

To Measure the Knowledge, Attitude, And Practice Among Adolescent Girls, Pregnant and Lactating Women, and Women in the Reproductive Age Group 20-49 Regarding MCH Services at the Gairsain Block of District Chamoli

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Abstract: There are an estimated 105 million adolescent girls in the age group 10-19 in India. For young girls and women in India, poor nutrition, and early childbearing and reproductive health complications compound the difficulties of adolescent physical development. Anemia is one of the primary contributors to maternal mortality (20-25%) and is associated with compromised pubertal growth spurt and cognitive development among girls aged 10-19. Nutritional deprivation, increased iron demand for adolescent growth, excessive menstrual losses of iron and early/frequent pregnancies aggravate and exacerbate pre-existing anemia and its effects. Most young girls and women are not adequately aware of their increased nutritional needs for growth (especially increasing their food intake to meet calorie demands of pubertal growth), and importance of various services like pregnancy, infant and child health care resulting in less demand of such services among the young girls and women. The poor nutritional status of mothers' especially young mothers heightens obstetric risk during pregnancy and childbirth, contributes to maternal mortality, and puts their infants at risk. Neonatal and infant mortality rates among adolescent mothers are 60% higher than among infants born to mothers in the 20-29 age groups.

Keywords: Girls and Women, Poor Nutrition, and Early Childbearing and Reproductive Health Complications Compound.

1. INTRODUCTION

The social, physical, economic, nutritional and health status of all segments of the society reflect the real index of development of any nation. In order to promote comprehensive development, United Nations declared 'Health for All' by 2015. Government of India (GoI) has aligned its national goals with this declaration and during its 5 years plans has launched number of schemes and programmes like NRHM, TSC, Swajal, ICDS and SSA for ensuring reproductive and Child Health (RCH) services, environmental sanitation, Safe Drinking Water, HIV etc.

Comparing to the median age at first marriage among women age 20-49 in rural India (16 percent), NFHS II report, only 7.1 percent of pregnant women, 9.5 percent of lactating, and 14.1 percent women age 20-49 have got married below legal age which shows a declining trend in practice of early marriage. 48.5 percent of women age 20-49 and only 28.5 percent lactating mothers had three or more visits. Despite all government and non-governmental efforts 66.7 percent of women

age 20-49 and 32.2 percent of lactating women had home delivery. The preference for home delivery among currently pregnant women is found to be 64.3 percent which indicates community's strong preference of this practice.

The pregnancy-related health problems are commonly reported by ever married women. 50 percent of the pregnant and 54 percent of the lactating and 52.6 percent of women age 20-49 have had problems during pregnancy. A high prevalence of problems during delivery was also reported. 63.5 percent of lactating women had reported any type of health problems during delivery than to women age 20-49 (62.8 percent). 55.6 percent of the lactating mothers and 39.7 percent of women age 20-49 had post partum health problems. Only 11.1 percent of the lactating women and 10.3 percent of women age 20-49 have gone for post delivery check up. Regarding receiving supplementary nutrition from ICDS department, only 35.1 percent of the lactating women and 21.6 percent of women age 20-49 received supplementary nutrition from ICDS department.

Only 14.1 percent of women age 20-49 and 15.9 percent of lactating women were gone for check-up of baby after delivery within 24 hours of birth but the intention to go for such check up was comparatively high (57.1 percent) among pregnant mothers which is a positive sign. 83.3 percent of the women age 20-49 were given colostrums milk to their baby comparing to 82.5 percent of lactating mothers. But, exclusive breast feeding for first 6 months was only 52.6 percent among women age 20-49. Mothers of children of 0-6 years of age were asked if their children had suffered from cough, fever, or diarrhoea during the two weeks preceding the survey. 33.3 percent of lactating and 31.7 percent women age 20-49 reported that their children suffered with diarrhea during the two weeks preceding the survey. 75 percent of lactating women and 53.6 percent than of women age 20-49 respondent reported incidences of Pneumonia during the two weeks preceding the survey.

List of Acronyms:

HIV	Human Immuno Deficiency Virus	ANC	Antenatal Care
AIDS	Acquired Immuno Deficiency Virus	ANM	Auxiliary Midwife
ARI	Acute Respiratory Tract Infection	ART	Antiretroviral Treatment
AWWs	Anganwadi Workers	CBR	Crude Birth Rate
CBO	Community Based Organizations	PNC	Post Natal Care
CHC	Community Healthy Care Centre	SA	Situation Analysis
PRA	Participatory Rural Appraisal	IMR	Infant Mortality Rate
IEC	Information Education Communication	MMR	Maternal Mortality Rate
MCH	Maternal and Child Health	ORS	Oral re-hydrates Solution
MTCT	Maternal to Child Transmission of HIV	PHC	Primary Health Care Centre
PLHA	People Living with HIV/AIDS	STI	Sexually Transmitted Infection
PTCT	Prevention of Parent to Child Transmission of HIV	PRI	Panchayat Raj Institution
RMP	Registered Medical Practitioner	SACS	State IADS Control Society
RTI	Reproductive Tract Infection	FGD	Focus Group Discussion
TBAs	Traditional Birth Attendants		

2. OVERVIEW OF STUDY AREA

The social, physical, economic, nutritional and health status of all segments of the society reflect the real index of development of any nation. In order to promote comprehensive development, United Nations declared 'Health for All' by 2015. Government of India (GoI) has aligned its national goals with this declaration and during its 5 years plans has launched number of schemes and programmes like NRHM, TSC, Swajal, ICDS and SSA for ensuring reproductive and Child Health (RCH) services, environmental sanitation, Safe Drinking Water, HIV etc.

The Block Gairsain is remote village of district Chamoli reflects that problems of the Gairsain area are poor attainment of child rights, high prevalence of illness, poor early child care and development, low performance of students in Government schools, insufficient safe drinking water and poor sanitation, vulnerable in terms of disaster and poor economic condition of the families. The most affecting causes of the health problems are tough geographical terrain, lack of knowledge, health related traditional beliefs and practices, lack of coverage in terms of health services and gap in demand and supply of health services.

Geographical Location:

The Gairsain block of the Chamoli district, lies in the middle Himalaya and ranges between 1600msl to 2300 msl. The Chamoli district is centrally located for the State. The population of Chamoli district as per 2001 census is 369198 of which 183033 are males and 186165 are females and this accounts for 4.35% of the total population of the State. The percentage decadal growth rate in 1991 was calculated to be 13.51% and the population density as per 2001 census is 48 per sq. km. The population in the district is primarily Hindu with schedule Cast population being 17.58% and 2.2% schedule tribes.

