-2 to 96 percent each in NFHS-4 respectively. The data further reveals that there are 11 percent of women who are left out without doing any urine or blood tests during their pregnancy in J&K (Table 3).

Table 1 Percent distribution of pregnant women by registration and utilization of ANC services according to NFHS surveys in J&K

Surveys	Ist Trimester registration		No ANC Check-ups		TT Injection received 2+	IFA received & consumed	ANC 3+ Check-ups
	India	J&K	India	J&K			
NFHS-2	33	47.9	35	15.7	77.7	85.7	66.0
NFHS-3	44	54.8	23	14.7	81	27.6	73.5
NFHS-4	59	76.8	16	7.6	81.7	30.2	81.3
Mean	**45.3**	**59.8**	**25.1**	**12.7**	**80.1**	**47.8**	**73.6**

Table 2 Percent distribution of pregnant women by source of Antenatal check-up provider according to NFHS surveys in J&K

Surveys	Doctor	Other health personnel	TBA (Dai)	None
NFHS-2	74.6	8.2	0.2	16.8
NFHS-3	77.2	7	1.1	14.7
NFHS-4	81.8	9.9	0.6	7.6
Mean	**77.9**	**8.4**	**0.6**	**13.1**

Table 3 Percent distribution of pregnant women by receiving selective services during Antenatal care according to NFHS surveys in J&K

Surveys	Weighed	Blood Pressure measured	Urine Tested	Blood Tested	Abdomen Examined
NFHS-2	22.5	80.5	82.4	85.5	87.0
NFHS-3	26.3	81.1	87.9	86.1	82.2
NFHS-4	87.2	96.0	97.0	96.8	95.7
Mean	**45.3**	**85.9**	**89.1**	**89.5**	**88.3**

4. Objectives

- To assess the level of knowledge of pregnant women about ANC services
- To find out about ANC utilization and the factors affecting them
- To study the health status of pregnant women and their health care utilization
- To find out the determinants of utilization of antenatal care services by the beneficiaries

- To assess the utilization of various maternal services and to compare the quality of services provided by doctors and health workers in terms of components and advice received by pregnant women during antenatal period.

5. Methodology:

The data for the study has been taken from the third fourth round of National Family Health Survey (NFHS-4). NFHS-4 fieldwork for Jammu & Kashmir was conducted in all 22 districts of the state from 31 January to 16 November 2016 by the Population Research Centre (PRC), University of Kashmir, Srinagar. For Jammu & Kashmir information was collected from 17,894 households, 23,800 women age 15-49 (including 7,163 women interviewed in PSUs in the state module), and 6,013 men age 15-54. Survey response rates were 98 percent for households, 97 percent for women, and 92 percent for men. Therefore, the present study is based on 4644 women. In all the four rounds of NHFS a question on number of antenatal care visit has been asked from the respondents. To study the antenatal care situation of ever married women in NFHS-4, who had had at least one birth in last five years have been taken in the study. The percentage of women has been analyzed by categories of several independent variables.

What we see that in Jammu & Kashmir the scenario of receiving full ANC is not very satisfactory. Strong differentials are found in utilization such as residential status, education status and socio-economic background. Health care needs require a broad understanding of several interrelated issues, including economic, cultural, social and physical condition of women, access to health care services and the quality of health services available to women. The study reveals that utilization of antenatal care services is a significant determinant of secure delivery care, after controlling many factors which influence the care during pregnancy. The study also suggests for a special drive among society regarding better antenatal care and its benefit to women and children. This study aims to identify barriers to early initiation of antenatal care among women utilizingmaternity services from the NFHS-4 and who have delivered during 5 years prior to the survey. Identifying these barriers by analysis of the data provides the opportunity to find more targeted approaches in providing antenatal care to women at greatest need in the community it serves.

6. Survey Sample: The overall scenarioof the survey sample indicates that a total number of 5895 pregnant women who delivered during five years preceding the survey were interviewed in J&K. The data shows that majority of the beneficiaries in urban areas (54.4%) belong to the age group of 30-39 years and in rural areas the maximum comprising 55.7% of the age group of 20-29 years. There is also a small number of beneficiaries belonging of the age group of 15-19 years with a high proportion of rural areas. Regarding the educational status of the beneficiaries,32 percent of the beneficiaries are illiterate, with high rate of illiteracy in rural areas and 20 percent are with qualification more than 12^{th} pass but with high rate of education in urban areas. Seventy-one percent of the sample beneficiaries are Muslims and the remaining 29 percent belong to other religions as Hindus, Sikhs & others. Thirteen percent are also contacted from the category of scheduled tribe. The information indicates

that 82 percent of beneficiaries have the media exposure. One-third of the respondents are having children more than 3. Twenty-four of the interviewed clients are living in households having less than 5 members but there are 17 percent of households whose family members are greater than 9 (Table 4).

Table 4 Percent distribution of women who delivered during five years preceding the NFHS-4 survey by background characteristics in Jammu & Kashmir

Background Characteristics	Responses	Total no. of women	Urban	Rural
Age	15-19	83	.3%	1.8%
	20-29	3062	40.6%	55.7%
	30-39	2493	54.4%	38.3%
	40-49	258	4.7%	4.2%
Education	No Schooling	1890	22.2%	35.3%
	<5 complete	127	1.6%	2.3%
	5-9 complete	1940	29.9%	33.9%
	10-11 complete	755	13.9%	12.5%
	12 or more complete	1184	32.4%	16.0%
Religion	Hindu	1536	17.7%	28.8%
	Muslim	4214	78.3%	69.2%
	Sikh	90	2.7%	1.1%
	Other	55	1.2%	.8%
Caste	SC	527	4.7%	10.3%
	ST	769	9.3%	14.3%
	OBC	276	3.6%	5.0%
	Other	4324	82.4%	70.3%
Wealth index	Poorest	540	2.3%	11.5%
	Poorer	1245	6.9%	25.8%
	Middle	1429	17.7%	26.4%
	Richer	1311	32.0%	19.0%
	Richest	1371	41.2%	17.3%
Media exposure	No	1036	6.0%	21.4%
	Yes	4860	94.0%	78.6%
Total Children Ever Born	1	1935	37.0%	31.4%
	2	2005	37.3%	32.9%
	3	1149	18.6%	19.8%
	4 and more	807	7.1%	15.9%
No. of Household Members	<5	1417	30.2%	22.0%
	5-8	3494	57.3%	59.9%
	9+	984	12.5%	18.1%
	Total	**5895**	**100.0%**	**100.0%**

7. ANC Registration & Utilization of Full ANC Check-ups: Antenatal care utilization is associated with a number of socio-demographic and economic factors such as age of the woman, education, work status, parity, media exposure, household income, awareness and knowledge regarding antenatal care services, cultural beliefs, woman's autonomy, availability and access to health care, prior experience of delivery complications and motivation by either health care provider or family. In Jammu & Kashmir, according to National Family Health Survey (NFHS)-4, more than three-fourth of pregnant women received at least some antenatal

care, but even then 19 percent of the women had not visited for 4th ANC check-ups as prescribed mandatory by the government norms of ANC in India.The cost of medical consultation and distance of health centre may be a barrier for rural poor women. Most of the women start visiting doctor for antenatal care after three or four months of pregnancy. Thus there is a need to aware the women to attend ANC because antenatal care should be begun with start of the pregnancy. However, in most of the cases, women do not perceive childbearing as problematic, thus do not go for medical check-up.

7.1 Full ANC& 4+ Checkups: The analysis reveals that only 25 percent of women had received full ANC in J&K which is a cause of great concern for the health planners and health functionaries. The data predicts that the district Kathua had received highest rate of full ANC (52%) and the lowest district is the district Doda (5%). It is obvious that in Jammu region there is better performance of full ANC (34%) than the Kashmir region (20%) despite the fact that in Jammu region 71 percent of women had visited more than 4 times for ANC checkups and in Kashmir region 91 percent of women visited for the same purpose. Besides, the analysis also shows that the high rate of full ANC received by the women who belongs to the age group of 20-29 years (28%), followed by the age group of 30-39 years (26%). The women aged above 40 years are least interested in availing the full ANC checkups (16%). Education and antenatal care visit have a positive relationship. As the education of female is increasing the number of ANC visit is increasing. Women with higher education go for more health check-ups than the illiterate or less educated women. This is substantiated by the fact that about 34 per cent of women with no education or less than 5 complete did go for ANC visits, followed by 28 percent of women who have completed 5-9 class and 30 percent who have completed 10-11 class and lastly 41 percent avails full ANC who have education 12 class or above. The Hindu women (44%) have achieved full ANC which is double than the Muslim women (20%).The utilization of full antenatal care among scheduled tribe women across the State is very poor (17%). The reasons behind non-utilization include both socio-economic and health system factors. For improving ANC utilization among tribes, these factors need to be addressed with special emphasis on woman's educational attainment of high school and above. In addition, the study highlighted the need to create awareness among both pregnant tribal women as well as her family members on the importance of early ANC care. There is a good proportion of SC women (39%) who have gone for full ANC checkups. Occupation and standard of living index also have significant impact on the use of antenatal care services among women. Use of antenatal care services is high in working women than the non-working women. Women with higher standard of living visit the hospital during their pregnancy more than the women with lower standard of living. The attainment of ANC on their wealth index reflects that only 28 percent of women from poor families have achieved full ANC while as 73 percent from rich families have attained the same. This indicates that the living standard of the people has to be increased by innovations of newly schemes for the poor people. Exposure of media is one of the powerful sources of knowledge as 30 percent of respondents claim that they have come to know by media regarding full ANC. The analysis reveals that when a woman has its first issue she is very much particular for attaining the full ANC (32%) but as her number of children is increasing the visits for ANC decreases. Further it has been seen that the women living in a family having less than 5 members are visiting fewer (25%) for ANC

