Impact Evaluation of Mobile Health Services in Roha block of Raigad district, Maharashtra, and Vagra block of Bharuch district of Gujarat

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Report submitted to the Deepak Foundation

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Acknowledgment

This study entitled **"Impact Evaluation of Mobile Health Services in Roha block of Raigad district, Maharashtra and Vagra block of Bharuch district of Gujarat (2022 – 2023)"** was conducted by the Population Research Centre of Gokhale Institute of Politics and Economics, Pune.

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Contributors

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Abbreviations

ANC	–	Antenatal Care
ANM	–	Auxiliary Nurse Midwifery
APL	–	Above Poverty Line
ASHA	–	Accredited Social Health Activist
AWW	–	Anganwadi Workers
BCG Vaccine	–	Bacille Calmette-Guerin Vaccine
BPL	–	Below Poverty Line
CSR	–	Corporate Social Responsibility
COVID-19	–	Corona Virus Disease 2019
HB Level	–	Haemoglobin Level
IEC Material	–	Information, Education and Communication Material
MHUs	–	Mobile Health Units
MoHFW	–	Ministry of Health and Family Welfare
NGO	–	Non-Government Organisation
NNM	–	National Nutritional Mission
NUHM	–	National Urban Health Mission
OBC	–	Other Backward Class
OOPE	–	Out of Pocket Expenditure
OPD	–	Out Patients Department
PPS	–	Probability Proportional to Size
PRC	–	Population Research Centre
SC	–	Scheduled Caste
ST	–	Scheduled Tribes
UCP	–	Underweight Children Programme
WHO	–	World Health Organisation

CHAPTER – 1: INTRODUCTION

1.1 Background

Healthcare is essential for the overall well-being of an individual and community. Health care is characterized by the timely delivery of healthcare services, proper screening, and timely referrals. However, quality healthcare facilities are inaccessible to vulnerable populations in isolated rural and tribal areas. In urban areas, although it is available, it is costly, and health care available in public facilities is mainly overcrowded, leading to high waiting time. In this regard, Mobile Health Care is an innovative healthcare system and has the potential to reach inaccessible and remote areas by providing basic healthcare equivalent to traditional healthcare settings (Edgerley et al., 2007).

Deepak Foundation initiated Mobile Health Unit to provide medical health facilities in remote areas free of cost. The foundation offers door-to-door mobile healthcare services for poor people. However, anyone can benefit from the Mobile Health care Unit services. The foundation has domain expertise in the large-scale implementation of community health interventions and has been delivering primary curative services through MHUs since 2013. These MHUs give curative services, free-of-cost medicines, and referral support to reduce out-of-pocket expenditure. The programme also includes periodic specialized camps and awareness programmes to educate the community members on health and hygiene behaviors.

The services that the Mobile Health Unit provides should be appropriately evaluated. The impact evaluation of any project plays a significant role in identifying the benefit to the beneficiaries. Evaluation will help us to understand whether beneficiaries are benefited from Mobile Health unit services or not. It is thus imperative to understand the Mobile Health Care units' overall functioning and outreach. Moreover, the major difference between traditional healthcare settings and Mobile Health Care is that people approach the healthcare services in traditional healthcare settings. In contrast, in Mobile health care, the health care services are provided to the people at their doorsteps. by people depending upon the health care needs albeit maynot due to the severity of the illness. This chapter presents the background of the study, the rationale behind the research, and the process of the impact evaluation of Mobile Health Unit services.

1.2 About Deepak Foundation

Deepak Nitrite Ltd is an Indian chemical manufacturing company. The company's manufacturing units are located at Nandesari and Dahej in Gujarat, Roha and Taloja in Maharashtra, and Hyderabad in Telangana. Companies registered under the Indian Companies Act 2013 must comply with certain CSR (Corporate Social Responsibilities) obligations under Section 135, including spending funds on CSR activities. Hence, Deepak Nitrite Ltd has incorporated the Deepak Foundation, a non-government organization (NGO).

Deepak Foundation, registered under the Bombay Public Trust Act (E.3122-BARODA), was set up in 1982 with a vision of providing medical and healthcare facilities to the families of workers and the local community near the industrial area of Nandesari and Dahej in Gujarat, Roha and Taloja in Maharashtra and at Hyderabad, Telangana. Deepak Foundation has a decade-long experience and expertise in successfully implementing Public Private Partnership Projects in the development sector, particularly in public health, nutrition, livelihoods, and education, and has acted as a catalyst for many CSR clients and government departments in implementing development interventions. This study focuses on the project Mobile Health Unit implemented by the Deepak foundation in Roha and Bharuch districts.

1.3 Review of literature

Mobile Health Unit services are very helpful because the healthcare services are provided to people who cannot avail of any services due to inaccessibility. The studies mentioned that the functioning of the Mobile Health Unit in Jharkhand has provided an opportunity to provide services to the hard-reach areas, in which the health staffs were well trained. There have been suggestions from the beneficiaries that the information related to the visit of MHU should be given at least two to three days before the visit of MHU so that they could plan out their work and more people could be covered (Nandan and Kumar, 2009).

Studies on the impact assessment of MHU in Orissa have reported that all the beneficiaries appreciated MHU in providing curative services. Availability of health care services in the nearest areas and free distribution of medicines were the important factors to satisfy the beneficiaries. However, there are some operational gaps in the implementation of MHU services. More villages

are covered, infrequent visits to the villages, non-availability of diagnostic instruments, etc. (Government of Orissa, 2011).

The benefits of mobile health clinics played a vital role in providing health services, especially to the marginalized sections of society. (Jamir et al., 2013). Similarly, the aim of improvement in access to the health system is fulfilled by the Mobile health unit services. The use of innovative applications using smartphones has the ability to reduce healthcare expenses. (Gupta et al., 2021).

Studies on the scope and impact of Mobile Health Clinics in the United States reported an improvement in general health outcomes and care accessibility. It helped to eliminate inequality in the healthcare sector. Preventive screenings and disease management by Mobile Health Clinics improved the detection of chronic illness and infectious diseases among communities and reduced healthcare costs. Although, there were some limitations like financial issues in maintaining the cost of the vehicle, structural constraints, logistical challenges, etc. (Yu et al., 2017).

An important research in the United States mentioned that the Mobile Health Unit was implemented to increase access to nursing services, improve and maintain functional and health status, and increase health promotion behaviours of rural elderly residents experiencing difficulty obtaining health care due to illness, transportation problems, or financial factors. It provided various home- and community-based support services, enabling the elderly to remain independent and continue to live at home. (Alexy et al., 1998).

Studies from Tamilnadu and Odisha have suggested that the government should consider introducing measures to attract health professionals to serve in remote areas. These could include financial incentives. Providing vehicles in good condition and a driver may also attract health workers to work in MHUs. Sustained efforts should be made to improve the planning capacity of district-level officials so that they can carry out careful mapping and scheduling of visits and develop trusting relationships with the community they serve (Prasad et al., 2008).

Mobile healthcare delivery is an innovative model of health services delivery that provides a wide variety of services to vulnerable populations. The clinics vary in service mix, patient demographics, and relationships with the fixed health system. Although access to care has increased in recent years through the Affordable Care Act, barriers persist, particularly among

populations living in resource-limited areas. Mobile clinics can improve access by serving as a vital link between the community and clinical facilities. Additional work is needed to advance the availability of this important resource. (Malone et al., 2020).

A different study of MHU for truck drivers in India reported that truck drivers in India have significant health morbidities. Providing primary health care services to truck drivers through mobile medical units is a step toward achieving universal health coverage. (Chanda et al., 2020). The Mobile Medical Unit for tuberculosis in Punjab observed some operational and logistical challenges under mobile field conditions necessary to confirm TB diagnosis and to start anti-tuberculosis. But, they believe that MMUs have the potential to detect TB among difficult-to-reach populations in India. (Binepal et al., 2015). Studies have mentioned that the decision to provide health care services with a mobile van is one that educational and service facilities are increasingly pursuing. It creates an opportunity to develop a sense of social responsibility in the health care provider. (Murphy et al., 2000).

1.4 Need for the study

Impact evaluation is required to observe the changes that happen to society after implementing a project. Impact evaluation provides a systematic method to evaluate a project to understand how well it achieves its goals. Evaluations help to determine what works well and could be improved in a program or initiative. Developmental public policies such as Mobile Health Unit can explain the changes in people's lives with the impact evaluation method.

Impact evaluation helps us understand whether the beneficiaries benefit from the services provided under MHU. Also, evaluation helps us measure the project's success or failure. It helps us to decide whether to continue the project or not. It allows the researcher to identify the real needs on the ground level and provide solutions to the actual problems.

In India, poverty and indebtedness are high due to the high out-of-pocket expenditure. To reduce high out-of-pocket expenditure is one of the main goals of MHU. In rural and tribal areas, people suffer from poverty, lack of employment, indebtedness, illiteracy, lower living standards, and lack of health facilities. Therefore, MHU is essential in providing primary and curative healthcare services. Under MHU, two Mobile Health Units operate at Roha, Raigad district of Maharashtra,

and Vagra, Bharuch district of Gujarat. Currently, MHU is serving a total of 20 villages in the Roha and Vagra blocks. Ten villages from Roha block, Raigad district of Maharashtra, and ten villages from Vagra block, Bharuch district of Gujarat, are selected for implementing Mobile Health Unit services.

This study only focuses on the impact evaluation of MHU services in the above-selected areas. Different methods like interviews and focus group discussions with beneficiaries are used for the evaluation process. The different types of tools, like questionnaires and online and offline survey tools, were created to analyse the direct impact of MHU services on the lives of rural and tribal beneficiaries.

1.5 Objectives

The broad objective of the study is to assess the impact evaluation of MHUs in the study area. However, this study has four specific objectives as follows:

1) To assess the reach of mobile health services in terms of the proportion of households and populations utilizing mobile health services.
2) To determine the reduction in out-of-pocket expenditure vis a vis baseline levels while accessing primary healthcare.
3) To evaluate the increase in the utilization of government facilities by the target beneficiaries through referral linkage.
4) To detail the study of the MHU's organization and role in healthcare delivery.

1.6 Chapterization of report

This report has been organized into '*nine*' chapters.

Chapter 1: Introduction

Chapter 2: Data and Methodology

Chapter 3: Household Profile and Health Status of the Respondents

Chapter 4: Awareness, Availability, and Accessibility of MHU Services

Chapter 5: Adolescent Anaemia

Chapter 6: Child Malnutrition

Chapter 7: Immunization and Pregnancy Consulting Services and Covid Emergency

Chapter 8: Findings from the secondary source of data provided by Deepak foundation

Chapter 9 : Field report

Chapter 9: Summary, Conclusion and Policy Recommendations

CHAPTER – 2: DATA AND METHODOLOGY

2.1 Study area

The Mobile Health Unit is implemented in the Roha block of the Raigad district of Maharashtra and the Vagra block of the Bharuch district of Gujarat. The MHU of Deepak Foundation caters to 33 villages of Vagra block in Bharuch district and 28 villages of Roha block from both districts.

2.2 Target group

The target group for implementing MHU was every person from each village. The main target group is people from poor socio-economic backgrounds and from remote, rural, and tribal areas where proper and adequate healthcare services are scarce and other healthcare services do not reach the people in rural and tribal areas. MHU helps in reaching the vulnerable population by delivering health care services directly. It ensures that MHU is fulfilling the needs of poor people. In addition, adolescents in the age group 10-19 years who are anaemic and malnourished children are counselled in case of anaemic and underweight, and a follow-up is maintained.

2.3 Sample design

The study adopted a two-stage sampling design. The list of villages for the selected blocks was obtained from the Deepak Foundation database. Ten villages were selected from each block in the first stage using the Probability Proportional to Size (PPS) sampling design. A total of 20 villages were selected from both districts, i.e., ten villages each from the given list of 28 villages and 33 villages from the Roha and Vagra blocks, respectively. In the second stage, we selected the designated areas or padas, which are underserved to poor socio-economic from each selected village. Then we contacted the Community Mobilizer/ASHA/AWW of the village/padas for the list of households and used systematic random sampling to select the households. Finally, we interviewed the head of the household or family members who were able to respond well to our queries a knowledgeable person of the household.

In addition, qualitative analysis was conducted by interviewing Gram panchayat members, Rogi Kalyan Samitis, and Village Health and Nutrition Committees by interviewing ASHAS, Aanganwadi workers, etc.

Table 2.1: List of selected villages and population

Sr. No.	Name of District and Block	Name of Selected Villages	Population
1	Bharuch (Vagra)	Ambhel	721
2		Khojbal	1523
3		Kalam	1576
4		Rahiyad	1694
5		Paniyadra	2563
6		Kadodara*	1995
7		Keshwan*	1625
8		Pipalia*	1609
9		Sambheti	416
10		Vengani*	908
11	Raigad (Roha)	Shirawali	335
12		Sanegaon	655
13		Dhankanhe	697
14		Bhatsai	1045
15		Shenvai	1134
16		Devakanhe	1301
17		Virjoli	1520
18		Ghosale	1562
19		Pale Bk.	857
20		Borghar**	514

Note: *The villages in Bharuch district have been replaced from the selected villages due to the intervention of other CSR
**Borghar village is the replaced village in place of Wandoli due to the inaccessibility of the area.

2.4 Sample size

Assuming 80% of the population in selected villages (by Deepak Foundation) know about the MHU and have benefited from the MHU services.

Therefore the estimation of sample size (n) = $p\,(1-p) \times (Z/E)^2$

$$n = 0.8 \times (1-0.8) \times (1.96/0.05)$$

$$n = 246 \cong 250$$

Where

Z the value from the standard normal distribution (Z = 1.96 for 95%)

E is the desired margin of error (0.05 or 5%)

A sample size of 250 households was covered, considering the non-response error of 5%; a total of 125 heads of households from the selected household at each block were interviewed. In addition, in-depth interviews of gram panchayat members, Rogi Kalyan Samitis, and Village Health and Nutrition Committees by interviewing ASHAS, Aanganwadi workers, etc., were conducted from each village.

2.5 Study tools

Questionnaires were addressed to Beneficiaries, and in-depth interview were conducted with ASHA/AWW/gram panchayat members. Beneficiaries' questionnaires were canvased in English as well as the Marathi and Gujarati languages. In the beneficiaries' questionnaire, information about the households and individual characteristics, such as age, sex, education level, etc., were collected. Apart from these questions, information about the awareness of the MHU services, adolescent anaemia, underweight children program, availability of Aanganwadi Centers, etc., was also collected.

In the Service Provider questionnaire, designation, period of engagement with MHU, etc., are collected. In the ASHA/AWW questionnaire, basic information about the ASHA/AWW, tenure of the working period, awareness about the MHU services, engagement with MHU, etc.

After the finalization of the questionnaires, an online survey tool was prepared, the Survey Monkey Tool, which was pretested before the commencement of the data collection. In order to avoid any mistakes during the data collection due to internet connection, the hard copy of the final questionnaire was also filled out.

2.6 Survey instruments

The study used a questionnaire to collect information from the respondents in the Raigad and Bharuch districts. The questionnaire covered the following topics:

Section 1- Background Characteristics

This section collected information on basic information about the respondents, including name, age, sex, marital status, educational qualification, occupation, religion, category, etc. Questions on the availability of ration cards, type of ration cards, availability of health cards, and services received through health cards were also collected within this section. Finally, the section also collected household information on the number of earning members, monthly income, monthly expenditure, etc.

Section 2 – Health and Awareness of Mobile Health Unit services

This section collected information on the respondents' health issues, their family members, and their type of illness. Also, this section collected information on the place of treatment, its distance from the house, mode of transport, traveling expenditure, diagnostics, diagnostic charges, consultation fees, medicinal charges, etc. In addition, this section included questions on awareness about MHUs, sources of awareness, services provided by MHUs, places of MHU visits, medicinal information, and reasons for not availing of MHU service.

Section 3 – Awareness of health camps

This section collected information on the knowledge of respondents about health camps, the number of health camps, treatment from specialist doctors, counselling during health camps, information regarding nutritional guidance from health camps, information on free medicines, etc.

Section 4 – Awareness and counselling by MHU

This section collected information on the awareness campaign and counselling sessions conducted by the MHU. Questions on the medium of communication, methods to create awareness, frequency of sessions, types of awareness camps, types of counselling, and topics covered under counselling are included in this section. Finally, the section also collected information on health day celebrations, awareness camps on special days, and recipe demonstrations for nutrition guidance by MHU services.

Section 5 – Adolescent Anaemia

This section gathered information on adolescent girls, knowledge of adolescent anaemia, treatment of anaemia by MHU, and HB level improvement status. Also, this section included questions on

information about family members who are anaemic, their HB level, and their duration of anaemia. In addition, this section collected data on the follow-ups done by MHU, the number of follow-ups, the frequency of routine check-ups, the interval between the follow-ups, and prescriptions given by the MHU doctors. Finally, the section also collected information on counselling for adolescent girls, counselling on eating habits & hygiene, and nutritional guidance from MHU to increase haemoglobin.

Section 6 - Underweight Children Programme

This section collected information on underweight children, knowledge about the underweight children programme conducted by MHU, health check-ups of children, and information on case papers. Questions on follow-ups, treatment given, and information on multi-micronutrient supplements were included in this section. In addition, information on counselling of children, recipe demonstrations, and information on follow-up of instructions and status-quo given by doctors were collected in this section. Finally, the questions on the impact of treatment on the children were collected in this section.

Section 7 - Immunization and Pregnancy Consulting Services and Covid Emergency

This section collected information on selected respondents only. This section included questions on immunization from MHU, types of counselling about immunization, counselling on vaccination, services during pregnancy, diet plans during pregnancy, follow-up consultation, and provision of medicines free of cost. In addition, information on the number of Covid 19 infected people from the respondent's families. Also, the questions on MHU doctor's visits during the Covid period, health care services from MHU, treatment by MHU doctors, the outcome of treatment, and information on following protocols for Covid-19 were included in this section. Also, information on check-ups of covid infected patients, location of MHU vehicle, use of stethoscope and safety kit, and referral system of MHU were included in this section.

2.7 Pre-test and training of the field investigators

The pre-test of the finalized questionnaire was carried out in the last week of November 2022 by the field supervisor and one field investigator in Bhatsai village of Roha block. After the pre-test, the necessary changes were incorporated into the final version of the questionnaires.

Prior to the actual data collection, PRC, Pune imparted training to the field investigators for three days (2 days of classroom sessions; and one day's field survey) and mock interviews during 5 – 6 December 2022.

2.8 Data collection and data validation

The field investigators did the actual data collection. The total sample size after the data collection is 258. A total of 122 responses were collected from the Roha block of Maharashtra, and 136 were collected from the Vagra block of Gujarat.

A data quality check was done during the data collection by the field supervisor and after data collection by the PRC research staff. Data cleaning, validation, processing, and tabulation have been done on software like STATA and Excel by the PRC research staff.

2.9 Statistical analysis

The statistical analysis was performed using STATA software, version 15. Descriptive statistics and bivariate analysis has been used in the study.

CHAPTER – 3: HOUSEHOLD PROFILE AND HEALTH STATUS OF THE RESPONDENTS

3.1 Introduction

This chapter represents the demographic and socioeconomic characteristics of the household, health status, type of illness, and health expenditure of respondents interviewed during the surveys conducted at the Roha block, Raigad district of Maharashtra, and Vagra blocks, Bharuch district of Gujarat. A total of 258 respondents were surveyed during the data collection process of Impact Evaluation of Mobile Health Unit (MHU) services.

3.2 Profile of the study sample

Table 3.1 consists of the household and respondents' details such as their age, sex, marital status, education details, occupation, religion, caste, availability of the ration card, availability of health card, average Income, average expenditure, etc. A large proportion of surveyed respondents belong to the age group older than 30 years, and only about 5% of the respondents belong to the age group 21-30 years, a tiny proportion of the total sample. More than half of the respondents were female, about 72 %. About 77% and 67% of respondents were from the Bharuch and Raigad districts, respectively. Most of the respondents were married females (around 86%) and belonged to the Hindu religion (84%) and OBC category (55%). Only 12.6% of the sample belongs to the Muslim religion, and 3.5% belongs to Buddhism. Out of which, all the Muslim sample is from the Bharuch district, and all the Buddhist respondents are from the Raigad district.

Education is an essential factor in the upliftment of people, and it provides knowledge and social and economic consciousness to the people. However, about 21% of the respondents are not educated, and about 71% of respondents have attained only primary, middle, and secondary levels of education. Only about 9% of respondents have attained higher secondary and above education level. A total of 24% of respondents fall under the cultivator's occupation, and they belong to their farms and can be large or small farm cultivators. It also includes the people who are working on their farms. About 33% of cultivators are from the Raigad district, and only 16% belong to the Bharuch district. Around 23% of respondents are not working, and a majority, approximately 32%,

are from the Bharuch district, whereas only about 14% of not working respondents are from the Raigad district. The majority of about 93% of respondents have ration cards from both districts, and more than half (59%) of respondents belong to those below the poverty line (BPL). Only 24% are respondents have health cards which is a significantly lower proportion among the selected sample.

Table 3.1: Profile of the study sample by background characteristics and districts

Background Characteristics	**Bharuch (%)**	**Raigad (%)**	**Overall (%)**	**Sample**
Gender				
Male	22.8 (31)	33. 1 (40)	27.6	71
Female	77.2 (105)	66.9 (81)	72.4	186
Age Group				
21 - 30	7.6 (10)	1.7 (2)	4.8	12
31 - 40	18.9 (25)	23. 1 (27)	20.9	52
41 - 50	26.5 (35)	23. 1 (27)	24.9	62
51 - 60	25.0 (33)	28.2 (33)	26.5	66
60+	22.0 (29)	23.9 (28)	22.9	57
Education Level				
No education	20.6 (28)	20.5 (25)	20.5	53
Primary	27.2 (37)	18.9 (23)	23.3	60
Middle	16.2 (22)	27.9 (34)	21.7	56
Secondary	30.2 (41)	21.3 (26)	26	67
Higher & above	5.9 (8)	11.5 (14)	8.5	22
Marital Status				
Currently Married	73.5 (100)	100.0 (122)	86.1	222
Others	26.5 (36)	NA	14	36
Caste				
SC	4.4 (6)	9.0 (11)	6.6	17
ST	14.0 (19)	4.1 (5)	9.3	24
OBC	61.8 (84)	48.4 (59)	55.4	143
Others	19.9 (27)	38.5 (47)	28.7	74
Religion				
Hindu	77.2 (105)	92.6 (112)	84.4	217
Muslim	22.8 (31)	NA	12.1	31
Buddhism	NA	7.4 (9)	3.5	9
Occupation				
Cultivators	15.9 (21)	32.8 (39)	24	60
Labourers	21.2 (28)	18.5 (22)	19.9	50
Working in Public/Private services	22.0 (29)	19.3 (23)	20.7	52
Self-employed	9.1 (12)	16.0 (19)	12.4	31
Not working	31.8 (42)	13.5 (16)	23.1	58
Availability of Ration Card				
No	95.6 (130)	91.0 (111)	93.4	241
Yes	4.4 (6)	9.0 (11)	6.6	17
Type of Ration Card				

APL	58.5 (76)	22.5 (25)	41.9	101
BPL	41.5 (54)	77.5 (86)	58.1	140
Availability of Health Card				
No	22.1 (30)	26.2 (32)	24.0	62
Yes	77.9 (106)	73.8 (90)	76.0	196
Average Income (₹)				
Less than 10000	24.3 (33)	48.4 (59)	35.7	92
10000 – 30000	71.3 (97)	41.0 (50)	57.0	147
More than 30000	4.4 (6)	10.7 (13)	7.4	19
Monthly Expenditure (₹)				
Less than 5000	4.4 (6)	23.8 (29)	13.6	35
5000 -10000	34.6 (47)	40.2 (49)	37.2	96
More than 10000	61.0 (83)	36.1 (44)	49.2	127

Note: <10 sample size has been put in brackets

More than one-third (36%) of the respondents earning less than ₹10000 belong to the poor income category, more than half of the respondents belong to the middle-class category (57%) with income ranges between ₹10000 - ₹30000, and only 7% of the respondents having ₹30000 and above income. The proportion of poor category respondents is more in the Raigad district (48%) compared to the Bharuch district (24%). About 71% of respondents from the Bharuch district come under the middle-class income category, compared to 41% from the Raigad district. Around 7% of respondents have an income higher than ₹30000. Nearly half of the respondent's monthly average expenditure is ₹10000, and about 37% of respondents' monthly average expenditure range is ₹5000 - ₹10000, whereas only 14% of respondents' monthly average expenditure is less than ₹5000. Higher average monthly expenditure (₹10000 and above) was found in the Bharuch district (61%) compared to less in the Raigad district (36%).

3.3 Availability and type of ration cards

Figures 3.1 & 3.2 show information about the availability of ration cards and the type of ration cards in both the Bharuch and Raigad districts. Around 96% of households have ration cards in the Bharuch district; among them, 42% of households have BPL cards, and 58% of households have above-the-poverty-line (APL) cards. Whereas about 91% of households have ration cards in the Raigad district, among them, more than three-fourths (77%) of households have BPL cards, and nearly one-fourth (23%) of households have the APL cards (see Figure 3.1 & 3.2).