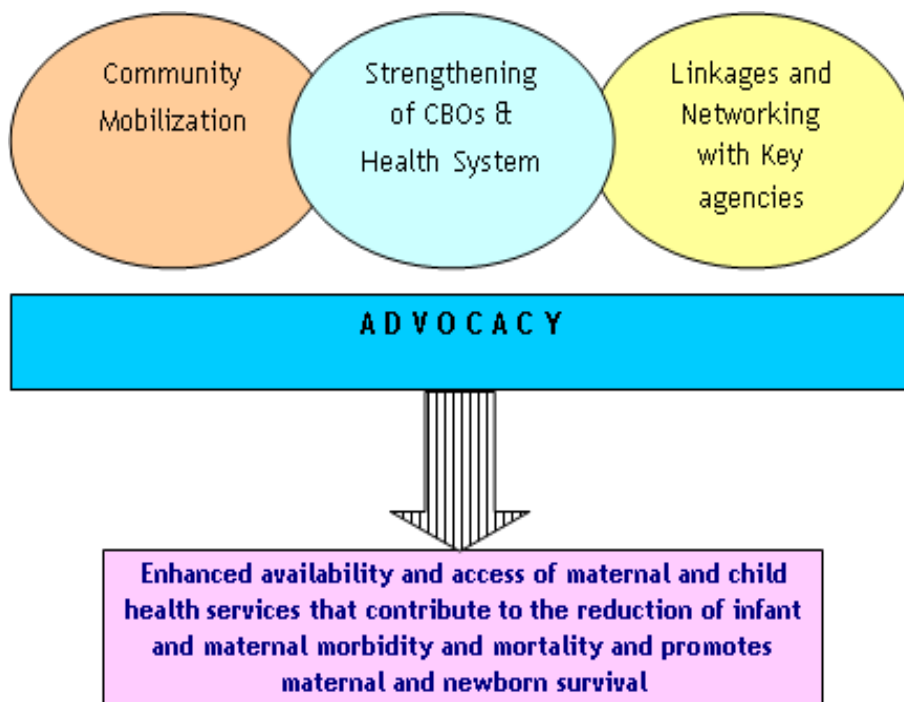
Gairsain is one of the 9 development blocks of District Chamoli Garhwal. The population of the block is approx 59383. Agriculture (Farming and livestock) is the main occupation (of 67% families) in spite of marginal land holding (approx. less than half acre) and rain-fed farming. The declining productivity, high investment in agricultural activities and lack of other employment opportunities is compelling people especially youths to migrate in plains and do petty jobs. Thus old people, women and children are the main inhabitants of the villages. Women are the major task bearers. Being a mountain region, geographical conditions are tough. Villages are scattered and small; normally 30 - to 40 families stay in a village. Less than 20 % villages have access to the road. People are literate but the reach of media is limited and most of the villagers do not have access to newspapers and TV.

Target Group:

The activities focus on women in reproductive age-group, in particular pregnant and lactating women. Men were also identified as key partners for bringing change in health seeking behaviors. Other key stakeholders including government health functionaries, local service providers, and influential community members were also targeted for getting support in building a supportive environment for improved maternal and child health.

Research strategies:

The research aimed to develop and integration of cadre of community health volunteers into primary health care services. The research also aims at fostering better coordination and convergence between various departments' of the state govt. like health, ICDS, Total Sanitation Campaign (TSC), Swajal, Panchayati Raj etc. The key strategies included mobilizing community groups, sensitizing and capacity building of health functionaries and CBOs, thus strengthening health systems and building networking & linkages with key agencies having similar mandate. Advocacy with key functionaries also received special attention of the research through generating consensus on key health issues for the larger benefit of the community.



Rationale for study:

Study was attempt to assess the prevailing situation of Mother and Child Health (MCH) with regard to social, cultural, educational, economic and environmental determinants/facets which have a bearing on women and child health. Findings of the baseline study would not only help to gauge the contemporary situation of the study sites, but it will also facilitate in developing a robust study implementation plan based on the perceived needs of the community. In addition, study findings will also be used as base line for developing key monitoring, and evaluating indicators for the study.

Aims and objectives of the study:

To measure the knowledge, attitude, and practice (KAP) amongst key stakeholders (Adolescent girls, pregnant and lactating women, and women in the reproductive age group 20-49) regarding MCH services at the sites of the Gairsain Block of District Chamoli.

Examine the current status of service delivery for maternal and child health in the study areas.

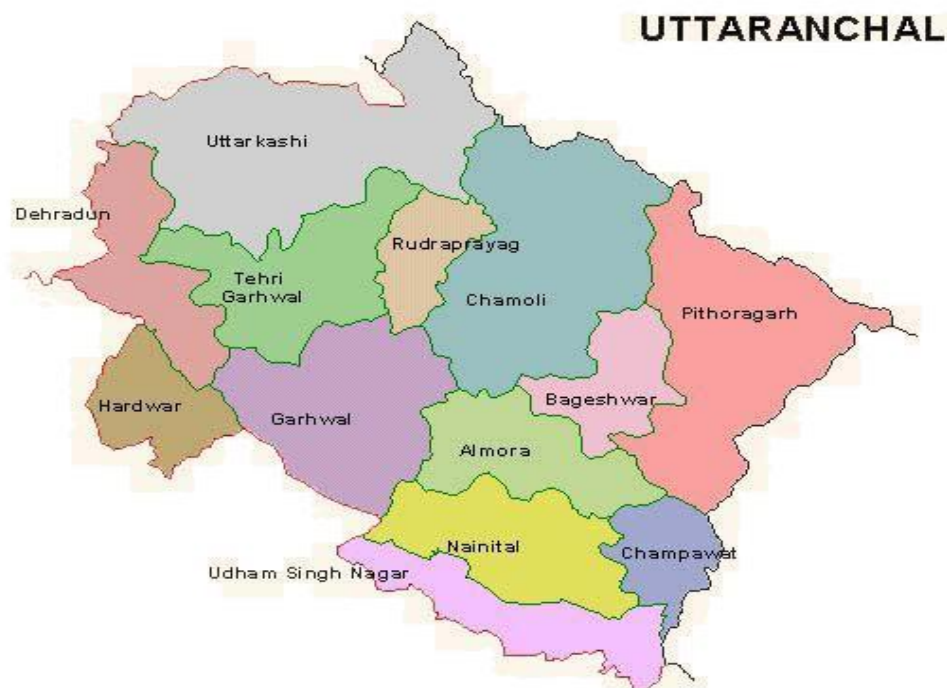
To make pragmatic recommendations to improve upon health status of mother and child (MCH) at the study sites.

Methodology:

In order to obtain complete, accurate and reliable information, research demands careful planning involving proper formulation of the procedures. A proper planning and methodology helps in drawing valid and logical conclusions. This chapter explains the methodology adopted by the present study to fulfill the objectives. It has been discussed in the following sections under the sub-headings such as the study area, study design, data collection tools, ethical considerations, and analysis plan.

About Uttarakhand:

The state is bordering Himachal Pradesh in the north-west and Uttar Pradesh in the South and has international borders with Nepal and China. The state is very rich in natural resources. The famous peaks of Nanda Devi, Kedarnath, Trishul, Bandarpunch and Mt Kamet, the major Glaciers including Gangotri, Pindari, Milam and Khatling are located in Uttarakhand. The Ganga, the Yamuna, Ramganga and Sharda are principal rivers of this region. The state of Uttarakhand is looking after twelve major ecological areas of the country. These include Nanda Devi National Park, the Valley of Flowers, Gangotri, Govind and the Rajaji National Parks, Kedarnath, Mussoorie, Binsar ,Sanadi, Govind and the Ascod Sanctuaries. All these areas support many rare plants and animal communities.