while aswomen's living in larger families having more than 9 members are visiting more times (32%) for ANC. This indicates that in smaller family's women have not enough free time for went to outside especially in rural areas.In order to increase the utilization of full antenatal care facility and thereby reduce the maternal morbidity and mortality, there is a need to understand the factors acting as barriers in the utilization of ANC among women deeply.

7.2 IFA Consumption: The consumption of IFA in the State, to prevent and treat anemia, is very low that is only 30 percent even though it has been received by 75 percent of pregnant women as reflected by NFHS-4. Again district Kathua have the better performanceof receipt and consumption (93%) and (57%) respectively and district Doda have the worstreceipt and consumption of IFA (64%) and (9%) respectively. Similarly, Jammu region shows better position in utilization of IFA (39%) than the Kashmir region (21%).The women aged above 40 years did not feel it necessary to consume the IFA that is only a lesser proportion 21 percent have consumed it. Hence aged pregnant women are to be sensitized about the benefits of the IFA. Being the Muslim majority large proportion of Hindu pregnant women (49%) have used IFA against the Muslim women (23%). The data shows that schedule tribe and general caste women have used lesser proportion of IFA that is 23% and 29% respectively. The women who receive the knowledge from media have used the IFA in larger proportion. But at the same time when the women conceive her first issue large number of women are using IFA which steadily decreases as the number of children increases.

7.3 Tetanus Toxoid Injection: The reproductive and child health programme recommends that as part of antenatal care, women receive two doses of tetanus toxoid vaccine. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly cent percent effective in preventing tetanus both in newborn and their mothers. Immunity against tetanus is transferred to the foetus through the placenta when the mother is vaccinated. The NFHS-4 shows that there are 18 percent of pregnant women who have used incomplete tetanus injection during their pregnancy in the State. Tetanus toxoid coverage vary a little between the two regions of Kashmir and Jammu as Kashmir comprises coverage of 82 percent and Jammu of 76 percent. The coverage is much higher for births to women under age 39 (81-85 percent) than for births to older women(68 percent). Further the coverage increases with education, from 77 percent for births to illiterate women to 82 percent for births to women who have completed at least middle school and also to 87 percent who have completed 12^{th} class or above. Tetanus toxoid injections are much common in urban areas (87 percent) than in rural areas (80 percent). The coverage does not vary much by religion. Coverage ranges from 77 percent for births to scheduled caste women to 84 percent for births to women who do not belong to a scheduled caste, a scheduled tribe or other backward class. Tetanus toxoid coverage increases sharply with an increasing standard of living of the households, from 64 percent for births to women living in households with a very much low standard of living to87 percent for births to mothers living in households with a very high standard of living. The media exposure regarding tetanus toxoid is only to 84 percent of mothers.

7.4 First Trimester registration: The NFHS-4 presents the scenario regarding the pregnant women who first time visits the health centre as three-fourths of women (77%) received

antenatal care during the first trimester of pregnancy, as is recommended. The proportionof women who had their firstantenatal care visit in the firsttrimester of pregnancy for theirlast births increased by 22percentage points in the 10 yearssince NFHS-3. The analysis reveals that the highest proportion of first trimester registration is in the district Pulwama (92%) and the lowest proportion is in district Doda (42%). The early registration is more common in Kashmir region (84%) than the other two regions, Jammu (69%) and Ladakh (80%). The age group of 30-39 shows thehighest percentage of early registration (78%).The data shows that education and early registration are also as correlated as it is obvious that as the education of female is increasing, the number of early registration is also increasing. Women with higher education go for early registration than the illiterate or less educated women. This is substantiated by the fact that about 70 per cent of women with no education did go for early registration, followed by 78 percent of women who have completed 5-9 class and 82 percent who have completed 10-12 class or above.There is a strong rural urban differential in early registration in favour of urban women. Since about only 74 per cent women in rural area are registered in first trimester against 85 percent of urban areas, they are more vulnerable. There is not much variation so far as different religions are concerned and it ranges between 77-80 percent. The early registration is much low in scheduled tribe class which shows only 66 percent, followed by scheduled caste class with only 74 percent.There is a good proportion of SC women (34%) who have gone for full ANC checkups. Standard of living index also have significant impact on the use of first trimester registration among women. Women with higher standard of living visit the hospital during their pregnancy in early stage than the women with lower standard of living. The early registration for ANC on their wealth index reflects that only 61 percent of women from poor families have gone for early registration while as 83 percent of women from rich families have visited for the same. This indicates that there is a need of strong motivation to people living with low standard for visiting health centre during the first three months of their pregnancy. About 80 percent of women went to early registration having exposure of media.The analysis reveals that when a woman has its first issue she is keenly interested to visit to health centre as early as possible and the data discloses that 81 percent visits during the first three months on their first issue but as the number of children is increasing the early registration is also decreasing as it is only 69 percent on having 3rdissue. It has been seen that the nuclear families have its own merits and demerits, similarly, the joint families have also its own merits and demerits. It is evident from the data that women living in a family having less than 5 members have visited in high proportion (79%) for early registration while as women living in larger families having more than 9 members are visiting in low proportion (77%) for early registration (Table 5).

Table 5 Percent Distribution of Pregnant Women by Utilizing different ANC services by Background Characteristics during Pregnancy in J&K

Background Characteristics	Response	Utilization of ANC Services						Total Number of pregnant women
		4+ ANC Visits	First Trimester registration	Two or more TT Injection	Received IFA Tablets	Consumed 100 IFA Tablets	Full ANC Check-up	
District	Kupwara	87.7%	81.3%	85.4%	73.4%	19.5%	18.1%	349
	Baramulla	95.2%	86.8%	90.4%	65.0%	31.0%	30.5%	373
	Bandipora	90.3%	83.1%	83.2%	78.1%	15.7%	14.1%	197