Figure 3. 1: Availability of ration cards by districts (in %)

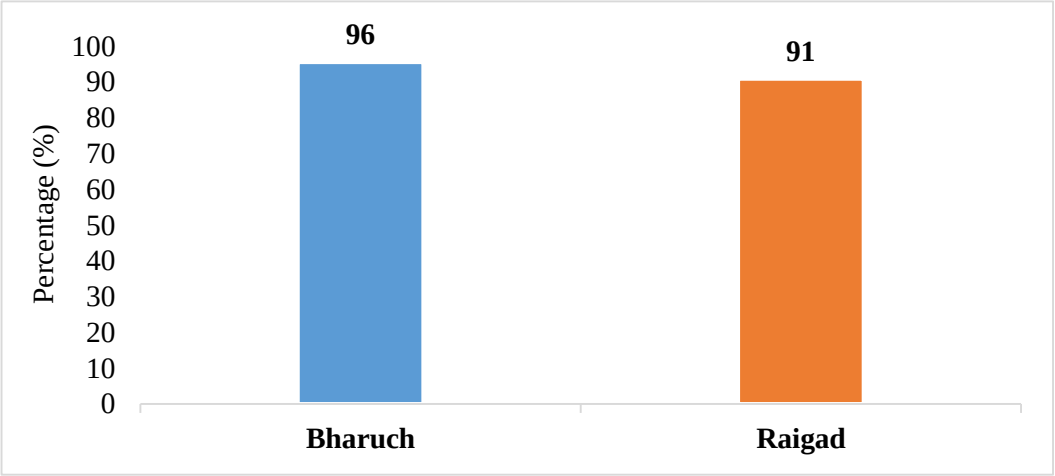
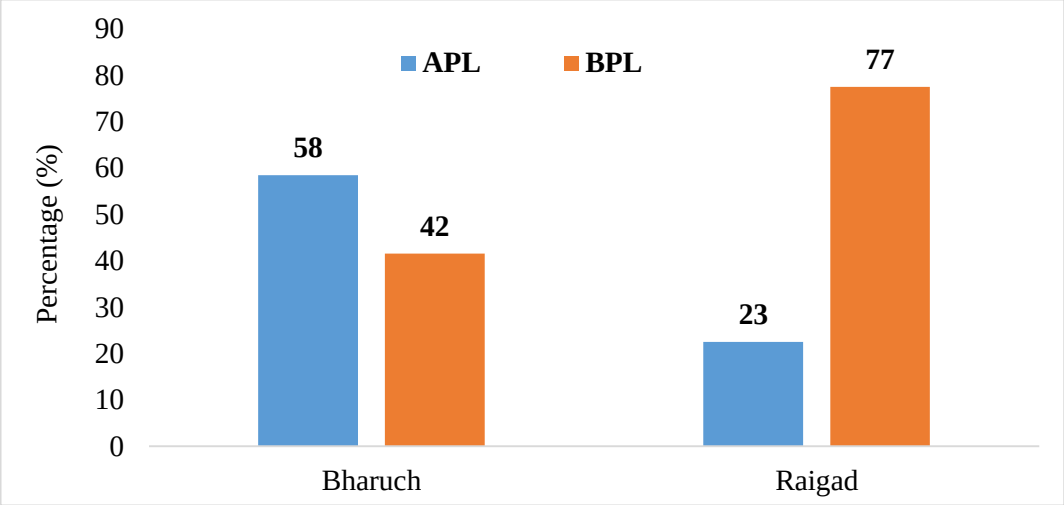


Figure 3. 2: Ration cards type (APL and BPL) by districts (in %)



Moreover, Table 3.2 presents the availability of ration cards in the households and the type of ration cards by religion, caste, and the average income of the households. For instance, overall, 93% of the respondents have ration cards, 58% of the respondents fall under the BPL, and 42% of them come under the APL. Further, the availability of ration cards is 78% in the Buddhism religion, and all of them belong to the BPL category. About 94% and 97% of the respondents have ration cards from the Hindu and Muslim religions, respectively, and both Hindu (58%) and Muslims (53%) households have BPL cards. Further, we found significant variations in the availability and type of ration cards among social categories. About 88% of Schedule Castes (SCs), 96% of

Schedule Tribes (STs), 94% of Other Backward Classes (OBCs), and 78% of other categories of respondents have ration cards. More than half of the respondents of all categories fall under the BPL, except for the OBC category. About half of the OBC category respondents are above the poverty line (APL).

Table 3.2: Availability of ration cards at the household level and type of ration cards by religion, caste, and average income of the households

Background Characteristics	Availability of Ration Cards (%)	Type of Ration Cards (%)	
		APL	BPL
Religion			
Hindu	93.6	42.4	57.6
Muslim	96.8	46.7	53.3
Buddhism	77.8	0.0	100.0
Caste			
SC	88.2	20.0	80.0
ST	95.8	8.7	91.3
OBC	94.4	50.4	49.6
Others	91.9	41.2	58.8
Average Income (₹)			
Less than 10000	90.2	25.3	74.7
10000 - 30000	95.2	51.4	48.6
More than 30000	94.7	44.4	55.6
Total	**93.4**	**41.9**	**58.1**

Finally, about 90% of the respondents whose monthly average income is less than ₹10000 have ration cards; out of them, one-third of the respondents fall under the BPL, and one-fourth of respondents come under the APL. In the average income range of ₹10000 - ₹30000, approximately 96% of respondents have ration cards, and nearly half of the respondents (49%) fall under the BPL. Similarly, about 95% of the respondents' ration cards are for those who have an average income of more than ₹30000; out of them, 56% fall under the BPL.

3.4 Average monthly household consumption expenditure

Table 3.3 shows the average monthly household consumption expenditure pattern of the respondents by religion, caste, and average income of the household members. The household consumption expenditure is divided into three categories, i.e., less than ₹5000, ₹5000 - ₹10000, and more than ₹10000. Overall, about half of the respondents' (49%) average monthly household consumption expenditure is more than ₹10000, and 38% and 14% of the respondents average

expenditure is ₹5000 - ₹10000 and less than ₹5000 groups, respectively. The Muslim religion has the highest household consumption expenditure (74%) compared to the Hindu (47%) and Buddhism (22%) with respect to ₹10000 and more category. Further, the household consumption expenditure range of ₹5000 - ₹10000 is more among Buddhism religion (67%) compared to Hindus (38%) and Muslims (23%) religion. The average household consumption expenditure among OBC respondents has the highest (57%) compared to other categories (47%), STs (33), and SCs (18%). The household consumption expenditure range of ₹5000 - ₹10000 is more among SC respondents (65%) compared to other social category groups. However, the OBC category spends less on average expenditure (11%) compared to other groups with respect to less than ₹5000 group.

Table 3.3: Average monthly household consumption expenditure by religion, caste, and average income of the household

Background Characteristics	**Average Monthly Household Consumption Expenditure (₹)**			**Sample**
	Less than 5000	**5000 - 10000**	**More than 10000**	
Religion				
Hindu	14.8 (32)	38.3 (83)	47.0 (102)	217
Muslim	3.2 (1)	22.6 (7)	74.2 (23)	31
Buddhism	11.1 (1)	66.7 (6)	22.2 (2)	9
Caste				
SC	177 (3)	64.7 (11)	17.7 (3)	17
ST	16.7 (4)	50.0 (12)	33.3 (8)	24
OBC	11.2 (16)	32.2 (46)	56.6 (81)	143
Others	16.2 (12)	36.5 (27)	47.3 (35)	74
Average Income (₹)				
Less than 10000	35.9 (33)	60.9 (56)	3.3 (3)	92
10000 - 30000	0.7 (1)	25.9 (38)	73.5 (108)	147
More than 30000	5.3 (1)	10.5 (2)	84.2 (16)	19
Total	**13.6**	**37.2**	**49.2**	**258**

Note: <10 sample size is given in brackets

Of the respondents having an average monthly income of less than ₹10000, 36% spend less than ₹5000 monthly, about 61% of the respondents range of ₹5000 - ₹10000, and only 3% of respondents spend more than ₹10000. Of the average income of respondents having more than ₹30000, around 11% spend in the range of ₹5000 - ₹10000, and about 84%, the highest portion, spend the category of ₹10000 and above average income every month.

3.5 Health profile of the respondents

Table 3.4 shows the district-wise variations in the respondents suffering from any health issues by background characteristics. Overall, individuals suffering from any health issues are 53% in the Bharuch district and 47% in the Raigad district. Gender is clearly indicating that the percentage of female sample respondents is larger reported suffering from any health issues in the Bharuch district (64%), compared to lower in the Raigad district (36%). A majority of the respondents from Bharuch district suffering from any health issues (83%) in the age group 21-30, followed by the age groups 41-50 (65%), 31-40 (63%), and 60 and older (54%), and at least suffering is from the age group 51-60 (51%). Education is a significant factor that affects social and economic development. Higher levels of literacy are associated with stronger social structures, higher employment rates, better health, and a host of other development indicators. It is clearly showing that illiterates are equally suffering from health issues in both districts. However, the Bharuch district has higher educated respondents as compared to the Raigad district. About 52% of currently married respondents reported suffering from any health issue in the Bharuch district, whereas it is 48% in the Raigad district. By social category, STs (78%) and OBCs (65%) respondents suffer from any health issues in the Bharuch district, and SCs (63%) and other social groups (55%) in the Raigad district.

Table 3.4: District-wise variations in individuals suffering from any health issues by background characteristics

Background Characteristics	**Suffering from any health issues (%)**		**Sample**
	Bharuch	**Raigad**	
Gender			
Male	45.9	54.1	61
Female	63.9	36.1	158
Age Group			
21 - 30	83.3	16.7	12
31 - 40	62.5	37.5	40
41 - 50	65.4	34.6	52
51 - 60	50.9	49.1	57
60+	54.0	46.0	50
Education Level			
No education	50.0	50.0	46
Primary	64.3	35.7	56
Middle	48.8	51.2	43
Secondary	69.5	30.5	59
Higher & above	53.3	46.7	15

Marital Status			
Currently Married	51.6	48.4	186
Others	100.0	0.0 (0)	33
Caste			
SC	37.5	62.5	16
ST	78.3	21.7	23
OBC	64.5	35.5	124
Others	44.6	55.4	56
Religion			
Hindu	55.0	45.0	180
Muslim	100.0	0.0 (0)	30
Buddhism	0.0 (0)	100.0	8
Occupation			
Cultivators	41.3	58.7	46
Labourers	58.3	41.7	48
Working in Public/Private services	66.7	33.3	42
Self-employed	48.0	52.0	25
Not working	74.5	25.5	51
Availability of Health Card			
Yes	62.4	37.7	162
No	49.1	50.9	57
Average Income			
Less than 10000	41.6	58.4	77
10000 - 30000	71.1	28.9	128
More than 30000	42.9	57.1	14
Monthly Expenditure			
Less than 5000	18.2	81.8	33
5000 -10000	56.3	43.8	80
More than 10000	73.6	26.4	106
Total	**52.9**	**47.1**	219

Note: <10 sample size has been put in brackets

Moreover, the respondents from the Hindi religion suffering from any health issue is 55% in the Bharuch district, whereas it is 45% in the Raigad district. However, there are no respondents from Buddhism and Muslim religions in the Bharuch district and the Raigad district, respectively. The distribution of the population among various employment kinds is referred to as occupational structure, and it is classified into five major categories. The percentage of cultivators who are suffering from any health issues is 59% in the Raigad district, and the Highest percentage of respondents working in the public and private services (67%), and surprisingly, about 75% of the respondents reported as not working in the Bharuch district. Nearly half of the respondents who are suffering from any health issues do not have health cards from both districts. In the Bharuch district, the average income of the respondents who are suffering from any health issues is 42%,

71%, and 43% in the categories of less than ₹10000, ₹10000 to ₹30000, and more than ₹30000, respectively and while corresponding figures are 58%, 29%, and 57% respectively in the Raigad district.

3.6 Gender differences in health issues

Gender differences among individuals suffering from any health issues are presented in Table 2. Gender differences among the individuals suffering from any health issues, female respondents report more health issues (72%) compared to males (28%), and the overall gender gap is 44% between males and females. Further, it is notable that the percentage of male respondents who reported having any health problems was highest among those who were 60 years older (32%), while the percentage of female respondents who reported having any health problems was highest among those who were between the age group of 21 and 30 (92%). The percentage of male respondents with at least a primary education who have any health issues is about 36%, but the females who have a higher and above level of education is 87%, and this is 72% among illiterate females. About 70% of the currently married females and 30% of the currently married males in the sample suffer from some form of health issue.

Table 3.5: Gender differences among individuals suffering from any health Issue by background characteristics

Background Characteristics	**Suffering from any health issues (%)**		
	Male	**Female**	**Gender gap**
(1)	(2)	(3)	(4) = (3)-(2)
Age Group			
21 - 30	8.3 (1)	91.7	83.4
31 - 40	30.0	70.0	40.0
41 - 50	21.2	78.9	57.7
51 - 60	29.8	70.2	40.4
60+	32.0	68.0	36.0
Education Level			
No education	28.3	71.7	43.5
Primary	35.7	64.3	28.6
Middle	30.2	69.8	39.5
Secondary	22.0	78.0	55.9
Higher & above	13.3 (2)	86.7	73.4
Marital Status			
Currently Married	29.6	70.4	40.9
Others	18.2 (6)	81.8	63.6
Caste			
SC	31.3 (5)	68.8	37.5
ST	21.7 (5)	78.3	56.6

OBC	26.6	73.4	46.8
Others	32.1	67.9	35.7
Religion			
Hindu	28.3	71.7	43.3
Muslim	20.0 (6)	80.0	60.0
Buddhism	50.0 (4)	50.0 (4)	0.0
Occupation			
Cultivators	43.5	56.5	13.0
Labourers	35.4	64.6	29.2
Working in Public/Private services	14.3 (6)	85.7	71.4
Self-employed	16.0 (4)	84.0	68.0
Not working	27.5	72.6	45.1
Availability of Health Card			
No	25.9	74.1	48.1
Yes	33.3	66.7	33.3
Average Income			
Less than 10000	29.9	70.1	40.3
10000 - 30000	26.6	73.4	46.9
More than 30000	28.6 (4)	71.4	42.8
Monthly Expenditure			
Less than 5000	30.3	69.7	39.4
5000 -10000	20.0	80.0	60.0
More than 10000	33.0	67.0	34.0
District			
Bharuch	21.7	78.3	56.6
Raigad	36.7	63.3	26.7
Total	**27.9**	**72.2**	**44.3**

Note: <10 sample size has been put in brackets

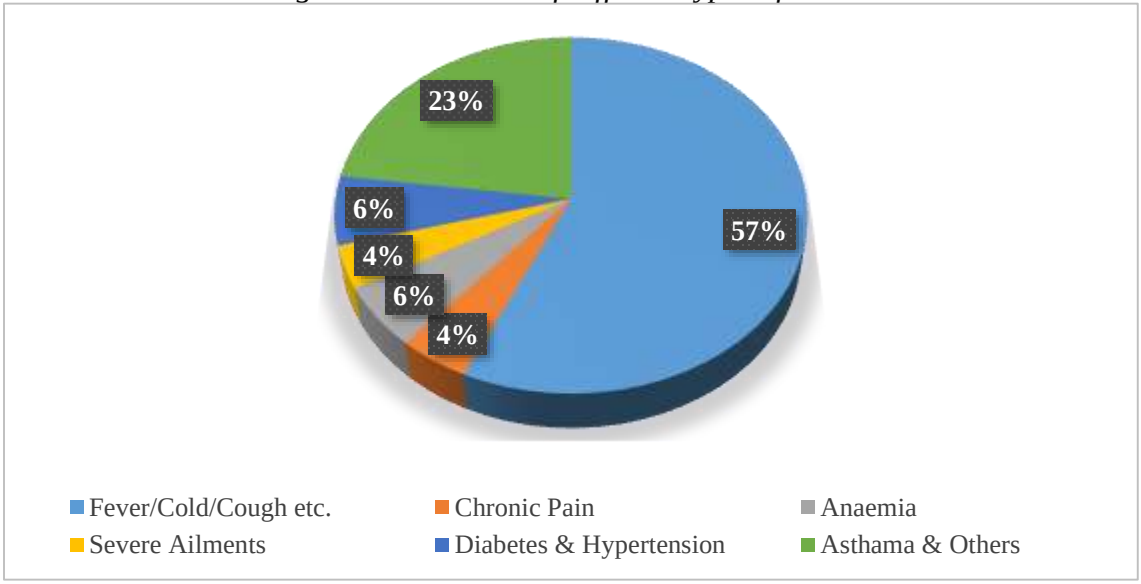
Moreover, about 78% of ST females and 32% of males who are from other social categories reported suffering from any health issues. About 80% of Muslim females and 50% of Buddhist males reported suffering from any type of health issue. A total of 44% of the male cultivators and 86% of the female sample respondents who work in public or private services are suffering from any health issues. The percentage of the sample who suffer from any health issues and are without health cards among males and females are 26% and 74%, respectively.

3.7 Type of illness

The type of illness is classified into six major categories; they are, severe ailments, Chronic Pain, Anaemia, Diabetes & Hypertension, Fever/ Cough/ Cold, etc., and Ashthama & Others. Figure 3.3 shows the percent of different types of illness in both districts. In the last year (January 2022 – December 2022), 57% of the respondents or their household members suffered either from fevers

or cough/cold, followed by 6% each with diabetes & hypertension, and anaemia, 4% each with Chronic pain and severe ailment and 23% with asthma and other diseases.

Figure 3. 3: Percent of different types of illness



3.8 Healthcare expenditure

India has one of the lowest cost levels for medicines globally, and pharmaceutical underuse is predominant owing to limit or no access to essential medicine for nearly 68% of the population. In addition, over three-fourths of all healthcare payments are paid out-of-pocket at the point of service delivery, while medicine purchase account for the single largest component of these payments (Selvaraj S et al., 2018; Ambade M et al., 2022). Therefore, healthcare expenditure is a significant indicator in assessing individuals' health status and well-being.

Table 3.7 presents the component-wise health expenditure incurred by the patients at the point of service delivery in both districts. There is no significant difference in the health expenditure for the patients at government facilities and MHUs as the health expenditure for the patients in the government facilities was an average of ₹172 (Range: ₹0 - ₹600), where the travelling cost attributed for the most with an average expenditure of ₹131, whereas the health expenditure for the patient was only just ₹7 (Range: ₹0 - ₹30) in MHUs, of which majorly accounted for consultation fees (₹7). Further, an average of ₹2899 (Range: ₹80 - ₹15500) was incurred as total health expenditure for patients who received treatment from private facilities. Medicine has the largest contribution to health expenditure with an average ₹1869 followed by diagnostic charges

(₹648) and Consultation fees (₹196). Ambade et al. (2022) and Selvaraj et al. (2018) reported similar findings in their studies that the cost of medicine accounted for the major part of the health expenditure, followed by doctor's consultation fees and diagnostic charges.

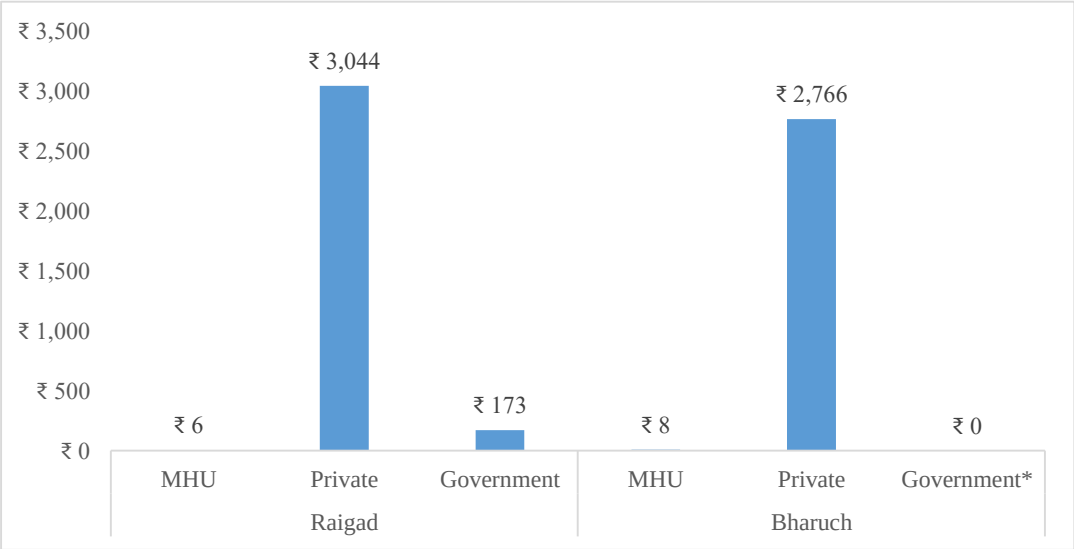
Table 3.6: Component-wise overall average health expenditure in Raigad district of Maharashtra and Bharuch district of Gujarat

Place of Treatment	Total Patients	Total Avg. Health Charge	Travelling Cost	Consultation Charge	Diagnostic Charge	Medicine Cost
MHU	178	₹ 7	₹ 0	₹ 7	₹ 0	₹ 0.1
Private	62	₹ 2,899	₹ 185	₹ 196	₹ 648	₹ 1,869
Government	14	₹ 172	₹ 131	₹ 9	₹ 4	₹ 29

3.8.1 District-wise Health Expenditure

Figure 3.3 shows the average health expenditure in both the districts, i.e., Raigad and Bharuch. There is no significant difference between the health expenditures in the districts. Only ₹6 has been spent in Raigad, and ₹8 has been spent in Bharuch as health expenditure, which mainly accounted for the consultation case paper for the patient who received treatment from MHUs. While for the patient who received treatment from private facilities, the average health expenditure was ₹3044 in Raigad and ₹2766 in Bharuch. The average health expenditure was ₹173 for the patients who received treatment from the government facilities in the Raigad district.

Figure 3. 4: Average health expenditure in Raigad and Bharuch districts



*There was only one case who went to the government hospital for treatment for his/her minor illness.

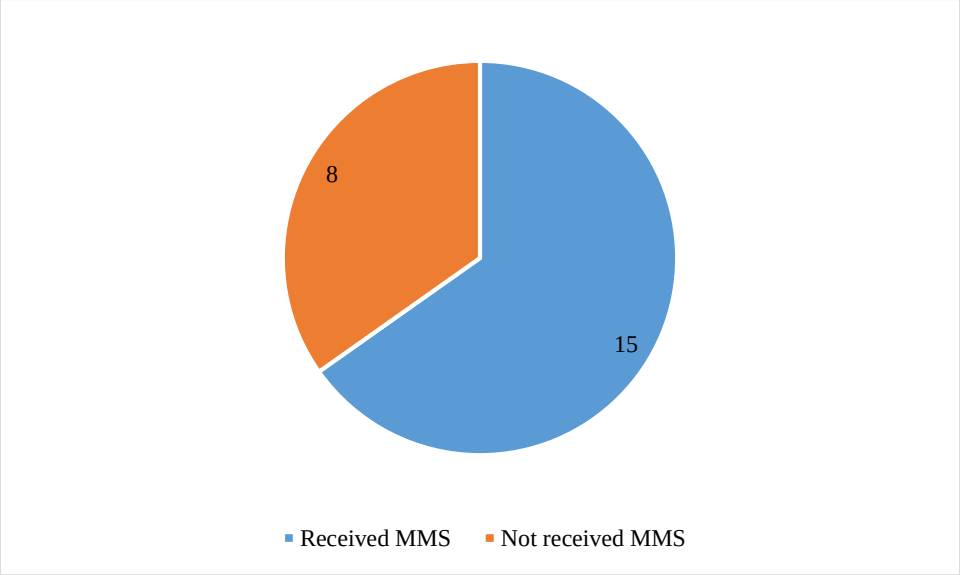
3.8.2 Multi-Micronutrients Supplements

Micronutrient deficiencies are especially a concern in low- and middle-income countries (LMICs) owing to inadequate consumption of food, a lack of dietary diversity, and poor absorption of nutrients due to infection, inflammation, and chronic illness (Baily RL et al. 2015). This kind of malnutrition can have several immediate and long-term consequences, including stunted growth, a higher risk of acquiring infections, and poor development outcomes, all of which may lead to a child not achieving their full potential.

During COVID-19, the services of Anganwadi Centres were disrupted and have affected the health and nutrition of several pre-school going children and lactating and pregnant mothers from poor households. In order to ensure the continuation of supply of supplementary nutrition in the age group of malnourished children 3-5 years (having Z score <-2 SD), Deepak Foundation initiated the provision of multi-grain energy-dense laddoos or energy-dense groundnut chikki to 250 malnourished children on regular intervals to support their nutritional requirements (Deepak Foundation, 2020).

Among the household with underweight children, 15 have received the multi-micronutrient supplements from the physician free of cost, and the remaining have not received them (Figure 3.4).

Figure 3. 5: Number of parents who received Multi-micronutrient supplements (MMS) for their children from the physician free of Cost



3.9 Summary

This chapter presents the household profile and health status of the respondents of the study to assess the impact evaluation of Mobile Health Unit services in the districts of Bharuch (Gujarat) and Raigad (Maharashtra) in India. Overall, the study sample shows that about 93% of the respondents have ration cards and 58% of the respondents fall under the BPL, and 42% of them come under the APL. About half of the respondents (49%) average monthly household consumption expenditure is more than ₹10000, and 38% and 14% of the respondents' average expenditure is ₹5000 - ₹10000 and less than ₹5000 groups respectively.

