

**“BASELINE STUDY FOR PRIMARY HEALTH CARE SERVICES
THROUGH MOBILE MEDICAL UNITS (MMU) IN VARANASI,
UTTAR PRADESH”**

Dissertation Submitted to



THE IIHMR UNIVERSITY, JAIPUR

For the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

In

Hospital and Health

Management

By

Shreya Agrawal

Under the Supervision and

Guidance of

Dr Susmit Jain

2023

A Report on
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DECLARATION BY STUDENT

I hereby declare that this dissertation titled “Baseline study for Primary Health care Services through Mobile Medical Units (MMU) in Varanasi, Uttar Pradesh.” is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Name of Student:

Shreya Agrawal

Date: 8-06-2023



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TO WHOM SO EVER IT MAY CONCERN

Date: 03-06-2023

This is to certify that Shreya Agrawal in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her tenure as a Research Analyst from 28th February 2023 to 28th May 2023 at Indian Institute of Development Management (IIDM). She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning. And her performance during the tenure was found to be good.

We wish her all the very best for her future endeavors.

Regards,

Mr S M Pathak
Deputy Finance Manager

Certificate from Faculty Guide and School

Dean

CERTIFICATE

This is to certify that dissertation titled “Baseline study for primary health care services through Mobile Medical Units (MMU) in Varanasi, Uttar Pradesh.” is a record of the research work undertaken by Miss Shreya Agrawal in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Dr. Susmit Jain

Faculty Guide

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Date: 03-07-2021

Dr. (Col) Mahender Kumar

School Dean

IIHMR University, Jaipur

Date: 03-07-2021

Abstract

Submitted by: Shreya Agrawal

Guided by: Dr. Susmit Jain

Roll No. 1401

Title: Baseline Study for Primary Health Care Services through Mobile Medical Units (MMU) in Varanasi, Uttar Pradesh

Background:

The Mobile Medical Unit (MMU) implemented by The Hans Foundation (THF) in Varanasi aims to deliver a comprehensive package of primary health care services to the communities in a safe and high-quality manner. Through close coordination with the health department, the MMU operates to avoid duplication of services and ensure the complementarity of services for the greater benefit of the communities. The key services provided by the MMU include medical check-ups, diagnosis and treatment in outpatient departments (OPD), prescription and dispensing of medicines, conducting on-the-spot pathological tests, referral services with follow-up care, counseling on preventive measures and healthy behaviors, and organizing special camps focusing on specific health needs such as eye care, women's health, gynecology, dental care, and more. With these efforts, the current study aims to assess the impact and effectiveness of the MMU intervention in Varanasi.

Aim and objectives:

The primary goal of the baseline study was to evaluate the level of awareness, knowledge, attitudes, and practices (KAP) pertaining to pregnant women, lactating mothers, and mothers with children aged 2-5 years, with regards to accessing healthcare facilities, particularly for individuals residing in remote areas. Mobile Medical Units (MMUs) play a crucial role in offering access to top-notch healthcare services, thereby improving the overall well-being of these individuals. Pregnant women, breastfeeding mothers with infants under 12 months old, mothers with infants between 12 and 59 months old, mothers with children between 12 and 59 months old, health professionals (ANM, ASHA, AWW), and Panchayat representatives were among the groups surveyed and interviewed.

Methodology:

The study followed a mixed-method approach, incorporating both qualitative and quantitative data collection methods. Qualitative methods such as In-depth Interviews (IDIs) and Focus Group Discussions (FGDs) were employed to gather in-depth insights and perspectives from participants. Additionally, quantitative data was collected through structured interviews, allowing for systematic and standardized data collection. By combining these methods, a comprehensive understanding of the subject matter was achieved, capturing both rich qualitative information and quantitative data for analysis. The quantitative tool would include Household questionnaire for assessing the KAP of services delivered by MMU and Semi-Structured Interview (SSI) would be conducted with health workers- service provider and Panchayat Representative. The qualitative tool included community focused group discussion.

Findings:

According to the evaluations that were done, the Mobile Medical Unit (MMU) was successful in giving pregnant women, lactating mothers, and women who had children between the ages of 2 and 5 access to primary healthcare services. The findings show that primary healthcare services are becoming more widely available in the communities that were examined. Regular antenatal checkups were provided to pregnant women, postpartum care services were offered to support new mothers and their infants, and vaccination programs made sure that kids received the required vaccinations. To further support overall maternal and child health, nutritional assistance and health education sessions were provided. The MMU intervention improved healthcare coverage and utilization, which had a positive effect on the health of pregnant women, lactating mothers, and kids ages 2 to 5 in the communities it served.

Conclusion:

In conclusion, it is crucial to evaluate the use and coverage of services in the targeted communities before introducing the Mobile Medical Unit (MMU). We can determine whether there has been an increase in the accessibility of primary healthcare services by comparing the findings of these pre-intervention assessments with those of the mid-term and end-line evaluations. This comparison makes it possible to track the effectiveness of the MMU intervention, identify areas for

improvement, and make sure that the intervention successfully meets the healthcare needs of the communities it serves.

Keywords:

Social development goals, Knowledge, attitudes, practices (KAP), In depth interviews, semi-structured interviews.

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Foremost, I would like to express my sincere gratitude to Dr. S.K. Trivedi, Executive Director, and Miss Kriti Trivedi, Director of Indian Institute of Development Management (IIDM) for giving me this opportunity to learn, and work with IIDM and for the continuous support of my research. I am extremely grateful to my guide Miss Kriti Trivedi for her constant support and guidance throughout my dissertation period. The outcome of this work required a lot of guidance and assistance from many people and I'm extremely fortunate to complete this within the time given by IIHMR University, Jaipur. I take this opportunity to express a great sense of gratitude towards Dr. P. R Sodani, President, IIHMR University, Jaipur whose valuable guidance and kind supervision given to me throughout the course which shaped the present work as its show.

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Shreya Agrawal

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Abbreviations

ANC	Ante-natal care
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BCG	Bacillus Calmette Guerin
BP	Blood Pressure
CH	Civil Hospital
CHC	Community Health Center
CMO	Chief Medical Officer
DC	District Coordinator
DH	District Hospital
EIBF	Early Initiation of Breastfeeding
FGD	Focus Group Discussion
FP	Family Planning
HH	Household
IDI	In-Depth Interview
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
IPD	In Patient Department
IPV	Inactive Polio Vaccine
LF	Lymphatic Filariasis
LHV	Lady Health Visitor
MCP	Mother and Child Protection
MMR	Maternal Mortality Rate
MMU	Mobile Medical Unit
NCD	Non-Communicable Disease
OOPE	Out-of-pocket expenditure
OPD	Outpatient Department
OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
PHC	Primary Health Center
PNC	Post-natal care
PRI	Panchayati Raj Institutions
SDG	Sustainable Development Goals
SHC	Sub Health Centre
THF	The Hans Foundation
VLW	Village Level Worker

CHAPTER SCHEME:

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND:

Not just the absence of disease or infirmity, but also full physical, mental, and social well-being, is the state of being in good health. Governments around the world are striving to expand and improve healthcare services. The Mobile Medical Unit (MMU), in which primary health care services are delivered a safely and high-quality package of primary health services to the communities. The Hans Foundation (THF) would initiate direct implementation of Mobile Medical Units in Varanasi. The operation is being done in close coordination with the health department to avoid any duplication of services and ensure complementarity of services for greater benefits for the communities and ensure complementarity of services for greater benefits for the communities.

The following key services are covered in the MMU Interventions:

- Medical Check-ups, Diagnosis and Treatment in OPD.
- Prescription and dispensing of medicines.
- Conducting on-the-spot Pathological tests.
- Referral Services and conducting follow-up for the same.
- Counselling of patients and communities on preventive and healthy behaviour.
- Organize special camps in the areas to cater to specific health needs focusing on eye care, women's health gynaecology, dental care and other.

With this backdrop the current study will be carried out for assessing the MMU in Varanasi.

1.2 UTTAR PRADESH MOBILE MEDICAL UNITS:

The 'Mukhya Mantri Mahamaya Sachal Aspatal Yojna' scheme was launched in January 2011 to provide regular primary health services through MMUs in underserved villages/regions in 15 select districts of Uttar Pradesh. One MMU is operational in each block of the selected districts except for the district headquarters block, and there are a total of 133 Mobile vans operational in the state. [2]

The deployment of MMUs by GOI in Uttar Pradesh is usually based on the norms of population of one MMU per 10 lakh population, capped at a maximum of at least five MMUs per district. However, there are circumstances under which criteria may be

relaxed, such as when the number of patients serviced by an existing MMU surpasses 30 patients per day in hilly areas and 60 patients per day in plain areas (such as Nainital, Mukteshwar, Mussorie, Kausani and many more. The NHM (National Health Mission) website provides comprehensive information on the number and locations of Mobile Medical Units (MMUs) across various districts of Uttar Pradesh. These units are equipped with essential medical equipment and staffed by healthcare professionals, including doctors and nurses. The primary objective of MMU is to provide primary healthcare services.

They adhere to a suggested package of benefits under 12 thematic areas, covering various aspects of healthcare. These areas include maternal health, management of common communicable and non-communicable diseases, child and adolescent health, dental care, eye care, senior care, and emergency medicine. The main aim of MMU is to ensure that every individual in the rural areas or urban areas are getting treated according to their healthcare needs. [3]

1.3 1.3 OVERVIEW OF VARANSI, THE INTERVENTION AREA:

Varanasi is a district of state Uttar Pradesh. Varanasi is surrounded by Jaunpur, Ghazipur, Chandauli, and Bhadohi districts.

In Varanasi percentage of people living in urban areas are 43.4% which is almost double the state average of 22.3%.

In Varanasi population density at 913 people per square kilometre, is the same as the state average of 912 people per square kilometre.

Percentage of Scheduled Caste (SC) population: In Varanasi, the percentage of Scheduled Caste population is 13.2%, which is notably lower than the Uttar Pradesh state mean of 20.7%. This indicates a relatively lower representation of Scheduled Caste population in Varanasi compared to the state average.

Table 1: Provides an overview of these socio-demographic indicators, highlighting the differences between Varanasi and the state of Uttar Pradesh (Year 2021).