	Ganderbal	94.5%	81.2%	85.6%	83.9%	13.1%	12.8%	148
	Srinagar	91.0%	85.0%	87.8%	70.0%	27.1%	24.0%	568
	Budgam	95.7%	86.3%	94.0%	80.5%	19.7%	18.6%	263
	Pulwama	98.3%	92.3%	93.9%	72.2%	30.0%	29.2%	199
	Shopian	96.4%	88.9%	91.6%	69.1%	21.7%	20.0%	117
	Kulgam	95.1%	87.2%	84.1%	71.0%	20.5%	19.8%	208
	Anantnag	82.5%	76.7%	82.2%	71.0%	11.7%	10.9%	465
	Kargil	83.6%	82.0%	87.4%	78.5%	28.6%	26.2%	56
	Leh	91.7%	76.9%	87.8%	77.7%	30.4%	25.7%	53
	Kishtwar	54.4%	64.1%	78.0%	73.7%	17.2%	15.8%	125
	Ramban	51.0%	62.3%	75.3%	75.7%	18.0%	15.5%	155
	Doda	37.1%	42.0%	57.1%	64.2%	9.1%	5.3%	219
	Punch	73.8%	70.5%	77.0%	70.4%	39.3%	33.2%	374
	Rajouri	56.2%	55.8%	62.4%	62.1%	19.1%	12.5%	428
	Reasi	57.7%	54.2%	74.3%	59.3%	35.9%	27.0%	218
	Udhampur	90.5%	78.3%	81.8%	88.5%	50.5%	48.0%	288
	Jammu	83.9%	84.4%	85.6%	87.6%	56.7%	51.9%	649
	Samba	76.7%	71.9%	69.8%	83.2%	47.3%	37.2%	156
	Kathua	93.3%	82.7%	83.5%	92.5%	56.6%	52.4%	287
Region	Kashmir	91.4%	84.1%	87.4%	72.3%	21.5%	20.2%	2888
	Ladakh	87.5%	79.5%	87.6%	78.1%	29.5%	26.0%	109
	Jammu	71.2%	69.4%	75.8%	76.8%	38.8%	33.6%	2899
Age	15-19	72.1%	71.5%	85.0%	78.1%	27.7%	26.2%	83
	20-29	80.9%	77.5%	81.0%	75.6%	31.4%	28.4%	3062
	30-39	83.6%	77.9%	83.8%	74.2%	29.7%	26.1%	2493
	40-49	67.9%	59.6%	68.3%	66.7%	21.4%	16.6%	258
Education	No Schooling	72.0%	69.9%	76.9%	67.6%	19.7%	16.7%	1890
	<5 complete	83.6%	75.2%	81.1%	69.2%	19.2%	17.1%	127
	5-9 complete	83.7%	78.4%	82.1%	75.6%	30.5%	28.0%	1940
	10-11 complete	87.5%	82.0%	84.8%	75.9%	34.0%	29.8%	755
	12 or more complete	88.4%	82.0%	86.7%	84.2%	45.2%	40.6%	1184
Type of place of residence	Urban	89.2%	84.8%	86.7%	74.3%	32.4%	29.6%	1467
	Rural	78.8%	74.1%	80.0%	74.8%	29.5%	26.0%	4428
Religion	Hindu	80.0%	76.9%	80.1%	84.6%	49.0%	43.9%	1536
	Muslim	81.7%	76.6%	82.2%	70.8%	22.7%	20.0%	4214
	Sikh	85.5%	79.6%	82.4%	83.8%	64.0%	60.5%	90
	Other	86.1%	80.2%	85.9%	77.0%	27.9%	25.1%	55
Caste	SC	76.5%	74.4%	76.8%	82.6%	43.9%	38.8%	527
	ST	69.3%	66.3%	72.0%	66.6%	22.9%	17.1%	769
	OBC	87.2%	79.8%	88.1%	82.2%	39.2%	35.1%	276
	Other	83.7%	78.7%	83.6%	74.6%	29.2%	26.7%	4324
Wealth index	Poorest	52.2%	53.2%	64.2%	56.9%	15.5%	11.6%	540
	Poorer	74.7%	69.3%	76.1%	65.4%	19.8%	16.7%	1245
	Middle	84.6%	79.8%	83.8%	74.2%	25.1%	22.9%	1429
	Richer	87.3%	81.7%	85.8%	79.0%	31.5%	28.3%	1311
	Richest	89.9%	84.9%	87.4%	86.4%	49.4%	45.0%	1371
Media exposure	No	64.5%	61.9%	72.4%	61.0%	16.0%	12.8%	1036
	Yes	85.0%	79.9%	83.6%	77.6%	33.2%	29.9%	4860
Birth order	1	85.8%	80.9%	86.9%	79.7%	35.2%	31.9%	1935
	2	84.5%	80.5%	82.0%	75.4%	31.6%	28.4%	2005
	3	73.7%	68.8%	76.2%	68.9%	23.8%	20.4%	1955
No. of	<5	81.3%	78.8%	83.5%	75.7%	29.4%	25.6%	1417

Household Members	5-8	80.8%	75.8%	80.8%	74.1%	29.4%	26.1%	3494
	9+	83.6%	77.3%	82.1%	75.1%	34.0%	31.7%	984
	Total	**81.4%**	**76.8%**	**81.7%**	**74.7%**	**30.2%**	**26.9%**	**5895**

8. Women with MCP card: The Mother and Child Protection Card (MCP Card) is a tool for informing and educating mothers and families on different aspects of maternal and child care and linking maternal and childcare into a continuum of care through the Integrated Child Development Services (ICDS) scheme of the Ministry of Women and Child Development and the National Health Mission (NHM) of the Ministry of Health & Family Welfare. The card also captures some of key services delivered to mothers and babies during antenatal, delivery and postnatal care for ensuring that the minimum package of services are delivered to the beneficiary. The card also serves as a tool for providing complete immunization to infants and children, early and exclusive breastfeeding, complementary feeding, and growth monitoring. The analysis shows that 89.9 percent of women age 15-49 who had a live birth in the five years before the survey and registered their last pregnancy but an MCP Card received by 89.1 percent of women for that birth. Differentials among districts in registration as well as having MCP card by background characteristics are generally quite small (Table 6).

Table 6 Percent Distribution of Pregnant Women Registered for ANC Services with having MCP Card by Background Characteristics in Jammu and Kashmir

Characteristics	Response	Pregnant Women Registered	Received Mother and Child Protection Card after registration
District	Kupwara	90.6%	76.7%
	Baramulla	95.8%	90.3%
	Bandipora	93.9%	74.9%
	Ganderbal	99.0%	83.5%
	Srinagar	95.8%	94.6%
	Budgam	99.5%	97.2%
	Pulwama	97.4%	98.0%
	Shopian	96.9%	96.0%
	Kulgam	97.5%	95.4%
	Anantnag	94.4%	83.1%
	Kargil	95.1%	89.0%
	Leh	97.1%	98.6%
	Kishtwar	80.7%	91.8%
	Ramban	79.9%	86.9%
	Doda	67.3%	78.2%
	Punch	92.9%	89.0%
	Rajouri	73.3%	83.4%
	Reasi	75.1%	90.3%
	Udhampur	94.1%	89.9%
	Jammu	88.2%	89.3%
	Samba	82.4%	86.8%
	Kathua	93.0%	96.6%
Region	Kashmir	95.6%	88.9%

	Ladakh	96.0%	93.7%
	Jammu	84.0%	88.6%
Age	15-19	86.5%	92.6%
	20-29	90.6%	89.0%
	30-39	90.2%	88.9%
	40-49	79.8%	83.6%
Education	No Schooling	84.2%	87.3%
	<5 complete	92.8%	85.7%
	5-9 complete	92.6%	89.4%
	10-11 complete	91.3%	88.8%
	12 or more complete	93.6%	90.5%
Type of place of residence	Urban	92.6%	89.1%
	Rural	89.0%	88.8%
Religion	Hindu	88.0%	89.5%
	Muslim	90.7%	88.6%
	Sikh	88.1%	86.4%
	Other	89.3%	96.6%
Caste	SC	86.7%	91.3%
	ST	84.3%	90.4%
	OBC	90.8%	84.4%
	Other	91.2%	88.6%
Wealth index	Poorest	68.4%	87.4%
	Poorer	88.5%	86.6%
	Middle	92.7%	89.6%
	Richer	93.7%	90.0%
	Richest	93.1%	89.2%
Media exposure	No	78.9%	84.4%
	Yes	92.2%	89.6%
Birth order	1	93.0%	90.0%
	2	91.6%	89.9%
	3	85.2%	86.4%
No. of Household Members	<5	91.7%	90.4%
	5-8	88.8%	88.9%
	9+	91.2%	86.4%
	Total	**89.9%**	**88.8%**

9. Type of ANC Providers(Skilled Providers): Among mothers who gave birth in the five years preceding the survey, 90 percent received antenatal care (ANC) for their last birth from a skilled provider at least 5 times.The majority of women received antenatal care from doctors (82%), followed by auxiliary nurse midwives (ANMs), nurses, midwives, and lady health visitors (LHVs) (9%) and by other health personnel (2%). Eight percent did not receive any antenatal care in the State. The highest proportion of women received ANC from a skilled health provider is the district Kulgam (99%) and the lowest is district Doda (61%). Besides, the analysis shows that the women living in the hilly districts receivedANC in low proportion from a skilled health professional. Among the districts where the high proportion of women receives no ANC checkups is the district Doda (32%), followed by district Rajouri (23%) and district Reasi (17%). However, among the districts where the low proportion of women receives no ANC checkups is the district Kulgam (.4%), followed by district Budgam (.6%) and district Pulwama (1.3%). The highest mean number of visits has been made by the women residing in districts Kulgam and Pulwama (13 visits) followed by districts Budgam

and Shopian (12 visits).The analysis further indicates that highest proportion of women seeks the ANC from a doctor belongs from district Leh (96%) and the lowest proportion of women seeks the ANC from a doctor belongs from district Doda (48%). Use of skilled worker is higher in Ladakh region (97%), followed by Kashmir region (95%) and lastly by Jammu region (86%). Women in the younger ages (below 40 years) are more likely to receive ANC from a skilled provider (91%) than women in the older age group 40-49 years (79%). Use of a skilled provider for ANC services increases with rising education. Eighty-four percent of women with no schooling obtained ANC services from a skilled provider, compared with 95 percent of women with 12 or more years of schooling. Use of a skilled provider for ANC services is higher in urban areas than rural areas (95% and 89% respectively). Use of a skilled provider for ANC services is higher in other religious community (94%) other than Hindu, Muslim and Sikh (91%, 90% and 89% respectively). Women in the highest wealth quintile are much more likely to receive ANC from a skilled provider (94%) than those in the lowest quintile (79%). Higher proportion of women seeks ANC from skilled provider having media exposure (93%) as compared to 79% who did not have the media exposure also get care from skilled provider. Similarly, women with a first birth are more likely to receive ANC from a skilled provider than women with a birth of order 3 and above (93% versus 86%) (Table 7).