Overall, about 53% and 47% of the individuals suffering from any health issues, and average health expenditure is ₹2899 if the patient is availing treatment from private facilities, which comes down to ₹172 in the government facilities and just ₹7 in the MHUs. Most of this health expenditure was accounted for the purchase of medicines in the private facilities and travelling costs in the government facilities.

CHAPTER 4: AWARENESS, AVAILABILITY, AND ACCESSIBILITY OF MHU SERVICES

4.1 Introduction

The services provided by the MHU are available to all the people in the selected areas. It is essential that every person in the chosen area must be aware of the services provided by the MHU. So that it will be easy to take advantage of the services provided by MHU, it is essential to have the availability and accessibility of the MHU services provided by the Deepak foundation. So that every person in the selected village can benefit from the MHU services, no person should be excluded from taking advantage of these services.

Deepak foundation provides doorstep medical services free of cost through MHU. MHU visits each selected village every 15 days. The place of vehicle was selected as the center of the village so that it would be easily accessible to every person. Assessing the easy accessibility of MHU services to the beneficiaries in the selected villages is one of the important objectives of this study. As MHU provides services in rural and tribal areas, most people are illiterate and lack knowledge about their surroundings. So it is the responsibility of MHU staff to make awareness about the services in the surrounding areas. Also, these services must be easily available to these poor people.

MHU provides curative medical health services. Also, it is engaged in arranging health camps, specialized health camps, Adolescent anaemia programmes, Underweight children programmes, counselling of the people, etc. For this study, we have selected the villages from the Roha block of the Raigad district of Maharashtra and the Vagra block of the Bharuch district of Gujarat. The MHU services and key findings are evaluated for only two selected districts.

4.2 Awareness of MHU services and health camps

As we discussed above, awareness of MHU services is one of the essential factors of our study. The people in the selected areas should be aware of the services provided by the MHU, so they can easily visit the MHU vehicle when the MHU visits once a 1days. The Population Research Centre Pune has conducted a survey to evaluate the MHU services. A sample of 258 respondents was collected from the survey using a questionnaire.

Table 4. 1: Percentage of respondents aware about the MHU's services

Background Characteristics	% of respondents aware about the MHU Services			Sample
	Bharuch	Raigad	Combined	
Gender				
Male	100	90	94.3	71
Female	100	91.3	96.2	186
Age Group				
21 – 30	100	100	100	12
31 – 40	100	92.5	96.1	52
41 – 50	100	96.3	98.3	62
51 – 60	100	90.9	95.4	66
60+	100	82.1	91.2	57
Education Level				
No education	100	84	92.4	53
Primary	100	86.9	95	60
Middle	100	91.1	94.6	56
Secondary	100	100	100	67
Higher & above	100	92.8	95.4	22
Marital Status				
Currently Married	100	90.9	95.0	222
Others	100	NA	100	36
Caste				
SC	100	63.6	76.4	17
ST	100	60	91.6	24
OBC	100	98.3	99.3	143
OTHERS	100	91.4	94.5	74
Religion				
Hindu	100	93.7	96.7	217
Muslim	100	NA	100	31
Buddhism	NA	55.5	55.5	9
Occupation				
Cultivators	100	94.8	96.6	60
Labourers	100	90.9	96	50
Working in Public/Private services	100	95.6	98.0	52
Self Employed	100	73.6	83.8	31
Not working	100	93.7	98.2	58
Average Income				
Less than 10000	100	89.8	93.4	92
10000 – 30000	100	96	98.6	147
More than 30000	100	76.9	84.2	19
Total	**100.0**	**91.0**	**95.7**	**258**

Table 4.1 shows the % awareness of MHU services among the respondents of the Bharuch and Raigad districts. The awareness of MHU services is significant in female compared to male

respondents. i.e., about 96% of females have more knowledge regarding MHU than 94% of males from both districts. Also, the respondents in the age group 21-30 have 100% awareness in both districts compared to the other age groups. As per the above table, respondents in the Bharuch districts have 100% awareness of MHU services in all age groups. All respondents in the Bharuch district agreed that they are 100 % aware of the Mobile Health Unit services by their background characteristics. About 96% of respondents in the age group 41-50 are aware of MHU in the Raigad district. Approximately 84 % of illiterate respondents and 87 % of respondents who have attained primary schooling of education in Raigad district are aware of the MHU services. About 100 % of respondents who have attained secondary education know about MHU services. About 91 % of respondents who have attained middle schooling and 93% who have achieved higher education have significant awareness in the Raigad district. Approximately 91% of married respondents are aware of MHU in the Raigad district.

Only 64% of the SC caste and 60% of ST respondents are aware of the MHU services in the Raigad district. Approximately 98% of OBC respondents and 91% of other caste respondents are aware of MHU services available in the Raigad district. Also, 94% of Hindu respondents know about MHU services. No Muslim respondents have reported in the Raigad district. Similarly, No Buddhist respondents have reported in the Bharuch district. Only about three-forth (74 %) of respondents in the self-employed category are aware of the MHU services. The other occupation categories of respondents have reported awareness about MHU services for greater than 90%. About 90% of respondents whose income is less than Rs 10000 are aware of MHU services in the Raigad district. Similarly, about 96% of respondents with an income range of Rs 10000-30000 are aware of MHU services. Three-forth (77%) of respondents whose income exceeds Rs 30000 have knowledge about MHU.

The Mobile Health Unit (MHU) conducted health camps for people on different topics. As the people in the rural and tribal areas are illiterate, and they lack knowledge about health and hygiene. Therefore, MHU staff conducted health camps on health, hygiene, nutrition, menstrual hygiene, anaemia, malnutrition, adolescent health, etc. So that people can get some knowledge about the prevention of diseases. MHU conducted two different types of health camps, i.e., one is a general health camp in which general physicians visit other is a specialized health camp in which

specialized doctors like dermatologists, orthopedics, and pediatricians are called for the health camp

Table 4.2 Percentage of respondents aware of the health camps

Background Characteristics	% of respondents have awareness about the Health Camps			Sample
	Bharuch	Raigad	Combined	
Gender				
Male	70.9	20	42.2	71
Female	80.9	22.2	55.3	186
Age Group				
21 - 30	80	100	83.3	12
31 - 40	68	18.5	42.3	52
41 - 50	85.7	3.7	50	62
51 - 60	72.7	21.2	46.9	66
60+	86.2	32.1	59.6	57
Education Level				
No education	75	24	50.9	53
Primary	83.7	30.4	63.3	60
Middle	86.3	11.7	41	56
Secondary	75.6	23	55.2	67
Higher & above	62.5	21.4	36.3	22
Marital Status				
Currently Married	78	21.3	78.2	222
Others	80.5	0	21.8	36
Caste				
SC	100	0	35.2	17
ST	73.6	20	62.5	24
OBC	78.5	22	55.2	143
Others	77.7	25.5	44.5	74
Religion				
Hindu	83.8	23.2	52.5	217
Muslim	61.2	0	61.2	31
Buddhism	NA	NA	NA	9
Occupation				
Cultivators	66.6	17.9	35	60
Labourers	85.7	27.2	60	50
Working in Public/Private services	72.4	26	51.9	52
Self Employed	83.3	5.2	35.4	31
Not working	83.3	18.7	65.5	58
Average Income				
Less than 10000	78.7	13.5	36.9	92
10000 - 30000	77.3	28	60.5	147
More than 30000	100	30.7	52.6	19
Total	**78.7**	**21.5**	**51.8**	**257**

Table 4.2 shows the percentage of awareness of respondents about health camps. From the above table, it is clear that most female respondents are more aware of the health camps than males in both districts. Only respondents in the age group 21-30 are 100% aware of the Raigad district. Awareness about the health camps is more significant in the Bharuch district compared to the Raigad district by age group. The percentage of awareness is more significant in the Bharuch district's age groups. Similarly, if we look at the education level of respondents, awareness about health camps is more significant in the Bharuch district of Gujarat. Again, if we look at all the remaining background characteristics like marital status, caste, religion, occupation, and average income, it clearly shows that the percentage of awareness about health camps conducted by MHU is more significant in the Bharuch district of Gujarat than Raigad district of Maharashtra.

Table 4.3: Frequency of health camps conducted by MHU, district-wise.

Frequency of Health Camps	**Bharuch**	**Raigad**	**Sample**
Once in Three months	83	12	95
Once in Six months	15	8	23
Total	**98**	**20**	**118**

The above table 4.3 shows the frequency of health camps conducted by the Deepak Foundation (DF). Out of 258 respondents, a total of 118 respondents gave information about the frequency of health camps conducted by DF. Ninety five respondents agreed that the health camps were conducted once in three months, of which 83 respondents are from Bharuch district and 12 from Raigad district. Similarly, 23 respondents reported that health camps were conducted once in a six-month period, of which 15 respondents were from the Bharuch district and eight were from the Raigad district.

4.2.1 Source of awareness

According to the above table (**Table 4.1**), the majority of the people in the selected villages knew about the Mobile Health Unit services in the selected areas. But it is important to understand how these people gain knowledge about MHU services. The Anganwadi workers (AWW), ASHA workers, family, or friends were the source of providing information about the Mobile Health Unit services.

Figure 4. 1: Source of awareness of MHU services

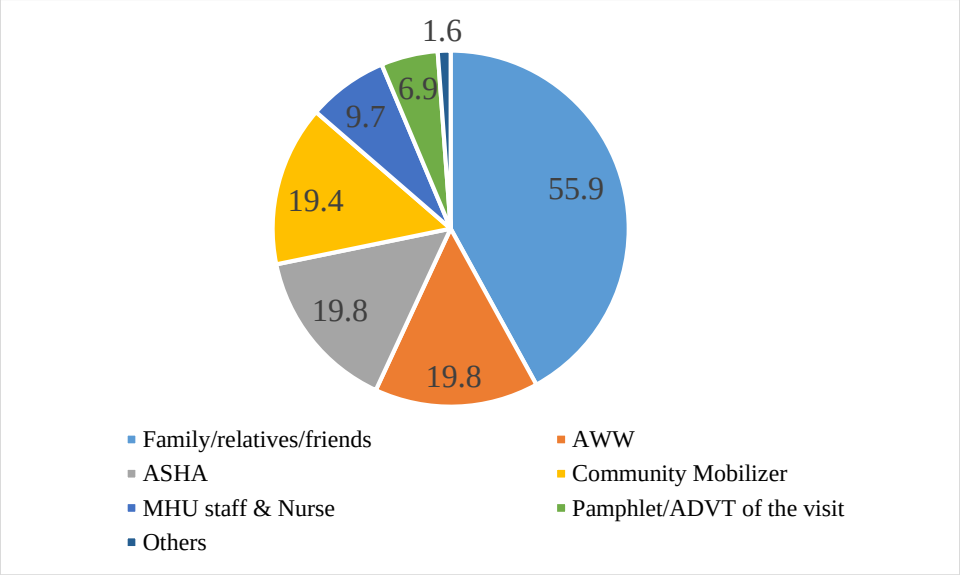


Figure 4.1 shows the source of awareness of MHU services in both districts. From the above figure, it is clear that the most significant source of awareness of MHU services is family, relatives, or friends, which accounts for about 56%. Aanganwadi and ASHA workers created similar awareness among the people, which accounts for 20 each%.

4.2.2 Mode of awareness (IEC components)

The information, education, and communication (IEC) material plays a vital role in creating awareness and disseminating information regarding the benefits of any scheme or project. IEC material can be in the form of posters, stickers, pamphlets, leaflets, banners, etc. So, the Deepak Foundation provided a set of IEC materials to the people in each selected village. The IEC material included pamphlets, booklets, advertisements for MHU visits, etc. The fig. 4.1 shows that about 6 % of respondents agreed that IEC materials created awareness about MHU services. The proportion is not that great, but it plays a vital role in creating awareness. Out of the other sources of creating awareness counts for around 29%.

4.2.3 Awareness and counselling conducted by MHU

MHU provided services like different types of health camps and services of counselling to the people in the selected villages. Counselling is very important in providing preventive services to

the community. It was one of the objectives of the MHU services. Also, it is a very important activity to educate the community on different topics such as health, nutrition, and hygiene practices. Mobile Health Unit services provide two types of counselling and awareness sessions. i.e., one is individual counselling, and the second is group counselling. In group counselling, many people accounting for 30-40 people, were counselled, and awareness sessions were conducted for those people. The communication medium to create awareness among the people was charts, posters, counselling of people, ASHA workers, etc.

Individual counselling was given to pregnant women, lactating mothers, other women, adolescent girls, etc. The group counselling was also given to pregnant women, lactating mothers, other women, adolescent girls, and addicted people. The topics covered under the group counselling were a balanced diet, preventive care during pregnancy, dietary diversity, information on diseases, nutrition, etc. Around 47% of respondents were aware of the individual counselling given by MHU, and around 84% were aware of the group counselling.

Figure 4.2: Percentage of awareness and counselling done by MHU.

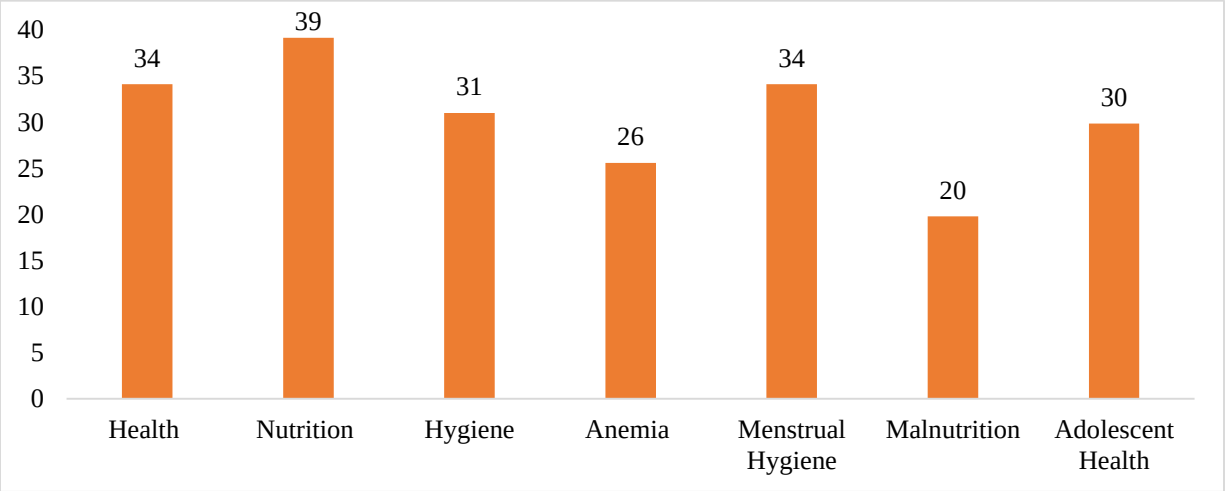


Figure 4.2 shows the types of awareness and counselling arranged by Mobile Health Unit services. Around 34% of respondents agreed that MHU conducted awareness and counselling on health and menstrual hygiene. 39% of respondents agreed that MHU conducted awareness and counselling on nutrition. Around 31% of respondents said that MHU conducted awareness and advising on hygiene. Also, 26% of respondents agreed about awareness and counselling on anaemia, and 30 % of respondents agreed that the Mobile Health Unit services conducted awareness and counselling on adolescent health.

4.3 Availability of MHU services

Each mobile health unit provides for the health needs of 20 villages and patrols all the villages within its scope once every 15 days. The services rendered by these MHUs include curative healthcare, addressing reproductive and child healthcare issues, counselling for family planning, sanitation, hygiene, nutritional awareness, and overall lifestyle modification for well-being. Also, it provides preventive health services through periodic health camps for screening and referrals. MHU staff's responsibility is to be available for the people in selected areas once every 15 days. There are different services provided by the Mobile Health Units, like conducting OPD, conducting counselling, organizing health camps, adolescent anaemia programmes, underweight children's programmes, etc.

4.3.1 Type of health services from MHU

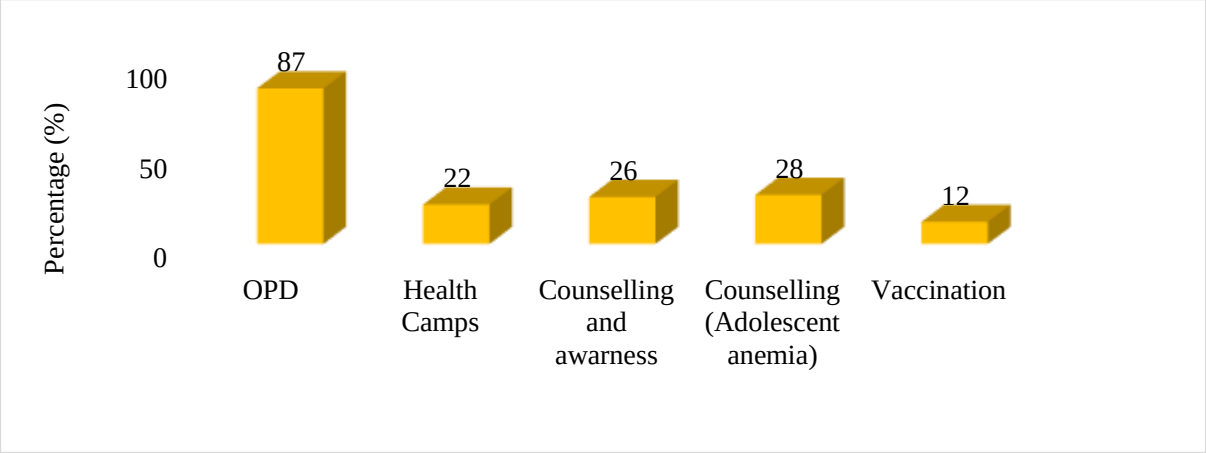
The major types of health services provided by the Mobile Health Units are as follows:

1. **Conducting OPD**: Conducting an Out-patient Department (OPD) is the primary responsibility of the MHU team. The commonplace of OPD is decided under the guidance of local people from every village. It must be convenient for the people living in that village, preferably at the center of the village, so villagers can easily benefit from MHU. The medical officers examine the patients who visit the OPD. The medicines suggested by the doctor have to be explained to the patients by the nurses available at the OPD.
2. **Conducting counselling**: Conducting counselling is another service provided by the MHU. The majority of people in rural and tribal areas are illiterate. They need to learn about the different types of diseases, preventions, curative measures, nutritional values of food, etc. Therefore, it is essential to counsel and guides them about the questions they have in their mind. Counselling of people is also done by the counsellors available at MHU.
3. **Organizing health camp**: Health camp is another component of MHU which is different from OPD. MHU organizes two types of health camps, one is a general health camp, and the second is a specialized health camp. In general health camps, MBBS doctors and physicians are called for the camp, and specialists like Dermatologists, Orthopedic Pediatricians, etc., are called in specialized health camps.
4. **Adolescent anaemia programme**: This programme focused on village adolescent girls.

Due to a lack of nutrients like iron deficiency, anaemia is found in most adolescent girls. To reduce the rate of anaemia in adolescent girls, MHU has been working on adolescent girls in rural areas. By taking regular follow up of these anaemic girls and providing proper nutritional supplements and iron-rich recipes to these girls, the proportion of anaemia can be reduced.

5. **Underweight children's program**: Underweight Children's Programme focuses on underweight children aged 0-5 in the villages. Insufficient food nutrition and repeated infectious diseases lead to undernutrition, further stunting, and wasting in children. MHU provides nutritional support and regular follow-up of these underweight children.

Figure 4.3: Types of Health Services provided by MHU (in %)



The above fig. 4.3 shows the types of health services provided by the Mobile Health Units. Around 87 % of respondents availed of OPD services from MHU. About 22 % of respondents availed of the benefit of health camps from the MHU. Similarly, 26% of respondents took advantage of counselling and awareness sessions conducted by MHU, and 28% of respondents took advantage of counselling for adolescent anaemia from the MHU. Near about 12% of respondents reported that they benefited from vaccination services from MHU. A total of 223 respondents availed of the benefits of MHU services from both districts. Of these, 125 respondents are from the Bharuch district of Gujarat, and 98 are from the Raigad district of Maharashtra.

4.3.2 Healthcare services available in the health camp

Table 4.4 shows the percentage of people in two different regions, Raigad and Bharuch, who received various healthcare services in a health camp. In Raigad, only 21.3% of people were aware

of the health camps, while in Bharuch, 78.7% of people were aware. The second row indicates the percentage of family members who visited the health camps. In Raigad, 53.8% of people's family members visited the health camps, while in Bharuch, 80.4% of people's family members visited. The third row indicates the percentage of specialist doctors who came to the health camps. In Raigad, 85.7% of specialist doctors came, while in Bharuch, 69.8% of specialist doctors came. The fourth row indicates the percentage of people who received treatment from specialist doctors. In Raigad, 66.7% of people received treatment from specialist doctors, while in Bharuch, 93.3% of people received treatment. The fifth row indicates the percentage of people who received free medicines in the health camps. In both regions, the percentage was high, with 85.7% in Raigad and 87.2% in Bharuch. The sixth row indicates the percentage of people who received health counseling after treatment. In both regions, the percentage was high, with 92.9% in Raigad and 89.5% in Bharuch. The last row indicates the percentage of people who received nutritional guidance from MHU HC. In Raigad, 71.4% of people received nutritional guidance, while in Bharuch, 90.7% of people received it.

Table 4.4: Healthcare services available in the health camp at Raigad and Bharuch district in Maharashtra

Awareness and Healthcare services	**Raigad**	**Bharuch**	**Total**
Awareness of Health Camps	21.3 (28)	78.7 (105)	133
Family members visited health camps	53.8 (14)	80.4 (86)	100
Specialist doctors come to health camps	85.7 (12)	69.8 (60)	72
Treatment received from Specialist doctors	66.7 (8)	93.3 (56)	64
Free medicines in the health camps	85.7 (12)	87.2 (75)	87
Health counseling after treatment	92.9 (13)	89.5 (77)	90
Received nutritional guidance from MHU HC	71.4 (10)	90.7 (78)	88

4.4 Accessibility of MHU services

Accessibility of MHU services is one of the important factors in availing of the benefits of the services. It is the services of MHU must be accessible to every person from the selected villages. The place of the MHU visit must be convenient for all the people in the village. Therefore, the place of the MHU vehicle, the place of OPD, and the place of the health camp were decided with

the consensus of the village leaders. Thus, the place must be the center of the village so that villagers from the whole village can benefit from MHU. In the case of a large village, the halt point for OPD was decided as more than one or two depending on the hamlet and population of the village.

4.4.1 Outreach of MHU

Around 239 respondents agreed that the place of the MHU visit was within walking distance for them. According to the respondents, in the past year, MHU has visited a maximum of 24 times in the selected villages. For the Bharuch district, 55 respondents reported as MHU has visited 24 times in their village. From the Raigad district, around 57 respondents reported as the MHU visited 24 times in the selected villages. Those respondents who have yet to avail the benefits of MHU were around 10% of the total collected sample from both districts. Around 8.% of respondents from Bharuch district and about 11.8% of respondents from Raigad district did not avail the benefits of MHU. The reason for this was that approximately three respondents did not hear about the MHU services, about five respondents had no idea about the MHU service, four respondents reported that it was too far from their home, and five respondents' opinion was the MHU service vehicle left early before reaching them at the place.

4.5 Impact of camps and counselling services

MHU provided services of different types of health camps and services of counselling to the people in the selected villages. Counselling is essential in terms of providing preventive services to the community. It was one of the objectives of the MHU services. Also, it is a very important activity to educate the community on different topics such as health, nutrition, and hygiene practices. Two types of counselling were done by MHU, i.e., one is individual counselling and the other group counselling. Individual counselling was given to pregnant women, lactating mothers, other women, adolescent girls, etc. Group counselling is also given to pregnant women, lactating mothers, other women, adolescent girls, and addicted people. The topics covered under the group counselling were a balanced diet, preventive care during pregnancy, dietary diversity, information on diseases, nutrition, etc. Around 47% of respondents were aware of the individual counselling given by MHU, and approximately 84 % of respondents were knowledgeable about group counselling. Around 62 respondents benefited from the awareness sessions and group counselling

done by the MHU. Of these, 51 respondents are from the Bharuch district, and only 11 are from the Raigad district. Also, different health days were celebrated through these awareness and counselling sessions. But only 18 % of total respondents agreed on this topic. Similarly, recipe demonstrations on nutrition-related topics were s conducted during this awareness and counselling session. This also accounts for only 24% of the respondents agreeing on this topic.

4.6 Importance of vaccination

Vaccination is an important public health tool that helps to prevent the spread of infectious diseases. Vaccines are designed to protect people against serious and potentially deadly diseases such as measles, polio, tetanus, and whooping cough. It can prevent these diseases from spreading and causing widespread illness and death. When a large percentage of a population is vaccinated, it creates herd immunity, which means that even people who are not vaccinated are protected from the disease because the virus cannot spread easily. This is especially important for people who are unable to get vaccinated, such as infants or individuals with certain medical conditions. Vaccines can prevent outbreaks of infectious diseases by preventing the spread of the disease from person to person. This is important because outbreaks can be difficult to control and can lead to widespread illness and even death. Vaccines are a cost-effective way to prevent serious diseases and can save lives. By preventing illness, vaccines also reduce the need for expensive medical treatment and hospitalization. Vaccination is important for protecting public health, preventing outbreaks, and saving lives. It is important for individuals to get vaccinated and for governments and healthcare organizations to support vaccination programs.