Indicators	Varanasi	Uttar Pradesh
Area in sq. km	1535	240928
Total Population (2011) (million)	3.67	199.8
Urban population (percent)	43.4	22.3
Decadal change (2001-2011) (percent)	17.1	20.2
Sex Ratio (per 1000)	913	912

The density of Population (persons per sq. km)	2395	829
0-6 population (percent)	13.5	15.4
Literacy rate (percent)		
Total	75.6	67.7
Male	83.8	77.3
Female	66.7	57.2
Scheduled caste population (per cent)	13.2	20.7
Scheduled tribe population (per cent)	0.8	0.6
Work participation rate (per cent)		
Total	33.2	32.9
Males	47.9	47.7
Females	17.1	16.7

[4], [5]

The National Family Health Survey (NFHS-5) conducted between 2019 and 2021 provides a comprehensive comparison between Varanasi district and the Uttar Pradesh state averages across various indicators. It is recommended to refer to the official NFHS-5 report or the Uttar Pradesh government's statistical department for detailed information on the specific socio-demographic indicators and comparisons between Varanasi district and the state average. Varanasi district reported significantly higher rates of improved sanitation facilities (14.4 percentage points) and households with clean fuel for cooking (22 percentage points) compared to the state average. In terms of various reproductive and child health indicators i.e., modern contraceptive use and four antenatal visits, Varanasi district performed better than the state average. With respect to anaemia and malnutrition levels among children and women, both performed poorly without differences except for anaemia among women of age 15-49 years. A point to be considered here is that the NFHS-5 sample draws from urban areas while the MMU baseline is completely rural-based.

Table 2: Key indicators comparing Varanasi district with Uttar Pradesh state based on NFHS-5

Indicators	Varanasi %	Uttar Pradesh %
Population living in HH with improved sanitation facility (%)	83.2	68.8
Households using clean fuel for cooking (%)	71.5	49.5
HH with family member covered under a health insurance/ financing scheme (%)	12.8	15.9
Currently married women aged 15-49 years using any modern method of family planning	60.9	44.5

Mothers who had at least 4 antenatal care visits (%)	51.4	42.4
Institutional births during the last 5 years	95.2	83.4
Children aged 12-23 months fully vaccinated (%)	79.3	69.6
Children under 5 years who are underweight (weight for age) (%)	39.0	32.1
Women whose Body Mass Index (BMI) is below normal. (BMI ≤ 18.5 kg/m ²) (%)	15.7	19.0
Children aged 6-59 months who are anaemic (<11.0 g/dl) %	65.2	66.3
All women aged 15-49 years who are anaemic (<12.0 g/dl) (%)	37.6	50.4

[6], [7]

According to the (NHM), Uttar Pradesh, as of September 2021, the healthcare infrastructure in Varanasi district consisted of the following facilities:

16 Community Health Centres (CHCs): Community Health Centres are secondary-level healthcare facilities that provide specialized medical services, including outpatient care, basic diagnostic facilities, and emergency services.

141 Primary Health Centres (PHCs): Primary Health Centres are the cornerstone of the healthcare system, providing basic healthcare services to those who are residents in rural and urban areas. They offer outpatient care, maternal and child health services, immunizations, and basic diagnostic facilities.

6 District Hospitals: District Hospitals are tertiary-level healthcare facilities that serve as referral centers for advanced medical care. They offer specialized medical services, inpatient care, surgeries, and diagnostic facilities.

These facilities play a vital role in providing healthcare services to the population of Varanasi district, catering to different levels of care and medical needs.

CHAPTER 2: REVIEW OF LITERATURE

Author	Topic	Population Size	Result
Nelson C Malone 1, Mollie M Williams 2 3, Mary C Smith Fawzi 4, Jennifer Bennet 5, Caterina Hill 4, Jeffrey N Katz 1, Nancy E Oriol 1 4 6	Mobile health clinics in the United States	811 Clinics	A cutting-edge method of delivering health services, mobile health care delivery offers a wide range of services to disadvantaged groups. The service combinations, patient profiles, and connections to the established healthcare system differ amongst the clinics. The Affordable treatment Act has improved access to treatment recently, but obstacles still exist, especially for those living in locations with little resources. By acting as an essential conduit between the local population and medical facilities, mobile clinics can increase access. To promote the availability of this crucial resource, more effort is needed.
Caterina F Hill, Brian W Powers, Sachin H Jain, Jennifer Bennet, Anthony Vavasis, Nancy E Oriol 1	Mobile health clinics in the era of reform	1500 clinics	Mobile clinics are a crucial part of the healthcare system that supports affordable, high-quality care for vulnerable people. Five million people attend the estimated 1500 mobile clinics each year across the country. Mobile clinics increase accessibility for marginalised groups, support chronic illness care and prevention, and save expenses. Opportunities for mobile clinics to collaborate with hospitals, health systems, and insurers to enhance treatment and cut costs are increased by expanded coverage and delivery reform. In order to offer disadvantaged people high-quality, affordable treatment, mobile clinics are essential. The post-reform climate should make it easier for mobile clinics to collaborate with hospitals, health systems, and payers to improve population health management due to increased responsibility and increased access to traditionally

			marginalised communities.
Hannah Beks 1, Geraldine Ewing 2, James A Charles 3, Fiona Mitchell 2, Yin Paradies 4, Robyn A Clark 5, Vincent L Versace 2	Mobile primary health care clinics for Indigenous populations in Australia, Canada, New Zealand and the United States: a systematic scoping review	1350 citations	The implementation of primary healthcare mobile clinics for Indigenous communities in Australia, Canada, New Zealand, and the United States has geographic gaps, according to this assessment. There are few reviews that support the use of mobile clinics for Indigenous communities, and groups that are putting such clinics into place must share their experiences. Future assessments must engage with the experiences of Indigenous people who use mobile clinic services.
Deborah A Askew 1, Ethan Kettle 1, Kim Passante 2, Tamika Campbell 2, Maree R Toombs 1	The Mobile Outreach Boomerang van: taking care to the community	144	Since its initial deployment, the MOB van has given Aboriginal and Torres Strait Islander people a place to gather and get basic healthcare that is also culturally safe. Carbal and its people may rightfully be proud of it since it has given a visual picture of the dynamism of the Aboriginal and Torres Strait Islander communities of the Southern Darling Downs. The MOB van has met requirements, including unmet needs, and has shed light on how providing Aboriginal and Torres Strait Islander people with culturally appropriate basic healthcare may improve their quality of life. The van is still utilised for community days in Warwick and Toowoomba as well as outreach services to primary and secondary schools in Toowoomba to undertake health exams for Aboriginal and Torres Strait Islander children. It offers extra clinical space at Carbal's COVID19 testing and vaccination centre when it isn't doing outreach services. The MOB van can be swiftly redeployed in the event that needs alter, ensuring that

			Aboriginal and Torres Strait Islander people in the Southern Darling Downs continue to get primary healthcare that is accessible and respectful of their culture.
Melanie M Taylor 1, William S Stokes, Ronald Bajuscak, Mary Serdula, Karen L Siegel, Brian Griffin, Jeffrey Keiser, Lisa Agate, Aaron Kite-Powell, David Roach, Nancy Humbert, Kristin Brusuelas, Sam S Shekar	Mobilizing mobile medical units for hurricane relief: the United States Public Health Service and Broward County Health Department response to hurricane Wilma, Broward County, Florida	14033 housings	An effective way to perform syndromic monitoring and reach communities in need of medical attention but unable to access permanent local medical institutions was through mobile medical units. Approaching and looking for residents occurred at 14,033 different dwelling units. Approximately 10% of the residents with whom contact was made required medical evaluation in their homes; 3,218 patients received medical evaluations on the mobile medical vans. The majority of customers—62 percent—were female. Normal health maintenance (59%), upper respiratory tract illness (10%), and other illness (10%) were the most prevalent presenting concerns. 9 percent of people suffered injuries. Throughout the reaction, the mobile medical units dispersed a total of 1,531 doses of medicine.
Aakash Ashok Raikwar 1, Vishal Dogra, Ashish Giri 1, Nitin Rathnam 2, Shailendra Kumar Hegde 3; Authors	Cost analysis of a mobile medical unit programme in Andhra Pradesh: a micro costing study protocol	12 medical mobile units	In rural and tribal regions of Andhra Pradesh, this study will provide unit cost estimates for delivering various primary care services including general medicine, gynaecology, and obstetrics care through MMUs. Additionally, it will provide light on the disparity between costs and resource usage. facilitating the planning of high-quality care and raising the effectiveness of the health system. 30 This research may help justify expanding, decreasing, or ending the use of MMU as a paradigm for delivering healthcare services

			in remote and challenging-to-reach parts of India. Cost estimates for the various MMU programme components, such as capital, recurring, and overall cost, will be produced through this research. This will make it easier to identify effective and ineffective services that may be increased, decreased, or eliminated.
A Kumar 1, P Khattar, V K Tiwari, J P Shivdasani, N Dhar, Deoki Nandan	An assessment of functioning of mobile medical units in Jharkhand	MMU 3 district of Jharkhand	The programme offered X-ray, ultrasound, and blood test services, among others, to the underprivileged and underserved communities. More than 90% of customers indicated that MMUs have access to medications. However, more than 90% of them had no previous knowledge of the day or hour that the MMUs would be visiting. Some of the practical challenges the plan reportedly encountered were generator vibrations interfering with lab studies, bad road conditions, doctors' reluctance to go to remote locations, and a tremendous workload. The MMU programme has been effective in bringing health care to underprivileged communities.

CHAPTER 3: METHODOLOGY

3.1 STUDY DESIGN:

Mixed-method approach for the study comprised of both qualitative i.e. In-depth Interviews (IDIs), Focused Group Discussions (FGDs) as well as quantitative (structured interviews) data collection.