Table 7 Percent Distribution of Women by receiving ANC from a Skilled Provider and mean number of ANC visits by background Characteristics in Jammu & Kashmir

Background Characteristics	Response	ANC Provider				Skilled ANC provider	Mean No. of ANC visits during pregnancy
		Doctor	ANM/LHV/Nurse/Midwife	Other health personal	No ANC Check-ups		
District	Kupwara	79.9%	15.1%	2.2%	2.8%	94.9%	10
	Baramulla	77.6%	20.3%		2.1%	97.9%	10
	Bandipora	84.6%	5.1%	4.7%	5.5%	89.7%	10
	Ganderbal	88.9%	5.3%	3.1%	2.7%	94.2%	11
	Srinagar	88.0%	6.9%	1.7%	3.4%	94.9%	14
	Budgam	94.2%	4.6%	.6%	.6%	98.8%	12
	Pulwama	92.6%	6.0%	.2%	1.3%	98.5%	13
	Shopian	93.4%	5.0%		1.6%	98.4%	12
	Kulgam	88.4%	10.6%	.7%	.4%	99.0%	13
	Anantnag	77.4%	11.0%	1.7%	9.9%	88.4%	10
	Kargil	78.1%	18.1%	.4%	3.4%	96.2%	9
	Leh	95.6%	3.1%		1.4%	98.6%	10
	Kishtwar	80.5%	3.0%	3.9%	12.5%	83.6%	5
	Ramban	73.4%	5.7%	8.3%	12.6%	79.1%	6
	Doda	48.2%	13.1%	7.0%	31.6%	61.3%	5
	Punch	81.0%	9.2%	1.9%	7.9%	90.2%	11
	Rajouri	69.9%	6.7%	.9%	22.5%	76.6%	8
	Reasi	66.6%	13.9%	2.5%	16.9%	80.5%	9
	Udhampur	86.5%	9.9%	2.0%	1.6%	96.4%	7
	Jammu	90.0%	2.0%	2.2%	5.8%	92.0%	8
	Samba	76.3%	8.0%	1.3%	14.4%	84.3%	9
	Kathua	90.0%	6.4%	1.2%	2.4%	96.4%	8
Region	Kashmir	84.9%	10.0%	1.5%	3.6%	94.9%	11
	Ladakh	86.5%	10.8%	.2%	2.4%	97.4%	9

	Jammu	78.6%	7.1%	2.6%	11.7%	85.7%	8
Age	15-19	76.6%	13.8%	.6%	9.0%	90.4%	10
	20-29	81.9%	9.1%	2.3%	6.8%	91.0%	9
	30-39	83.3%	7.7%	1.6%	7.5%	90.9%	11
	40-49	68.5%	10.4%	3.7%	17.4%	79.0%	9
Education	No Schooling	73.1%	11.2%	3.3%	12.3%	84.4%	9
	<5 complete	84.1%	6.9%	2.9%	6.1%	91.0%	10
	5-9 complete	83.3%	9.1%	1.7%	6.0%	92.4%	9
	10-11 complete	85.6%	8.0%	1.6%	4.8%	93.6%	11
	12 or morecomplete	90.6%	4.2%	.6%	4.5%	94.8%	11
Type of place of residence	Urban	88.3%	6.2%	1.4%	4.1%	94.5%	12
	Rural	79.7%	9.4%	2.2%	8.7%	89.1%	9
Religion	Hindu	84.8%	6.2%	2.1%	6.9%	91.0%	8
	Muslim	80.6%	9.6%	2.0%	7.8%	90.2%	10
	Sikh	83.0%	6.3%	.7%	10.0%	89.3%	11
	Other	90.7%	3.4%		5.9%	94.1%	9
Caste	SC	82.3%	7.1%	3.0%	7.6%	89.4%	8
	ST	74.4%	10.8%	2.8%	11.9%	85.3%	9
	OBC	83.2%	8.6%	2.5%	5.8%	91.8%	9
	Other	83.0%	8.4%	1.7%	6.9%	91.4%	10
Wealth index	Poorest	62.5%	9.9%	5.1%	22.5%	72.5%	5
	Poorer	74.0%	12.2%	3.4%	10.4%	86.2%	9
	Middle	82.0%	11.6%	1.7%	4.7%	93.7%	10
	Richer	86.6%	6.8%	1.1%	5.5%	93.4%	11
	Richest	91.8%	3.3%	.8%	4.1%	95.2%	11
Media exposure	No	68.6%	10.7%	3.9%	16.8%	79.3%	7
	Yes	84.6%	8.2%	1.6%	5.6%	92.8%	10
Birth order	1	85.7%	6.9%	1.7%	5.7%	92.6%	11
	2	84.6%	8.5%	1.7%	5.2%	93.2%	10
	3	75.1%	10.4%	2.6%	11.9%	85.5%	9
No. of Household Members	<5	83.9%	7.7%	2.1%	6.3%	91.6%	10
	5-8	80.9%	8.7%	2.2%	8.2%	89.6%	9
	9+	82.0%	9.7%	1.2%	7.1%	91.7%	10
Source of ANC	None						0
	home						10
	Government						11
	Private						11
	Both Govt & Private						10
	Total	**81.8%**	**8.6%**	**2.0%**	**7.6%**	**90.4%**	

10. Diagnostics done during ANC: The effectiveness of antenatal check-ups in ensuring safe motherhood depends in part on the tests and measurements done. The analysis was taken out that whether the respondents receive each of several components of full ANC check-ups at least once during any of their check-ups during pregnancy. In Jammu & Kashmir the women who received ANC for their most recent live birth in the five years prior to the survey had their weight measured, blood pressure measured, a blood sample taken, a urine sample taken, their abdomen examined and a full ANC investigation done. The analysis reveals that only 77 percent of women had received full ANC investigations in J&K which is a cause of great concern for the health planners and health functionaries. The data predicts that the districts of Leh and Kathua had received highest rate of full ANC investigations (95% both) and the lowest district is the district Doda (29%). It is obvious that in Ladakh region there is better performance of full ANC investigations (89%) than the Kashmir region (79%) and in Jammu region (74%). Besides, the analysis also shows that the high rate of full ANC investigations received by the women who belongs to the age group of 15-19 (79%), followed by the age group of 30-39 (78%), followed by the women aged 20-29 (77%). The women aged above 40 years showed less interest in full ANC investigations (62%). Education in common sense has almost positive impact on all issues and same is the case here. As the education of female is increasing the number of full diagnostic tests is also increasing. Women with higher education go for more health investigations than the illiterate or less educated women. This is substantiated by the fact that 66 per cent of women with no education did not go for any tests, followed by less than 5th class (73%), followed by 79 percent of women who have completed 5-9 class and 83 percent who have completed 10-11 class and lastly 88 percent did go for full ANC investigations who have education 12 class or above. Full investigation tests are more common in urban areas (87%) than the rural areas (73%). The other religion community (Buddhists, Christians etc,) are very keen for full diagnostics tests which includehigher proportion as 88 percent, followed by Sikhs 87 percent, followed Hindu 83 percent and lastly by Muslims 74 percent. There is not much variation among different castes while utilization of full ANC investigations. It ranges between 71-84 percent. Occupation and standard of living index also have a significant impact on the utilization of different ANC tests among women. Use of full tests is high in rich women than the poor women. Women with higher standard of living have gone for tests during their pregnancy more than the women with lower standard of living. The attainment of fully tests conducted on their wealth index reflects that only 60 percent of women from poor families have achieved full ANC tests while as 86 percent from rich families have attained the same. This indicates that the living standard of the people has to be increased by innovations of newly schemes especially for the poor people. Exposure of media also plays important role as a source of knowledge as 81 percent of women claim that they have come to know by media regarding ANC diagnostics. The analysis reveals that when a woman has its first issue she is very much particular for caring her health and it is evident that 83 percent have done the full tests but as her number of children is increasing the attainment of tests decreases to 67 percent at her 3rd child. Further it has been seen that the women living in a family having less than 5 members are in high proportion of doing full tests (79%) while as women living in larger families having more than 9 members are in low proportion of doing full tests (77%). Further the analysis has been made about the source of knowledge regarding the utilization of full ANC diagnostics. In this regard, 83 percent of women know it from the government sector and 86 percent came to

know from private sector. Besides, 51 percent discloses that they were aware from their families at their homes.

11. Components of antenatal care: Pregnant women are more likely to have their weight measured (87%), their blood pressure measured (96%), urine sample taken (97%), a blood sample taken (97%), and 96 percent of women had their abdomen examined in the State There seems not much variation among the districts in all the components except the district Doda which is lagging behind in utilization of all the indicators. The components of various ANC diagnostics by background characteristics did not also show much variation and the beneficiaries are keen to their health care during pregnancy (Table 8).