Vaccination is an effective public health approach for halting the spread of infectious illnesses. Measles, polio, tetanus, and whooping cough are just a few of the dangerous and possibly fatal illnesses that are protected against by vaccines. It might stop these illnesses from spreading and killing a lot of people. Herd immunity, which implies that even those who are not immunized are protected from the disease since the virus cannot spread easily, is created when a significant portion of a community receives vaccinations. It is crucial for those who cannot get immunized, such as babies or persons with specific medical disorders. Vaccinations can stop infectious illness outbreaks because they stop the disease from spreading from one person to another. This is important because outbreaks can be difficult to control, leading to widespread illness and even death. Vaccines are a cost-effective way to prevent serious diseases and can save lives. It also

reduces the need for expensive medical treatment and hospitalization by preventing illness. Vaccination protects public health, prevents outbreaks, and saves lives. It is important for individuals to get vaccinated and for governments and healthcare organizations to support vaccination programs.

4.6.1 Mission Indradhanush

The Ministry of Health and Family Welfare (MOHFW) started Mission Indradhanush (MI) on December 25, 2014, with the goal of increasing vaccination coverage for all children across India. This initiative immunizes children from all socioeconomic, cultural, and geographical backgrounds in India. The massive job of the campaign is being completed with the help of an integrated and devoted task force, achieving 100% immunization coverage. Every MI activation is meticulously planned, from where camps will be set up to which children will need to be vaccinated and what immunizations would be necessary for the camp. Under this drive, the focus is given to pockets of low immunization coverage and hard-to-reach areas where the proportion of unvaccinated and partially vaccinated children is highest. A total of six phases of Mission Indradhanush have been completed covering 554 districts across the country. It was also identified as one of the flagship schemes under Gram Swaraj Abhiyan (16,850 villages across 541 districts) and Extended Gram Swaraj Abhiyan (48,929 villages across 117 aspirational districts) (Ministry of Health & Family Welfare-Government of India, n.d.)

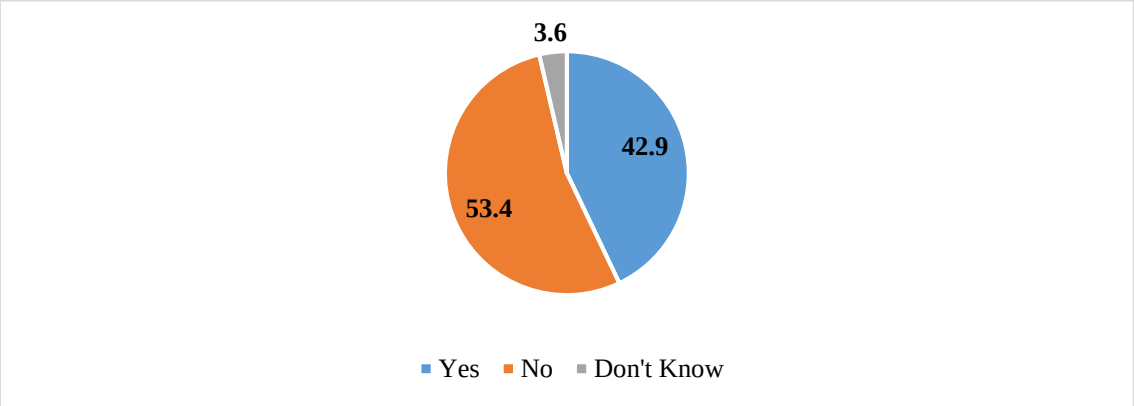
The Government of India has started the Intensified Mission Indradhanush (IMI) to reach every kid under the age of two, as well as all pregnant mothers who have been left out of the usual immunization campaign. The special push focuses on increasing vaccination coverage in certain districts and cities in order to achieve more than 90% coverage by December 2018. Every month between October 2017 and January 2018, four consecutive vaccination rounds were done for seven days in 173 districts - 121 districts and 17 cities in 16 states and 52 districts in 8 northeastern states - under IMI, with a strengthened focus on high-priority districts and metropolitan regions.[1] Mission Intensification Indradhanush covers low-performing regions in selected districts and cities. These locations were chosen by triangulating data from national surveys, the Health Management

Information System, and World Health Organization concurrent monitoring. Particular emphasis will be paid to unserved/low-coverage areas in urban slums and sub-centers with migratory populations. The National Urban Health Mission's urban settlements and cities are also being prioritized (NUHM).

4.6.2 Explained the importance of Vaccination by MHU

The results indicate that around 43% of the respondents have reported that the importance of vaccination was explained to them by MHU, while 53.4% of the respondents have reported that the importance of vaccination was not explained to them by MHU, and 3.6 % of the respondents have told that they are aware of it.

Figure 4.4: Percent of respondents who were explained the importance of vaccination by MHUs health professionals



4.7 Referral Linkages

Effective referral and linkages systems are key to improved service demand and accessibility. In the fragmented care systems of rapidly growing cities, patients can get lost in the shuffle. Whereas health systems may also lack human and infrastructure resources to meet the demand for higher levels of care, where resources are constrained, the few available specialists and underdeveloped emergency medical services may mostly cater to the wealthy, fueling health inequalities (World Bank Group, 2018). At the same time, perceptions of low-quality services in primary care can lead patients to go directly to hospitals for minor disorders or injuries.

The importance of referral is that it is not just the next step in care delivery, but for patients who may need desperate treatment and necessary care, an efficient referral could lead them to a quick recovery. Referrals are frequently required to smooth out the overall patient experience and improve care coordination. At the

same time, tertiary level facilities can provide specialty care, comprehensive care such as diagnostic tests and surgery, and more safety that primary health care providers may not be able to provide. Therefore, a functional referral linkage was needed in remote or inaccessible areas to ensure prompt and appropriate transfer to higher-level care.

In the past few years, Mobile Health Unit (MHU) has provided this referral service to patients during their village visits. In the last year before the survey (**Table 4.5**), a total of 9.7% (24) of the patients had been referred to the higher facilities, of which 5.3% (13) were referred to the private facilities and 4.5% (11) were referred to the government facilities. Besides the general OPD patients, MHU has served during COVID-19 and has referred six patients to higher facilities for better treatment (**Figure #**). In addition, they also referred one underweight child to higher facilities in the last year. While referred, these patients travelled an average distance of 14.7 km (20.8 km for private and 7.5 km for government facilities).

Table 4.5: Referral linkage of MHU with private and government facilities.

Referral Linkages	**Private**	**Government**	**Total (N)**
Yes	5.3 (13)	4.5 (11)	9.7 (24)
Average dist. (for referred HF - km)	20.8	7.5	14.7

Figure 4.5: Total number of patients referred to the higher facilities from OPD during COVID-19 and underweight child

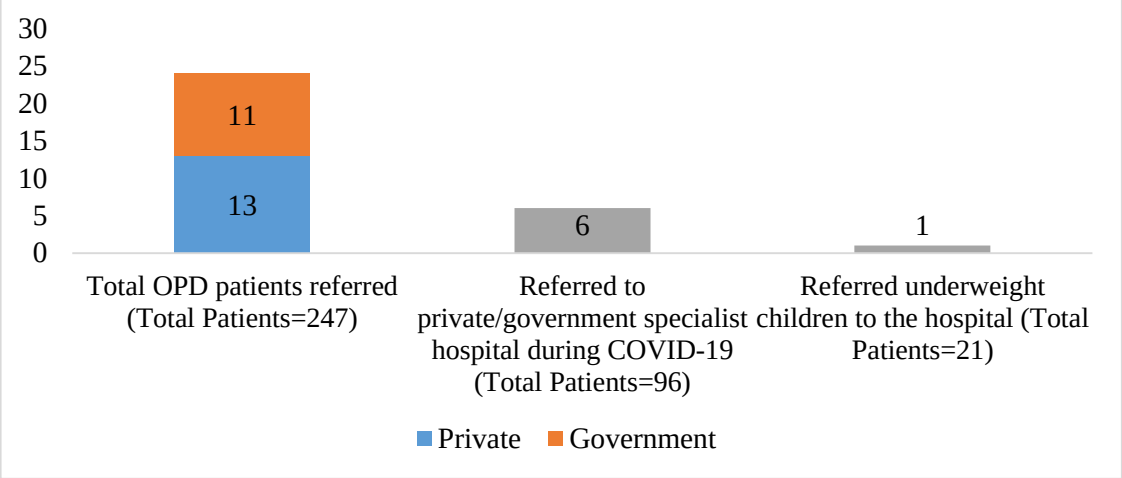


Figure 4.6: List of reasons for the referrals

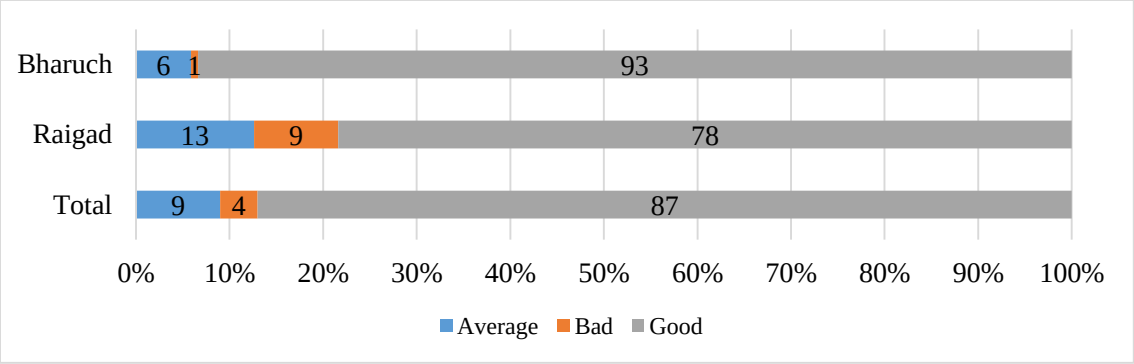
4.7.1 Reasons for the referrals

Among the 24 referral cases, most were referred for severe illness, chest pain, and chronic diseases in private and government facilities. In addition, two cases of diabetes and one case of dengue and severe illness were referred to during COVID-19 (**Figure 4.5**).

4.8 Assessment of the overall treatment received from MHU

The results indicate that the majority of respondents rated their treatment as good (87%). A smaller proportion rated their treatment as average (9%), while a very small proportion rated their treatment as bad (4%). Overall, the majority of respondents were satisfied with the treatment they received from the MHU, while a small proportion was dissatisfied **(Figure 4.6**).

Figure 4.7: Assessment of the overall treatment received from MHU (in %)



4.9 Summary

Awareness about any service is essential in availing of the benefit of that particular service. However, the availability and accessibility of service are necessary for every individual to avail the use of that service. From the above study, awareness of Mobile Health Unit services among the respondents was more significant in the Bharuch district compared to the Raigad district. This is similar to the case of awareness of health camps provided by MHU; respondents in the Bharuch district are more aware of the health camps than the respondents of the Raigad district. The place of the MHU visit was within walking distance of the respondents. OPD (Outpatient department) is one of the important services provided by MHU, and around 87% of respondents received treatment from it. About 71 respondents reported that MHU visited once every three months, which is a critical matter of concern. Only 12 respondents said that MHU visited once every 15 days. MHU conducted health camps and counselling sessions, and most of the respondents benefited from them.

CHAPTER – 5: ANAEMIA

5.1 Introduction

Anaemia is a critical health problem that is very common in India. It is seen in girls, women, men, and children, which affects the growth and development of the individual. It occurs due to the lack of iron nutrients in the body. A deficiency of iron in the body leads to a decrease in haemoglobin level, making the blood thin and less red in colour, which again leads to less oxygen supply to the body, which is called anaemia. Anaemia causes in adolescent girls due to heavy loss of menstrual blood. The age group selected for this is girls between 10-19 years. This chapter mainly focuses on adolescent anaemia.

The Mobile Health Unit of the Deepak foundation conducts the Adolescent Anemia Programme. To reduce the rate of anaemia in adolescent girls, MHU is working on adolescent girls in rural and tribal areas. Regular screening and follow-up of these girls is the responsibility of MHU staff. Maintaining and improving the haemoglobin level in anaemic girls is the responsibility of MHU staff. Also, providing proper counselling about diet and routine checkups is another task for the MHU staff.

5.2 Knowledge of anaemia and counselling

Knowledge and awareness of anaemia are critical factors. As we are screening rural and tribal people in the selected areas, most people are illiterate and lack knowledge about these diseases. Hence, MHU staff provided expertise and counselling on adolescent anaemia.

5.2.1 Knowledge about anaemia

Table 5.1 shows the knowledge about adolescent anaemia in both districts. Among respondents, females (45%)have more knowledge about adolescent anaemia than males (39%). It is more in the Bharuch district of Gujarat, i.e., 70 % of females and 71% of males, compared to 14% of females and 15% of males in the Raigad district of Maharashtra. Similarly, 42 % of respondents in the age group 21-30 know adolescent anaemia and out of which 50 % of respondents are from the Bharuch district of Gujarat. The respondents in the age group 41-50 (49%) are more aware than all other

age groups, followed by the respondents in the age group 60+ (47%). The respondents in the Bharuch district have more knowledge about adolescent anaemia than the Raigad district.

Table 5.1: Knowledge about anaemia, district-wise.

Background Characteristics of the respondents	**% of respondents have knowledge about the anaemia**			**Sample**
	Bharuch	**Raigad**	**Combined**	
Gender				
Male	71.0(22)	15 (6)	39.4	71
Female	69.5 (73)	13.8 (11)	45.2	186
Age				
21 - 30	50 (5)	NA	41.7(5)	12
31 - 40	56 (14)	11.1 (3)	32.7	52
41 - 50	77.1 (27)	11.1 (3)	48.4	62
51 - 60	66.7 (22)	18.2 (6)	42.4	66
60+	86.2(25)	7.1(2)	47.4	57
Education				
No education	75 (21)	16 (4)	47.2	**53**
Primary	78.3 (29)	17.3 (4)	55.0	60
Middle	77.2 (17)	8.8(3)	35.7	56
Secondary	58.5 (24)	11.5 (3)	40.3	67
Higher &above	50 (4)	21.4 (3)	31.8(7)	22
Marital Status				
Currently Married	66 (66)	14.0 (17)	37.4	222
Others	8.6(29)	NA	80.6	36
Caste				
SC	66.7 (4)	NA	23.5(4)	17
ST	57.9 (11)	20 (1)	50.0	24
OBC	76.2 (64)	15.3(9)	51.1	143
OTHERS	59.2 (16)	14.9 (7)	31.1	74
Religion				
Hindu	74.2 (78)	15.2 (17)	43.8	217
Muslim	54.8 (17)	NA	54.8	31
Buddhism	NA	NA	NA	9
Occupation				
Cultivators	76.2 (16)	15.4(6)	36.7	60
Labourers	75(21)	18.2 (4)	50.0	50
Working	51.7 (15)	21.7 (5)	38.5	52
Self Employed	75 (9)	5.3 (1)	32.3	31
Not working	76.2 (32)	6.3 (1)	56.9	58
Average Income				
Less than 10000	66.7(22)	10.1 (6)	30.4	92
10000 - 30000	69.1 (67)	20 (10)	52.4	147
More than 30000	100 (6)	7.7(1)	36.8 (7)	19
Total	**69.9**	**14.2**	**43.8**	**256**

As the higher level of education is related to more knowledge, but this is a reversed case. The respondents who attained only primary schooling (55%) have more knowledge about adolescent anaemia than those who have achieved higher education (32%). Other (separated and unmarried) respondents (81%) have more knowledge about anaemia than married respondents (37%). OBC caste respondents (51%) have greater knowledge, followed by ST (50%), Others (31%), and SC (23 %), respectively. About 44% of Hindu respondents know adolescent anaemia, of which 74% are from the Bharuch district and 15 % are from the Raigad district. All the Muslim respondents (55%) having knowledge of anaemia are from the Bharuch district. About 57% of the non-working respondents have more knowledge about adolescent anaemia, followed by labourers (50%), working in private/government services (39%), cultivators (37%), and self-employed (32 % respectively. Similarly, respondents with an income range of Rs 10000-30000(52%) have more significant knowledge about anaemia, followed by income range greater than Rs 30000 (37%) and less than Rd 10000(30 %). The above table clearly shows that the respondents in the Bharuch district of Gujarat have more knowledge about adolescent anaemia than the Raigad district of Maharashtra.

5.2.2 Group/individual counselling on anaemia

Counselling is essential in delivering knowledge about the disease to people who are unaware. According to the respondents, they have received counselling on adolescent anaemia and haemoglobin. The following figure 5.1 shows the percentage of respondents who have heard about the counselling on adolescent anaemia and haemoglobin. Approximately 58% of the respondents know about counselling, and nearly 42% did not hear about counselling on adolescent anaemia and haemoglobin. MHU staff's responsibility is to educate the people about the same.

Figure 5. 1: Counselling on anaemia and haemoglobin (in %)

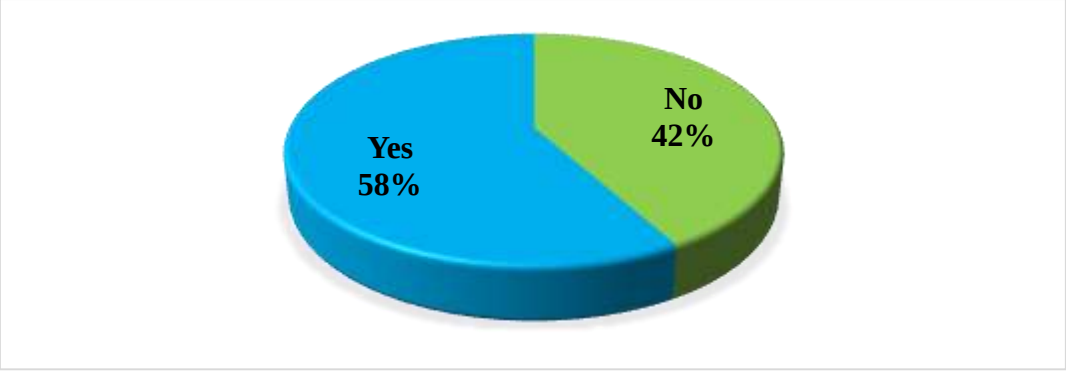


Figure 5. 2: Types of counselling on anaemia (in %)

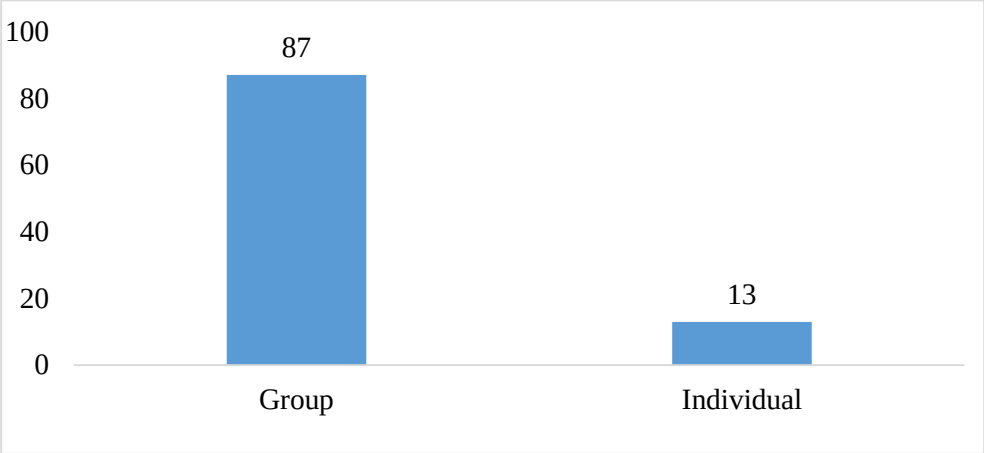


Figure 5.2 shows the types of counselling provided by the MHU services. MHU provided two types of counselling to the people in the selected villages. Approximately 87% of respondents agreed that MHU provided group counselling on adolescent anaemia, and nearly 13 % agreed that MHU provided individual counselling to adolescent girls.

5.3 Anaemia among adolescent girls

MHU provided services to adolescent girls aged 13-19 in the selected villages. Out of 258 respondents, 84 households have adolescent girls in their homes. A total of 52 girls were screened for anaemia. A total of 44 girls from the respondent's families were found anaemic.

Figure 5.3: Percentage of Anaemic Adolescent girls by districts

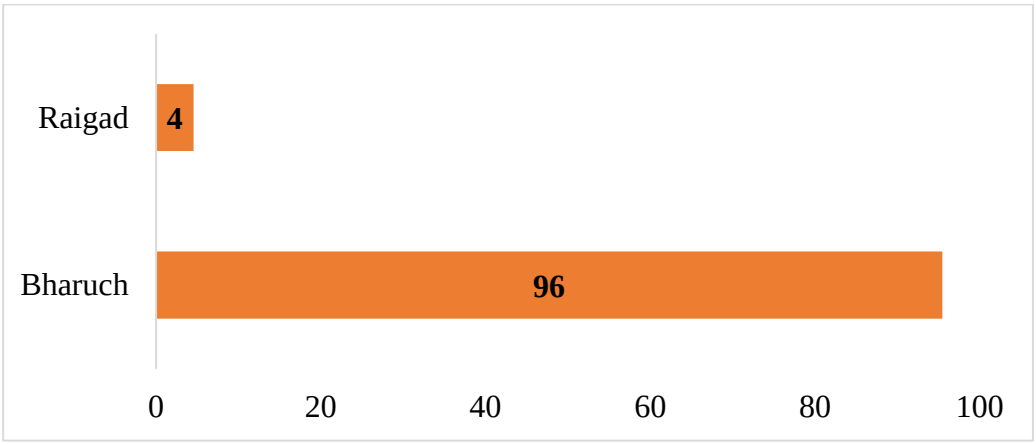
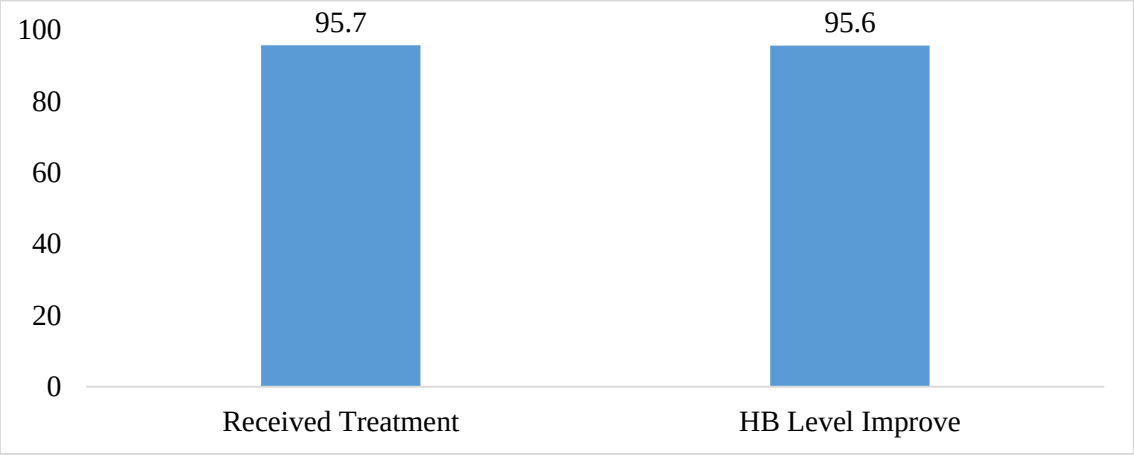


Figure 5.3 shows that approximately 96% of girls were anaemic in the Bharuch district of Gujarat. It means 42 out of 44 girls are from the Bharuch district. Nearly 4% of the anaemic girls are from the Raigad district of Maharashtra. The count is minimal; only two girls from the Raigad district are anaemic.

5.3.1 Treatment and Improvement on HB level

The MHU staff provided treatment to the anaemic girls through medicines, counselling consumption, exercise, providing kits, etc., along with the screening of haemoglobin count for the girls. Among the possible anaemic adolescent girls, 95.7 percent have received treatment from MHU staff. Out of these, 95.6 have reported improvement in the HB levels after the treatment from the MHUs.

Figure 5.4: Percent of anaemic adolescents received treatment and reported improvement in HB level



5.4 Anemia among family members

The respondents were asked different types of questions during the interview. A further question on anaemia among family members was asked to find the anaemic history of adolescent girls. Out of the 258 respondents, about 7% have an anaemic history in their household. A total of 17 respondents' households also have anaemia in their family members. Out of them, 12 family members were females, and 5 were men. The lowest haemoglobin level of these family members was reported as 6.5, and the highest was 13.2, as 13.2 is the average haemoglobin level. Below that, a haemoglobin level of 13 was reported as the highest level.

5.5 Regular check-ups for anaemia

Regular check-ups of anaemic girls are the responsibility of MHU staff. According to the respondent, 53 respondents agreed about the routine check-up done by the MHU. However, 35 respondents disagreed about the routine checkups. A total of 88 respondents answered this question.

5.5.1 Type of treatment given by MHU doctors

Follow-up of any patient is a necessary procedure which helps to identify the patient's progress since the last appointment. Hence, it is a necessary procedure. It is the core responsibility of MHU staff to follow up on patients they checked. Out of 88 respondents, 52 respondents agreed about the follow-up taken by MHU staff, and about 36 respondents disagreed about the same. The different types of treatment provided in the follow-up visit are medicines, consumption expenditure, exercise, etc.