3.2 STUDY POPULATION:

1. Inclusion criteria:

- Pregnant Women- Women who are currently pregnant,
- Lactating Women (having infant 0- 6 months and are being breast fed)
- Women with (Children <5 years)

2. Exclusion criteria:

- Those individuals who refused to give informed consent were excluded from the study.
- Individuals with acute or chronic conditions limiting their ability to participate were excluded from the study.
- Individuals with mental health problems impacting their ability to participate were excluded from this study.
- Pregnant women who are in late pregnancy 9th month are excluded.
- Women who have delivered in last 10 days or had complicated delivery to be avoided.
- Lactating women and mother of a 5-year-old child whose child was unwell to be avoided.

3.3 STUDY DURATION:

3 months (28th Feb to 28th May 2023)

3.4 SAMPLE SIZE:

270 (Pregnant women, Lactating Women, and women with children <5 years)

3.5 SAMPLE METHOD:

Convenient sampling would be used to conduct a survey in which samples will be taken from Pregnant women, Lactating Women, and women with children <5 years for providing primary health care services.

3.6 STUDY TOOL:

The following main research tools will be developed:

The quantitative tool would include Household questionnaire for assessing the KAP of services delivered by MMU and Semi-Structured Interview (SSI) would be conducted with health workers- service provider and Panchayat Representative

The qualitative tool would include community focused group discussion.

3.7 DATA COLLECTION PROCEDURE:

The data will be collected using an electronic survey tool i.e., SurveyCTO (software) which is provided by IIDM.

3.8 PLAN FOR DATA ANALYSIS:

Data has been analysed on SPSS software and MS Excel for the quantitative data available. Qualitative data will be analysed separately to tie up with the existing quantitative data.

3.9 LIMITATION OF THE STUDY:

1. **Social desirability bias:** ANM and ASHA might feel compelled to give the researchers' questions socially acceptable answers, even if they aren't entirely accurate or truthful.
2. **Time constraints:** Due to their busy schedules, ANM and ASHA have little time to participate in research studies. Even after repeated visits, the Auxiliary Nurse Midwives (ANMs) in the chosen village refused to share the health-related information that had been sought of them. One ASHA employee from the chosen village resisted sharing information and working together. As an alternative, a different village from the same Gramme Panchayat was examined.
3. **Selection bias:** Baseline studies may suffer if the sample chosen does not adequately represent the target population. This can lead to skewed or inaccurate conclusions.

CHAPTER 4: RESULTS

This chapter presents a detailed analysis of data collected from pregnant women, lactation women and women with children 2-5 years of age.

PREGNANT WOMEN:

Represents a detailed analysis of the data collected from currently pregnant women. Socio-demographic indicators including age, age at marriage, education and main occupation were enquired from sampled pregnant women. Fertility information on the number of children, age at first pregnancy and pregnancy outcomes were also collected. Data on family planning counselling services after marriage and ever use of different contraceptives was also gathered.

Profile of pregnant women

Any nation's progress, in terms of boosting fairness and lowering poverty, depends on maternal health. Mothers' survival and well-being are crucial for resolving larger economic, social, and developmental challenges as well as for personal health. The importance of maternal health care services in safeguarding the health and wellbeing of mothers and their children has an impact on the general health and nutritional condition of the community.

A total of 154 pregnant women from Varanasi district in Uttar Pradesh were included in the data collection for the study. Below Table includes the percent distribution of various socio-demographic characteristics of pregnant women.

Table 3: The socio-demographic profile of the 154 pregnant women in Varanasi district varies across factors such as age, education, occupation, income, marital status, and other relevant demographics.

Characteristics of pregnant women	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Age										
≤ 20	2	3.9			3	8.8	1	3.0	6	4.0
21-24	16	31.4	5	13.9	15	44.1	11	33.3	47	30.5
25-29	29	56.9	21	58.3	13	38.2	17	51.5	80	51.9
≥ 30	4	7.8	10	27.8	3	8.8	4	12.1	21	13.6
Mean (SD)	25.5 (3.2)		27.6(3.6)		24.6 (3.7)		25.7(3.6)		25.9 (3.6)	
Age at marriage										
≤ 18	15	29.4	15	41.7	9	26.5	7	21.2	46	29.9
19-20	22	43.1	14	38.9	18	52.9	18	54.6	72	46.7
21-22	10	19.6	2	5.6	6	17.6	4	12.1	22	14.3
≥ 23	4	7.8	5	13.9	1	2.9	4	12.1	14	9.1

Mean (SD)		19.7 (1.9)	19.7 (2.4)	19.3 (1.5)		20.0 (2.3)		19.7(2.0)		
Education										
Non-literates/Never attended school	12	23.5	6	16.7	4	11.8	6	18.2	28	18.2
Primary/Upper Primary	23	45.1	9	25.0	8	23.5	8	24.2	48	31.2
Secondary/Senior Secondary	13	25.5	15	41.6	16	47.1	15	45.5	59	38.3
Graduate/Post-Graduate	3	5.9	6	16.7	6	17.6	4	12.1	19	12.3
Primary occupation										
Unemployed (Housewife included)	32	62.7	19	52.8	30	88.2	25	75.8	106	68.8
Agriculture	2	3.9	6	16.7	1	2.9	4	12.1	13	8.4
Agricultural labourer	16	31.4	9	25.0	3	8.8	4	12.1	32	20.8
Govt employee			2	5.5					2	1.3
Daily wage labourer	1	2							1	0.6
Total pregnant women (n)	51	100.0	36	100.0	34	100.0	33	100.0	154	100.0

Among the interviewed pregnant women, a majority of them (51.9 percent) fell within the age group of 25-29 years. The average age of sampled pregnant women was 25.9 years. Approximately 30 percent of the respondents reported getting married at 18 years or younger, with the average age at marriage being 19.2 years.

Additionally, 38.3 percent of the pregnant women had completed secondary/senior secondary education, while 31.2 percent had completed primary/upper primary education. Less than one-fifth (18.2 percent) of pregnant women were non-literates/never attended school, while one-eight were graduates/postgraduates.

Sixty-nine percent of interviewed pregnant women were housewives while 20.8 percent were agricultural labourers. Around eight percent of pregnant women were agriculturists.

Family Planning services

Sixty-three percent of the interviewed pregnant women had received family planning counselling after their marriage. As high as 91.8 percent of counselled pregnant women had received counselling from ASHA or (AWW), while one-sixth of them had received counselling from ANM/LHV. Only a small proportion (less than 5 percent) of the pregnant women were counselled by staff nurses or medical doctors.

Most of the pregnant women (52.6 percent) reported having used family planning methods at some point in their lives. Among contraceptive users' (ever) condom (70.4 percent) was found to be the most common method. The other popular contraceptive popular choices include injectable (33.3 percent) female condoms and oral pills (17.3 percent each).

Table 4: Distribution of pregnant woman by family planning services.

Family Planning (FP) services	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	percent	n	percent	n	percent	n	Percent
Received FP counselling after marriage	30	58.8	26	72.2	20	58.8	21	63.6	97	63.0
Total pregnant women (n)	51		36		34		33		154	
Counselling provided by #										
ASHA/AWW	29	96.7	20	76.0	20	100.0	20	95.2	89	91.8
ANM/LHV	9	30.0	5	19.2			1	4.8	15	15.5
Staff Nurse			2	7.7			2	9.5	4	4.1
Medical Doctor	1	3.3	1	3.8					2	2.1
Total pregnant women received FP counselling(n)	30		26		20		21		97	
Ever use of FP methods	25	49.0	21	58.3	16	47.1	19	57.6	81	52.6
Total pregnant women (n)	51		36		34		33		154	
Ever use of different methods of family planning #										
Oral contraceptive pills	8	32.0	4	19.0	2	12.5			14	17.3
Condoms	17	68.0	10	47.6	14	87.5	16	84.2	57	70.4
Injectable	5	20.0	11	52.4	1	6.3	10	52.6	27	33.3
Emergency contraceptive pills							1	5.3	1	1.2
IUD/PPIUD	1	4.0							1	1.2
Female condom	7	28.0	2	9.5	1	6.3	4	21.1	14	17.3
Withdrawal			1	4.8			1	5.3	2	2.5
Total pregnant women ever used FP methods (n)	25		21		16		19		81	

Regarding family planning methods, Condoms are more popular among Graduates and post-graduates than in any other category. Similarly, Upper primary educated is more

reliant on oral contraceptives. Whereas most of the illiterate population is following either sterilization, injectable, emergency contraceptives or IUD's. (Refer figure below)

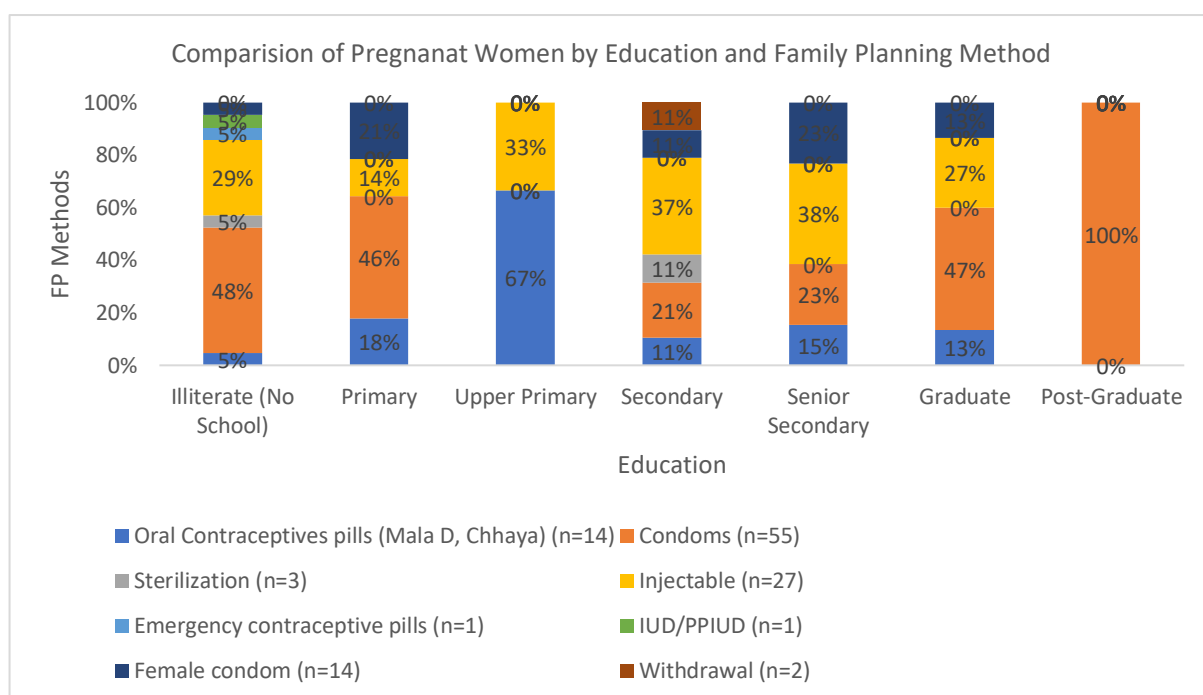


Figure 1: Comparison of Pregnant Women by Education and Family Planning Method

Table 5: Comparison of Pregnant Women by Education and Family Planning Method.