Table 8 Percent Distribution of Women by Investigations conducted during ANC visits by Background Characteristics in J&K

Background Characteristics	Response	Various Investigations Done during Pregnancy					Full ANC Investigation
		Weight weighed	Blood pressure taken	Urine sample taken	Blood sample taken	Abdomen examined	
District	Kupwara	69.0%	91.9%	93.1%	94.9%	92.0%	60.0%
	Baramulla	86.8%	99.1%	98.7%	97.1%	95.7%	80.1%
	Bandipora	76.8%	97.8%	94.7%	96.9%	95.9%	67.3%
	Ganderbal	93.8%	98.6%	98.5%	98.4%	98.8%	89.4%
	Srinagar	96.6%	98.4%	99.5%	98.5%	97.1%	91.1%
	Budgam	93.8%	98.9%	99.2%	97.4%	100.0%	92.4%
	Pulwama	93.8%	98.7%	98.1%	98.7%	99.1%	90.7%
	Shopian	82.6%	95.1%	97.3%	98.2%	95.2%	76.6%
	Kulgam	81.0%	94.3%	98.2%	98.5%	96.6%	77.6%
	Anantnag	85.1%	93.6%	98.2%	96.8%	94.5%	69.9%
	Kargil	91.2%	95.7%	99.2%	98.4%	94.2%	82.9%
	Leh	98.9%	99.0%	99.3%	97.3%	97.1%	94.9%
	Kishtwar	84.0%	93.8%	97.3%	96.9%	96.0%	71.6%
	Ramban	72.6%	90.5%	94.1%	92.4%	91.9%	60.2%
	Doda	53.6%	75.1%	84.7%	82.3%	87.8%	29.2%
	Punch	89.0%	97.4%	97.2%	98.6%	95.5%	76.9%
	Rajouri	77.6%	91.2%	92.7%	93.5%	88.0%	54.2%
	Reasi	89.0%	93.7%	96.1%	92.3%	90.4%	67.1%
	Udhampur	96.3%	98.0%	95.8%	97.2%	97.1%	92.2%
	Jammu	94.1%	99.5%	99.0%	98.0%	99.1%	88.2%
	Samba	90.8%	97.8%	97.3%	99.5%	97.6%	75.9%
	Kathua	98.4%	98.8%	99.1%	99.6%	98.8%	94.5%
Region	Kashmir	86.5%	96.6%	97.7%	97.4%	96.2%	79.3%
	Ladakh	95.0%	97.3%	99.3%	97.9%	95.6%	88.7%
	Jammu	87.5%	95.3%	96.1%	96.0%	95.0%	73.8%
Age	15-19	91.2%	93.3%	98.7%	98.5%	94.6%	79.1%
	20-29	86.7%	95.6%	96.7%	96.6%	95.7%	77.0%
	30-39	88.2%	96.7%	97.5%	97.3%	95.8%	78.1%
	40-49	80.1%	94.6%	94.9%	92.6%	92.7%	61.7%
Education	No Schooling	81.1%	93.1%	94.6%	93.6%	92.9%	66.2%
	<5 complete	83.1%	96.8%	97.5%	99.4%	96.8%	73.1%
	5-9 complete	87.5%	96.6%	97.6%	97.8%	96.2%	78.7%

	10-11 complete	90.4%	96.9%	97.9%	98.0%	96.7%	82.5%
	12 or more complete	93.9%	98.5%	99.1%	98.7%	98.1%	87.5%
Type of place of residence	Urban	92.8%	98.4%	98.9%	98.4%	98.1%	87.0%
	Rural	85.2%	95.1%	96.4%	96.2%	94.8%	73.4%
Religion	Hindu	92.3%	97.4%	97.6%	97.1%	97.3%	83.4%
	Muslim	84.9%	95.3%	96.8%	96.5%	94.9%	74.0%
	Sikh	98.5%	100.0%	98.1%	100.0%	100.0%	86.9%
	Other	97.4%	99.5%	98.8%	96.8%	96.3%	87.9%
Caste	SC	87.8%	96.0%	95.4%	94.7%	94.4%	77.9%
	ST	86.0%	94.7%	95.3%	95.3%	93.5%	70.6%
	OBC	92.9%	98.1%	97.8%	99.5%	97.5%	84.0%
	Other	86.9%	96.1%	97.5%	97.1%	96.0%	77.3%
Wealth index	Poorest	76.3%	89.7%	90.5%	89.6%	90.0%	52.2%
	Poorer	81.8%	92.6%	94.5%	94.5%	92.8%	68.3%
	Middle	84.5%	95.6%	97.7%	97.1%	95.9%	76.4%
	Richer	90.7%	97.8%	98.3%	97.8%	97.2%	82.9%
	Richest	94.6%	99.5%	99.2%	99.6%	98.1%	88.7%
Media exposure	No	77.2%	90.4%	92.9%	92.5%	92.5%	59.5%
	Yes	89.0%	97.0%	97.8%	97.6%	96.2%	80.5%
Birth order	1	90.3%	96.5%	97.9%	98.4%	97.1%	82.5%
	2	89.2%	97.2%	97.6%	96.7%	96.6%	80.9%
	3	81.5%	94.0%	95.5%	95.0%	93.1%	66.9%
No. of Household Members	<5	87.8%	96.4%	97.5%	96.9%	96.5%	78.9%
	5-8	86.9%	95.7%	96.7%	96.6%	95.3%	75.9%
	9+	87.2%	96.2%	97.3%	97.0%	95.5%	76.8%
Source of ANC	None						
	home	61.2%	75.6%	79.0%	73.0%	78.6%	50.7%
	Government	87.4%	95.9%	97.1%	96.8%	95.6%	83.0%
	Private	87.0%	97.5%	97.5%	98.5%	98.0%	85.5%
	Both Govt & Private	91.1%	99.2%	99.8%	99.5%	97.6%	88.5%
	Total	**87.2%**	**96.0%**	**97.0%**	**96.8%**	**95.7%**	**76.8%**

12. Type of Complications during Pregnancy: In Jammu & Kashmir, 77 percent of women who received full ANC investigations for their most recent live birth in the five years prior to the survey had their weight measured, a blood sample taken, a urine sample taken, their abdomen examined, and their blood pressure measured. About one-third of women received information on specific pregnancy complications, namely vaginal bleeding (42%), convulsions (41%), prolonged labour (47%), severe abdominal pain (48%) and high blood pressure (57%). A little more than half of the pregnant women (51%) were told where they could go if they experienced pregnancy complications. All the above mentioned pregnancy complications prevailing by district wise implies that the highest proportionate district is the Budgam (48%) followed by Udhampur (47%) followed by Kathua (43%) etc. Similarly, the pregnancy complications in lowest proportionate districts are Doda (14%) followed by Anantnag (15%) followed by Samba (19%) etc.

12.1 Background Characteristics: Prevailing complications did not have much variation among the regional basis. However, among the women aged 15-19, the incidence of all mentioned complications are 33 percent but as the age bar increases the complications also decreases as such it shows only 29 percent incidence at the age group of 40-49 years.

Surprisingly, the analysis of the data points out that when the schooling of the women increases, the incidence of complications also increases. This is substantiated by the fact that women with no schooling face all complication by 28 percent, followed by women having schooling less than 5th standard are with 29 percent complications, followed by women with schooling 5-9 complete are with 31 percent complications, followed by women having schooling 10-11 complete are with 35 percent complications and lastly women schooling 12 or above are with 40 percent complications. Further urban people are much more coincided with high proportion of complications (37%) than their counterparts rural people (31%).The analysis also made it clear that the complications are higher in Hindus (37%) followed by Muslims (31%) and by Sikhs (31%). It is also evident that the complications are most prevalent in other backward classes by (40%) followed by SC (36%). Amazingly the complications are higher in rich people (37%) than the poor people (26%). The data depicts that the complications are more common in those women who have exposure of media (34%) than those women who did not have media exposure (24%). The major role in providing the knowledge of complications is the private sector (37%) followed by government sector (32%) and self-homes by 25 percent (Table 9).