Administration:

Uttarakhand is the 27th state of the Republic of India and was carved out of Uttar Pradesh on 9th Nov 2000. The State has two Divisions (viz; Garhwal and Kumaun), with 13 Districts, which can be grouped into three distinct geographical regions, the High mountain region, the Mid-mountain region and the Terai region. Dehradun is the interim-capital city. Uttarakhand consists of 13 districts viz., Almora, Pauri Garhwal, Tehri Garhwal, Bageshwar, Chamoli, Haridwar, Champawat, Nainital, Dehradun, Udham Singh Nagar, Uttarkashi, Pithoragarh, Rudrapur. The state is spread over an area of 55,845 square km having 78 Tehsils, 95 blocks and 7227 Panchayats. The state has a total of 16,826 inhabited villages, 86 cities/towns and only five are major cities with population over 1 lakh. It has 5 Lok Sabha, 3 Rajya Sabha constituencies and 70 Vidhan Sabha constituencies.

Demography:

The state of Uttarakhand has an area of 53483 sq. km. and a population of 8.5 million. It has been estimated that population exceeding 10 million is expected in 2011 census. There are 13 districts, 95 blocks and 16826 villages. The State has population density of 159 per sq. km. (as against the national average of 312), which varies from as high as 612 in Haridwar and 414 in Dehradun districts to as low as 37 in Uttarkashi and 48 in Chamoli. 89 % of the villages have population less than 500. 93% of the area of the state is hilly and 63% of the land is covered with forests. The decadal growth rate of the state is NA (against 21.54% for the country) and the population of the state continues to grow at a much lower rate than the national rate.

The native people of Uttarakhand are generally called either Kumaoni or Garhwali depending on their place of origin in either the Garhwal or Kumaon region. Another well known category is Gujjar, cattle herders in the southwestern Terai. Kumaoni and Garhwali dialects of Central Pahari are spoken in Kumaon and Garhwal region respectively. Jaunsari and Bhotiya dialects are also spoken by tribal communities in the west and north respectively. The urban population however converses mostly in Hindi. In Uttarakhand State, Hindus form the majority of the population at 85.0%, Muslims form 10.5%, Sikhs 2.5% and Christians, Buddhists, Jains and others about 0.5%. It has male-female ratio of .964 and has a literacy rate of 72%. The largest cities in the state include Dehradun (530,263), Haridwar (220,767), Haldwani (158,896), Roorkee (115,278) and Rudrapur (88,720). The state government recognizes 15,620 villages and 81 cities and urban areas.

Table I: Demographic, Socio-economic and Health profile of Uttarakhand State as compared to India figures

S. No.	Item	Uttarakhand	India
1	Total population (Census 2001) (in millions)	8.5	1028.61
2	Decadal Growth (Census 2001) (%)	NA	21.54
3	Crude Birth Rate (SRS 2008)	20.1	22.8
4	Crude Death Rate (SRS 2008)	6.4	7.4
5	Total Fertility Rate (SRS 2008)	NA	2.6
6	Infant Mortality Rate (SRS 2008)	44	53
7	Maternal Mortality Ratio (SRS 2004 – 2006)	440	254
8	Sex Ratio (Census 2001)	962	933
9	Population below Poverty line (%)	-	26.10
10	Schedule Caste population (in millions)	1.52	166.64
11	Schedule Tribe population (in millions)	0.26	84.33
12	Female Literacy Rate (Census 2001) (%)	59.6	53.7

Table II: Health Infrastructure of Uttarakhand

Particulars	Required	In position	Shortfall
Sub-centre	1294	1765	-
Primary Health Centre	214	239	-
Community Health Centre	53	55	-
Multipurpose worker (Female)/ANM at Sub Centres & PHCs	2004	1903	101
Health Worker (Male) MPW(M) at Sub Centres	1765	616	1149

Particulars	Required	In position	Shortfall
Health Assistant (Female)/LHV at PHCs	239	340	-
Health Assistant (Male) at PHCs	239	417	-
Doctor at PHCs	239	866	-
Obstetricians & Gynaecologists at CHCs	55	30	25
Physicians at CHCs	55	4	51
Paediatricians at CHCs	55	18	37
Total specialists at CHCs	220	67	153
Radiographers	55	30	25
Pharmacist	294	294	0
Laboratory Technicians	294	132	162
Nurse/Midwife	624	292	332

(Source: RHS Bulletin, March 2008, M/O Health & F.W., GOI)

Table III: Other Health Institutions in the State

Health Institution	Number
Medical College	3
District Hospitals	18
Referral Hospitals	-
City Family Welfare Centre	-
Rural Dispensaries	-
Ayurvedic Hospitals	7
Ayurvedic Dispensaries	467
Unani Hospitals	2
Unani Dispensaries	3
Homeopathic Hospitals	1
Homeopathic Dispensary	60

Table III: Population and Household Characteristics, 2007-08

Background Characteristics	DLHS - 3		DLHS - 2	
	Total	Rural	Total	Rural
Percent total literate Population (Age 7 +)	82.6	81.8	-	-
Percent literate Male Population (Age 7+)	93.5	93.2	-	-
Percent literate Female Population (Age 7+)	70.4	69.1	-	-
Percent girls (age 6-11) attending Schools	99.7	99.7	-	-
Percent boys (age 6-11) attending Schools	99.7	99.7	-	-
Have Electricity connection (%)	82.0	79.5	62.9	58.3
Have Access to toilet facility (%)	44.8	37.5	36.6	29.1
Use piped drinking water (%)	80.6	79.1	42.9	37.6
Use LPG for cooking (%)	18.4	8.2	19.6	9.7
Live in a pucca house (%)	64.1	60.4	25.6	19.7
Own a house (%)	98.7	98.9	-	-
Have a BPL card (%)	34.4	37.7	-	-
Own Agriculture Land (%)	85.8	92.0	-	-
Have a television (%)	49.5	45.0	37.1	30.8
Have a mobile phone (%)	41.1	34.8	-	-
Have a Motorized Vehicle (%)	4.1	1.8	1.2	0.6
Standard of Living Index				

Background Characteristics	DLHS – 3		DLHS - 2	
	Total	Rural	Total	Rural
Low (%)	53.5	60.2	56.4	63.2
Medium (%)	27.5	28.7	35.0	32.7
High (%)	19.0	11.1	8.6	4.1
* Number of Females per 1000 Males				

3. REPRODUCTIVE HEALTH STATUS OF DISTRICT CHAMOLI

Table-1 Demographic Indicators

Indicators	Census 2001
Population (in thousands)	370
Decadal Growth Rate (1991-01)	13.51
Sex Ratio *	1016
Percent Urban population	13.69
Percent SC population	18.24
Percent ST population	2.83
Female Literacy Rate (7 years and above)	61.60
Male Literacy Rate (7 years and above)	89.70