	Illiterate (No School)	Primary	Upper Primary	Secondary	Senior Secondary	Graduate	Post- Graduate
Oral Contraceptives pills	5%	18%	67%	11%	15%	13%	0%
Condoms	48%	46%	0%	21%	23%	47%	100%
Sterilization	5%	0%	0%	11%	0%	0%	0%
Injectable	29%	14%	33%	37%	38%	27%	0%
Emergency contraceptive pills	5%	0%	0%	0%	0%	0%	0%
IUD/PPIUD	5%	0%	0%	0%	0%	0%	0%
Female condom	5%	21%	0%	11%	23%	13%	0%
Withdrawal	0%	0%	0%	11%	0%	0%	0%

ANC Registration

Out of the contacted pregnant women, 71 percent were in their second trimester (4-6 months), 17.5 percent were in their third trimester (7-9 months), and 11.7 percent were in the first trimester (1-3 months). As high as 95.5 percent of total pregnant women, had registered their pregnancy. Sixty-eight percent of pregnant women had completed ANC registration at the sub-centre, followed by 13.6 percent at PHC and Arogya Kendra/AWC (10.2 percent).

ANC Services

Ninety-nine percent of pregnant women that had ANC registration had received Mother and Child Protection (MCP) Card during ANC registration. Around ninety-two percent of ANC-registered pregnant women had visited PHC/CHC/Sub-centre /VHSND/other facilities during the first trimester for ANC check-ups.

Slightly less than half (48.3 percent), had undertaken one ANC visit followed by 28.6 percent reporting 2 ANC visits and 23.1 percent reporting 3 or more ANC visits. The fact that around 82 percent of pregnant women were in their first and second trimesters may explain the reason for pregnant women undertaking only one or two ANC visits.

Table 6: Distribution of pregnant woman by registration of pregnancy.

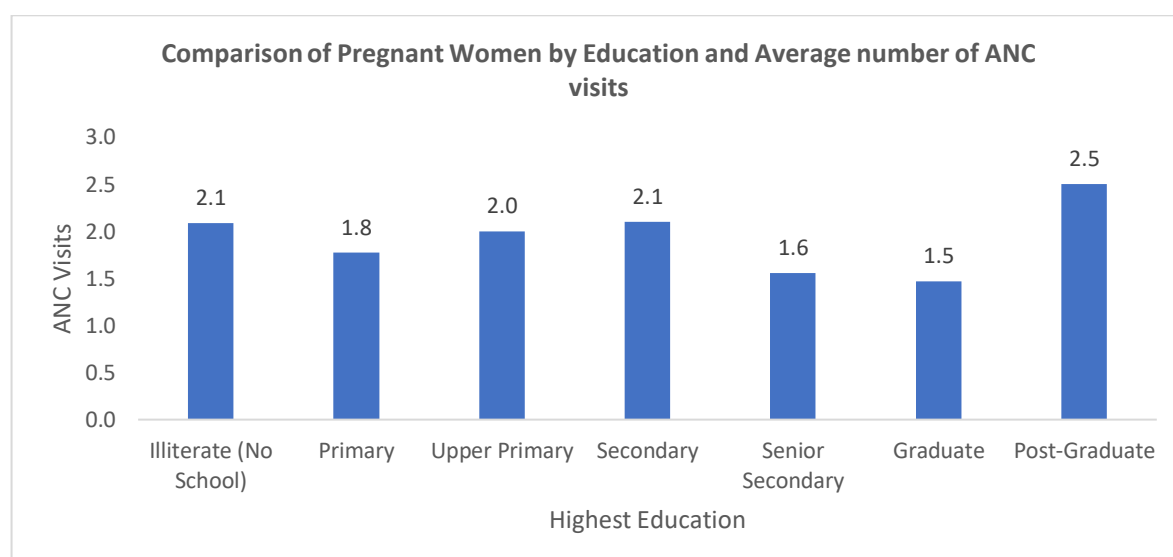
ANC registration details	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	percent	n	percent	n	percent	n	Percent	n	Percent
Completed month of pregnancy										
1 st trimester 1-3 month)	8	15.7	4	11.1	3	8.8	3	9.1	18	11.7
2 nd trimester (4-6 month)	40	78.4	26	72.2	26	76.5	17	51.5	109	70.8
3 rd trimester (7-9 month)	3	5.9	6	16.7	5	14.7	13	39.4	27	17.5
Maternity Benefits										
Pregnancy registered	49	96.1	34	94.4	34	100.0	30	90.9	147	95.5
Total pregnant women (n)	51		36		34		33		154	
Place of ANC registration										
Arogya Kendra/AWC	7	14.3			5	14.7	3	10.3	15	10.2
Sub-Centre	30	61.2	25	73.5	26	76.5	19	63.3	100	68.0
PHC	10	20.4	3	8.8	3	8.8	4	13.8	20	13.6
CHC			5	14.7			1	3.4	6	4.1
District hospital	2	4.1	1	2.9			2	6.9	5	3.4
Private facility							1	3.4	1	0.7

ANC registration details	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	percent	n	percent	n	percent	n	Percent	n	Percent
Received Mother and Child Protection Card during registration	49	100.0	34	100.0	34	100.0	29	96.7	146	99.3
Visited nearby PHC/CHC/Sub-centre/ VHSND/ other facilities during 1 st trimester for ANC check-up	48	97.9	28	82.3	32	94.1	27	90.0	135	91.8
Total pregnant women registered for ANC (n)	49		34		34		30		147	
Total ANC visits undertaken										
1	29	59.2	17	50.0	13	38.2	12	40.0	71	48.3
2	11	22.4	12	35.3	14	41.2	5	16.7	42	28.6
3	5	10.2	5	14.7	6	17.6	10	33.3	26	17.7
4+	4	8.2			1	2.9	3	10	8	5.4
ANC check-ups at the centre by type of health provider #										
Medical doctor	5	10.2	12	35.3	4	11.8	7	23.3	28	19.0
Nurse	11	22.4	10	29.4	4	11.8	13	43.3	38	25.9
ANM/LHV	39	79.6	25	73.5	29	85.3	18	60.0	111	75.5
ASHA/AWW	27	55.1	19	55.9	18	52.9	17	56.7	81	55.1
Other			1	2.9					1	0.7
ANC services received during ANC registration / Visits #										
Weight measured	43	87.8	29	85.3	30	88.2	28	93.3	130	88.4
Height measured	23	46.9	14	41.2	16	47.1	7	23.3	60	40.8
Abdomen examined	45	91.8	32	94.1	32	94.1	29	96.7	138	93.9
Breast examined	22	44.9	16	47.1	14	41.2	20	66.7	72	49.0
Ultrasound done	4	8.2	10	29.4	3	8.8	4	13.3	21	14.3
Blood pressure measurement	36	73.5	29	85.3	27	79.4	26	86.7	118	80.3
Urine sample for a test	6	12.2	8	23.5	8	23.5	13	43.3	35	23.8
Blood sample test	35	71.4	17	50.0	16	47.1	22	73.3	90	61.2
IFA tablets	49	100.0	34	100.0	34	100.0	30	100.0	147	100.0
Calcium tablets	18	36.7	20	58.8	15	44.1	9	30.0	62	42.2
TT dose	49	100.0	34	100.0	34	100.0	30	100.0	147	100.0
Delivery date	28	57.1	26	76.5	23	67.6	23	76.7	100	68.0

ANC registration details	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	percent	n	percent	n	percent	n	Percent	n	Percent
notified										
Total pregnant women registered for ANC (n)	49		34		34		30		147	

Overall, three-fourths (75.5 percent) of pregnant women reported ANC check-ups at health facilities carried out by ANM or LHV, followed by 55.1 percent by ASHA/AWW, and 13.6 percent by the nurse. Nineteen percent of respondents stated having ANC check-ups conducted by a medical doctor.

Figure 2: Comparison of Pregnant Women by Education and Average Number of ANC Visits.



All pregnant women were probed for different kinds of services that they had received during ANC check-ups. The most frequent ANC's services availed by pregnant women included receiving IFA tablets and Tetanus Toxoid injections (100.0 percent each), abdomen examination (93.9 percent) weight measurement (88.4 percent), blood pressure measurement (80.3 percent) and delivery date notified (68.0 percent). A considerably lower proportion of pregnant women reported receiving calcium tablets (42.2 percent), height measured (40.8 percent), urine testing (23.8 percent), and ultrasound (14.3 percent).

Sixty-three percent of pregnant women reported receiving one dose of TT injections while 28.6 percent received two TT doses and, 8.8 percent received TT booster dose.

Overall, 19.0 percent of pregnant women got tested for anaemia and 64.2 (18 out of 28) percent of tested women were found to be anaemic. Seventy-seven percent of pregnant women reported receiving appropriate ANC services. Slightly more than three-fifth (61.2 percent) of total respondents mentioned receiving less than 100 IFA tablets. Eight two percent of respondents had received counselling during ANC visits. Around 84 percent of pregnant women had received supplementary nutrition from the Anganwadi centre.

ANC Check-ups for Pregnant Women in Trimester

In the 1st trimester, among the 11 respondents in the sample, 91 percent had their 1st ANC check-up. Conversely, during the 2nd trimester, out of the 109 respondents, only 56 percent had their 1st ANC check-up. This suggests that pregnant women in the first trimester tend to delay their initial ANC check-up until the 4th month. During the FGD, it was discussed that some families have cultural beliefs that lead them to announce the pregnancy only after completing the first three months.