Table 9 Percentage Distribution of Women by having danger signs of pregnancy complications during ANC visits and seek treatment by Background Characteristics in J&K

Background Characteristics	Response	Danger Signs of Pregnancy Complications						Told where to go for pregnancy complications
		Vaginal Bleeding	Convulsions	Prolonged Labour	Severe Abdominal Pain	High Blood Pressure	All Complication Signs	
District	Kupwara	39.8%	36.1%	36.7%	40.1%	48.1%	31.5%	46.5%
	Baramulla	43.7%	38.3%	44.8%	45.3%	52.7%	34.4%	45.9%
	Bandipora	41.8%	40.9%	42.9%	45.5%	55.7%	29.7%	46.2%
	Ganderbal	40.0%	38.3%	44.5%	43.2%	58.7%	29.5%	52.8%
	Srinagar	50.1%	49.2%	50.0%	54.1%	66.3%	41.0%	59.5%
	Budgam	57.0%	56.4%	58.1%	57.8%	62.8%	48.3%	61.5%
	Pulwama	35.0%	34.3%	43.1%	41.0%	56.2%	30.5%	47.2%
	Shopian	30.1%	31.0%	33.7%	34.4%	46.2%	23.0%	32.2%
	Kulgam	29.4%	29.9%	34.6%	31.0%	46.3%	21.5%	30.7%
	Anantnag	25.9%	25.1%	32.7%	32.9%	43.8%	14.8%	33.0%
	Kargil	45.5%	40.1%	46.8%	44.5%	56.3%	34.7%	41.6%
	Leh	54.3%	42.4%	49.7%	48.0%	59.9%	38.5%	46.3%
	Kishtwar	43.7%	52.3%	51.8%	52.0%	42.8%	31.2%	63.0%
	Ramban	47.3%	50.0%	52.8%	52.9%	48.9%	34.8%	57.3%
	Doda	27.0%	24.1%	33.5%	36.1%	33.5%	14.1%	39.4%
	Punch	52.5%	56.4%	65.9%	65.1%	69.8%	44.0%	51.7%
	Rajouri	32.6%	34.8%	47.0%	46.7%	49.2%	20.7%	45.1%
	Reasi	41.3%	48.0%	49.1%	53.2%	57.3%	33.9%	37.6%
	Udhampur	57.9%	51.4%	63.2%	60.9%	75.5%	47.2%	66.2%
	Jammu	41.9%	36.8%	47.6%	52.3%	62.8%	31.7%	61.5%
	Samba	34.5%	25.1%	33.1%	36.7%	45.2%	18.5%	42.7%
	Kathua	53.3%	45.6%	54.5%	54.2%	64.7%	42.8%	64.6%
Region	Kashmir	40.5%	38.9%	42.8%	43.8%	54.4%	31.4%	46.9%
	Ladakh	49.8%	41.3%	48.2%	46.2%	58.1%	36.5%	43.9%
	Jammu	44.2%	42.6%	51.5%	52.8%	59.0%	33.5%	54.8%
Age	15-19	45.0%	48.1%	62.5%	69.4%	58.7%	33.1%	52.7%

	20-29	43.0%	40.8%	47.3%	48.3%	56.7%	32.2%	50.3%
	30-39	42.2%	40.5%	46.6%	47.8%	57.0%	33.1%	50.9%
	40-49	36.1%	37.8%	39.9%	39.8%	51.9%	28.7%	50.8%
Education	No Schooling	37.4%	36.6%	42.3%	42.9%	50.6%	28.3%	43.9%
	<5 complete	39.7%	38.9%	41.6%	41.4%	56.1%	28.9%	44.8%
	5-9 complete	41.3%	39.6%	45.4%	46.6%	54.6%	31.3%	49.0%
	10-11 complete	46.1%	42.9%	50.7%	54.1%	64.2%	34.5%	56.3%
	12 or more complete	49.7%	47.0%	54.5%	54.8%	64.1%	39.7%	59.9%
Type of place of residence	Urban	45.6%	43.9%	49.3%	51.8%	62.5%	37.0%	55.6%
	Rural	41.3%	39.5%	46.1%	46.8%	54.6%	30.9%	48.8%
Religion	Hindu	48.5%	43.2%	53.6%	54.0%	62.4%	36.6%	60.9%
	Muslim	40.1%	39.8%	44.5%	45.9%	54.3%	31.0%	46.3%
	Sikh	43.3%	33.8%	46.3%	47.1%	68.6%	29.6%	74.4%
	Other	46.6%	40.1%	46.6%	46.3%	55.0%	34.6%	45.6%
Caste	SC	46.2%	43.9%	50.0%	50.5%	58.4%	35.8%	59.7%
	ST	34.8%	37.4%	43.6%	47.0%	52.0%	26.4%	37.8%
	OBC	50.5%	45.9%	52.7%	52.8%	68.0%	40.1%	55.8%
	Other	42.7%	40.5%	46.8%	47.7%	56.5%	32.6%	51.3%
Wealth index	Poorest	34.1%	33.9%	41.0%	43.4%	46.0%	24.4%	43.3%
	Poorer	36.7%	35.9%	42.1%	42.8%	49.9%	27.7%	43.8%
	Middle	38.7%	39.5%	45.3%	45.4%	52.4%	30.0%	46.9%
	Richer	46.8%	44.1%	49.5%	50.3%	59.7%	35.8%	54.9%
	Richest	49.7%	44.7%	52.3%	54.7%	67.3%	38.5%	58.3%
Media exposure	No	32.4%	31.3%	38.0%	38.2%	43.7%	23.9%	39.5%
	Yes	44.3%	42.4%	48.6%	49.9%	59.1%	34.1%	52.7%
Birth order	1	44.9%	42.6%	47.9%	49.8%	59.6%	34.3%	52.8%
	2	44.4%	41.2%	48.9%	49.7%	58.5%	34.0%	51.6%
	3	37.6%	38.0%	43.9%	44.5%	51.5%	28.9%	47.0%
No. of Household Members	<5	41.5%	39.8%	45.2%	47.6%	56.1%	32.4%	49.4%
	5-8	42.1%	40.3%	46.5%	48.0%	56.1%	31.4%	50.7%
	9+	45.1%	43.2%	51.0%	49.0%	59.6%	36.4%	51.8%
Source of ANC	Home	38.7%	38.0%	54.2%	51.5%	42.1%	25.0%	45.3%
	Government	41.1%	39.7%	45.9%	46.8%	55.0%	31.7%	48.6%
	Private	47.5%	43.6%	50.1%	52.3%	62.1%	36.7%	58.2%
	Both Govt & Private	50.3%	47.0%	52.2%	55.4%	70.6%	37.0%	62.6%
	Total	**42.4%**	**40.6%**	**47.0%**	**48.1%**	**56.7%**	**32.5%**	**50.6%**

13. Medicine used during ANC: Intestinal parasitic infections rank among the most significant causes of morbidity and mortality in the world, yet economic and other factors have contributed to a lack of innovation in treating these diseases. Importantly, studies have shown that Nitazoxanide is effective in treating common intestinal helminths. The availability of a product with this spectrum of activity raises interesting new possibilities for treating intestinal parasitic infections.Intestinal parasites and protozoan infections are amongst the most common infectionsworldwide. These infections are documented asserious public health problems as they cause irondeficiency anemia, growth retardation in children andother physical and mental health problems.These infections are usually more prevalent amongthe poor sections of population. They are closelyassociated with low household income, poor personaland environmental sanitation, and overcrowding,limited access to clean water, tropical climate and

lowaltitude. Intestinal parasitic infections are the top globalhealth problems whereas amoebiasis, ascariasis,hookworm infection and trichiuriasis are among the tenmost common infections.

The analysis predicts that out of a total number of 5895 pregnant women, only a few of them 561 (10%) feel it necessary to use the parasite drug during the pregnancy. The highest proportion of women used this drug were from the district Poonch (23%) followed by Kishtwar (22%) again followed by Reasi (18%). The pregnant women used the drug in lowest proportion are from the district Pulwama (2 percent) followed by Shopian and Samba (3%) respectively. There is regional parity as it shows that Jammu region has high percentage with 13 percent of women who uses the parasite drug followed by Ladakh region where 7 percent uses the same and Kashmir region shows the least percentage of 6 percent intestinal parasitic drug users. As such there is no variation taking into account the other background characteristics such as age, education, religion, caste, standard of living and birth order etc. (Table 10).