Table-2 RCH Indicators

Indicators	DLHS - 3		DLHS – 2	
	Total	Rural	Total	Rural
Marriage and Fertility, (Jan 2004 to 2007-08)				
Percentage of girl's marrying before completing 18 years	0.1	-	5.0	5.7
Percentage of Births of Order 3 and above	23.7	25.5	42.5	45.0
Sex Ratio at birth	104	101	-	-
Percentage of women age 20-24 reporting birth of order 2 & above.	36.7	39.9	-	-
Percentage of births to women during age 15-19 out of total births	4.1	4.6	-	-
Family planning (currently married women, age 15-49)				
Current Use :				
Any Method (%)	71.6	71.6	54.8	52.8
Any Modern method (%)	71.3	71.3	52.6	51.2
Female Sterilization (%)	57.5	58.7	42.7	42.8
Male Sterilization (%)	3.4	3.9	2.7	2.9
IUD (%)	0.8	0.2	1.2	0.8
Pill (%)	2.3	2.3	1.3	0.9
Condom (%)	7.2	6.1	4.6	3.8
Unmet Need for Family Planning:				
Total unmet need (%)	15.2	16.0	17.6	18.5
For spacing (%)	6.7	7.2	5.8	6.3
For limiting (%)	8.5	8.8	11.8	12.2
Maternal Health:				
Mothers registered in the first trimester when they were pregnant with last live birth/still birth (%)	42.4	40.3	-	-
Mothers who had at least 3 Ante-Natal care visits during the last pregnancy (%)	41.1	35.1	21.2	18.2
Mothers who got at least one TT injection when they were pregnant with their last live birth / still birth (%) #	66.2	62.8	71.7	68.0
Institutional births (%)	31.6	27.2	17.4	15.9
Delivery at home assisted by a doctor/nurse /LHV/ANM (%)	4.1	0.6	6.7	5.7

Indicators	DLHS - 3		DLHS - 2	
	Total	Rural	Total	Rural
Marriage and Fertility, (Jan 2004 to 2007-08)				
Mothers who received post natal care within 48 hours of delivery of their last child (%)	39.0	35.8	-	-

Table-3 Immunization and HIV-AIDS

Indicators	DLHS - 3		DLHS - 2	
	Total	Rural	Total	Rural
Child Immunization and HIV-AIDS				
Child Immunization and Vitamin A supplementation:				
Children (12-23 months) fully immunized (BCG, 3 doses each of DPT, and Polio and one dose of Measles) (%)	61.7	59.4	57.2	52.3
Children (12-23 months) who have received BCG (%)	97.5	97.1	80.3	77.3
Children (12-23 months) who have received 3 doses of Polio Vaccine (%)	70.9	69.4	63.1	59.1
Children (12-23 months) who have received 3 doses of DPT Vaccine (%)	70.1	68.3	63.1	59.1
Children (12-23 months) who have received Measles Vaccine (%)	96.6	97.1	69.0	65.9
Children (9-35 months) who have received at least one dose of Vitamin A (%)	88.3	88.5	-	-
Children (above 21 months) who have received three doses of Vitamin A (%)	31.6	29.2	-	-
Treatment of childhood diseases (children under 3 years based on last two surviving children)				
Children with Diarrhoea in the last two weeks who received ORS (%)	43.6	46.7	14.7	12.3
Children with Diarrhoea in the last two weeks who were given treatment (%)	54.6	59.5	58.1	60.8
Children with acute respiratory infection/fever in the last two weeks who were given treatment (%)	67.1	65.2	-	-
Children had check-up within 24 hours after delivery (based on last live birth)(%)	40.1	37.6	-	-
Children had check-up within 10 days after delivery (based on last live birth) (%)	38.2	35.5	-	-
Child feeding practices (Children under 3 years)				
Children breastfed within one hour of birth (%)	76.2	74.3	-	-
Children (age 6 months above) exclusively breastfed (%)	51.2	51.9	-	-
Children (6-24 months) who received solid or semisolid food and still being breastfed (%)	97.7	98.0	-	-
Knowledge of HIV/AIDS and RTI/STI among Ever married Women (age 15-49)				
Women heard of HIV/AIDS (%)	67.8	65.1	42.6	37.9
Women who knew that consistent condom use can reduce the chances of getting HIV/AIDS (%)	59.2	60.5	18.7	18.6
Women having correct knowledge of HIV/ AIDS (%)	93.7	93.9	-	-
Women underwent test for detecting HIV/ AIDS (%)	1.1	1.4	-	-
Women heard of RTI/STI (%)	32.6	31.5	26.8	24.2
Knowledge of HIV/AIDS among Un-married Women (age 15-24)				
UM Women heard of HIV/AIDS (%)	91.8	91.3	-	-
UM Women who knew that consistent condom use can reduce the chances of getting HIV/AIDS (%)	47.9	49.3	-	-
UM Women having correct knowledge of HIV/ AIDS (%)	97.9	97.7	-	-
UM Women underwent test for detecting HIV/ AIDS (%)	-	-	-	-
UM Women heard of RTI/STI (%)	32.2	31.8	-	-
Women facilitated/motivated by ASHA for				
Ante-natal Care (%)	8.0	9.3	-	-
Delivery at Health Facility (%)	7.8	9.1	-	-
Use of Family Planning Methods (%)	5.2	5.6	-	-

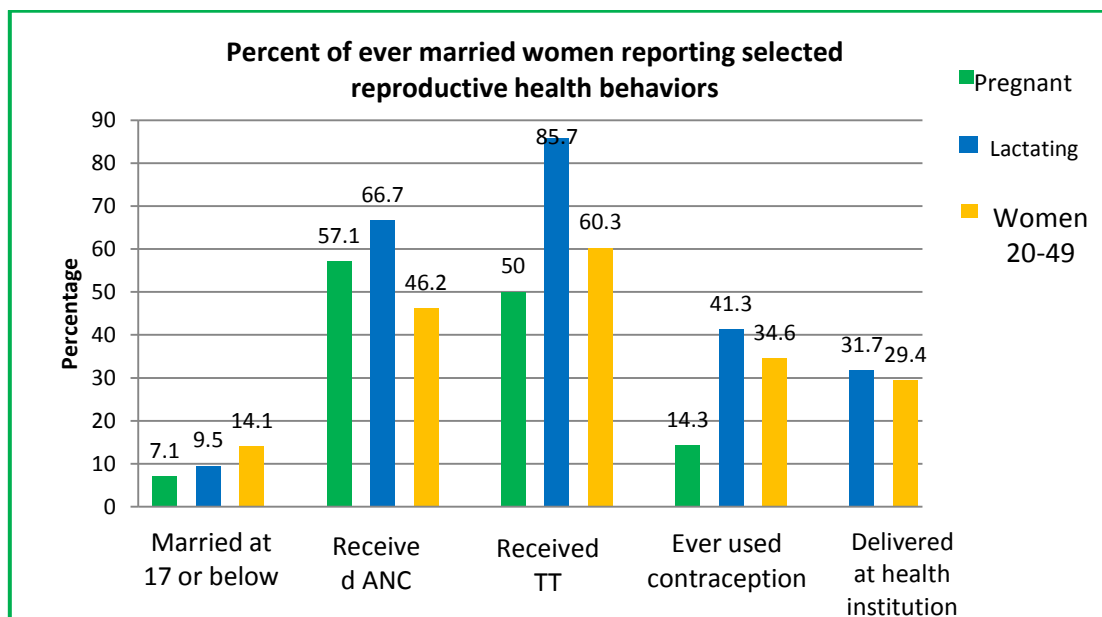
Table-5 Facility Survey

Community Health Centre (CHC) N = 9			
Indicators	No.	Indicators	No.
Human Resource :		Supply :	