Among pregnant women in the second trimester, 44.0 percent had received at least their second antenatal care (ANC) check-up. This comprised 33 percent for the second ANC check-up, 8 percent for the third ANC check-up, and 3 percent for the fourth check-up. However, 19 percent of women in the third trimester had delayed their second ANC check-up and got it done during the third trimester. This highlights the importance of promoting early initiation of ANC and ensuring consistent check-ups throughout the pregnancy to support the health of both the mother and the foetus.

Figure 3: ANC Visits in Trimester

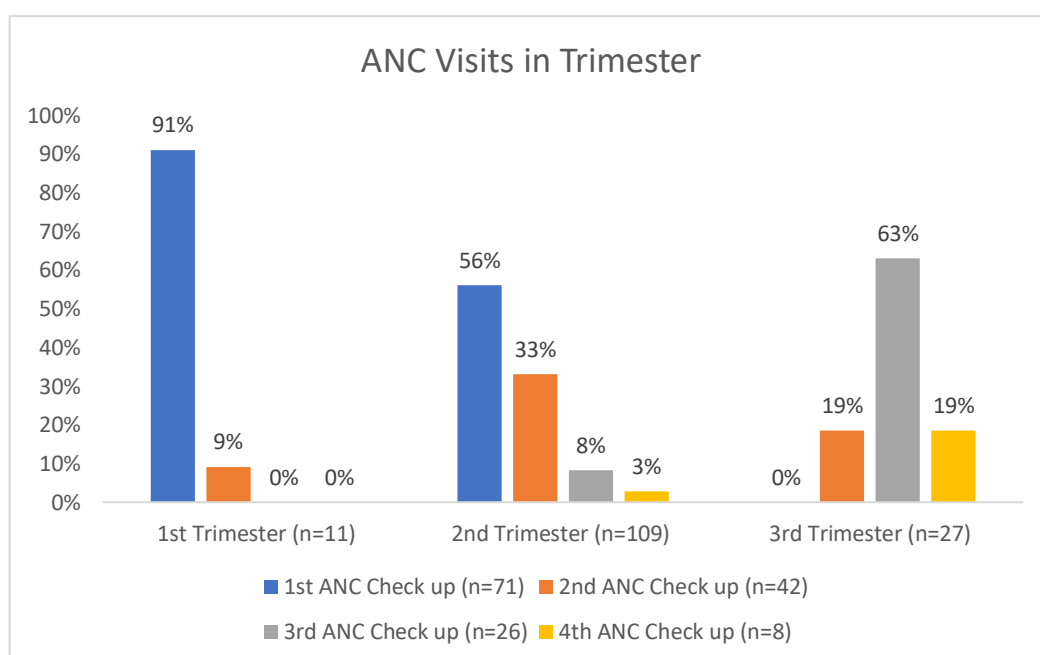


Table 7: Distribution of pregnant woman by services received during ANC Visits.

ANC services received	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	percent	n	percent	n	percent	n	percent	n	Percent
Number of TT doses										
1	32	65.3	24	70.6	23	67.6	13	43.3	92	62.6
2	9	18.4	9	26.5	10	29.4	15	50.0	42	28.6
TT Booster	8	16.3	2	5.9	1	2.9	2	6.7	13	8.8
Tested for anaemia	13	26.5	5	14.7	5	14.7	5	16.7	28	19.0
Tested positive for anaemia	3	6.1	5	14.7	6	17.6	4	13.3	18	12.2
Received correct. ANC services	32	65.3	27	79.4	30	88.2	24	80.0	113	76.9
Receive any counselling during ANC visits	42	85.7	27	79.4	27	79.4	25	83.3	121	82.3
Total pregnant women who registered their pregnancy	49		34		34		30		147	
Number of IFA tablets										
≤ 99	33	67.3	20	58.8	17	50	20	66.7	90	61.2
100-130	16	32.7	14	41.2	17	50	10	33.3	57	38.8
Total (n)	49		34		34		30		147	
Supplementary nutrition from the Anganwadi centre	44	86.3	27	75	29	85.3	29	87.9	129	83.8
Total pregnant women (n)	51		36		34		33		154	

Health-seeking behaviours

Pregnant women travelled an average of 6.4 kilometres to avail of health services. Seventy-three percent of pregnant women didn't face any difficulty when visiting a health facility. The most frequently mentioned challenge reported by pregnant women were distance to the facility (13.9 percent) and quality of care (15.2 percent), followed by unavailability of qualified doctors (10.1 percent).

Table 8: Distribution of pregnant woman by the challenges encountered at the health facility.

Services availed and challenges encountered	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	percent	n	percent	n	percent	N	Percent
Average (SD) distance of nearest health facility	4.7 (4.3)		5.7 (5.1)		5.7(4.3)		10.3(6.4)		6.4(5.3)	
Challenges encountered at these facilities #										
No challenge faced	17	63.0	4		22	78.6	15	88.2	58	73.4

Unavailability of qualified doctors	7	25.9					1	5.9	8	10.1
Quality of care	7	25.9	1	14.3	3	10.7	1	5.9	12	15.2
Distance to the facility	3	11.1	2	28.6	5	17.9	1	5.9	11	13.9
Lack of diagnostic facilities	2	7.4							2	2.5
Not treated with respect	1	3.7	1	14.3					2	2.5
Lack of treatment facilities	3	11.1							3	3.8
Cost related reasons	1	3.7	1	14.3	1	3.6			3	3.8
Total pregnant women visited health facility (n)	27		7		28		17		79	

LACTATING WOMEN

Represents a detailed analysis of the data collected from lactating mothers and mothers of children aged 0- 24 months. Details of socio-demographic indicators including age, age at marriage, highest education level obtained, and occupation were captured. The current age of the child aged 0-24 months, gender, the month when pregnancy was completed, birth weight, place of birth, and the person conducting the birth were collected. Information on family planning counselling services after marriage and ever use of different contraceptives was obtained.

Table 9: Distribution of lactating women by socio-demographic profile.

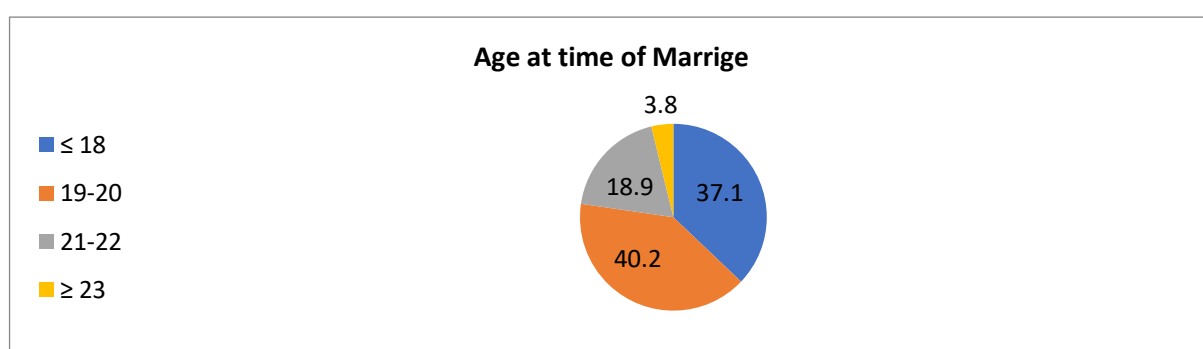
Characteristics of lactating women	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Age										
≤ 21	2	4.9	2	6.7	4	14.8	1	2.9	9	6.8
22-25	14	34.1	9	30.0	13	48.2	15	44.1	51	38.6
26-29	10	24.4	13	43.3	7	25.9	10	29.4	40	30.3
≥ 30	15	36.6	6	20.0	3	11.1	8	23.6	32	24.3
Mean (SD)	28.7(6.0)		27.0(4.1)		24.9(3.5)		26.5(3.70)		27.0 (4.7)	
Age at marriage										
≤ 18	13	31.7	13	43.3	14	51.9	9	26.5	49	37.1
19-20	15	36.6	16	53.4	7	25.9	15	44.1	53	40.2
21-22	9	21.9	1	3.3	5	18.5	10	29.4	25	18.9
≥ 23	4	9.7			1	3.7			5	3.8
Mean (SD)	19.9(2.2)		18.9(0.9)		19.1(1.9)		19.6(1.5)		19.4(1.8)	
Education										
Non-literate /Never Attended	12	29.3	4	13.3	3	11.1	8	23.5	27	20.4
Primary/Upper Primar	14	34.1	10	33.3	8	29.6	11	32.3	43	32.6
Secondary Senior Secondary	14	34.1	13	43.4	15	55.6	12	35.3	54	40.9
Graduate/Post-Graduate	1	2.4	3	10.0	1	3.7	3	8.8	8	6.1
Primary occupation										
Unemployed (Housewife included)	21	51.2	13	43.4	24	88.9	23	67.7	81	61.3
Agriculture	5	12.1	7	23.3			3	8.8	15	11.4
Agricultural labourer	11	26.8	10	33.3	1	3.7	8	23.5	30	22.7
Govt Employee	1	2.4							1	0.8
Business					2	7.4			2	1.5
Daily wage labourer	3	7.3							3	2.3
Total (n)	41	100	30	100	27	100	34	100	132	100

Profile of Lactating Mothers

Data was collected from 132 lactating mothers and mothers of children up to 2 in the Varanasi district of Uttar Pradesh. Above table provides the percent distribution of various socio-demographic characteristics of a total of 35 lactating women (1-6 months child) and 97 mothers of 2 years old children who were interviewed.

Among lactating mothers, 38.6 percent belonged to the age group of 22-25 years, with an average age of 27.0 years. Additionally, 37 percent of lactating mothers reported getting married at 18 years or younger. The average age at marriage for lactating mothers was 19.4 years.

Figure 4: Age at Marriage of Lactating Mother



Forty-one percent of the lactating women had completed secondary/senior secondary school, followed by 32.6 percent who had completed primary/upper primary education. One-fifth (20.4 percent) of lactating mothers were non-literates or had never attended school. Over three-fifth (61.3 percent) of lactating mothers were housewives and 22.7 percent were engaged as agricultural labourers.