First Follow-Up

MHU staff checked Haemoglobin count in the follow-up visits of the adolescent girls. Figure 5.4 shows that the haemoglobin count of only 48 respondents was checked in the first follow-up, accounting for 55 % of the total 88 respondents. Also, 47 respondents received treatment with medicines, 21 were advised on counselling consumption, 1 suggested exercise, and 5 received other treatment-like kits.

Second Follow-Up

In the second follow-up, the haemoglobin count of only 37 respondents was checked. Similarly, 37 respondents received treatment with medicines, 16 were advised on counselling consumption, only one suggested exercise, and four received kits. The number of patients decreased in the second follow-up.

Third Follow-Up

In the third follow-up, the number of respondents decreased to 34, and their haemoglobin was checked. Again, all 34 respondents received treatment with medicines, 16 were advised on counselling consumption, and only 5 received the kits.

Figure 5.5: Number of respondents whose haemoglobin count is checked in follow-ups.

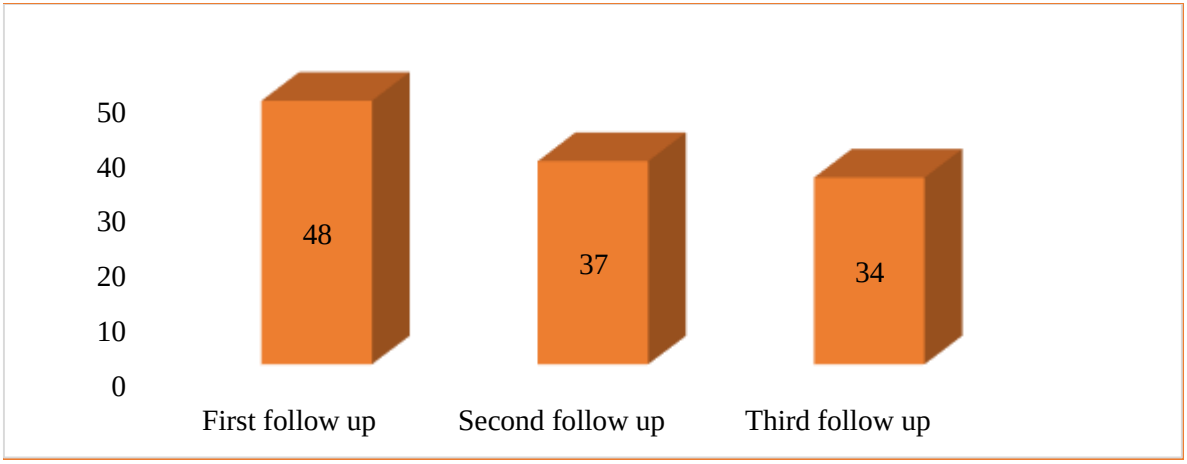
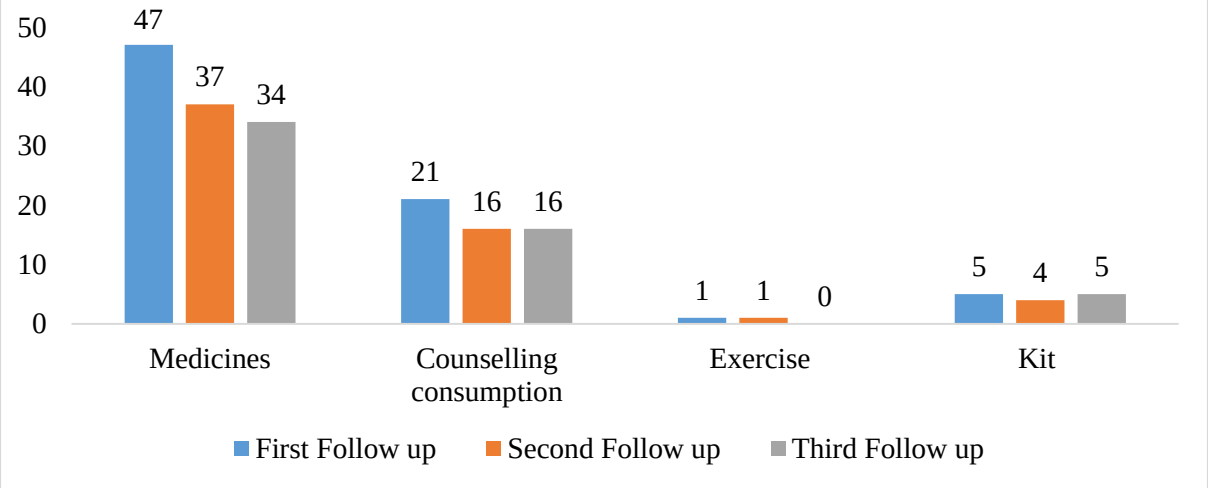


Figure 5.6: Types of treatment received by the number of adolescent girls.



5.5.2 Improvement after treatment

Among the 48 respondents who received treatment in the first follow-up, around 47 respondents (98%) showed an improvement in the HB level. Similarly, 37 Of those respondents who received a second follow-up, all of them showed an improvement in HB level. Again, 34 of the respondents who received a third follow-up, all of them showed an improvement in HB level.

5.5.3 Interval periods between follow-ups

Follow-up of any patient should be done at regular intervals. Some of the respondents reported the interval period between the follow-up of adolescent girls. 22% of the respondents said the follow-up period was 15 days, 25% reported as 30 days, 8% of respondents reported as 60 days, and 25% of them reported it as 90 days.

5.6 Nutritional guidance from MHU

Nutrition plays a vital role in supporting and improving the haemoglobin level in the body. Anaemia is an indicator of poor nutrition and poor health. Therefore, it is essential to provide proper guidance on nutrition intake through a balanced diet. As we have selected people from rural backgrounds, they lack knowledge about a balanced diet and iron-rich food intake in their daily lives. Therefore, it is the responsibility of MHU staff to guide on food availability, safety while cooking, hygiene practices, etc. Out of 53 respondents, 5o respondents (94%) agreed they received nutritional guidance from the MHU staff.

5.6.1 Counselling on eating habits and hygiene

MHU provided two types of counselling to adolescent girls. One is individual counselling, and the other is group counselling. Counselling on eating habits and hygiene is crucial as anaemia directly results from a lack of nutrient-rich food, which leads to poor health. Therefore, the primary responsibility of MHU staff is to guide eating habits and hygiene.

Figure 5.7: Counselling on eating habits and hygiene (in%)

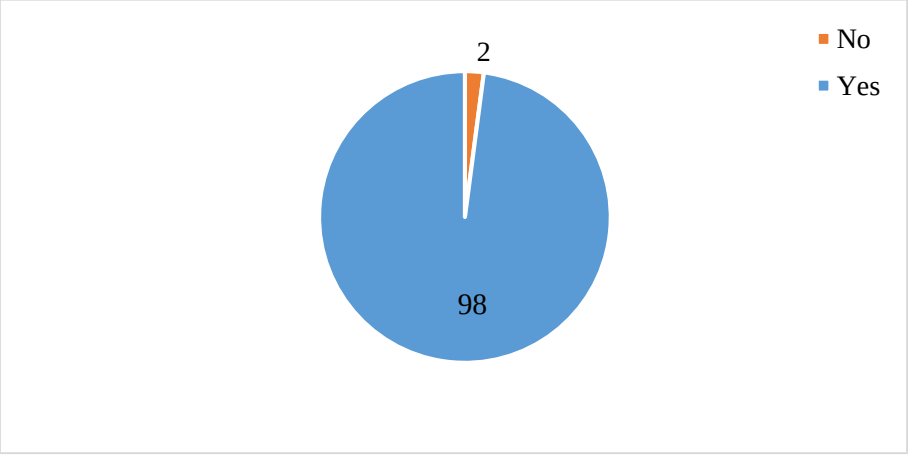


Figure 5.6 shows the percentage of respondents who agreed that MHU staff provided counselling on eating habits and hygiene. Out of 48 respondents, approximately 98% said that MHU provided counselling on eating habits and hygiene. The rest 2% of respondents disagreed on the same.

5.7 Summary

Anaemia is the most common nutritional disorder among adolescent girls. From the above study, most anaemic adolescent girls (96%) are found in the Bharuch district of Gujarat, which counts 42 respondents. Only 4% of respondents, counting only 2, are located in the Raigad district of Maharashtra. Out of the 258 respondents, 52 girls from the respondent's family screened for anaemia, out of which 44 adolescent girls from the respondent's family were anaemic. The treatment was given to these 44 anaemic girls, and out of them haemoglobin level of 43 girls increased. Counselling was provided to adolescent girls through individual and group counselling. 7% of the 258 respondents have a history of anaemia in their family. Also, MHU provided follow-ups to the anaemic patients. The haemoglobin count was checked in the follow-up treatment; 48 respondents received the first follow-up, 37 respondents received the second follow-up, and 34 respondents received the third follow-up treatment from MHU. Also, MHU provided nutritional guidance to about 98% of anaemic patients.

CHAPTER – 6: CHILD MALNUTRITION

6.1 Introduction

This chapter focuses on the knowledge of the respondents about the underweight children program (UCP) conducted by Mobile Health Units and services under the UCP.

6.2 Knowledge of the Underweight Children Program (UCP)

Overall, only 26.4% of the respondents have knowledge about the underweight children program (**Table 6.1**). Among the districts, a higher percentage of the respondents from Bharuch (36%) have knowledge about the UCP than Raigad (16%). Similarly, a slightly higher percentage of the female respondents (26.9%), others (separated and unmarried) respondents (33%), belong to the OBC caste (32%), followers of the Hindu religion (28%), have ration cards (28%), have APL cards (36%), and the respondents have Health cards (42%) have knowledge about the UCP than their counterparts, respectively.

Further, the knowledge about the UCP decreases as the age of the respondents increases, meaning a higher percentage of the younger respondents of age 21 – 30 years (58%) have knowledge about the UCP than the older respondents of age 60 years and above (23%).

Generally, education level plays an important role in the increase in knowledge. However, respondents with a primary level of education (37%) have more knowledge about the UCP than the respondents with a higher level of education (23%). Similarly, labourers (36%) have more knowledge than the self-employed respondents (13%). Further, a higher percentage of the respondents whose income is between ₹10000 – ₹30000 (35%) have knowledge about the UCP than the respondents whose income is less than ₹10000.

In the Bharuch district, males (42%) are more aware of the underweight children program by MHU than females (34%). Similarly, younger respondents (60%) of age 21 – 30 years have more knowledge about the UCP than the older respondents (28%) of age 60 and above. A higher percentage of among the primarily educated (46%), currently married (37%), belong to the OBC category (44%), followers of the Hindu religion (40%), have ration cards (37%), have APL cards (41%), have health cards (73%) and has average income between ₹10000 - ₹30000 (41%) have

knowledge about the UCP than the higher level of education (13%), separated & divorce (33%), belongs to ST category (21%), followers of Muslim religion (23%), did not

Table 6.1: Knowledge of underweight children program conducted by MHU by background characteristics

Background Characteristics	% of respondents have knowledge of the underweight children program conducted by MHU			Sample
	Bharuch	Raigad	Combined	
Gender				
Male	41.9	12.5 (5)	25.4	71
Female	34.3	17.3	26.9	186
Age				
21 - 30	60.0 (6)	50.0 (1)	58.3 (7)	12
31 - 40	28.0 (7)	22.2 (6)	25.0	52
41 - 50	34.3	11.1 (3)	24.2	62
51 - 60	45.5	3.0 (1)	24.2	66
60+	27.6 (8)	17.9 (5)	22.8	57
Education level				
No education	35.7	8.0 (2)	22.6	53
Primary	46.0	21.7 (5)	36.7	60
Middle	36.4 (8)	11.8 (4)	21.4	56
Secondary	31.7	15. 4 (4)	25.4	67
Higher &above	12.5 (1)	28.6 (4)	22.7 (5)	22
Marital Status				
Currently Married	37.0	15.6	25.2	222
Others	33.3	NA	33.3	36
Caste				
SC	33.3 (2)	0	11.8 (2)	17
ST	21.1 (4)	20.0 (1)	20.8 (5)	24
OBC	44.1	15.3 (9)	32.2	143
Others	22.2 (6)	19.2 (9)	20.3	74
Religion				
Hindu	40.0	17	28.1	217
Muslim	22.6 (7)	NA	22.6 (7)	31
Buddhism	NA	0	0.0	9
Occupation				
Cultivators	33.3 (7)	20.5 (8)	25.0	60
Labourers	60.7	4.6 (1)	36.0	50
Working	34.5	13.0 (3)	25.0	52
Self Employed	8.3 (1)	15.8 (3)	12.9 (4)	31
Not working	33.3	18.8 (3)	29.3	58
Availability of Ration Card				
Yes	36.9	17.1	27.8	241
No	16.7 (1)	0	5.9 (1)	17
Type of Ration Card				
APL	40.8	20.0 (5)	35.6	101
BPL	31.5	16.3	22.1	140
Availability of Health Card				

Yes	73.3	12.5 (4)	41.9	196
No	25.5	16.7	21.4	62
Average Income				
Less than 10000	21.2 (7)	6.8 (4)	12.0	92
10000 - 30000	41.2	24	35.4	147
More than 30000	33.3 (2)	23.1 (3)	26.3 (5)	19
Total	**36.0**	**15.6**	**26.4**	**258**

have ration cards, BPL cards (32%), did not have health cards (26%), and have an average income of less than ₹10000 (21%).

In the Raigad district, females (17%) are more about the underweight children program conducted by MHU than males (13%). %). Similarly, younger respondents (50%) of age 21 – 30 years have more knowledge about the UCP than the older respondents (28%) of age 51 – 60 years.

Further, a higher percentage of the respondents have knowledge about the UCP, who has completed a higher level of education (29%), are currently married (16%), belong to the ST category (20%), followed by other social categories (19.2), followers of the Hindu religion (17%), cultivators (21%), have ration cards (17%), have APL cards (20%), did not have health cards (17%) and have an average income between ₹10000 - ₹30000 (24%) than their counterparts.

6.3 Underweight Children Program

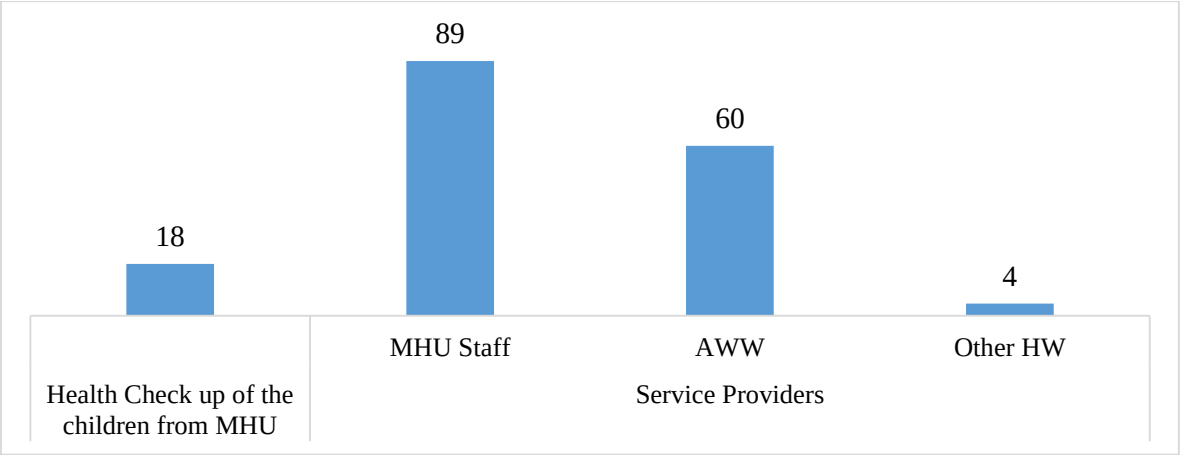
In 2018, the Government of India launched National Nutritional Mission (NNM) to reduce the level of under-nutrition and enhance children's nutritional status in the country. The Aanganwadi Centres play an essential role in implementing the programme at the ground level; however, due to the COVID-19 pandemic, the services of the Aanganwadi Centres were disrupted. In order to the continuation of the supply of supplementary nutrition to malnourished children, Deepak Foundation has initiated the provision of multi-grain energy-dense laddoos or energy-dense groundnut chikki along with regular counselling about the nutrition, food intake, and improving their dietary diversity to the parents/caregivers during the home visits.

6.3.1 Provision of services under UCP

Although in both the district, more than one-fourth of the respondents know the UCP, only 18% of the children from the household of these respondents in both the district have received health

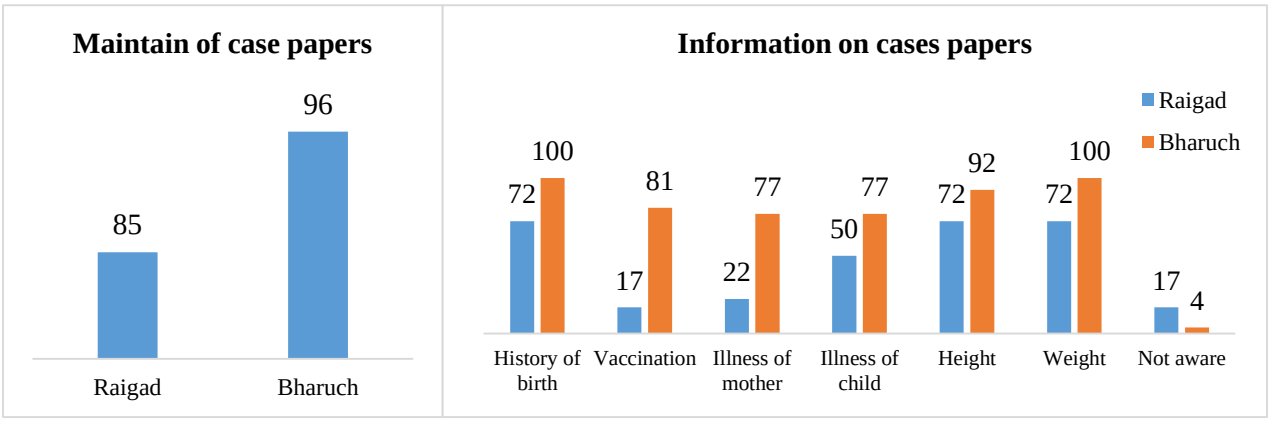
checks–up from MHU in the last year (**Figure 6.1**). Most of those children were checked by MHU staff (89%), followed by AWW (60%).

Figure 6.1: Health check-up of children (in %)



In Bharuch district, all the respondents have reported that health staffs usually maintain 96% of the case papers of the children examined by them, whereas, in Raigad, 86% of the respondent have reported that health staff maintains the case papers (**figure 6.2**). Further, in Bharuch district, more than 77% of the respondent have reported that all the information, such as the history of births, vaccinations, illness of children, height, weight, etc., have been mentioned in the case papers, whereas in Raigad district, 72% of the respondent are reported that only history of birth, weight, and height are usually mentioned in the case papers.

Figure 6.2: Maintenance and information on case papers (in %)



6.4 Underweight children

Table 6.2 shows that 9% of the respondents' households have underweight children. A higher percentage of underweight children are reported from female-headed households (10%), separated & divorced respondents (11%), have ration cards (10%), BPL cards (10%), and have health cards (10%) than the male-headed households (4%), currently married respondents (9%), have APL cards (9%) and did not have health cards (9%).

Similarly, a higher percentage of underweight children are reported in SC households (12%), followers of the Hindu religion (10%), workings respondents households (13%), and less than 10000 of income (10%) as compared to the ST households (8%), followers of Muslim religion (3%), cultivators (3%), and higher income group.

Table 6.2: Percentage of households that have malnourished children by the background characteristics

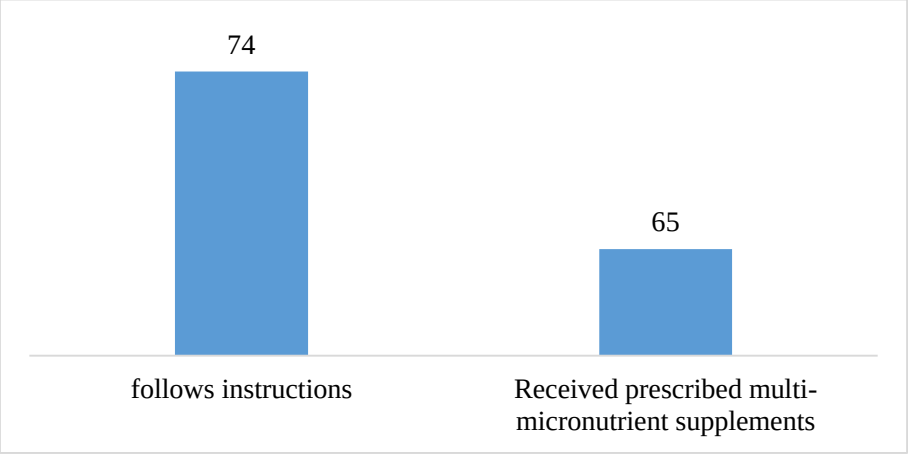
Background Characteristics	% of underweight children	Sample
Gender		
Male	4.2 (3)	71
Female	10.2	186
Age		
21 - 30	25.0 (3)	12
31 - 40	7.7 (4)	52
41 - 50	9.7 (6)	62
51 - 60	7.6 (5)	66
60+	7.0 (4)	57
Education level		
No education	13.2 (7)	53
Primary	5.0 (3)	60
Middle	3.6 (2)	56
Secondary	13.4 (9)	67
Higher &above	9.1 (2)	22
Marital Status		
Currently Married	8.6	222
Others	11.1 (4)	36
Caste		
SC	11.8 (2)	17
ST	8.3 (2)	24
OBC	8.4	143
Others	9.5 (7)	74
Religion		
Hindu	10.1	217

Muslim	3.2 (1)	31
Buddhism	0.0	9
Occupation		
Cultivators	3.3 (2)	60
Labourers	8.0 (4)	50
Working	13.5 (7)	52
Self Employed	12.9 (4)	31
Not working	8.6 (5)	58
Availability of Ration Card		
Yes	9.5	241
No	0.0	17
Type of Ration Card		
APL	8.9 (9)	101
BPL	10.0	140
Availability of Health Card		
Yes	9.7 (6)	196
No	8.7	62
Average Income		
Less than 10000	9.8 (9)	92
10000 - 30000	9.5	147
More than 30000	0.0	19
Total	**8.9**	**258**

6.5 Multi-micronutrient supplements

Among the 9% of the respondent's households having underweight children, 74% follow the instruction given at the time of treatment, and 65% have received prescribed multi-micronutrient supplements from the physician free of cost (**figure 6.3**).

Figure 6.3: Treatment instruction and Multi-micronutrient Supplements (in %)



6.6 Counselling under UCP

Among the respondents with underweight children, 17 received counselling from MHU regarding child malnutrition. Among these respondents, More than 88% have reported that the MHU covers topics related to eating habits, followed by childcare (82%) and Personal & child hygienation (71%) during the counselling.