Community Health Centre (CHC) N = 9			
Indicators	No.	Indicators	No.
CHCs having General Surgeon	1	CHC with 24 hours normal delivery services.	9
CHCs having Obstetrician/ Gynaecologist	1	CHC with 24 hours New born care	9
M.Os. received training of Non-Scalpel Vasectomy (NSV) during last five years.	5	CHC recognized as Integrated Counseling and Testing Centre (ICTC).	-
M.Os. received training for Prevention, Care and Support for HIV/AIDS during last five years.	8	-	-
M.Os. received training of basic Emergency Obstetric Care during last five years.	2	-	-
M.Os. received training of Integrated Management of Neonatal and Childhood illness during last five years.	1	-	-

Reproductive health behavior:

The figure shows some of the important reproductive health practices and behaviors. A high proportion of the marriage is still happening below legal age and is twice among women age 20-49 as compare to currently pregnant women. Mothers who had least 3 Antenatal care visits during the last pregnancy was high (66.7 percent) among lactating women which is higher than state's 35.1 percent, DLHS III data for rural area. Receiving TT injection is again high among lactating women which indicates that pregnant women needs to be motivated for early registration and receiving of TT injection. Only 41.3 percent of the lactating women have ever used any method which is highest. This clearly indicates that lot of efforts has to be made to promote institutional delivery as only 31.7 percent which is highest among lactating women is critical.



Characteristics:

Table 2.1 presents the percentage distribution of ever married women respondents by age, education, marriage below legal age. Three categories of the ever married women were interviewed in the present baseline study: those who were found pregnant at the time of survey, who were having 0-6 years of children and continuing breast feeding to the baby/kid, and those who women age 20-49 and were currently married.

Age distribution of women respondent shows that majority of the respondents were mainly of 20-29 years of age among pregnant and lactating category and also of 30-34 years of age among 20-49 reproductive age group category. The educational attainments were found to be close to similar among pregnant and lactating category comparing to women of 20-49 age group in which advance level of educational attainments are comparatively limited than lactating women. A

comparatively high proportion (20.5 percent) of the women respondent of 20-49 age group were more illiterate than to pregnant (14.3 percent) and lactating (9.5 percent) women.

About education up to primary level, again a higher proportion (32.3 percent) of women of 20-49 age group have completed, comparing to pregnant (25 percent) and lactating women (17.5 percent) whereas up to higher secondary level of school education, a comparatively higher proportion (16.7 percent) of the pregnant women have attained it and comparatively higher proportion (22.8 percent) of lactating women have done 13 or more years of education.

In India, early marriage for girls receives religious and social sanction. Despite laws raising the legal age of marriage to 18 for girls, there are strong cultural pressures on parents to marry their daughters early. The median age at first marriage among women 20-49 in India is 16.7 with a two-year difference between urban and rural women (18.7 versus 16.0), NFHS II report.

One effective strategy for improving maternal-child health and reducing the family size is increasing the age at marriage of girls. A small proportion (7.1 percent) of pregnant women have got married below legal age comparing to a higher proportion of lactating (9.5 percent) and women of 20-49 age group (14.1 percent) which shows a declining trend in practice of early marriage.

Pregnancy care:

The number of antenatal care visits and the timing of the first visit are important for the health of the mother and the outcome of the pregnancy. The World Health Organization recommends that all pregnant women should have at least four antenatal care (ANC) assessments by or under the supervision of a skilled attendant (World Health Organization, 2006).

These antenatal care assessments should be spaced at regular intervals throughout pregnancy, commencing as early as possible in the first trimester. Studies on the timing of the initial antenatal check-up, however, show that even when antenatal care is initiated as late as the third trimester, there is a substantial reduction in perinatal mortality (Ramachandran, 1992).

The first antenatal check-up should take place at the latest during the second trimester of pregnancy. The survey asked women who received antenatal care for the most recent birth about the total number of antenatal care visits they had and, consumption of IFA tablets, receiving of TT injections, and place of delivery.

Table 2.1 Profile of ever married women Percent distribution of the pregnant, lactating and women of reproductive age group by age and educational attainments						
Characteristics	Ever married women					
	Pregnant		Lactating		20-49	
	N	%	N	%	N	%
Age						
15-19	1	7.1	0	0.0	0	0.0
20-24	5	35.7	27	42.9	15	19.2
25-29	6	42.9	24	38.1	29	37.2
30-34	2	14.3	10	15.9	23	29.5
35-39	0	0.0	0	0.0	8	10.3
40-44	0	0.0	2	3.2	2	2.6
45-49	0	0.0	0	0.0	1	1.3
Educational attainments						
Up to 5 th	3	25.0	10	17.5	20	32.3
6 th -8 th	5	41.7	16	28.1	20	32.3
9 th -10 th	1	8.3	11	19.3	6	9.7
11 th -12 th	2	16.7	7	12.3	6	9.7
13 th and more	1	8.3	13	22.8	10	16.1
Illiterate	2	14.3	6	9.5	16	20.5
Total	14	100.0	63	100.0	78	100.0
Percentage got married below legal age	1	7.1	6	9.5	11	14.1

Table 2.2 Pregnancy care Percent distribution of the pregnant, lactating and women of reproductive age group by number of ANC visits, consumption of IFA tablets, receiving of TT injections						
Characteristics	Ever married women					
	Pregnant		Lactating		20-49	
	N	%	N	%	N	%
Number of ANC visits						
None	6	42.9	21	33.3	42	53.8
1	5	62.5	4	9.5	2	6.1
2	3	37.5	26	61.9	15	45.5
3	0	0.0	9	21.4	13	39.4
4+	0	0.0	3	7.1	3	9.1
Consumed IFA						
Yes	NA	NA	44	69.8	47	60.3
No			19	30.2	31	39.7
Total			63	100.0	78	100.0
Taken TT						
Yes	7	50.0	54	85.7	54	69.2
No	7	50.0	9	14.3	24	30.8
Total	14	100.0	63	100.0	78	100.0
Place of delivery*						
Government hospital	2	14.3	14	22.2	18	23.1
PHC	1	7.1	2	3.2	3	3.8
Sub center	2	14.3	3	4.8	0	0.0
NGO/trust hospital/clinic	0	0.0	1	1.6	1	1.3
Private hospital/clinic	0	0.0	0	0.0	1	1.3
On the way to hospital	0	0.0	0	0.0	1	1.3
At home	9	64.3	39	61.9	52	66.7
At natal home	0	0.0	2	3.2	2	2.6
Other	0	0.0	2	3.2	0	0.0
Total	14	100.0	63	100.0	78	100.0

* Intended place of delivery for pregnant women

Table 2.2 shows the percent distribution of ever married women by the number of antenatal care visits consumption of IFA tablets, receiving of TT injections, and place of delivery (intended for pregnant women) for their most recent pregnancy and birth. Around 52 percent of mothers age 20-49 had 1-2 antenatal care visits and 48.5 percent had three or more visits comparing to lactating mothers among 71.4 percent and 28.5 percent respectively. Among pregnant women 62.5 percent had 1 antenatal care visits and around 38 percent have had two visits. Regarding no ANC visits, a higher proportion (53.8 percent) of women age 20-49 did not go for any antenatal care visits comparing to 33.3 percent of lactating women and 42.9 percent of pregnant women.