Family Planning Services

More than half (53.0 percent) of the interviewed lactating mothers reported having received family planning to counsel after marriage. As high as 95.7 percent of counselled lactating women had received counselling from ASHA or AWW. Less than 9 percent each had received counselling from ANM/LHV and staff nurse.

Fifty-one percent of the mother with a 0-to-2-year child reported ever using family planning methods. Among ever user condom (53.7 percent) was the most common method used. Other popular contraceptive methods included injectable (34.3 percent), sterilization (19.4 percent) and oral pills (16.4 percent).

Table 10: Distribution of lactating women by family planning

Family planning services	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Received family planning counselling upon marriage	27	65.9	16	53.3	13	48.1	14	41.2	70	53.0
Total (n)	41	100	30	100	27	100	34	100	132	100
Counselling provided during the first pregnancy #										
ASHA/AWW	26	96.3	14	87.5	13	100.0	14	100.0	67	95.7
ANM/LHV	3	11.1	2	12.5			1	7.1	6	8.6
Staff Nurse	2	7.4	3	18.8			1	7.1	6	8.6
Medical Doctor	1	3.7							1	1.4
Total respondents that were counselled (n)	27		16		13		14		70	
Ever use of family planning methods	24	58.5	15	50.0	13	48.1	15	44.1	67	50.8
Ever use of family planning methods #										
Oral Contraceptives pills	9	37.5	2	13.3					11	16.4
Condoms	10	41.7	8	53.3	11	84.6	7	46.7	36	53.7
Sterilization	5	20.8	2	13.3	2	15.4	4	26.7	13	19.4
Injectable	6	25.0	7	46.7	3	23.1	7	46.7	23	34.3
IUD	2	8.3	1	6.7	1	7.7	1	6.7	5	7.5
Female condom			1	6.7	1	7.7			2	3.0
Rhythm method			1	6.7					1	1.5
Withdrawal	1	4.2	0	0					1	1.5
Total lactating women ever used family planning methods (n)	24		15		13		15		67	

Lactating Mother and Mother of 2-years-old Child

Sixty percent of infants born were full-term (9 or more month's months) and 22.0 percent moderate to later preterm (8-9 months). While 18.9 percent of women reported low birth weight (below 2.5 kg) and out of them 52 percent were referred to a health facility. (**Error! Reference source not found.**). As high as 99 percent of births were institutional, and 3 births took place at home which is a matter of concern. Around 85.0 percent of births were conducted by ANM/LHV, staff nurses and medical doctors.

Figure 5: Place of Birth of child of lactating Mother

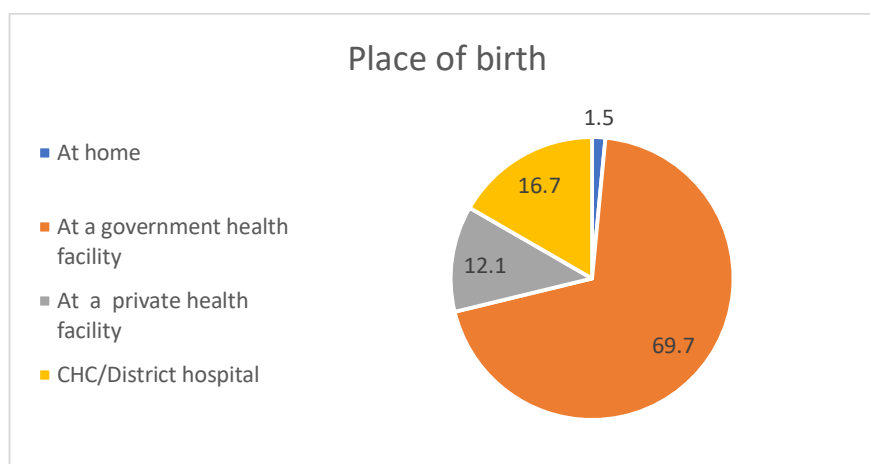


Table 11: Distribution of characteristics of child (aged 0-24 months)

Characteristics of child (0-24 months)	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Current age of the child (months)										
0-4	3	7.3	7	23.3	6	22.2	11	32.4	27	20.5
5-9	4	9.8	2	6.7	6	22.2	5	14.7	17	12.9
10-14	9	22	11	36.7	7	25.9	10	29.4	37	28.0
15-19	10	24.4	6	20.0	4	14.8	4	11.8	21	15.9
20-24	15	36.6	4	13.3	4	14.8	4	11.8	30	22.7
Gender of the child										
Female	19	46.3	18	60.0	15	55.6	20	58.8	72	54.5
Male	22	53.7	12	40.0	12	44.4	14	41.2	60	45.5
New-born born in which month of pregnancy										
Extremely preterm (Up to 7- months)	6	14.6	5	16.7	6	22.2	4	11.8	21	15.9
Very preterm (7- up to 8 months)	1	2.4	1	3.3			1	2.9	3	2.3
Moderate to late preterm (8-9 months)	14	34.1	4	13.3	8	29.6	3	8.8	29	22.0
9 or more months	20	48.8	20	66.7	13	48.1	26	76.5	79	59.8
Weight of the new-born at birth										
Less than 2.5kgs	7	17.1	7	23.3	7	25.9	4	11.8	25	18.9
2.5 kgs or more	29	70.7	20	66.7	19	70.4	28	82.4	96	72.7
Don't know/ Don't remember	5	12.2	3	10.0	1	3.7	2	5.9	11	8.3
Total (n)	41	100	30	100	27	100	34	100	132	100
New-borns who were underweight and referred to a health facility	4	57.1	0	0	5	71.4	4	100	13	52
Total new-borns who were underweight (n)	7		7		7		4		25	
Place of birth										

At home	2	4.9							2	1.5
At a government health facility	36	87.8	19	63.3	15	55.6	22	64.8	92	69.7
At a private health facility	1	2.4	1	3.3	8	29.6	6	17.6	16	12.1
CHC/District hospital	2	4.9	10	33.3	4	14.8	6	17.6	22	16.7
Person conducting delivered										
ANM/LHV	9	22.0	5	16.7	1	3.7	2	5.9	17	12.9
Staff Nurse	12	29.2	9	30.0	11	40.7	17	50.0	49	37.1
Medical doctor	11	26.8	15	50.0	10	37.0	11	32.4	47	35.6
Skilled midwife (including 'DAIs')	9	22.0	1	3.3	5	18.5	4	11.8	19	14.4
Total number of births (n)	41	100.0	30	100.0	27	100.0	34	100.0	132	100.0

Childcare 0-2-year-old child

More than half (56.8 percent) of infants were exclusively breastfed for 6 months. Less than four-fifth (78.8 percent) of mothers reported that other mothers in the community only breastfed their new-borns immediately after birth. Almost 17 percent, reported that mothers gave honey to new-borns.

Around 32 percent of the mothers with a child (up to 2 years) reported starting complementary feeding at 6 months and 18.2 percent between 7-9 months. Coverage of vaccination /immunization of children aged 12-23 months was very mixed. BCG vaccine was almost universal. While more than 61 percent of children (aged 12-23 months) were vaccinated against OPV (87.1.3 percent) hepatitis B (61.4 percent), and IPV 61.4 percent), Penta (64.3 percent) and measles-Rubella (61.4 percent). The coverage of other vaccinations including and pneumococcal vaccine (PCV) (18.4 percent) Rota (27.1 percent), was considerably lower.