Figure 6.4: Counselling from MHU under UCP (in numbers)

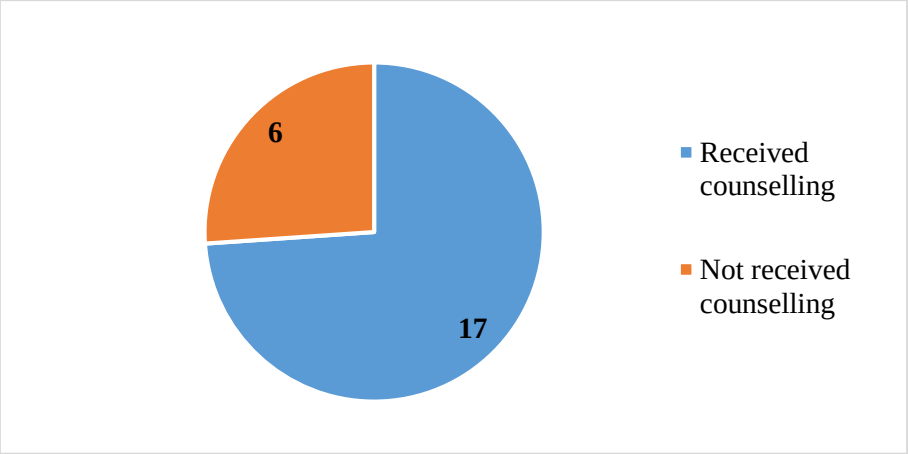
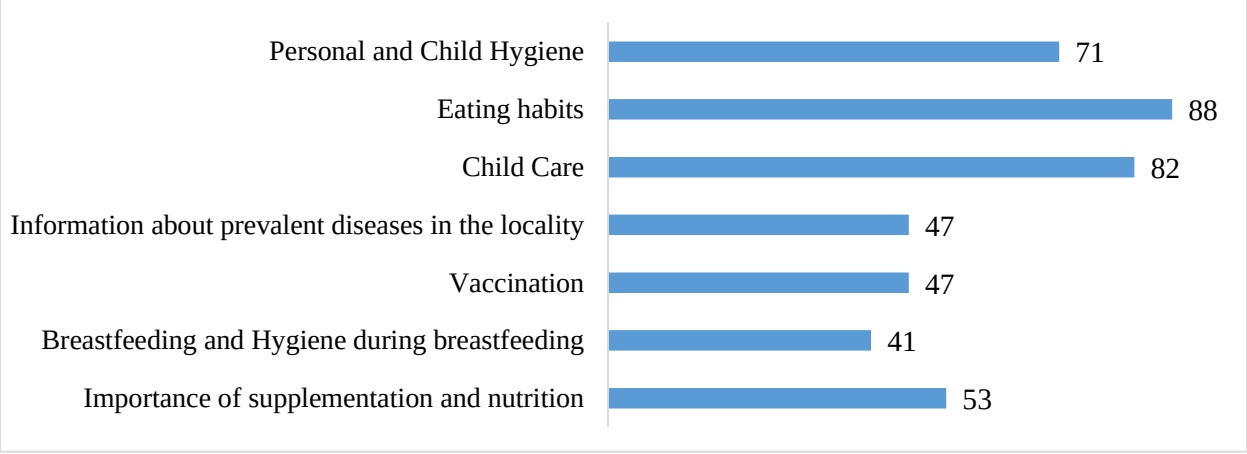


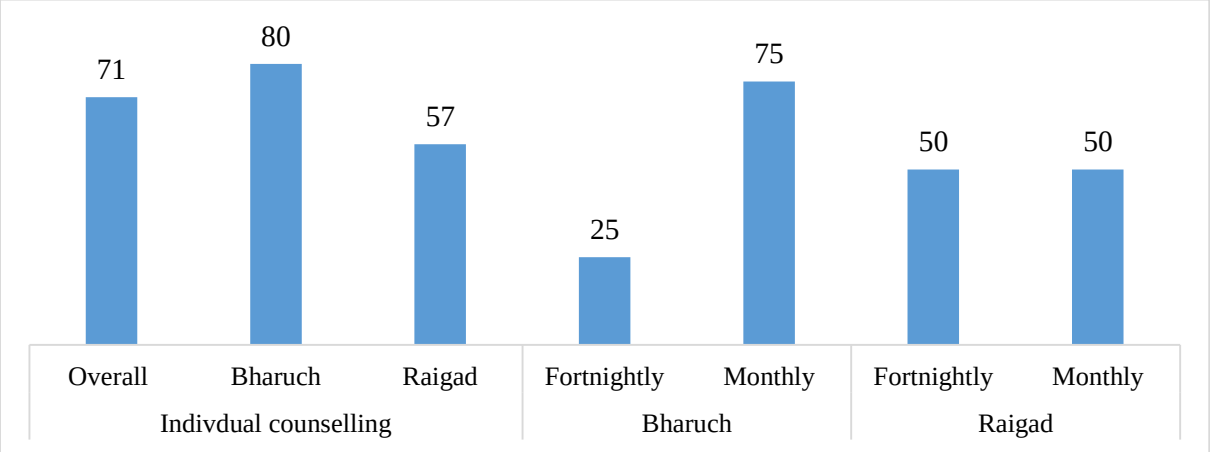
Figure 6.5: Topic covered in counselling by MHU under UCP (in %)



Further, topics related to vaccination, breastfeeding, and the prevalence of the diseases are covered only in less than half of the counselling sessions.

Overall 71% of respondents reported that the MHU provides individual counselling to the child's parents under UCP (**figure 6.6**), which was 80% in the Bharuch district and 57% in the Raigad district. The MHU provides 75% of this counselling on a monthly basis in the Bharuch district, whereas in the Raigad district, it was 50% only.

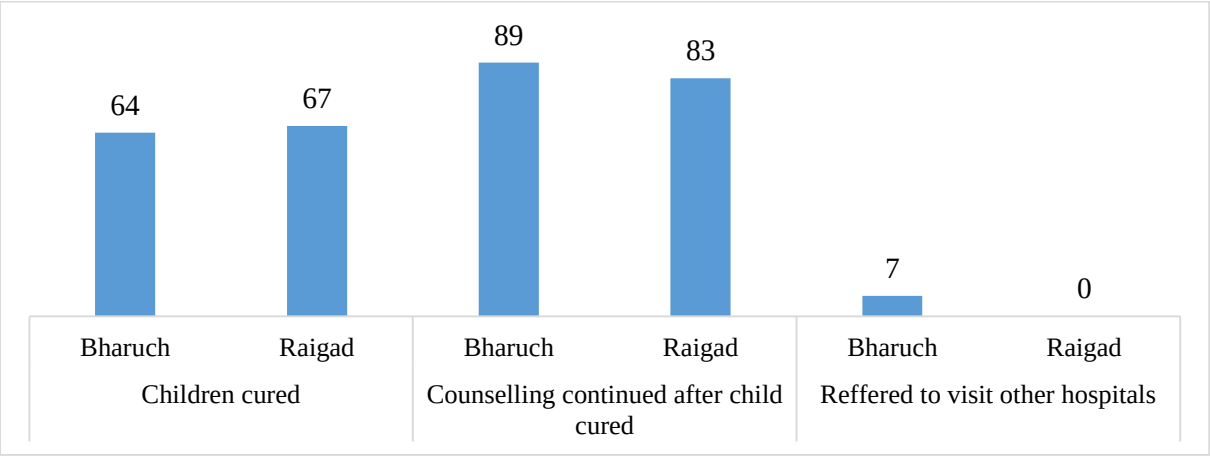
Figure 6.6: Counselling sessions in Bharuch and Raigad (in %)



6.7 Status of malnourished children

Among the 9% of the malnourished children, 64% of children in the Bharuch district and 67% of children in the Raigad district were cured. Among these, 89% of the respondents in the Bharuch district and 83% in the Raigad district have continued counselling after the child was cured. The MHU referred only one child (7%) to the other hospitals last year(**figure 6.7*)***.

Figure 6.7: Status of malnourished children (in %)



6.8 Summary

The knowledge about the Underweight Children Programme is relatively low in both districts as only one-fourth of the respondents are aware and have knowledge about the underweight children program conducted by Mobile Health Units. Although education level plays an important role in the awareness about any program among the respondents; however, in both districts, there is no relation between knowledge about the program and education level. Resulting, only one-fifth of the children of the households have received health check-ups in both the district from the Mobile Health Units. However, among these, 96% of case papers were maintained in the Bharuch district. The MHU staff mentioned most of the information on those case papers.

About 9% of the respondents do have malnourished children in their households. Of these, nearly three-fourths is following the instruction provided during the treatment by MHU, and more than 65% have received multi-micronutrient supplements from the MHU. Interestingly, a higher percentage of the children are malnourished in the households among the secondary level of education and self-employed respondents. Among the malnourished children, more than 64% in the Bharuch district and 66% in the Raigad district were cured at the time of data collection.

CHAPTER – 7: IMMUNIZATION AND PREGNANCY CONSULTING SERVICES AND COVID EMERGENCY

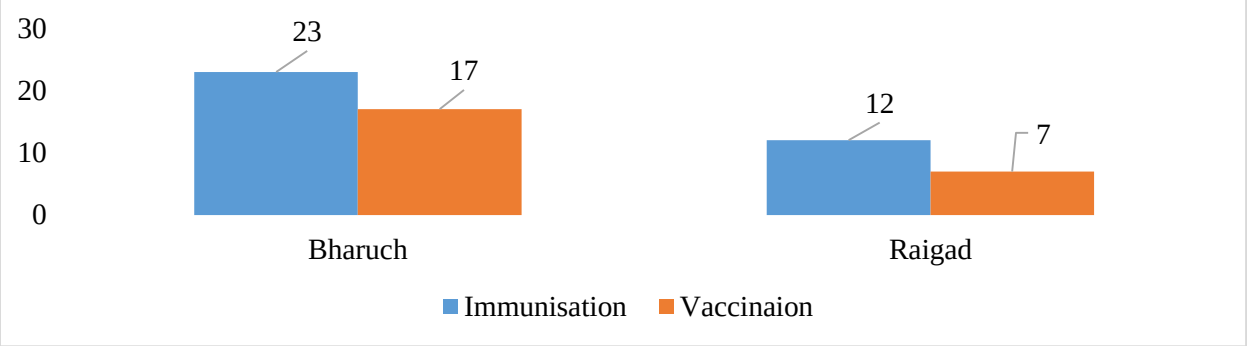
7.1 Introduction

This chapter focuses on immunization, pregnancy consulting services, and the impact of health services during Covid-19 in the selected villages provided by Mobile Health Units. The immunization and pregnancy consulting services section focuses only on selected respondents. This chapter includes immunization, counselling about vaccinations, services during pregnancy, diet plans during pregnancy, follow-up consultations, free availability of medicines, the prevalence of Covid-19, visits of MHU doctors, health care services during a pandemic, outcome of treatment, MHU referral system, service satisfaction, etc.

7.2 Immunization and vaccination

Immunization is a process that helps a person or children protect against a disease with vaccination. Different types of vaccines are given to children, adolescent girls, pregnant women, etc. Vaccination against Covid-19 has become crucial to surviving the pandemic in the last two years. MHU provides immunization and vaccination services to the selected respondents only. MHU provided counselling to 35 selected respondents about immunization. Of them, 23 respondents are from the Bharuch district, and 12 are from the Raigad district. The counselling about disease prevention, polio, BCG, Covid-19, etc., was provided by MHU. About 24 respondents agreed about the counselling on vaccines by MHU, which count for around 75%. Among them, 17 respondents are from the Bharuch district, and seven are from the Raigad district.

Figure 7.1: The district-wise number of respondents who received immunization and vaccine counselling.



7.3 Services during pregnancy

A healthy pregnancy is essential to promote healthy childbirth. Prenatal care is very important to increase the chances of a healthy pregnancy. In rural areas, proper healthcare service providers are not available at ease. Therefore, it is the responsibility of MHU to provide health care services to pregnant women in the selected villages. Different types of counselling on exercise, a balanced diet, doses of medicines, vitamins, and protein intake are essential for pregnant women. Proper and regular prenatal care helps reduce pregnancy and birth complications risk. According to the 34 respondents, MHU provided services during pregnancy. Of them,16 respondents are from the Bharuch district, and 18 are from the Raigad district.

Figure 7.2: Number of respondents who agreed about receiving services during pregnancy

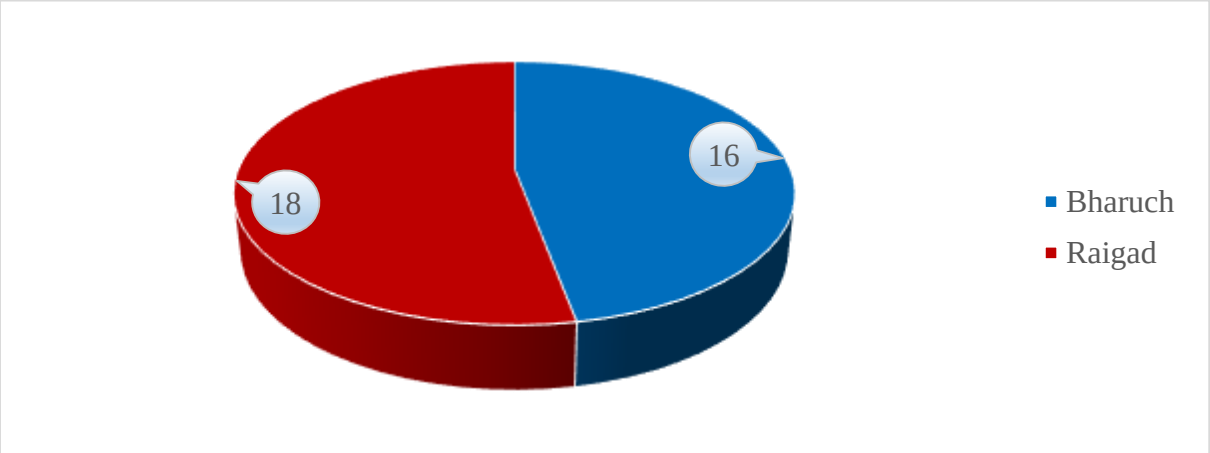
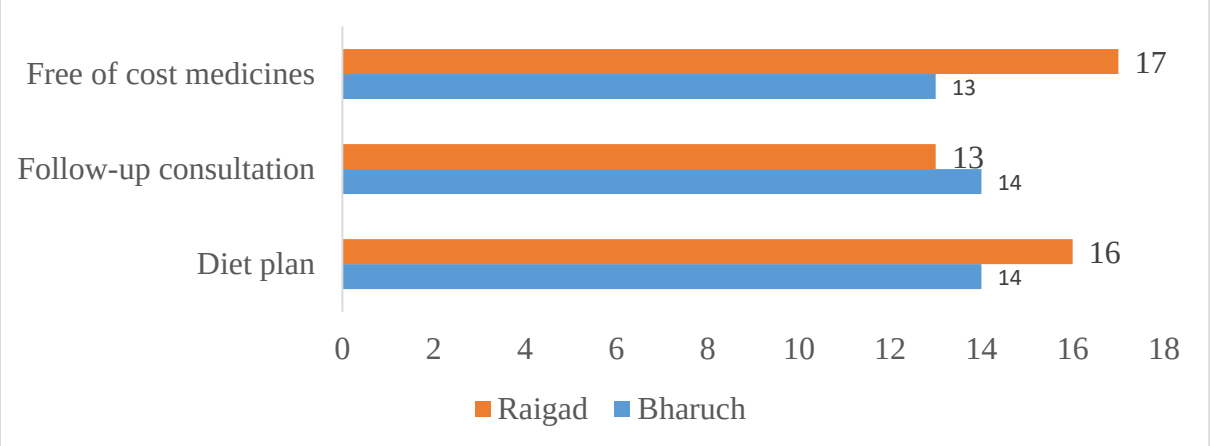


Figure 7.3: Types of services provided by MHU during pregnancy



About 30 respondents agreed that MHU provided a diet plan during their pregnancy. Among them, 14 respondents are from the Bharuch district, and 16 are from the Raigad district. Follow-up of any patient is a necessary procedure which helps to identify the patient's progress since the last appointment. A regular follow-up of a pregnant woman is an essential procedure. According to the 27 respondents, MHU provided follow-up consultations for pregnant women. Of them, 14 respondents are from the Bharuch district, and 13 are from the Raigad district. The medicines required during pregnancy are costly, and people in rural areas cannot afford them. Therefore, the basic medicines needed during pregnancy are provided by MHU free of cost. According to the 30 respondents, MHU provided medicines free of charge. Among them, 13 respondents are from the Bharuch district, and 17 are from the Raigad district.

7.4 COVID-19

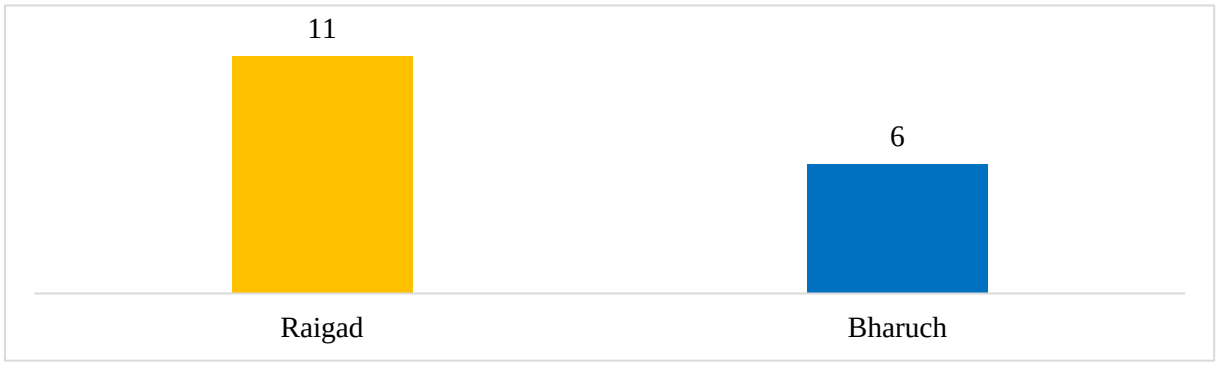
On January 27, 2020, the first case of covid-19 was found in India; in a brief period, it spread all over India. Most people fall sick after coming into contact with someone who has Corona. During that period, many people from India lost their Jobs, friends, family, and relatives; thousands of people died and still counting. Currently, active cases in India are 1934, which is very low compared to Covid Period, i.e., from March 2020 to December 2021. 530735 have died, and over four cr Indians have been infected with covid since the inception of Covid-19 in India. Many NGOs, government organizations, private organizations, and international organizations have put much effort into researching and developing medicines and vaccines. Since all private clinics are closed and public facility heavily burdened with Covid-19 testing and treatment, the Mobile Health Unit reached out to the selected villages and provided primary health services, curative health services, created awareness about Covid-19, gave treatment on covid-19, organized camps and counselling session. MHU doctors made a reasonable effort during this period to overcome this situation by following covid-19 guidelines. In the covid-19 MHU, doctors are supposed to maintain a safe distance, use a PPE kit, check patients outside the vehicle, mask protection, operate medical equipment if required, and sanitize the same after every checkup; all counsellor needs to give authentic information about covid-19 these are the duties they have followed very firmly. Table.1 shows the villages selected for the study. There are 20 villages, ten from each region of Bharuch and Raigad, respectively. MHU provides health services in these villages, as mentioned earlier in this paragraph. In these villages, MHU vehicle has to go after every fifteen days and

provide primary and curative health services. During the covid period and sudden lockdown, people have no clue what to do and how to do it. That pandemic was trapping most of the people who came into contact with an infected person. That was a terrifying day for everyone because people lost their job, families, friends, etc., due to corona. Moreover, in the beginning, covid treatment was very costly, and low-income category families could afford to take treatment on covid. MHU charges only Rs 5 for treatment and offers patients better primary treatment and medicines. At this cost, people get counselling, therapy, and medications, affordable to everyone MHU creates awareness and spreads messages among the villagers; therefore, they could keep corona in control in these areas, as per our study.

7.5 Prevalence of Covid-19

Table 7.2 depicts the number of people from Roha and Vagra blocks who fall sick during covid. These stats are derived from the total sample collected from the respective villages from the blocks. The spread of covid in these villages was minimal because of the MHU services in these villages. MHU has created good awareness and constant visits during this pandemic. As per the survey, it appears that 93% of people did not infect with covid. During the field, people said they fell sick, but it was minor, like body pain or fever only, but no severe covid symptoms. Only 17 respondents from the Vagra and Roha block were infected with the covid and received treatment from private and government hospitals. As people responded, primary treatment and checkups were done in the MHU, but since vehicle visits every fortnight, they went to private and government hospitals during that period. Table 7.2 shows the number of people infected by covid from each study district. Out of 120 samples from the Raigad district, only 11 people got sick during the pandemic, and out of 136 samples, six fell ill from the Bharuch districts.

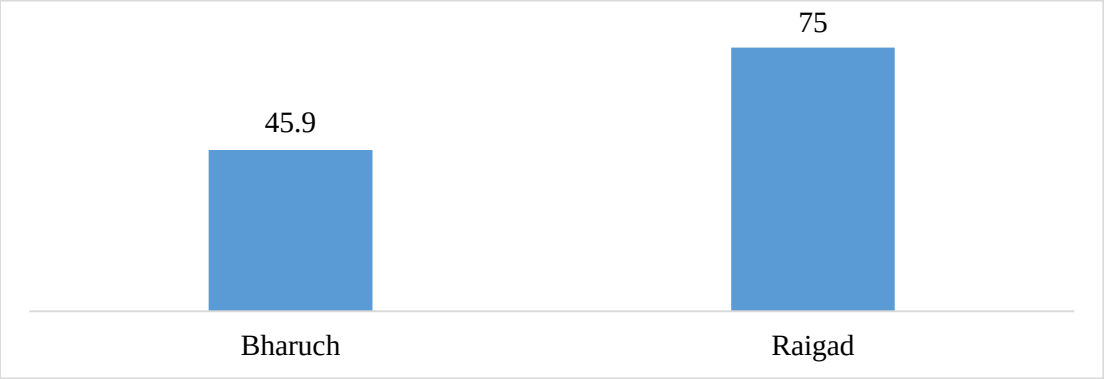
Figure 7.4: Number of people infected with covid-19



7.5.1 Visit of MHU Doctors

As per MHU guidelines, they must visit villages and have made regular visits during the pandemic period; MHU visits after every fifteen days in these villages.

Figure 7.5: Percentage of MHU Doctors' visits during covid-19

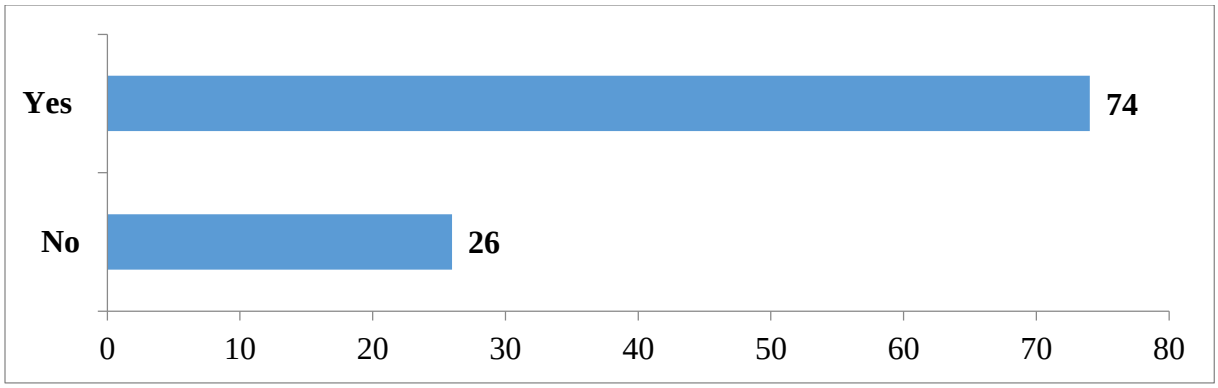


The following charts show the response given by people when we asked about the visit of MHU vehicles in your area. The table below shows that 75% of people from Raigad and 46% from Bharuch gave affirmative responses when asked about the regular visit of MHU doctors in your area. Twenty-five percent of Raigad and 54 % of Bharuch's responses were negative, meaning they do not know about the MHU trips or have received treatment from private and government hospitals.

7.5.2 Health Care Service during Pandemic

Even though the strict lockdown and many restrictions, MHU doctors made regular visits during Covid-19. They have followed all the protocols and keep giving the best treatment to villagers. As per our findings, people approach MHU doctors for minor illnesses like body and back pain.

Figure 7.6: Health care service during Covid-19



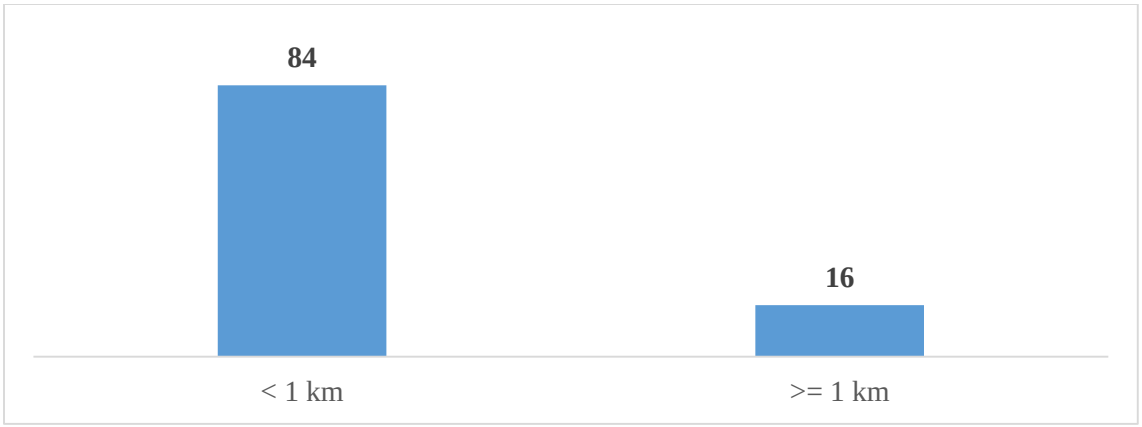
In the above chart, 74 % of respondents said MHU provided primary health care, preventive and curative health services, and counselling regularly, whereas 26 % of people didn't have information about the services offered by MHU during covid-19.

7.5.3 MHU vehicle location

This is essential from the villager's point of view because those households living more distant from the vehicle are not getting treatment since they have their reasons like it is far away, and when we reach the MHU vehicle, they are already gone. The following table will help to understand the distance of the MHU vehicle from the household.

According to the table, 41 % of respondents live around the location of the vehicle, meaning they live within walking distance, and approximately 15 % of the total respondent lives between 1 km to 7 km. Therefore, those residing 1 to 7 km away from the vehicle will most likely be unaware of MHU arrival or its timing.