Important elements of antenatal care include the provision of iron supplementation for pregnant mothers, two doses of tetanus toxoid vaccine, and a drug to get rid of intestinal worms. Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements for foetal growth. Iron deficiency anaemia is the most common micronutrient deficiency in the world. It is a major threat to safe motherhood and to the health and survival of infants because it contributes to low birth weight, lowered resistance to infection, impaired cognitive development, and decreased work capacity. The provision of iron and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe motherhood services offered as part of the Reproductive and Child Health Programme in India. The programme recommendation is that women consume 100 tablets of iron and folic acid during pregnancy.

A comparatively higher proportion (69.8 percent) of lactating women reported consumption of IFA tablets than women age 20-49 (60.3 percent). More than 85 percent of lactating women taken TT injection during their last pregnancy which is comparatively lower (62.2 percent) among women age 20-49 and only 50 percent among pregnant women.

Delivery care:

The table 2.2 clearly shows a positive shift in the place of delivery. Home delivery which was highest (66.7 percent) among women age 20-49 lowered to 32.2 percent among lactating women and preference of it which is slightly lowered to 64.3 percent among pregnant women which should be a high concern and need to explore various reasons of such preference and practice. Regarding institutional delivery, preference to any government hospital was highest (23.1 percent) among women age 20-49 comparing to lactating women (only 22.2 percent). The preference of government hospital for delivery among ever married currently pregnant women was also found to be very limited (only 14.3 percent). The similar trend is also reflected about preference and use of PHC for delivery purpose which shows the limited use of these health institutions and their quality of services being offered to the beneficiaries.

4. HEALTH PROBLEMS DURING PREGNANCY AND PREVALENCE OF PREGNANCY, DELIVERY AND POST DELIVERY COMPLICATIONS

For the most recent birth, the women were asked if at any time during the pregnancy she experienced any of the following pregnancy-related problems: swelling of hands, feet and face or

paleness / giddiness/weakness, visual disturbances, excessive fatigue, convulsions not from fever, weak or no movement of foetus, abnormal position of foetus, malaria, excessive vomiting, hypertension/high BP, jaundice, excessive bleeding, or vaginal discharge.

Convulsions accompanied by signs of hypertension can be symptomatic of eclampsia, a potentially fatal condition. The potential health risk posed by vaginal bleeding during pregnancy varies by when in the pregnancy the bleeding takes place. Although documenting the prevalence of the symptoms of pregnancy complications is vital for planning services to reduce maternal morbidity and mortality, the information presented here is based on women's self reports and should be interpreted with care.

As shown in Table 2.3, the pregnancy-related health problems are common among all ever married women as half of the pregnant and more than half of the lactating and women of 20-49 years have/had any type of problems during pregnancy. And the most commonly reported problems are excessive fatigue by all three categories of ever married women (57.1 percent by pregnant women, 56.1 percent by women age 20-49, and 52.9 percent by lactating women) followed by malaria 57.1 percent and convulsions not from fever among pregnant women. More than 14 percent of the pregnant women had swelling of hands, feet and face, visual disturbances, excessive vomiting, hypertension/high BP, and jaundice. 41.2 percent of the lactating women had swelling of hands, feet and face, and excessive vomiting comparing to 26.8 percent and 39 percent respectively of women age 20-49. Among women age 20-49 39 percent had paleness/giddiness/weakness comparing to 26.5 percent of lactating women. About 27 percent of lactating women had convulsion not from fever comparing to 17.1 percent of women age 20-49. Nearly 9 percent of the lactating women had visual disturbances and hypertension/high BP comparing to 17.1 and 4.9 percent respectively among women age 20-49. Only 2.4 percent of women age 20-49 had excessive bleeding.

Health problems and complications during delivery:

A slightly higher proportion (63.5 percent) of lactating women had reported any type of health problems during delivery than to women age 20-49 (62.8 percent). The most commonly reported delivery complications by lactating and women age 20-49 were prolonged labour (45 percent by lactating women and 36.7 percent by women age 20-49), excessive bleeding (35 percent by lactating women and 36.7 percent by women age 20-49), pre-mature delivery (10 percent by lactating women and 20.4 percent by women age 20-49), convulsion/high B.P (20 percent by lactating women and 4.1 percent by women age 20-49), and obstructed labour (7.5 percent by lactating women and 2 percent by women age 20-49).

Postpartum Complications:

The table 2.3 shows that more than half (55.6 percent) of the lactating mothers had post partum health problems comparing to 39.7 percent of women age 20-49. The most common problem reported by lactating and women age 20-49 were lower abdominal pain (68.6 percent by lactating and 54.8 percent by women age 20-49) followed by high fever (57.1 percent by lactating and 41.9 percent by women age 20-49), severe headache (28.6 percent by lactating and 35.5 percent

by women age 20-49), convulsions (20 percent by lactating and 25.8 percent by women age 20-49), and excessive bleeding (12.9 percent by women age 20-49). Only 2.9 percent of lactating mothers had foul smelling vaginal discharge comparing to 9.7 percent of women age 20-49.