Table 10 Percent Distribution of Pregnant Women who took intestinal parasite drug during Pregnancy by Background Characteristics in J&K

Background Characteristics	Response	Total Number of Pregnant Women	Number taken intestinal parasite drug	Percent taken intestinal parasite drug
District	Kupwara	349	29	8.2%
	Baramulla	373	32	8.7%
	Bandipora	197	8	4.2%
	Ganderbal	148	12	8.0%
	Srinagar	568	42	7.4%
	Budgam	263	10	3.7%
	Pulwama	199	5	2.4%
	Shopian	117	3	2.7%
	Kulgam	208	8	3.7%
	Anantnag	465	25	5.3%
	Kargil	56	3	6.1%
	Leh	53	4	8.0%
	Kishtwar	125	28	22.3%
	Ramban	155	25	16.1%
	Doda	219	21	9.6%
	Punch	374	85	22.7%
	Rajouri	428	57	13.4%
	Reasi	218	38	17.6%
	Udhampur	288	33	11.5%
	Jammu	649	56	8.6%
	Samba	156	5	3.0%
	Kathua	287	32	11.1%
Region	Kashmir	2888	173	6.0%
	Ladakh	109	8	7.0%
	Jammu	2899	380	13.1%
Age	15-19	83	7	9.0%
	20-29	3062	338	11.0%
	30-39	2493	184	7.4%
	40-49	258	32	12.4%
Education	No Schooling	1890	161	8.5%
	<5 complete	127	13	10.1%

	5-9 complete	1940	178	9.2%
	10-11 complete	755	86	11.4%
	12 or more complete	1184	124	10.5%
Type of place of residence	Urban	1467	127	8.7%
	Rural	4428	434	9.8%
Religion	Hindu	1536	166	10.8%
	Muslim	4214	382	9.1%
	Sikh	90	10	11.4%
	Other	55	3	6.3%
Caste	SC	527	44	8.4%
	ST	769	101	13.1%
	OBC	276	30	11.0%
	Other	4324	385	8.9%
Wealth index	Poorest	540	46	8.5%
	Poorer	1245	101	8.1%
	Middle	1429	139	9.7%
	Richer	1311	118	9.0%
	Richest	1371	157	11.5%
Media exposure	No	1036	69	6.6%
	Yes	4860	492	10.1%
Birth order	1	1935	191	9.8%
	2	2005	177	8.8%
	3	1955	193	9.9%
No. of Household Members	<5	1417	124	8.7%
	5-8	3494	360	10.3%
	9+	984	77	7.8%
	Total	**5895**	**561**	**9.5%**

14. Advice received during ANC: The effectiveness of antenatal check-ups in ensuring safe motherhood depends in part on the tests and measurements done and the advice given during the check-ups.Among women with a live birth in the five years preceding the survey who visited for ANC services for their most recent live birth, about one-half (49%) received full ANC advice on each of the five different areas. The break up shows that 80% received advice on the importance of institutional delivery, 63% on cord care, 79% on breastfeeding, 73% on keeping the baby warm and 61% on family planning. Even when women receive antenatal care, sometimes they do not receive all the services needed to monitor their pregnancy. In Jammu & Kashmir, more than four-fifths of women who received antenatal care for their last birth received each of the services needed to monitor their pregnancy.

14.1 Advice received by background characteristics (Full ANC counseling): The analysis reveals that the highest percentage of full ANC counseling received by district Udhampur (76%), followed by district Reasi(69%) and again followed by district Leh (68%). While as the lowest full ANC counseling received by district Anantnag (18%), followed by district Bandipora (20%) and again followed by district Samba (26%). It is obvious that in Jammu and Ladakh region there is better performance with regard to full ANC counselingabout 57% each than the Kashmir region (41%). Besides, the analysis also shows that the high rate of full ANC counseling received by the women who belongs to the younger age group of 15-19 years (60%), followed by the age group of 30-39 years (50%). The women aged above 40

years did not ear to the ANC counseling keenly and amounts to less (35%). The analysis indicates that education has no impact on receiving the ANC counseling. This is substantiated by the fact that a good percentage of women (46%) without schooling has given ear to the health professionals, followed again by a good proportionate of women (30%) having education less than 5th class. Forty-nine percent of women did listen to the health worker with education completed 5-9 class and 48 percent receive advice who have completed 10-11 class and lastly 56percent get advice with schooling 12th class or above. The Hindu women with high percentage (60%) have achieved full ANC advice than the Muslim women (44%). The women belonging to other religions are also very much keen in caring themselves during pregnancy which amounts to 55 percent by receiving the necessary precautions from the health workers. There is not much variation among women belonging from different castes. Women with higher standard of living receives higher proportionate of ANC advice than the women with lower standard of living. The attainment of ANC advice on their wealth index reflects that 42 percent of women from poor families have achieved full ANC advice while as 53 percent from rich families have attained the same. Exposure of media is one of the powerful sources of knowledge as 51 percent of respondent's claim that they have come to know by media regarding ANC advice. There is not much variation on receiving the ANC advice by the birth order of the women. Further it has been seen that the women living in a family having less than 5 members are visiting in fewer number (46%) for ANC advice while as women living in larger families having more than 9 members are getting ANC advice in large number (52%).

14.2 Institutional delivery: The analysis reveals that the highest percentage of counseling on institutional deliveries received by district Leh and Srinagar (91% each) and followed by district Kargil (90%). While as the lowest received by district Doda (54%), followed by district Samba (57%) and again followed by district Ganderbal (71%). It is obvious that Ladakh and Kashmir region have better performancewith 91% & 82% respectively than the Jammu region (78%). There is not much variation in the age groups.The counseling ranges between 79%-83% among illiterate and 12th pass or above. Other backward class hasreceived counseling in less number (63%) in compare to other classes. Women with higher standard of living receivecounseling in higher proportion than the women with lower standard of living.

14.3 Cord Care: The highest percentage of counseling on cord care received by district Kishtwar (84%), followed by district Udhampur (83%) and followed by district Budgam (70%). But the lowest percentage received by district Bandipora (33%), followed by district Kupwara & Samba (39% each). It is obvious that Jammu &Ladakh region have better performance with 71% &66% respectively than the Kashmir region (57%). The women belonging from age group of 40-49 are with fewer numbers (55%) in compare to other age groups. The counseling ranges between 51%-69% among less than class 5 and 12th pass or above. Other backward class has again received counseling in less number (50%) in compare to other classes. Women with higher standard of living receives higher proportionate of counseling than the women with lower standard of living.

14.4 Family planning: The highest percentage of counseling on family planning received by district Leh (90%), followed by district Udhampur (86%) and followed by district Reasi (83%). But the lowest percentage received by district Anantnag (23%), followed by district Kulgam (37%), followed by district Bandipora (38%). It is obvious that Ladakh &Jammu region have better performance with 79% &71% respectively than the Kashmir region (51%). The women belonging from age group of 15-19 are with highest numbers (68%) in compare to other age groups. The counseling ranges between 43%-67% among less than class 5 and 12th pass or above. Women with higher standard of living receivecounseling in higher proportion than the women with lower standard of living (Table 11).

Table 11 Percent Distribution of Pregnant Women by Type of Advice received during ANC Visits by Background Characteristics in J&K

Background Characteristics	Response	Total Number	Type of Advice					
			Institutional Delivery	Cord Care	Breast feeding	Keeping Baby Warm	Family Planning	Full ANC Counselling
District	Kupwara	164	81.8%	39.1%	63.4%	55.3%	46.1%	27.1%
	Baramulla	130	84.5%	56.7%	82.4%	73.3%	58.7%	42.1%
	Bandipora	91	78.6%	33.4%	66.4%	58.7%	37.8%	19.7%
	Ganderbal	80	71.4%	47.5%	71.4%	65.1%	46.5%	34.2%
	Srinagar	240	90.8%	68.3%	76.0%	72.9%	69.4%	61.8%
	Budgam	124	78.9%	69.6%	85.4%	78.6%	71.3%	64.0%
	Pulwama	108	89.0%	68.1%	87.3%	76.1%	62.6%	62.6%
	Shopian	48	85.3%	63.0%	85.0%	80.0%	43.2%	40.4%
	Kulgam	109	83.2%	59.6%	85.3%	77.1%	37.1%	32.8%
	Anantnag	185	71.9%	46.5%	76.1%	74.5%	23.6%	18.1%
	Kargil	29	89.9%	60.3%	80.4%	73.8%	69.4%	50.5%
	Leh	27	91.2%	71.6%	89.1%	83.0%	89.7%	68.0%
	Kishtwar	31	76.7%	83.9%	86.6%	84.8%	79.1%	64.5%
	Ramban	48	73.5%	76.2%	82.0%	76.4%	64.5%	55.2%
	Doda	56	54.1%	58.3%	67.6%	60.4%	43.5%	31.4%
	Punch	179	83.0%	73.3%	85.7%	84.3%	75.9%	64.8%
	Rajouri	148	80.7%	64.4%	78.7%	76.7%	47.4%	33.3%
	Reasi	99	83.9%	78.3%	87.7%	85.8%	82.5%	69.2%
	Udhampur	140	84.0%	82.9%	87.7%	80.1%	86.2%	76.1%
	Jammu	272	78.5%	67.5%	82.8%	71.3%	77.3%	55.9%
	Samba	66	56.6%	38.9%	54.6%	49.9%	40.6%	26.3%
	Kathua	171	80.3%	74.9%	76.9%	76.2%	76.0%	66.4%
Region	Kashmir	1279	82.0%	55.6%	77.1%	70.9%	50.9%	41.3%
	Ladakh	56	90.5%	65.7%	84.5%	78.2%	79.1%	58.9%
	Jammu	1212	78.2%	70.5%	80.7%	75.7%	70.7%	56.8%
Age	15-19	34	82.5%	74.5%	83.7%	86.4%	68.1%	59.5%
	20-29	1402	79.1%	62.8%	78.5%	74.5%	61.4%	49.2%
	30-39	1030	82.7%	63.3%	80.0%	72.0%	60.9%	49.7%
	40-49	82	72.0%	54.5%	72.5%	63.5%	51.6%	34.7%
Education	No Schooling	732	78.6%	59.1%	77.6%	72.0%	58.8%	46.2%
	<5 complete	58	77.5%	50.5%	69.6%	70.4%	43.3%	30.0%
	5-9 complete	901	81.6%	62.4%	80.5%	74.5%	60.9%	49.1%
	10-11 complete	371	77.4%	65.5%	78.4%	71.2%	59.7%	48.1%
	12 or more complete	485	83.5%	69.1%	79.8%	75.0%	67.1%	56.4%