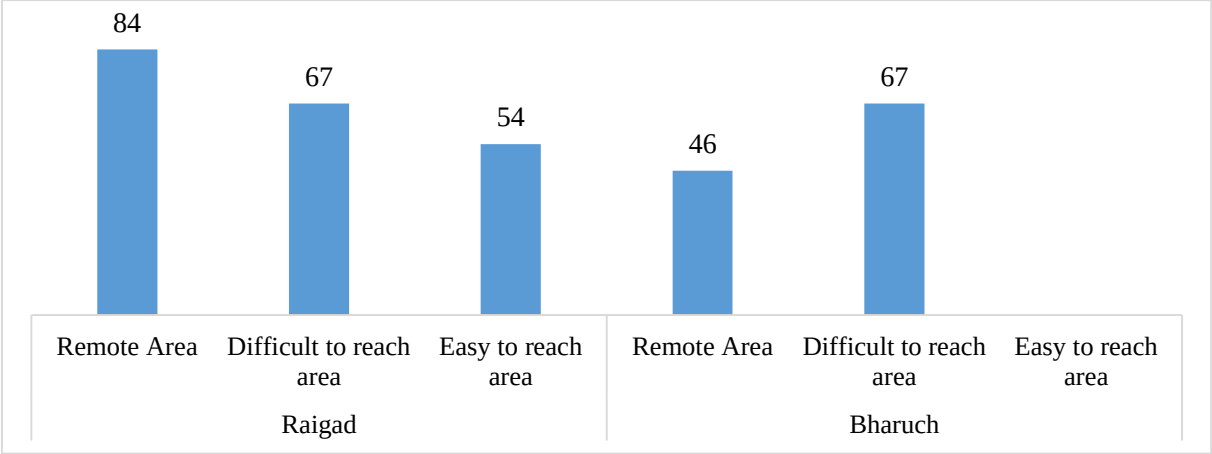
Figure 7.7: Distance from House (Km)



7.6 Outcome of Treatment

This study shows that the overall health service receiver has improved after MHU intervention. It is essential to see the outcome of the treatment MHU doctors give patients. MHU provides primary treatment to a villager and other services like awareness, counselling, and treatment for anaemia, treatment for underweight children, etc. Those who got treatment were saying that they felt good. Covid patients from Bharuch and Raigad cured % is 100; they all recovered after getting treatment from MHU during the pandemic. Graphical presentation of doctors' visits during COVID-19.

Figure 7.8: MHU Doctor's visits during COVID 19

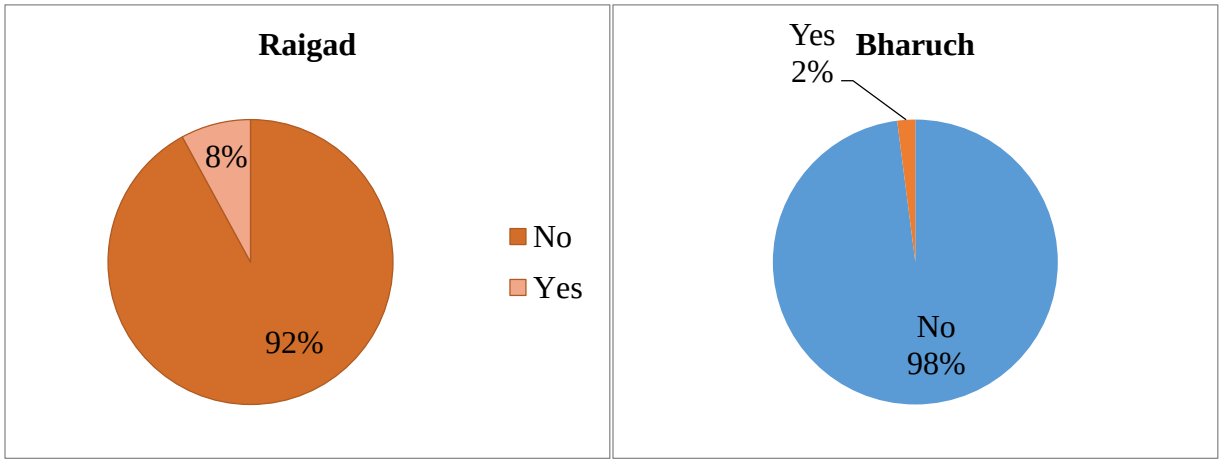


The above chart shows the geographical areas of study districts. In the above chart, remote area means the transportation facility is weak, difficult to reach place means no transport facility villagers have to travel on foot for around 2 km to 3 km to catch the bus stop and easy-to-reach area where public transport is readily available. As per our field findings, the geographical regions in the Raigad district were more challenging to reach. Our field investigators and study found out that the easy-to-reach area in the Bharuch district is zero, which means MHU doctors made visits irrespective of geographical area. From the total sample size, 17 people fell sick during the covid-19 and took health care services from the MHU doctors. They all have cured from the covid-19 after getting treatment from the MHU doctors. Some of the villagers took treatment from private and government hospitals for covid-19.

7.7 MHU Referral

Deepak foundations main objectives are to provide health services to the marginalized population; they also help them to get good health facilities through their referrals. In the referral system, MHU doctors send the patient to other hospitals if and only when the required treatment is unavailable. For example, during corona, if they find a patient is infected with corona and they have given the necessary treatment to them, and even after they were not able to recover, then MHU doctors refer those patients to a government hospital. During our field visit, we heard from the respondent that MHU doctors referred them to take treatment from government hospitals.

Figure 7.9: MHU Referred to get better treatment, district-wise



MHU refer the patient to another hospital for better treatment if they don't have treatment for the particular health issue or if the patient gets serious. During the Covid situation, only six people have been referred to treatment from another hospital. In this case, the patient has other reasons to refer, as our study suggests. Table no 4 data Raigad district and only five people go referred from MHU to take treatment from the other hospital. In rare cases, like health was not improving, the patient has been suggested to take treatment from another hospital. And in other responses of respondents, we found out that one patient was a dengue patient, and one patient was a diabetes patient who was referred to other hospitals during the pandemic.

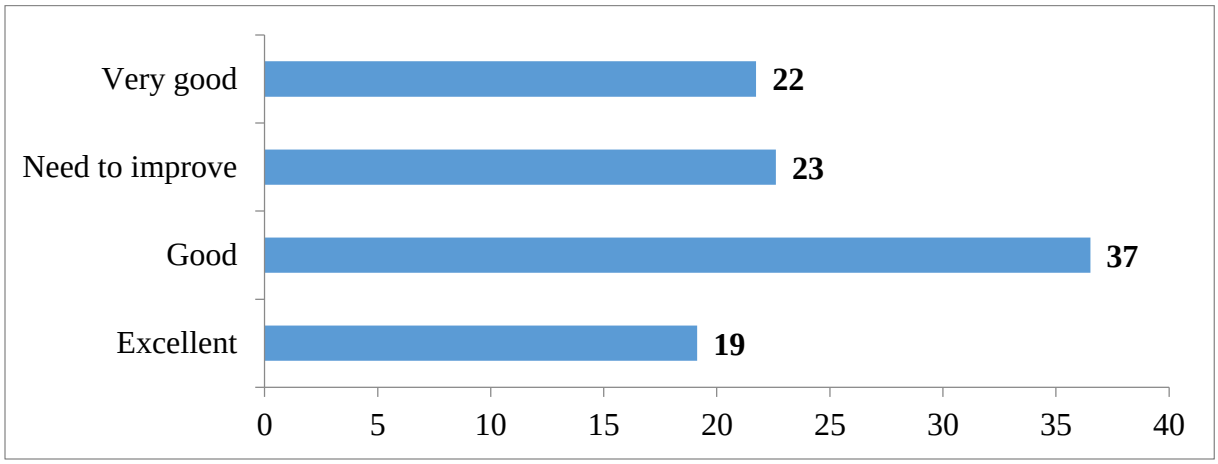
In the chart, 2 % of people have said that MHU referred them to treatment from another hospital; in this case, his health was not improving after treatment from MHU doctors; therefore, he was

referred to another hospital. In the given tables, we can depict that those who answered "no" meant MHU did not refer them to treatment from other hospitals; there could have been other health issues during the covid situation.

7.8 Satisfaction of Patients from MHU Service

The corona was declared a pandemic by WHO because it spread worldwide in a very short period. Governments of all countries announced lockdowns by looking at their countries' covid situation. India was among the countries that declared lockdown, which was essential at that time. Due to the strict lockdown, no one could come outside and move around, so this situation MHU service was the big time relief to them.

Figure 7.10: Service satisfaction of respondents



The above chart explains that some people are satisfied with the services given by MHU during Covid-19; some think they need to improve in areas like creating awareness, spreading messages when they arrive, camps and counselling held regularly, etc. Many respondents said no one came to them to talk about the MHU arrival. As reflected in the above chart, 37 % of people think MHU services are good, whereas 23 % of people's opinion is that they need to improve.

7.9 Summary

Immunization, vaccination, and services during pregnancy are provided to only selected respondents by the MHU. Nearly 35 respondents received counselling on immunization, and 24

received counselling on vaccination. About 16 respondents from the Bharuch and 18 from the Raigad received services during pregnancy, which counts to 34 from both districts. These services were in the form of providing a diet plan, follow-up consultations, and free-of-cost medicines. About 30 respondents received a diet plan, 27 received follow-up consultations, and 30 received free-of-cost medicines from both districts.

The prevalence of covid-19 was pervasive; therefore, WHO declared covid-19 a pandemic. There are many restrictions for everyone, but MHU helps villagers and gives them doorstep treatment at a minimal cost. In Raigad and Bharuch, they have also provided health services and created awareness about hygiene. Visits after every fifteen days to a village have appointed community mobilizers at the village level whose responsibility is to create awareness and spread the message of MHU visits. Even if they had a hectic schedule during the pandemic, they have followed every standard protocol of covid set up by the government.

CHAPTER – 8: FINDINGS FROM THE SECONDARY SOURCE OF DATA PROVIDED BY THE DEEPAK FOUNDATION

8.1 Introduction

Secondary data is important in providing a readily available data set for analysis. It is in a structured form and is already gathered from the primary resources. This chapter provides information on the secondary data provided by the Deepak foundation about Mobile Health Unit services. The chapter includes actual information about the total number of patients who visited MHU, awareness sessions, the total number of people who attended awareness sessions, and health camps, the total number of girls screened for adolescent anaemia, the total number of cured cases of anaemia, number of underweight children, group and individual counselling, number of people benefited from counselling, etc.

8.2 Service areas for the MHUs

Deepak Foundation has selected villages around their manufacturing units located in the Vagra block of Bharuch district and the Roha block of Raigad district. In the Bharuch district, 30 villages in the year 2020-21 and 34 villages in the year 2021-22 were selected for operating the MHU services. In the Raigad district, 27 villages were selected in both years. The selection method of villages was done using a baseline survey and distance based, i.e., distance from the nearest health care services.

8.3 Inputs from the Deepak Foundation for the MHUs

For the implementation of any health programme in any area, some necessary inputs are required at the start of the programme, such as infrastructure, human resources, and pieces of equipment. So, MHU vans are acting as infrastructures, which are driving to the convenient place for the beneficiaries, say the center of the village or padas. In addition to this, the foundation has been providing the pieces of equipment and recruited a team of health personnels for each MHU.

8.3.1 Human Resource

Manpower is the backbone for any programme to be successful. For the implementation of the Mobile Health Units (MHUs), Deepal Foundation has recruited a team of 6 members for each MHU. The following is the list of staff and their required number in the team:

1. Medical Officer (MBBS/BHMS) – 1
2. Nurse (GNM/ANM) - 1
3. Counsellor (MSW/DSW) - 1
4. Data Entry Operator (Graduate having computer knowledge) -1
5. Driver (At least 10th / 12th Pass and validate driving licenses) – 1
6. Project coordinator (Graduation from Public Health / Home Science / MSW) - 1

Route plan is a matrix of month days and villages to be visited. Among the above-recruited staff, all the staff except for the Project coordinator visited every selected village of MHU. The project coordinator visited the particular villages based on their needs. According to the secondary data, 25 villages were covered by the MHU, and each village was covered twice a month in both districts. MHU vehicles visited the 522 times in 2020-21 and 628 times in 2021-22 in the Bharuch district. Similarly, MHU visited 513 times in 2020-21 and 618 times in 2021-22 in the Raigad district.

8.3.2 Equipment

The medicinal equipment is one of the important factors in operating the MHU. According to the Standard Operating Procedure (SOP), medical equipment like a Blood pressure machine, HB meter, Glucose meter, weighing scale for adults and children, and Stethoscope is required in each MHU. Around nine pieces of equipment were available in 2020-21 and 10 in 2021-22 in the Bharuch district. Among this equipment, the damaged ones, like weight scales and haemoglobin testing machines, were replaced with new ones. There was no hampering the services.

8.4 Services Provided by MHUs

The different types of services provided by MHU in the villages. The main services are conducting OPD, conducting awareness sessions, arranging health camps, undertaking continuous follow-up of the patients etc. Apart from these services, the two programmes, the adolescent anaemia

programme and the underweight children programme, were undertaken by the MHU. Table 1 shows the services provided by MHU in both districts.

Table 8.1: Types of services provided by MHU for the years 2020-2021 and 2021-2022, district wise

Types of services	District			
	Bharuch		Raigad	
	2020-21	2021-22	2020-21	2021-22
OPD				
No. of males	5896	6138	6671	7180
No. of females	10805	12174	14570	17273
No. of children	2269	3515	3022	3350
Total no. of people counselled at OPD	5444	5902	8372	10391
Total no. of people visited OPD	01	18312	21241	24453
Total no. of case papers filed	16701	13812	21241	24453
Adolescent Anaemia				
Total No. of adolescent girls	409	389	334	326
No. of the girls screened for haemoglobin	409	389	334	326
No. of Anaemic girls	306	313	302	283
Cured cases of anaemia				
Total no. of cured patients	58	34	108	109
No. of reversed cases of anaemia	48	4	0	5
No. of Follow-ups of patients				
OPD patients	10254	12396	17213	21935
Adolescent girls	2823	2727	2269	2464
Anaemic girls	870	1074	776	903
Underweight Children	672	303	711	736
Monthly frequency of follow-up in a month (percentage)	61.4	67.7	81.0	89.7

Source: Deepak Foundation

8.4.1 OPDs

Table 8.1 below explains the services provided by MHU in each district. According to the table below, the total number of males, females, and children who visited OPD increased in 2021-22 than in 2020-21 in both districts. Similarly, the number of people counselled at OPD increased in 2021-22 than in 2020-21 in both districts. A total of 16701 people in 2020-21 and 18312 people in 2021-22 visited OPD in the Bharuch district. Out of which, 5896 were males, 10805 were females in 2020-21, and 6138 were males,12174 were females in 2021-22. Similarly, 21241 people in 2020-21 and 24453 people in 2021-22 visited OPD in the Raigad district. Out of which, 6671

were males, 14570 were females in 2020-21, 7180 were males, and 17273 were females in 2021-22. Also, 3022 children in 2020-21.

8.4.2 Filling of case paper and maintenance

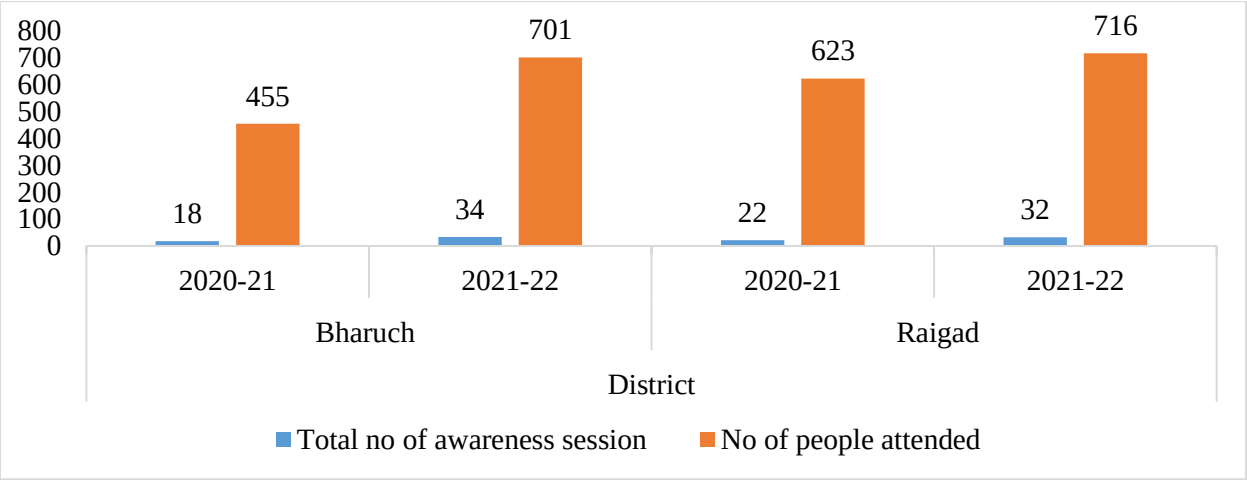
According to the SOP, to conduct systematic OPD, each MHU has to fill out proper case papers reflecting patients' basic information. The people who visited MHU, all the people's case papers have been filled out by the MHU staff. Based on the needs, weights, and heights of patients were measured during the OPD. Similarly, the Medical officer examined the patients' past illness history during the OPD interaction.

MHU staff has filled out 409 case papers of adolescent girls; out of them, in 231 case papers menstrual history of girls is mentioned in 2020-21 and in 2021-22; among 389 case papers of adolescent girls, in 227 case papers, the menstrual history of girls is mentioned in the Bharuch district. Similarly, in the Raigad district, MHU staff has filled out 334 case papers of adolescent girls; out of them, in 161 case papers menstrual history of girls is mentioned in 2020-21 and in 2021-22; among 326 case papers of adolescent girls, in 216 case papers, the menstrual history of girls is mentioned.

8.4.3 Awareness sessions

The numbers of awareness sessions were 18 in the year 2020-21, which increased to 34 in 2021-22 in the Bharuch district, and 455 people attended awareness sessions in 2020-21, which increased to 701 people in 2021-22. Similarly, in the Raigad district, 22 awareness sessions were conducted by MHU in 2020-21, which increased to 32 in 2021-22. In these awareness sessions, 623 people participated in 2020-21, and the number increased to 716 in 2021-22 (Figure 8.1).

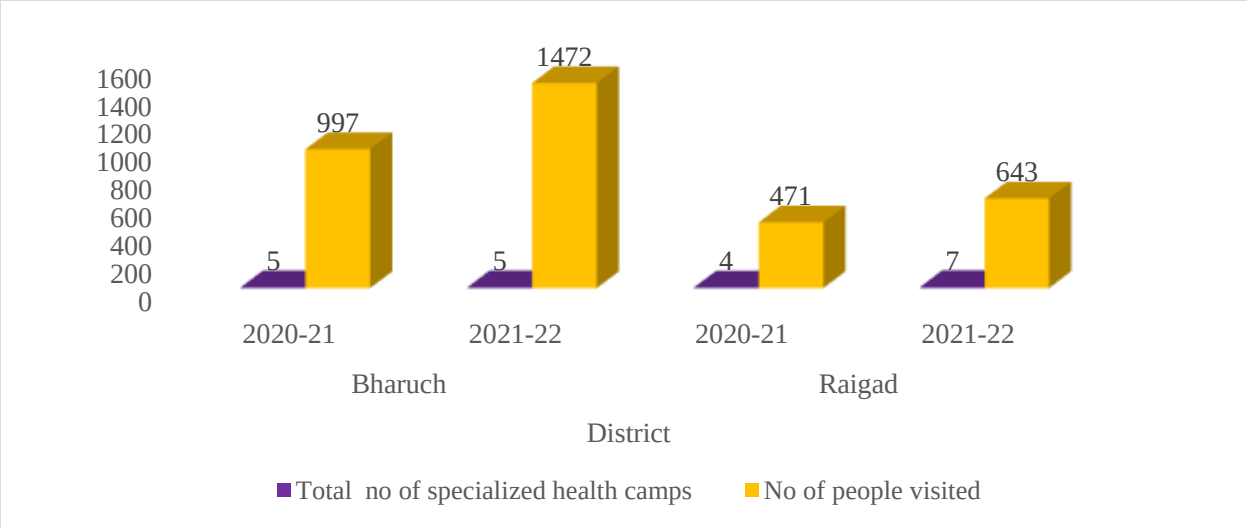
Figure 8.1: Number of awareness sessions and the number of people attended, district and year-wise.



8.4.4 Health camps

MHU organized different types of health camps, like general health camps and specialized health camps. A total of 5 specialized health camps were conducted each year in the Bharuch district. In which 997 people visited in 2020-21, which increased to 1472 in 2021-22. In the Raigad district, four specialized camps were conducted in 2020-21, which increased to 7 in 2021-22. A total of 471 people visited in 2020-21, and the number increased to 643 in 2021-22. As per the SOP, MHU has to conduct general health camps also. But, the secondary data is not available for the general health camps from the Deepak foundation (Figure 8.2).

Figure 8.2: Number of specialized health camps and the number of people visited, district and year-wise.



8.4.5 Adolescent anaemia programme

The number of adolescent girls was 409 in 2020-21, which decreased to 389 in 2021-22 in the Bharuch district. Similarly, in the Raigad district, the number decreased to 326 in 2021-22 from 334 in 2020-21. All these girls were screened for checking haemoglobin count. Of these adolescent girls, 306 were anaemic in 2020-21, and the number increased to 313 in 2021-22 in the Bharuch district. The reversed case of anaemia is found in the Raigad district. The total number of anaemic girls decreased to 283 in 2021-22 from 302 in 2020-21 (Figure 8.3).

Table 8.2: Types of anaemia observed, district-wise.

Diagnosed as	Bharuch				Raigad			
	2020 – 21		2021 – 22		2020 – 21		2021 – 22	
	First Visit	Last visit in the year	First Visit	Last visit in the year	First Visit	Last visit in the year	First Visit	Last visit in the year
Found normal	103	-	76	-	32	-	43	-
Treated as normal	-	58	-	51	-	110	-	93
Mild	86	51	71	49	120	116	178	135
Moderate	207	127	220	109	178	55	105	39
Severe	13	12	22	52	4	0	0	0

Source: Deepak Foundation

Table 8.2 shows that, on the first visit to MHU in Bharuch district, 103 girls in 2020-21 and 76 girls in 2021-22 were found normal. On the first visit to the Raigad district, 32 girls in 2020-21 and 43 girls in 2021-22 were found as normal. As MHU has visited each selected village twice a month, they provided treatments to the anaemic girls. Hence, the number of people who were found normal increased in the last visits in a year in the Raigad district. On the last visit to the

Raigad district in the year 2020-21, 110 girls were found normal; in the year 2021-22, 93 girls were found normal. However, this is a reversed case in the Bharuch district; on the last visit in a year, only 58 girls were found normal in 2020-21, and 5111 girls were found normal in 2021-22.

8.4.5.1 Types of anaemia

There were three types of anaemia found in adolescent girls. The three types of anaemia are mild, moderate and severe.

1. Mild anaemia

Table 8.2 depicts that, in the Bharuch district, 86 cases of mild anaemia were found on the first visit, which decreased to 51 on the last visit of the year 2020-21. In the year 2021-22, 71 cases were found on the first visit to MHU, which decreased to 49 on the last visit in a year. In the Raigad district, 120 cases were found on the first visit to MHU, which decreased to 116 on the last visit of the year 2020-21. In the year 2021-22, 178 cases were found on the first visit, which further decreased to 135 on the last visit in a year.

2. Moderate anaemia

From the above table 8.2, in the Bharuch district, 207 cases of moderate anaemia were found on the first visit, which decreased to 127 on the last visit of the year 2020-21. In the year 2021-22, 220 cases were found on the first visit to MHU, which decreased to 109 on the last visit in a year. In the Raigad district, 178 cases were found on the first visit to MHU, which decreased to 55 on the last visit of the year 2020-21. In the year 2021-22, 105 cases were found on the first visit, which further decreased to 39 on the last visit in a year.

3. Severe anaemia

Table 8.2 shows that, in the Bharuch district, 13 cases of severe anaemia were found on the first visit, which decreased to 12 on the last visit of the year 2020-21. In the year 2021-22, 22 cases were found on the first visit to MHU, which increased to 52 on the last visit in a year. In the Raigad district, 4 cases were found on the first visit to MHU. Further data is not available in this regard.

8.4.5.2 Reversed cases of anaemia

If, on the first visit, girls were found non-anaemic but eventually, on the second or third visit, due to some signs and symptoms, the same girl was found anaemic, then the case is considered as the reversed case. In some cases, even after providing treatment, the HB levels drop instead of improving then; also, it is called the reversed case of anaemia. From table 8.1, in the Bharuch district, 48 such cases were found in 2020-21, and they decreased to 4 in 2021-22. In the Raigad district, no such cases were reported in the year 2020-21, but in the next year, i.e., 2021-22, 5 cases of reversed anaemia were found.

8.4.5.3 Type of treatment and cured cases of anaemia

Different types of tablets and syrups like IFA and multivitamins, analgesics, antipyretics, and antiseptics were provided to the anaemic patients. For treating anaemic patients, medication and counselling on food habits, hygiene, and life pattern was given by MHU. A total of 58 anaemic patients were cured in 2020-21, and in the year 2021-22, 34 patients were cured in the Bharuch district. In the Raigad district, 108 anaemic patients were cured in 2020-21, and 109 anaemic patients were cured in 2021-22.

8.4.6 Underweight Children Programme

The Mobile Health Units undertook a different type of programme called the underweight children programme. A number of children aged 0-5 were selected for the treatment. Table 3 shows that, on the first visit to the Bharuch district, 339 children in 2020-21 and 58 children in 2021-22 were found normal. In the Raigad district, 569 children in 2020-21 and 512 children in 2021-22 were found normal on the first visit.

Table 8.3: Number of underweight children, district wise

Diagnosed as	Bharuch				Raigad			
	2020 – 21		2021 – 22		2020 – 21		2021 – 22	
	First Visit	Last visit in the year	First Visit	Last visit in the year	First Visit	Last visit in the year	First Visit	Last visit in the year
Found normal	339	-	58	-	569	-	512	-
Treated as normal	-	36	-	8	-	20	-	25
Thinness/ undernourished	155	23	73	15	88	82	106	29

Severe thinness/ undernourished	178	34	172	41	54	41	118	65

Source: Deepak Foundation

8.4.6.1 Types of Underweight children

There are two types of underweight children treated by MHU. The two types are 1) Thinness/ undernourished and 2) Severe thinness/severe undernourished.