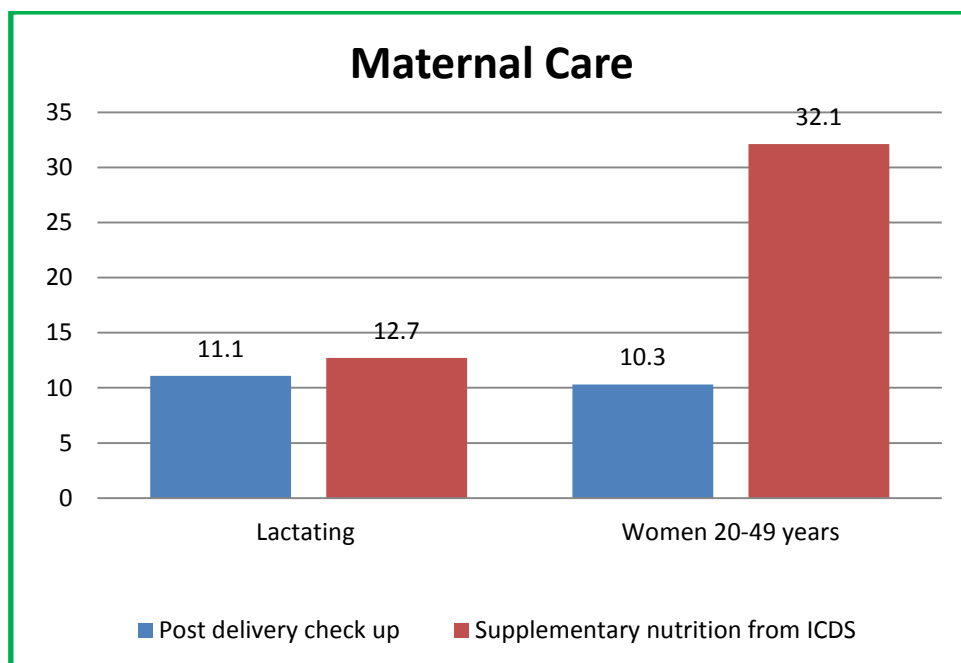
Table 2.3 Health problems and complications						
Percent distribution of the pregnant, lactating and women of reproductive age group by self reported symptoms of health problems, pregnancy, delivery and post delivery complications						
Characteristics	Ever married women					
	Pregnant		Lactating		20-49	
	N	%	N	%	N	%
Problems during pregnancy						
Yes	7	50.0	34	54.0	41	52.6
No	7	50.0	29	46.0	37	47.4
Total	14	100.0	63	100.0	78	100.0
Type of problem						
Swelling of hands, feet and face	1	14.3	14	41.2	11	26.8
Paleness / giddiness/weakness	0	0.0	9	26.5	16	39.0
Visual disturbances	1	14.3	3	8.8	7	17.1
Excessive fatigue	4	57.1	18	52.9	23	56.1
Convulsions not from fever	2	28.6	9	26.5	7	17.1
Weak or no movement of foetus	0	0.0	1	2.9	1	2.4
Abnormal position of foetus	0	0.0	0	0.0	0	0.0
Malaria	4	57.1	0	0.0	5	12.2
Excessive vomiting	1	14.3	14	41.2	16	39.0
Hypertension/high BP	1	14.3	3	8.8	2	4.9
Jaundice	1	14.3	0	0.0	2	4.9
Excessive bleeding	0	0.0	0	0.0	1	2.4
Vaginal discharge	0	0.0	0	0.0	2	2.9
Other	0	0.0	0	0.0	1	2.4
Problems during delivery						
Yes	NA	NA	40	63.5	49	62.8
No			23	36.5	29	37.2
Total			63	100.0	78	100.0
Type of delivery complications						
Pre-mature delivery	NA	NA	4	10.0	10	20.4
Excessive bleeding			14	35.0	18	36.7
Prolonged labour			18	45.0	18	36.7
Obstructed labour			3	7.5	1	2.0
Breech presentation			0	0.0	0	0.0
Convulsion/High B.P			8	20.0	2	4.1
Other			1	2.5	1	2.0
Problems during post pregnancy						
Yes	NA	NA	35	55.6	31	39.7
No			28	44.4	47	60.3
Total			63	100.0	78	100.0
Type of problem						
High fever	NA	NA	20	57.1	13	41.9
Lower abdominal pain			24	68.6	17	54.8
Foul smelling vaginal discharge			1	2.9	3	9.7
Excessive bleeding			0	0.0	4	12.9
Convulsions			7	20.0	8	25.8
Severe headache			10	28.6	11	35.5

NA=not applicable

Postnatal Care:

The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Postnatal check-ups soon after the delivery are particularly important for births that take place in non-institutional settings. Recognizing the importance of postnatal check-ups, the Reproductive and Child Health Programme recommends three postnatal visits (Ministry of Health and Family Welfare, 1997).

The figure given below shows that only 11.1 percent of the lactating women have gone for post delivery check up comparing to women age 20-49 (10.3 percent) which indicates that women needs to be informed about advantages of post natal check up along with possible risk and danger in absence of it. Regarding receiving supplementary nutrition from ICDS department, only 35.1 percent of the lactating women did so which is further lower to 21.6 percent among women age 20-49. This again shows that community level awareness has to be generated through any effective means of communication like mass media campaign.

**Infant and child care:**

The health of a newborn child especially borne in non-institutional settings depends not only on the health care she receives during her pregnancy and delivery, but also on the care the infant receive during the first few weeks after birth. The table 2.4 shows that the lactating mothers and women age 20-49 were asked about check-up after delivery within 24 hours of birth, feeding of colostrums milk to the baby, incidence of diarrhea, Pneumonia whereas the pregnant mothers were asked about their awareness and future intention about these issues.

Only 14.1 percent of women age 20-49 were gone for check-up of baby after delivery within 24 hours of birth comparing to 15.9 percent of lactating women. The intention to go for such check up was as high as 57.1 percent among pregnant mothers which is a positive sign. Similarly, 83.3 percent of the women age 20-49 were given colostrums milk to their baby. This proportion was little lower (82.5 percent) among lactating mothers. The intention to feed baby with colostrums milk was 100 percent among pregnant mothers. Regarding exclusive breast feeding for first 6 months was only 52.6 percent among women age 20-49. And, again, comparatively, the pregnant mothers were more (78.6 percent) intended to exclusively breast feed their baby for six months.

Information on the most important childhood illnesses (Pneumonia, and diarrhoea) help in the assessment of national programmes aimed at reducing the mortality impact of these illnesses. Mothers of children of 0-6 years of age were asked if their children had suffered from cough, fever, or diarrhoea during the two weeks preceding the survey. Accuracy of all these information is affected by the reliability of the mother's recall of when the disease episode occurred. The two-week

recall period is thought to be most suitable for ensuring that recall errors will not be too serious. It is important to mention that the morbidity data collected are based on mothers' perceptions of illness without validation by medical personnel.

The table 2.4 shows the percentage of lactating and women age 20-49 reported that their children suffered with diarrhea during the two weeks preceding the survey and this proportion was high among women age 20-49 (33.3 percent) than of lactating women (31.7 percent). But proportion of women respondent reported incidences of Pneumonia during the two weeks preceding the survey and was high among lactating women (75 percent) than of women age 20-49 (53.6 percent). The awareness about diarrhea among pregnant women was as high as 92.9 percent comparing to Pneumonia which was only 35.7 percent.

Table 2.4 Infant and child care						
Percent distribution of the pregnant, lactating and women of reproductive age group about check-up after delivery within 24 hours of birth, feeding of colostrums milk to the baby, incidence of diarrhea, and Pneumonia						
Characteristics	Ever married women					
	Pregnant*		Lactating		20-49	
	N	%	N	%	N	%
Child have check-up after delivery within 24 hours of birth						
Yes	8	57.1	10	15.9	11	14.1
No	6	42.9	53	84.1	67	85.9
Child not alive	0	0.0	0	0.0	0	0.0
Total	14	100.0	63	100.0	78	100.0
Baby given colostrums						
Yes	14	100.0	52	82.5	65	83.3
No	0	0.0	11	17.5	13	16.7
Total	14	100.0	63	100.0	78	100.0
Exclusive breast feed for six months	11	78.6	NA	NA	41	52.6
Child suffered with/aware about diarrhea						
Yes	13	92.9	20	31.7	26	33.3
No	1	7.1	43	68.3	51	65.4
Do not know	0	0.0	0	0.0	1	1.3
Total	14	100.0	63	100.0	78	100.0
Child suffered with/aware about Pneumonia						
Yes	5	35.7	9	75.0	15	53.6
No	8	57.1	3	25.0	13	46.4
Do not know	1	7.1	0	0.0	0	0.0

*for pregnant respondent questions were asked on the knowledge or intention part

5. FERTILITY AWARENESS AND USE OF CONTRACEPTIVES

Fertility awareness method (FAM) is a collection of practices that help a woman know which days of the month she is most likely to get pregnant. Fertility Awareness is a form of Natural Family Planning. Pregnancy is prevented by not having sexual intercourse during the unsafe fertile time, or by using a barrier method such as condom.