Figure 6: Immunisation Doses Administrated to the Child in Lactating Mother

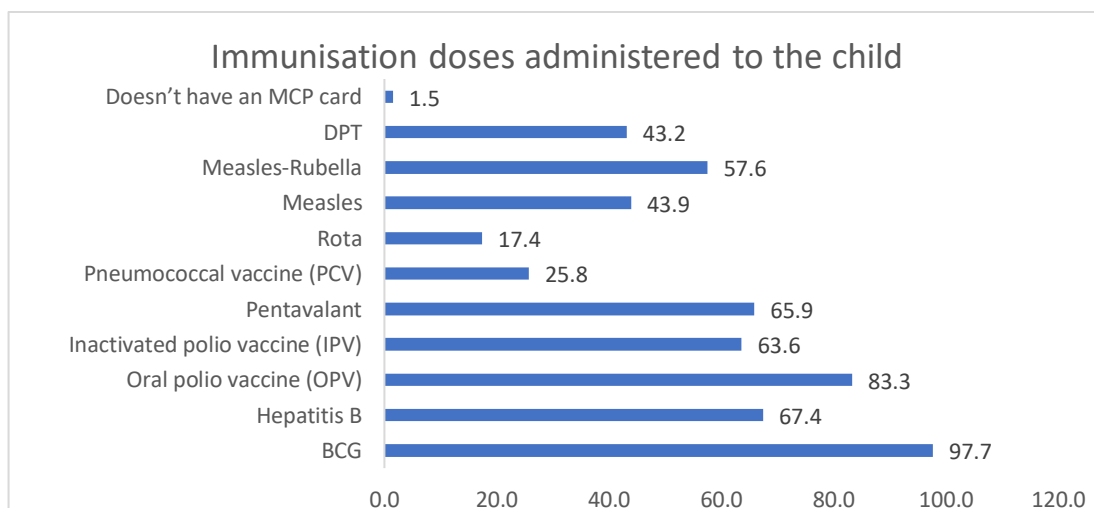


Table 12: Distribution of childcare practices

Childcare feeding practices	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Breast feeding practices/rituals followed										
Giving top feed (milk)					2	7.4			2	1.5
Making infant drink water	1	2.4	1	3.3			2	5.9	4	3.0
Giving infant some honey	11	26.8	2	6.7	3	11.1	6	17.6	22	16.7
Giving indigenous syrup (ghutti)	1	2.4							1	0.8
Only breastfeeding	28	68.3	27	90.0	22	81.5	27	79.4	104	78.8
Breastfeed exclusively for 6 months	23	56.1	15	50.0	15	55.6	22	64.7	75	56.8
Total number of child (0-24 months)	41		30		27		34		132	
Complementary feeding started at which age										
<6 months	10	24.4	11	36.7	6	22.2	8	23.5	35	26.5
At 6 months	17	41.5	10	33.3	8	29.6	7	20.6	42	31.8
At 7-9 months	11	26.8	2	6.7	6	22.2	5	14.7	24	18.2
Not started feeding	3	7.3	7	23.3	7	25.9	14	41.2	31	23.5
Child (aged 12-23 months) has been immunized since birth	27	100.0	18	100.0	9	100.0	16	100.0	70	100.0
Immunisation doses administered to the child (aged 12-23 months)										
BCG	25	92.6	18	100.0	9	100.0	16	100.0	68	97.1
Hepatitis B	12	44.4	11	61.1	5	55.6	15	93.8	43	61.4
Oral polio vaccine (OPV-0)	24	88.9	17	94.4	7	77.8	13	81.3	61	87.1
Inactivated polio vaccine (IPV)	11	40.7	15	83.3	7	77.8	10	62.5	43	61.4
Pentavalent	13	48.1	15	83.3	7	77.8	10	62.5	45	64.3
Pneumococcal vaccine (PCV)	6	22.2	4	22.2	1	11.1	2	12.5	13	18.6
Rotavirus	1	3.7	6	33.3	5	55.6	7	43.8	19	27.1
Measles	7	25.9	8	44.4	6	66.7	9	56.3	30	42.9
Measles-Rubella	12	44.4	15	83.3	7	77.8	9	56.3	43	61.4
DPT	12	44.4	9	50.0	2	22.2	4	25.0	27	38.6
Doesn't have an MCP card	1	3.0						1	1.4	
Child received their first vitamin A dose	18	66.7	9	50.0	3	33.3	5	31.3	35	50.0
Total children aged 12-23 months (n)	27		18		9		16		70	
Child consumed deworming tablets/medicine in the last 1 year	25	61.0	17	56.7	16	59.3	23	67.6	81	61.4
Receive supplementary nutrition from the Anganwadi Centres till 6 months of delivery	30	73.2	20	66.7	21	77.8	20	58.7	91	68.9
AWW prepared a growth monitoring chart	31	75.6	18	60.0	23	85.2	19	55.9	91	68.9
ASHA/AWW ever informed about the child being	7	17.1	1	3.3	4	14.8	2	5.9	14	10.6

severely/ moderately									
Total respondents (n)	41		30		27		34		132

Sixty-one percent of children (up to 2 years) had consumed deworming tablets in the last year. Sixty-nine percent had received supplementary nutrition from the Anganwadi Centres till 6 months after their delivery. Slightly less than 70 percent had growth monitoring chart of their child being maintained at their respective AWC. Eleven percent of mothers had been informed by ASHA/AWW that their child was severely or moderately malnourished.

The distribution of the reasons for children getting treated by type of facility is presented in table 11. The main facilities visited include PHC (34.8 percent), private facility (26.5 percent), and CHC 15.9 percent)

Table 13: Distribution of the reasons of child getting treated by type of facility.

Child treatment services	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Type of facility generally the child is treated at										
Arogya Kendra/AWC	1	2.4							1	0.8
Sub-centre	3	7.3	5	16.7	4	14.8	4	11.8	16	12.1
PHC	23	56.1	9	30	4	14.8	10	29.4	46	34.8
CHC	3	7.3	11	36.7	1	3.7	6	17.6	21	15.9
District Hospital	3	7.3	1	3.3			1	2.9	5	3.8
Medical College (BHU)	1	2.4	1	3.3			5	14.7	7	5.3
Private facility	6	14.6	3	10.0	18	66.7	8	23.5	35	26.5
Ayush hospital	1	2.4							1	0.8
Total children (0-24 month)	41	100.0	30	100.0	27	100.0	34	100.0	132	100.0
Reasons to visit private health facility										
Quality of care at government facilities	2	33.3	1	33.3	3	16.7	2	25.0	8	22.9
Lack of diagnostic facilities	2	33.3			9	50.0	3	37.5	14	40.0
Not treated with respect at govt. facilities	1	16.7							1	2.9
Trust with the private service provider	2	33.3	2	66.7	6	33.3	3	37.5	13	37.1
Total children visited private health facility	6		3		18		8		35	
Reasons to visit Government health facility										

Unavailability of private facilities in the village	10	28.6	15	55.6	3	33.3	13	50.0	41	42.3
Quality of care at government facilities	4	11.4	5	18.5	5	55.6	13	50.0	27	27.8
Distance to private facilities	23	65.7	10	37.0	5	55.6	10	38.5	48	49.5
Adequate diagnostic facilities							1	3.8	1	1.0
Adequate treatment at govt. facilities	3	8.6	3	11.1			5	19.2	11	11.3
Treatment is expensive	9	25.7	2	7.4			4	15.4	15	15.5
Trust in the govt. service provider			1	3.7	1	11.1	2	7.7	4	4.1
Total children visited govt. health facility	35		27		9		26		97	

The primary reasons cited for visiting private health facilities were the lack of diagnostic facilities (40.0 percent), trust in the private service provider (37.1 percent), and concerns about the quality of care at government facilities (22.9 percent). Among those who had visited government facilities, the major reason for doing so was the distance to private facilities (49.5 percent) followed by the unavailability of private health facilities in the village (42.3 percent), a better quality of care at government facilities (27.8 percent) and treatment at private is expensive (15.5 percent).

MOTHER WITH CHILDREN 2-5 YEARS OF AGE:

The collected data from mothers of children aged 2 to 5 years underwent analysis to explore various factors and outcomes related to the well-being and health of the children in this age group. The analysis may have included examining variables such as nutritional status, immunization coverage, developmental milestones, prevalence of common illnesses, access to healthcare services, and other relevant factors that contribute to the overall health and development of children in this age range. The objective of the analysis would have been to gain insights and draw conclusions regarding the health and well-being of children aged 2 to 5 years based on the collected data. Details of socio-demographic indicators like current age, age at marriage, highest education level obtained, and occupation were obtained. Information on different services at AWCs including, growth monitoring, deworming was captured. Information on family

planning counselling services after marriage and ever use of different contraceptives was obtained.

Profile of Mothers of Child Aged 2 to 5 years.

Overall data was collected from 150 mothers of child aged 2 to 5 years Varanasi districts of Uttar Pradesh. Below table provides the percent distribution of various socio-demographic characteristics of women with child aged 2-5 years.

Among the mothers with children aged 2-5 years, 45 percent belonged to the age group of 25-29 years, with an average age of 28.4 years. Additionally, 35 percent of these mothers reported getting married at 18 years or younger, and the average age at marriage for this group was 19.7 years.

In terms of education, 41 percent of these mothers had completed secondary/senior secondary school, followed by 35.3 percent who had completed primary/upper primary education. One-sixth of these mothers (15.3 percent) were non-literates or had never attended school. Sixty-three percent of mothers (child 2-5 years) were housewives and 18.0 percent were engaged as agricultural labourers.

Table 14: Distribution of women (with 2-5 child) by socio0demographic profile

Characteristics of mothers (2-5 child)	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Age										
≤ 24	3	8.6	3	8.1	11	24.4	3	9.1	20	13.3
25-29	21	60.0	11	29.7	24	53.3	12	36.4	68	45.3
30-34	6	17.1	15	40.5	7	15.6	11	33.3	39	26.0
≥ 35	5	14.3	8	21.6	3	6.7	7	21.2	23	15.3
Mean (SD)	28.5(4.0)		30.3(4.0)		27.1(3.7)		29.9(4.6)		28.8(4.2)	
Age at marriage										
≤ 18	9	25.7	15	40.5	20	44.4	9	27.3	53	35.3
19-20	9	25.7	16	43.2	15	33.3	12	36.4	52	34.7
21-22	12	34.3	4	10.8	7	15.6	8	24.2	31	20.7
≥ 23	5	14.3	2	5.4	3	6.7	4	12.1	14	9.3
Mean (SD)	20.4(2.6)		19.1(1.4)		19.3(1.9)		20.2(2.3)		19.7(2.1)	
Education										
Illiterate/Never attended school	6	17.1	2	5.4	7	15.6	8	24.2	23	15.3
Primary/Upper Primary	15	42.8	20	54.0	9	20.0	9	27.3	53	35.3
Secondary/Senior Secondary	12	34.3	14	37.8	22	48.9	14	42.4	62	41.3
Graduate/Postgraduate	2	5.7	1	2.7	7	15.6	2	6.1	12	8.0
Primary occupation										

Unemployed (Includes housewife)	18	51.4	17	45.9	35	77.8	25	72.7	95	63.3
Agriculture	10	28.6	6	16.2	5	11.1	2	6.1	23	15.3
Agricultural labourer	6	17.1	13	35.1	2	4.4	6	18.2	27	18.0
Business					1	2.2			1	0.7
Private employee			1	2.7					1	0.7
Self employed					1	2.2			1	0.7
Daily wage labourer	1	2.9							1	0.7
Total number of women (of 2-5 child)	35	100.0	37	100.0	45	100.0	33	100.0	150	100.0

Family planning services

Fifty-seven percent of the interviewed mothers (with child 2-5 years) had received family planning counselling after marriage. Ninety-seven percent of counselled women had received counselling from ASHA or AWW. Seven percent had received counselling from ANM/LHV.

Fifty-nine percent of the mother (with 0-to-2-year child) reported ever using family planning methods. Sixty-eight percent of mothers having used contraceptives had used condoms. Other popular contraceptive methods include oral pills (29.5 percent), injectable (23.9 percent), and sterilization (17.0 percent).

Table 15: Distribution of mother of child from 2 to 5 years by family planning.