Type of place of residence	Urban	585	87.0%	63.5%	77.4%	72.7%	61.7%	51.9%
	Rural	1962	78.4%	62.7%	79.4%	73.5%	60.7%	48.2%
Religion	Hindu	730	78.7%	71.7%	80.3%	73.7%	73.1%	59.5%
	Muslim	1754	80.9%	58.8%	78.2%	72.9%	55.4%	44.4%
	Sikh	40	88.3%	84.4%	90.8%	87.5%	69.5%	61.4%
	Other	24	83.1%	58.7%	77.6%	68.1%	79.3%	54.6%
Caste	SC	274	83.0%	73.5%	84.0%	72.8%	73.5%	60.1%
	ST	324	81.7%	62.7%	82.3%	80.1%	68.4%	49.0%
	OBC	130	63.3%	50.3%	69.6%	64.5%	58.2%	44.7%
	Other	1819	81.0%	62.2%	78.3%	72.8%	57.9%	47.7%
Wealth index	Poorest	164	73.8%	51.9%	76.8%	75.6%	61.5%	37.9%
	Poorer	539	77.2%	60.8%	78.6%	72.4%	58.3%	45.2%
	Middle	667	80.3%	61.9%	78.6%	72.1%	56.7%	48.7%
	Richer	607	82.4%	64.3%	79.8%	75.0%	64.3%	52.5%
	Richest	569	83.3%	67.8%	79.4%	73.1%	64.7%	52.7%
Media exposure	No	386	72.8%	56.9%	70.7%	64.2%	49.7%	39.7%
	Yes	2161	81.8%	64.0%	80.4%	75.0%	63.0%	50.7%
Birth order	1	883	77.5%	61.3%	75.2%	70.9%	57.4%	46.0%
	2	875	82.7%	66.7%	82.7%	76.4%	63.1%	52.8%
	3	789	81.1%	60.5%	79.0%	72.5%	62.5%	48.4%
No. of Household Members	<5	558	81.1%	62.8%	81.0%	74.7%	54.6%	46.2%
	5-8	1524	79.8%	62.7%	78.5%	72.9%	62.5%	49.2%
	9+	465	81.6%	63.7%	78.0%	72.9%	63.3%	52.0%
	Total	**2547**	**80.4%**	**62.9%**	**79.0%**	**73.3%**	**60.9%**	**49.1%**

15. Conclusion:

The results revealed that the respondents had adequate knowledge regarding ANC services except the number of ANC visits. A large number of deliveries took place in governmental institutions. Approximately 90% had registered for ANC and most of them did so in the 1 st and the 2 nd trimesters. It needs to be emphasized here that early registration should be utilized for continuum of care and institutional delivery. The age, literacy of the mother, SES, and type of family significantly influence ANC service utilization. To improve effective utilization of ANC services, we need to bring behavior change communication, improve the quality of service delivery, along with effective monitoring and evaluation.

Awareness should be developed in the community about the importance of registration for ANC, educating women about detection of complications during pregnancy, importance of TT Inj., IFA tablet, extra nutrition etc. There is also the need to encourage women to involve their male partners in birth spacing programs. Health workers and ASHAs should work hard and need to identify the pregnant mother and they should give reminder before a particular dose of ANC.

The women not receiving any antenatal checkup has significantly diminished from 16 percent in 1998-99 to 8 percent in 2015-16 in J&K. While as there is reverse trend with regard to the first trimester registration both in J&K and country as a whole which shows that in 1998-99, 33 percent of pregnant women in India and 48 percent in J&K got registered in first trimester which gradually increases to 59 percent in India and 77 percent in J&K in the year 2015-16. Hence the low rate of the first trimester registration of the pregnant women is

of a great concern which needs greater attention even though the huge number of ASHAs have been recruited at the grass root level.

The analysis reveals that only 25 percent of women had received full ANC in J&K which is a cause of great concern for the health planners and health functionaries. The data predicts that the district Kathua had received highest rate of full ANC (52%) and the lowest district is the district Doda (5%).The analysis reveals that when a woman has its first issue she is very much particular for attaining the full ANC (32%) but as her number of children is increasing the visits for ANC decreases. Further it has been seen that the women living in a family having less than 5 members are visiting fewer (25%) for ANC while as women's living in larger families having more than 9 members are visiting more times (32%) for ANC. This indicates that in smaller family's women have not enough free time for went to outside especially in rural areas.

The majority of women received antenatal care fromdoctors (82%), followed by auxiliary nurse midwives (ANMs), nurses, midwives, and lady health visitors (LHVs) (9%) and by other health personnel (2%). Eight percent did not receive any antenatal care in the State.The data predicts that the districts of Leh and Kathua had received highest rate of full ANC investigations (95% both) and the lowest district is the district Doda (29%).In Jammu & Kashmir, 77 percent of women who received full ANC investigations for their most recent live birth in the five years prior to the survey had their weight measured, a blood sample taken, aurine sample taken, their abdomen examined, andtheir blood pressure measured.The analysis reveals that the highest percentage of full ANC counseling received by district Udhampur (76%) and the lowest full ANC counseling received by district Anantnag (18%) in the State.

16. Recommendations

1. The analysis suggests for a special drive among society regarding better antenatal care and its benefit to women and children.

2. Increasing awareness among mothers about the danger signals in pregnancy and further emphasizing the importance of ANC.

3. Improving educational opportunities for women, which will help them to learn and in turn empower them to make independent decisions.

4. Improving the quality of health-care services.

5. To make mothers aware about the provision of financial help and transport facilities under the National Health Mission (NHM) through information, education, and communication activities by involving ASHA, Anganwadi workers (AWW), and multipurpose health workers (MPHW).

6. It has been calculated that utilization of antenatal care services is a significant determinant of secure delivery care, after controlling many factors which influence the care during pregnancy.

7. Health care needs require a broad understanding of several interrelated issues, including economic, cultural, social and physical condition of women,access to health care services and the quality of health services available to women.

8. Strong differentials are found in utilization such as residential status, education status and socio-economic background.
9. The attitudes and behaviors of health care providers in ANC clinics compound this problem by failing to respect the privacy, confidentiality, and traditional beliefs of the women. This may negatively influence the use of ANC as well as MNCH services at large.

10. The reasons for high MMR in India are inadequate access, underutilization of health services, high illiteracy among females, early marriages, ignorance, malnutrition, social factors etc.

11. Awareness should be developed in the community about the importance of registration for ANC, educating women about detection of complications during pregnancy, importance of TT Inj., IFA tablet, extra nutrition etc. There is also the need to encourage women to involve their male partners in birth spacing programs. Health workers need to identify the pregnant mother and they should give reminder before a particular dose of ANC.

References:

1. A Mengistu, S Gebre-Selassie, T Kassa - Ethiopian Journal of Health …, 2007 - ajol.info
2. Banerjee Bratati. A Qualitative Analysis of Maternal & child Health Services of an Urban Health Center by assessing Client Perception in terms of Awareness satisfaction & Service Utilization. Indian Journal ofcommunity medicine 2003; 28(4): 153-156.
3. Government of India: District Level Health Survey: Reproductive and child health survey, Wardha. 2002
4. International Institute for Population Sciences (UPS) and ORS Marco. National Family Health Survey(NFHS-2) 1998-99 Mumbai UPS 2000.
5. National Family Health Survey-India 2005-06. 2005.Bombay: International Institute of Population Studies.
6. National Family Health Survey-India 2015-16. 2016.Bombay: International Institute of Population Studies.
7. Park K. Park's text book of preventive and social medicine. 21st ed. Jabalpur (India): Banarasidas Bhanot; 2011.
8. Government of India: District Level Health Survey: Reproductive and child health survey, Wardha. 2002
9. Rani M, Bonu S, Harvey S. Differentials in the quality of antenatal care in India: International Journal for Quality in Health Care 2008:20(1): 62–71

10. WHO Global Health Observatory on Antenatal Care. Available from: http://www.who.int/gho/maternal_health/reproductive_health/antenatal_care_text/en/ . [Last accessed on 2015 Mar 12].