The table 2.5 reveals information on awareness about fertile days of women during her monthly cycle. The pregnant women and women age 20-49 are more (64.3 percent and 64.1 percent respectively) aware than their lactating counterparts (58.7 percent). But regarding having correct knowledge about fertile days during monthly cycle pregnant women had lowest proportion (11.1 percent) comparing to their lactating and women age 20-49 counterparts (13.5 percent and 12 percent respectively).

Table 2.5 Fertility awareness and use of contraceptives Percent distribution of the pregnant, lactating and women of reproductive age group having knowledge about fertility awareness and type of contraceptives						
Characteristics	Ever married women					
	Pregnant		Lactating		20-49	
	N	%	N	%	N	%
Awareness about fertile days						
Yes	9	64.3	37	58.7	50	64.1
No	0	0.0	23	36.5	15	19.2
Do not know	5	35.7	3	4.8	13	16.7
Total	14	100.0	63	100.0	78	100.0
Correct knowledge about fertile days	1	11.1	5	13.5	6	12.0
Aware about condom						
Yes	7	50.0	38	60.3	33	42.3
No	7	50.0	25	39.7	45	57.7
Total	14	100.0	63	100.0	78	100.0
Aware about emergency contraceptive pill						
Yes	1	7.1	29	46.0	25	32.1
No	13	92.9	34	54.0	53	67.9
Total	14	100.0	63	100.0	78	100.0
Using/ever used at least one contraceptive method						
Yes	2	14.3	26	41.3	27	34.6
No	12	85.7	37	58.7	51	65.4
Total	14	100.0	63	100.0	78	100.0

Regarding awareness about condom the lactating women had highest (60.3 percent) awareness comparing to pregnant women (50 percent) and women age 20-49 (42.3 percent). Similarly, awareness about emergency contraceptive pills was again highest among lactating women (46 percent) than to pregnant women (only 7.1 percent) and women age 20-49 (32.1 percent).

About ever use of any contraceptive method, a comparatively large proportion (41.3 percent) of the lactating women have ever used at least one modern contraceptive method which is lower among women age 20-49 (34.6 percent) and was lowest among pregnant women only 14.3 percent.

6. FINDINGS

The practice of early marriage is still prevalent in the community. Though, the baseline study finding shows a declining trend but it is still in practice. The practice of home delivery is pretty high with limited utilization of ante-natal care services. Importance of colostrums feeding, exclusive breast feeding and use of condom is found to be limited among community members especially among ever married women. The community needs for MCH services are not being adequately met by the available government health services. Due to financial reasons, majority of people who access government services belong to the economically marginalized groups. Many people in the areas are unable to access the government services because of the unavailability of service providers at the time of an emergency and the indifferent attitudes of service providers. Although people appreciate secondary/tertiary level private services, poor people are unable to access these services. People access government health services for general health problems and not specifically for MCH health problems. The rationale for this is that people consider pregnancy as a normal process and not a health condition of serious concern. They knowledge to recognize signs of sickness or seek health care during pregnancy is limited. Poor community understanding on managing childhood illnesses. The habits of personal health and hygiene are limited among adolescent girls. Although clinic records in the study areas show a high prevalence of RTIs/STIs, people consider these as routine conditions and only occasionally seek health care. In cases where people do seek health care for RTIs/STIs, they first do home based treatment, which is eventually adding to the problem. People in the areas lack complete knowledge about STI/RTIs. Still significant chunk of deliveries in the area are conducted by untrained TBAs.

The families in study areas generally are large in size with an average of 6-7 members. Men are the key decision maker with regard to health care decisions especially those related to women's health.

Access to basic amenities, such as safe drinking water and sanitation, and holding any health insurance, is not only an important measure of the socioeconomic status of the household but is also fundamental to the health of family members. The survey provides information on those household characteristics that affect living conditions and well-being of the members.

7. DISCUSSION

The main goal of the study is to improve the health status of the communities in the Gairsain block of Chamoli district, Uttarakhand through preventive and promotive primary health care services. And, the finding of the study shows that there are specific areas where more efforts need to be putted upon to improve the overall status of mother and child health of the study area. The adolescent girls who are future mother need to be more informed about importance of use of ANC services particularly taking TT injection during pregnancy time, going any health institution for delivery, and consuming IFA. The adolescent girls are also needed to be informed about danger signs of new borne baby, and Pneumonia.

A special emphasis has to be given to explain importance of exclusive breast feeding for the first six months of period. Use of sanitary napkins or important precautions in case of using old cloths during periods is again important to be informed to adolescent girls. Appropriate health seeking behavior in case of menstruation related problems, RTI/STIs needs to promoted. Knowledge about RTI/STI and HIV and AIDS need to be enhanced among young adolescent girls and they particularly needed to inform about HIV testing facilities.

Among ever married pregnant and lactating women age 20-49, importance of utilization of ante-natal care services has to be reinforced particularly consumption of IFA tablets. Again importance of delivery at health institution has to be emphasized by explaining about possible risk and danger to mother and baby. Symptoms of pregnancy, delivery, and post delivery complications have to be explained with emphasis on early treatment from qualified doctors or health workers from the hospitals or clinics. Some effective messages about check-up of new born after delivery within 24 hours and post-partum check-up of mothers have to be delivered in very effective way including adolescent girls as well.

Community level mass awareness campaign should be launched in collaboration with government department to create awareness on colostrums feeding, exclusive breast feeding for first six months, and about management and action taken in case of diarrhea and Pneumonia. Contraceptive awareness particularly about condom, emergency contraceptive pills has to promote. Assessment of the reach out of the government department and acceptance of the contraceptive methods among men should be done by the help of government department and grassroots health workers. Efforts should be made to promote use of any contraceptive methods particularly condom by using cafeteria approach.

Male involvement in providing support to their wives is found to be okay but taking responsibility of using contraceptive methods has to be promoted. A close work with young boys and men can change the attitude and then expected behaviours can be promoted. Discussion with the young boys and men on perception about use of condom, intention to use condom in future and sharing responsibility of being husband and father can help bringing such change among young male adolescents and youth. Additionally, young male adolescent and youth should also be provided information about husband's role in maternal and child health care. They should also be informed about various physical, mental, psychological, emotional and nutritional needs of mothers during pregnancy.

Community level special awareness programme on general hygienic and sanitation practices needs to be launched. Importance of washing hand after going to toilets, before and after taking meals has to be emphasized. Source of drinking water and keeping drinking water clean and ways to treat to increase potability of drinking water have to be explained and promoted. School education for girls as well as for boys should be promoted as indirect method of improving maternal and child health status of the study area.

The ever married young and women age 20-24 also needs to be informed about importance of post partum check up and consumption of supplementary nutrition distributed by ICDS department through Anganwadi centers in the village. The male members of the community including young men need to make aware about triple benefits of use of condom.

However, community members need to be regularly contacted and be informed about management of RTI/STI, diarrhea, Pneumonia, and HIV/AIDS.

The community members are also needed to inform about importance of health insurance. Information on benefits of adopting healthy habits, ways to improve personal hygiene, regular ANC check up during pregnancy, and treatment seeking from modern health care institutions is important and should be disseminated through mass media campaign. The capacity of health volunteers need to improve to deal with local tradition and health practices.

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