Family planning services	Arajiline		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Received FP counselling after marriage	24	68.6	23	62.2	25	55.6	14	42.4	86	57.3
Counselling provided by										
ASHA/AWW	22	91.7	23	100.0	25	100.0	13	92.9	83	96.5
ANM/LHV	5	20.8	1	4.3					6	7.0
Staff Nurse							1	7.1	1	1.2
Others (friend)							1	7.1	1	1.2
Total respondents that received FP counselling (n)	24	0	23	0	25	0	14	0	86	0
Ever use of family planning methods	23	65.7	22	59.5	24	53.3	19	57.6	88	58.7
Total number of women (of 2-5	35		37		45		33		150	

child)										
Different methods of family planning ever used										
Oral Contraceptives pills	8	34.8	15	68.2	2	8.3	1	5.3	26	29.5
Condoms	16	69.6	15	68.2	22	91.7	7	36.8	60	68.2
Sterilization	2	8.7	5	22.7	3	12.5	5	26.3	15	17.0
Injectable	1	4.3	3	13.6	6	25.0	11	57.9	21	23.9
Female condom	2	8.7	1	4.5			1	5.3	4	4.5
Total respondents ever using FP methods (n)	23		22		24		19		88	

Childcare Practices of Mothers of 25 to 59 months old Child

The distribution of childcare practices including services offered by AWC is presented in Table below.

Overall 71 percent of children had consumed deworming tablets/medicine during the past 1 year. Around four-fifths, (78.7 percent) of mothers reported that growth charts were being prepared by AWWs. Slightly more than one-fifth (21.3 percent) of mothers reported that ASHA/AWW has informed them that their child is severely/moderately malnourished.

Table 16: Distribution of mother of child from 2 to 5 years by childcare services

Childcare services	Arajilne		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	percent	n	Percent
Child have an episode of diarrhoea in the last 6 months			19	51.4	4	8.9	2	6.1	25	16.7
Child consumed deworming tablets/ medicine during the last 1 year	27	77.1	25	67.6	32	71.1	23	69.7	107	71.3
AWW prepared a growth monitoring chart	28	80.0	27	73.0	38	84.4	25	75.8	118	78.7
ASHA/AWW ever informed about the child being severely/ moderately malnourished	10	28.6	4	10.8	13	28.9	5	15.2	32	21.3
Total children (2-5 years) (n)	35		37		45		33		150	35
Received counselling on adequate diet for	10	100.0	2	50.0	13	100.0	3	60.0	28	87.5

the child										
Total children with severe/ moderate malnourishment (n)	10		4		13		5		32	

The distribution of the reasons for child getting treated by type of facility is presented in table. Out of the children who visited health facilities i.e., 45 percent (67 out of 150) visited private health facilities.

The major reason for visiting private health facilities was the lack of quality of care at government facilities (40.3 percent), (table 6) and the considerable distance to government facilities (20.9 percent). A significant proportion. of mothers i.e., 28.4 percent mentioned that they trust private health care providers.

Among those who had visited government health facilities the most frequently mentioned reasons were better quality of care at government facilities (37.6 percent), unavailability of private health facilities (36.6 percent) and long distance to private facilities (34.4 percent).

Table 17: Distribution of mother of child from 2 to 5 years by type of facility to get child treated.

Child treatment	Arajilina		Badagaon		Chiraigaon		Kashi Vidyapith		Total	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Type of facility child is usually treated at										
Arogya Kendra/AWC	2	5.7	1	2.7	2	4.4	5	15.2	10	6.7
Sub-centre	6	17.1	8	21.6	1	2.2	5	15.2	20	13.3
PHC	21	60.0	6	16.2	6	13.3	8	24.2	41	27.3
CHC	4	11.4	22	59.5	1	2.2	7	21.2	34	22.7
District Hospital	4	11.4	5	13.5			5	15.2	14	9.3
Medical college (BHU)	2	5.7							2	1.3
AYUSH hospital					1	2.2	2	6.1	3	2.0
Private facility	6	17.1	14	37.8	35	77.8	12	36.4	67	44.7
No facility visited			1	2.7			1	3.0	2	1.3
Total children (2-5yrs)	35		37		45		33		150	
Reasons for visiting private health facilities										
Unavailability of govt. facility in my village			1	7.1	1	2.9			2	3.0
Quality of care at government	3	50.0	3	21.4	15	42.9	6	50.0	27	40.3

facilities										
Distance to govt. facility	2	33.3	3	21.4	9	25.7			14	20.9
Lack of diagnostic facilities			2	14.3	1	2.9			3	4.5
Lack of treatment at govt facilities			3	21.4	1	2.9			4	6.0
Not treated with respect at Govt. facility	2	33.3							2	3.0
Trust the private health care provider	1	16.7	2	14.3	10	28.6	6	50.0	19	28.4
Total respondents seeking child treatment at private facility (n)	6		14		35		12		67	
Reasons for visiting Govt. health facilities										
Unavailability of private facility in my village	15	51.7	8	23.5	5	50.0	6	30.0	34	36.6
Quality of care at government facilities	5	17.2	18	52.9	3	30.0	9	45.0	35	37.6
Distance to private facility	14	48.3	4	11.8	3	30.0	11	55.0	32	34.4
Adequate diagnostic facility			1	2.9	1	10.0			2	2.2
Adequate treatment at government facilities	7	24.1	5	14.7	2	20.0	3	15.0	17	18.3
Not treated with respect at private Facilities	1	3.4							1	1.1
Treatment is expensive	7	24.1	3	8.8	1	10.0	2	10.0	13	14.0
Trust with govt. service Provider					1	10.0			1	1.1
Total respondents seeking child treatment. at govt, facility (n)	29		34		10		20		93	

CHAPTER 5: DISCUSSION

IN CASE OF PREGNANT WOMEN:

- The baseline study collected various information from 154 pregnant women belonging to 513 households in 20 villages, located in 4 blocks of Varanasi district of Uttar Pradesh.
- About 38 percent of pregnant women had completed either secondary or senior secondary education while around 18 percent were non-literate and had never attended school.

- Around 70 percent of pregnant had got married at 19 years and above.
- Around 36 percent of the interviewed pregnant women were primigravida (first-time pregnant).
- Ninety percent had become pregnant for the first time when they were 20 years and above.
- Sixty-three percent of pregnant women were counselled on family planning after marriage.
- Around fifty-three percent of pregnant women ever used family planning methods among which condom (67.9 percent) condom was the most common method used.
- Ninety-six percent of pregnant women have registered their pregnancy of which 68 percent had registered themselves at the sub-centre. Fifty-two percent of registered pregnant women had at least two ANC check-ups.
- Among pregnant women who had received ANC services more than 88 percent had their weight measured, their abdomen examined, and received tetanus toxoid injections and IFA tablets.
- On average pregnant women reported travelling 6.4 kilometres to avail of health services. Seventy-three percent reported facing no challenges at these facilities. The most common challenges faced included distance to the health facility 13.9 percent) and quality of care (15.2 percent).

IN CASE OF LACTATING WOMEN:

- In the baseline study, data were collected from a total of 132 lactating women who resided in 513 households across 20 villages. These villages were located in four different blocks within the Varanasi district of Uttar Pradesh. The study aimed to gather information and insights specifically from this sample population to better understand the health and well-being of lactating women in the region.
- Slightly more than two-fifths (40.2 percent) of lactating mothers had completed either secondary or senior secondary education. On the other hand, more than one-fifth (21.2 percent) of lactating mothers were non-literate and had never attended school.
- In terms of marriage age, 63 percent of lactating mothers had married at 19 years or older.

- Fifty-three percent of lactating women received counselling on family planning after marriage. Ninety-six percent of those who had received counselling identified ASHA/AWW as the service provider.
- Around fifty-one percent of the lactating women reported ever using family planning methods amongst which condom (53.7 percent) was the most used method.
- Among the babies included in the study, 73 percent had a normal birth weight, which is defined as weighing 2.5 kilograms or more at birth.
- As high as 99.0 percent of new-born had institutional births and were undertaken by skilled health care providers.
- Slightly less than three-fifths (56.8 percent) of the lactating mothers included in the study reported exclusively breastfeeding their child for a duration of 6 months.
- Approximately 26 percent of lactating mothers had introduced complementary feeding to their child at an age younger than 6 months, indicating an early initiation of solid foods alongside breastfeeding.
- All children (12-23 months) had received some type of immunization. Certain vaccines like PCV (18.6 percent), and Rotavirus (27.1 percent) had considerably much lower levels of vaccine coverage.
- Sixty-nine percent of lactating mothers reported receiving supplementary nutrition from Anganwadi Centre for six months after delivery, and the same percentage had growth monitoring of their child.

IN CASE OF MOTHERS WITH CHILDREN 2-5 YEARS OF AGE

- Around 41 percent of the mothers surveyed had completed either secondary or senior secondary school, indicating a level of education beyond the primary level. On the other hand, 15.3 percent of the mothers were non-literates, meaning they had not received any formal education and were unable to read or write.
- Slightly less than two-thirds of interviewed mothers were housewives.
- Fifty-seven percent of mothers received counselling on family planning after marriage. Among the surveyed mothers, 59 percent reported having ever used family planning methods. This suggests that a significant proportion of the mothers had utilized contraception or other family planning methods at some point in their lives.

- Among the surveyed mothers, 17 percent reported cases of diarrhea among their children within the last six months, indicating a prevalence of diarrheal episodes among a portion of the children.
- Additionally, 71 percent of the children included in the study had consumed deworming tablets or medicine within the last year, suggesting a relatively high coverage of deworming interventions among the surveyed children.
- Among the surveyed mothers, 21 percent reported being informed by ASHA (Accredited Social Health Activist)/AWW (Anganwadi Worker) that their child was severely or moderately malnourished. This indicates that a significant portion of the children were identified as having malnutrition by the community health workers.
- Furthermore, 45 percent of the children visited private health facilities for treatment, indicating a substantial proportion of caregivers opting for private healthcare services for their children's medical needs.
- The major reason for visiting private health facilities was the lack of quality of government health facilities (40.3 percent) followed by trust in private service providers (28.4 percent).

CHAPTER 6: CONCLUSION

In summary, Mobile health services in rural areas are effective in meeting the beneficiaries' expectations. High beneficiary satisfaction and trust in mobile health services strongly favour such services in other rural geographies. A mobile medical unit can be an alternative to reach the last mile. Before MMU delivers services to the targeted communities, this study helps us assess the availability of services and determine how well they are used and covered. We can then compare these findings to the mid-term and end-line evaluations to see if there has been an increase in the availability of primary health care services. Additionally, it aids in establishing district-level key performance indicators for the MMU project against which the project's progress will be assessed and identifies variables that influence how health services are used in the targeted communities before MMU begins providing its services.

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