1. Thinness/undernourished

From the above table no. 3, in the Bharuch district, 155 children were undernourished on the first visit, which decreased to 23 on the last visit of the year 2020-21. In 2021-22, 73 children were undernourished on the first visit to MHU, which decreased to 15 on the last visit in a year. In the Raigad district, 88 children were found undernourished on the first visit to MHU, which decreased to 82 on the last visit of the year 2020-21. In the year 2021-22, 106 children were undernourished on the first visit, which further decreased to 29 on the last visit in a year.

2. Severe thinness/severe undernourished

From the above table no. 3, in the Bharuch district, 178 children were undernourished on the first visit, which decreased to 34 on the last visit of the year 2020-21. In 2021-22, 172 children were undernourished on the first visit to MHU, which decreased to 41 on the last visit in a year. In the Raigad district, 54 children were found undernourished on the first visit to MHU, which decreased to 41 on the last visit of the year 2020-21. In the year 2021-22, 118 children were undernourished on the first visit, which further decreased to 65 on the last visit in a year.

8.4.6.2 Group and Individual Counselling

MHU conducted group counselling and individual counselling of people on various topics like health, nutrition, diet, health days' celebrations, Covid -19, menstrual health, hygiene, maternal care, etc. According to the secondary data, MHU has conducted group counselling on World health day, Covid-19 awareness sessions, ANC and PNC care and nutrition, Menstrual hygiene day, Yoga day, Nutritious recipes for pregnant women and adolescent girls, IDCF awareness sessions, NDD session nutrition month, breast cancer awareness session, dental sessions, world pneumonia day, Anaemia and menstrual hygiene, National girl child day, World cancer day, National deworming day, Protein day sessions, Women's day, etc.

The number of group counselling was increased in both years in both districts. In Bharuch district, 49 group counselling sessions were conducted in 2020-21, which increased to 70 in 2021-22. Similarly, in the Raigad district, 480 group counselling sessions were conducted in 2020-21, which increased to 510 in 2021-22. The people who attended these group counselling were more in numbers in 2020-21, i.e., 396, which decreased to 374 in 2021-22. This is a similar case in the Raigad district also. The number of people who attended group counselling was 1655 in 2020-21, which decreased to 1475 in 2021-22 (Figure 8.3).

The different topics that were covered in individual counselling were menstrual health, dietary counselling, and counselling about anaemia. Most of the individual counselling was provided to adolescent girls, ANC mothers, mothers of 0-5 years, and adults on some topics like Covid-19. The total of people who attended individual counselling was 4598 in 2020-21, which increased to 4871 in 2021-22 in the Bharuch district. Similarly, in the Raigad district, 6753 people attended individual counselling in 2020-21, which increased to 8539 in 2021-22 (Figure 8.4).

Figure 8.3: Yearly number of group counselling and the number of people attended by district

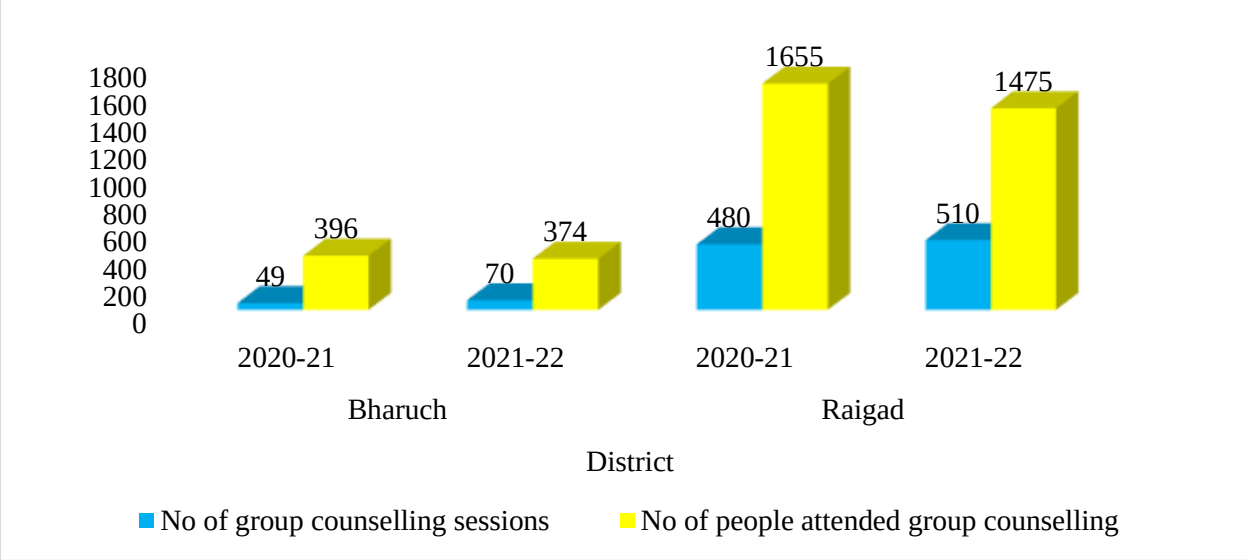
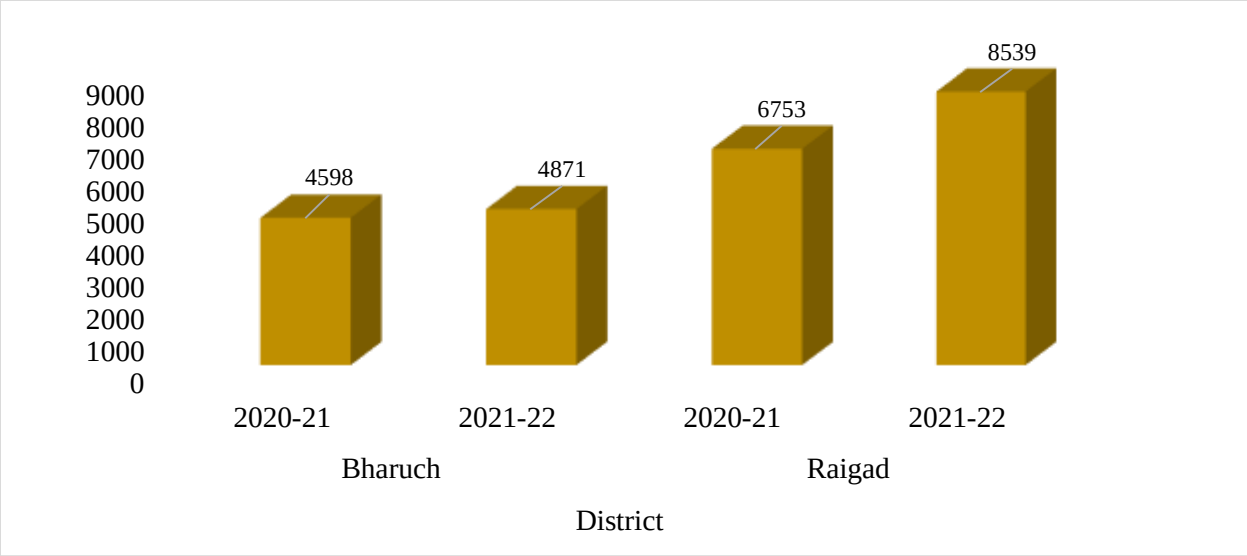


Figure 8.4: Yearly number of people who attended individual counselling by district



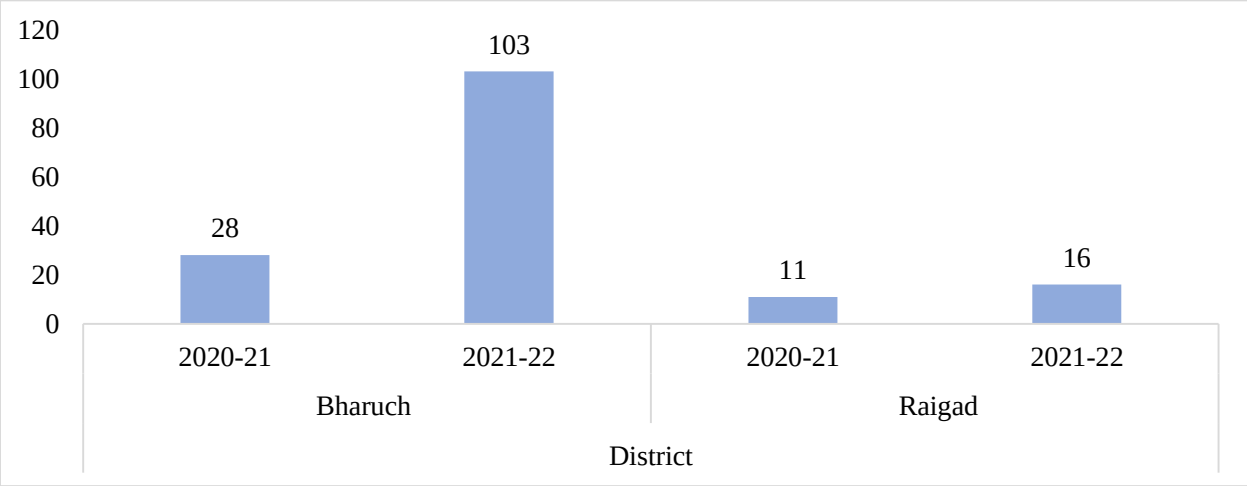
8.4.7 A number of follow-ups of patients:

MHU conducted follow-ups of patients who visited from a particular village. According to the secondary data, the monthly frequency of follow-up was 61.4 % in 2020-21 and 67.7% in 2021-22 observed in the Bharuch district. Similarly, the monthly frequency of follow-up was 81% in 2020-21 and 89.7 % in 2021-22 in the Raigad district. The follow-up of OPD patients, i.e.10254, people in 2020-21 and 12396 people in 2021-22 from the Bharuch district, 17213 people in 2020-21, and 21935 people in 2021-22 from the Raigad district, conducted by MHU. Other than OPD patients, MHU conducted follow-ups of adolescent girls, anaemic girls, and underweight children. There was an increase in the number of follow-ups conducted in 2021-22 than to 2020-21, except for the Bharuch district; in 2021-22, the number of follow-ups decreased in the case of adolescent girls and underweight children in 2020-21.

8.4.8 Loss of follow up

If any patients or children fail to come to the follow-up visits, such cases are considered a loss of follow-up. According to the secondary data provided by the Deepak foundation, 11 and 16 cases of loss of follow up observed in 2020-21 and 2021-22, respectively, in the Raigad district. In the Bharuch district, 28 and 103 cases were observed in 2020-21 and 2021-22, respectively. The loss of follow-up cases observed in the above districts is of adolescent girls. The major reasons are migration; girls have joined another school or college and have been denied services (Figure 8.5).

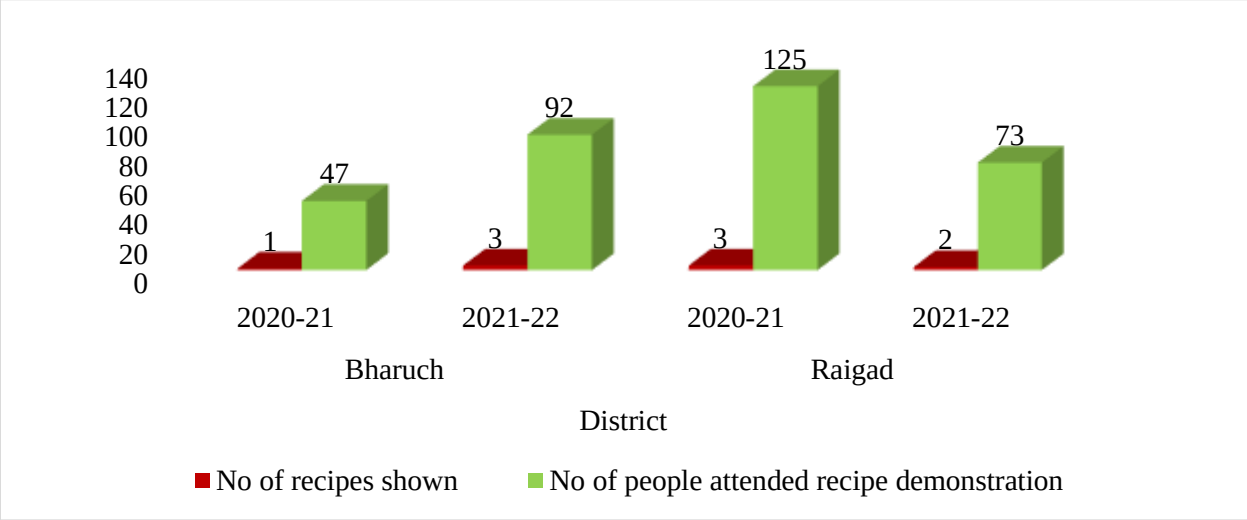
Figure 8.5: Yearly total number of losses of follow-ups



8.4.9 Recipe Demonstration:

MHU conducted recipe demonstration workshops to increase people's awareness of healthy food practices. The different recipes like Thali pith, Fruit salad, Multigrain recipes, Sukhadi, Sheera, Sprout mix, etc., were shown by MHU staff to the people. In 2020-21, only one recipe was shown to 47 people, and three recipes were shown to 92 people in 2021-22 in the Bharuch district. In the Raigad district, three recipes were shown to 125 people in 2020-21, and 2 recipes were shown to 73 people in 2021-22 (Figure 8.6).

Figure 8.6: Yearly number of recipes shown and the number of people who attended recipe demonstration by district



8.5 Summary

This chapter presents information on the secondary data on MHU provided by Deepak Foundation. According to the data, for each visit of the MHU in a particular village, five MHU staff visited along with the vehicle. On average, 25 villages were covered by MHU in a year, and each village was covered twice a month. Around 9, medical equipment was available with the MHU vehicle. Overall, the number of people who visited OPD and those who were counselled at MHU increased in 2021-22 than the previous year.MHU has filled all the people's case papers who visited the OPD. In both years, most people in the Bharuch district attended specialized health camps more than in the Raigad district.

The monthly frequency of follow-up was 61.4% in 2020-21 and 67.7% in 2021-22 in the Bharuch district and 81% in 2020-21, and 89.7 % in 2021-22 in the Raigad district. There were more group counselling sessions in the Raigad district than in the Bharuch district. The MHU staff did the recipe demonstration, and recipes like Thali pith, Sprout mix, Sukhadi, Sheera, and Multigrain recipes were demonstrated among the people. Among the mild and moderate anaemia cases found on the first MHU visit, the number of anaemic girls decreased on the last visit in a year. However, in severe anaemic cases, i.e., 22 in the first visit of 2021-22, the number increased to 52 on the last visit in that year in the Bharuch district. Among the underweight children who were found undernourished and severely undernourished on the first MHU visit in a year, the cases decreased on the last visit in that particular village.

CHAPTER 9 - FIELD REPORT

9.1 Introduction

A mobile health unit (MHU), a mobile clinic, or a health van is a medical facility designed to provide health services to people who cannot easily avail the health care services. MHUs are typically equipped with medical supplies, healthcare professionals, and staff who can provide at least primary healthcare in their areas. Thus, it often provides healthcare services to underserved communities, including rural or remote areas and low-income groups, and is impacted by natural calamities or other emergencies. MHUs provide vital health services in both Vagra and Roha blocks, including primary healthcare services (check-ups, vaccination, and basic laboratory tests), preventive healthcare services (health education, counseling, and screening services), diagnostics services (blood tests and other tests), treatment services (common illnesses and injuries, cuts, burns, and infections), and referral services (refer patients to other healthcare facilities for more specialized care).

Community mobilizers play a significant role in providing MHU services in their areas. They serve as a bridge between healthcare providers and the community. They help educate and empower the community groups to care for their health. Some of the key roles of community mobilizers in the MHU services are: outreach and education (spreading the word about the MHU services to the community and counseling in the camps), creating awareness (working to raise awareness of health issues and promote health-seeking behaviors), and promote health camps and awareness (encouraging villagers to attend healthcare camps and health-related programs).

Moreover, proper channels between the service provider and receiver should exist to achieve good results (Gittell, 2016). Therefore, the Deepak Foundation has hired community mobilizers in the Vagra and Roha blocks to conduct OPD, camps, counseling, and awareness sessions. Community mobilizers are mostly residents of the same village; therefore, they can communicate with villagers in their language. Also, they have a good awareness of their village and knowledge about their health issues. Tables 1 & 2 shows the date of visit for the field work and the name of the community mobilizers in the selected villages.

Table 9.1: List of community mobilizers, date of visit, and the village from the Roha block

Date of visit	Name of CM	Village	Block	District and State
07-12-2022	Savita Madhukar Deshmukh	Shenvai	Roha	Raigad, Maharashtra
08-12-2022	Jayashri Jaywant Kharivale	Bhatsai	Roha	Raigad, Maharashtra
08-12-2022	Ganesha Ganesh More	Sanegaon	Roha	Raigad, Maharashtra
09-12-2022	Avita Anil Jadhav	Dhankanhe	Roha	Raigad, Maharashtra
09-12-2022	Vedika Vithoba Tembe	Devakanhe	Roha	Raigad, Maharashtra
10-12-2022	Ankita Samir Thombre	Pale Bk.	Roha	Raigad, Maharashtra
10-12-2022	Nita Naresh Pimpalkar	Shirawali	Roha	Raigad, Maharashtra
11-12-2022	Nikita Nathuram Dhumal	Virjoli	Roha	Raigad, Maharashtra
11-12-2022	Shamli Sunil More	Ghosale	Roha	Raigad, Maharashtra
21-12-2022	Poonam Bhagat	Borghar	Roha	Raigad, Maharashtra

Table 9.2: List of community mobilizers, visit date, and the village from the Vagra block

Date of visit	Name of CM	Village	Block	District and State
08-12-2022	Priyankaben Sindha	Vagra, kalam	Vagra	Bharuch, Gujarat
09-12-2022	CM post vacant	Khojabal	Vagra	Bharuch, Gujarat
09-12-2022	Bhagyashreeben Adhvayu	Rahiyad	Vagra	Bharuch, Gujarat
10-12-2022	CM post vacant	Keshvan	Vagra	Bharuch, Gujarat
10-12-2022	Salama Ben	Pipaliya	Vagra	Bharuch, Gujarat
11-12-2022	Chakshu Ben	Vengani	Vagra	Bharuch, Gujarat
11-12-2022	Asmita Ben	Kadodara	Vagra	Bharuch, Gujarat
12-12-2022	Priyanka Vasava	Paniyadara	Vagra	Bharuch, Gujarat
12-12-2022	Savitaben Gohil	Sambheti	Vagra	Bharuch, Gujarat
13-12-2022	Rinku Yadav	Ambhel	Vagra	Bharuch, Gujarat

9.2 Overall view: Community mobilizers/Health workers

Along with Deepak Foundation's community mobilizers, ASHA and AWW are also there in the villages. In some villages, community mobilizers also work as ASHA or AWW in the Roha block of Raigad. Their major role is to spread the word about MHU visits and health services and help medical staff conduct OPD, counseling sessions, etc. Community mobilizers are well aware of the health status of their village. However, some of the community health workers need to be made aware of the facility available for their village, such as Rogi Kalyan Samiti, VHSNC, etc.; when

asked about the RKSK and VSNC, they stated that they don't have any idea about it. According to community mobilizer information from Roha, these villages don't have Rogi Kalyan Samiti (Patient Welfare Committee) or VHSNC (Village Health Sanitation and Nutrition Committee) facilities. We have received a mixed response from the ASHA, AWW, and community mobilizers about these committees.

9.3 Gaps identified

MHU staff provides exemplary services to the selected villages; however, some improvement and some services are needed. For instance, **MHU needs to increase halt timing and point according to the geographical location; some households live 2 to 3 km away from the main halt point of MHU. For example, Ghosale, Dhankanhe, and Virjoli from Roha block have Adivasi pada, and Baudh wada villages are far from the MHU point**. **Community mobilizers are of the opinion that these areas are almost unreachable during monsoon. Therefore, MHU must halt for more time and increase the frequency of visit in these areas.**

Some villagers from Vagra and Roha demanded sugar tests, blood tests, and BP checks from the MHU because some villages do not have the nearest health facility. A community mobilizer from Kadodara village says that blood tests of adolescent girls have yet to be done in the village from MHU.

Sanitary pads were not provided to the adolescent girls in the Roha block, whereas it is provided in the Vagra block. Most of the respondents were requesting treatment for leprosy, emergency health care, ambulance service in case of emergency, cancer etc. BP tests are conducted but treatment on chronic health issues such as leprosy need to be taken care of by MHU because almost every village from Roha block has one or two patients of leprosy.

Finally, health camps should organize regularly, and remove the requirement of at least 150 people for health camps, etc.

9.4 Secluded area

A secluded area is isolated or hidden from the main village or town. In India, Schedule Tribes and Schedule Castes have always been isolated groups and economically backward (Bramhanandam & Bosubabu, 2017). It could be an area that is difficult to reach or an area that the resident of the village does not regularly visit. In India, many villages are divided based on caste and geographical location. Simillarly, in the Roha block, villages are divided into three parts: Baudh wada, **Adivasi pada, and the main village. In Baudh wada and Adivasi pada, these services MHU services are not well established compared to the main villages.**

The details of the areas in the villages where the MHU services need to be strengthened are as follows:

- Bhatsai: Baudh wada and Adivasi pada are about 0.5 to 1 km from the main village. MHU vehicle stands at the entrance gate of the village, which is around 1 km from the main village. Thereby MHU is located 1.5 km from Adivasi pada and Baudh wada.
- Shenvai: Here Baudh wada is adjunct to the main village, but Adivasi pada is around 1 km away.
- Sanegaon: This village has group Grampanchayat. The community mobilizer has suggested that MHU needs to visit in Adivasi Pada area of the village. Adivasi pada is about 1.5 km away from the main village. The MHU stand point is near the temple, which is at the entrance of the main gate. Adivasi pada villagers have to travel around 2 km to access the treatment from the MHU which is difficult for the sick patients.
- Yashawantnagar is another village within the same Group Grampanchayat as sanegaon village. Herealso the community mobilisers has suggested that the MHU should visit the Adivasi wada of the Yashwantnagar village. The MHU standpoint is located near the temple, which is at the entrance of the main village. This means that if anyone from Adivasi pda falls sick and needs treatment from the MHU, they would have to travel about 2 km to reach the MHU
- Devkanhe and Dhankanhe: These villages has a group Grampanchayat. Some respondents from both the villages said that MHU did not visit their area specially from Baudh wada and Adivasi Pada. A community mobilizer from Dhankanhe says that Adivasi pada is

around 2 km from the main village and hard to reach during monsoon to avail MHU services.

- In Kadodara village, there are nine Faliya (housing cluster), which is widely spread. Some respondents from these Faliya said that if MHU stands in their Faliya or nearby, they will go to take treatment. However, as per the community mobilizer, they did not come to take treatment from MHU.

The community mobilizers and respondents stated that MHU services are not properly reaching other parts of the such as Adivasi pada and Baudh wada. villages.

9.5 Major suggestions

Overall, the community mobilizers, respondents, ASHA, and AWW have given the following suggestions to improve the MHU services in both blocks.

1) **By considering the population size, geographical area, and village structure, MHU needs to increase its halt timing and points.**
2) In both these blocks, many villagers have blood pressure and diabetes problems. Therefore, it would be helpful if MHU provides blood and sugar tests at a minimal cost.
3) *MHUs often need to reach difficult areas to provide health services to the underserved population or need to respond to emergencies in remote areas.*
4) *Providing healthcare service to underserved populations, including low-income families, is often one of the primary goals of mobile health units. Low-income families may need more transportation, financial resources, and adequate healthcare services.*
5) MHU needs to create awareness about the services they offer to maximize its impact and reach as many people as possible.
6) It is important to raise awareness of adolescent health issues in villages and to educated peoples about the services that are available through MHU because most of the village does not have idea of adolescent health or anemia.

7) **In general the transportation and health facility is inadequate in Roha and Vagra blocks, the respondent, especially from the Roha block, expects ambulance facility from MHU.**

8) A special focul on providing health care services to the pregnant women.

9) A special focus in malnutrition especially in the Roha Block. As per the community mobilizers, the parents demand treatment for malnutrition for their children.

10) **Community mobilizers, particularly from the Roha block, suggest that MHU needs to increase camps and remove the minimum criteria of 150 people for camps.**

11) Some other chronic health issues have been found in the villages; therefore, at least check-ups and counseling are needed, especially for health issues such as cancer, hernia, kidney failure, and TB.

12) **Finally, due to rural and remote areas and financial issues, many girls from these blocks needed help spending money on sanitary pads. Some community mobilizers suggest that MHU must provide sanitary pads to adolescent girls in their areas.**

13) **MHU stand point should be located in Adivasi and Baudh wada of the villages**

Table 3 shows the villages and Gram Panchayats from the Roha and Vagra blocks. According to the community mobilizer, these villages need more health facilities because it is a group gram panchayat with more population than the other village. **Among these villages, only the Shirwali village population is having population size less than 400. Further, community mobilizers stated that these villages are around 2km away from each other and needed more MHU visits and halt more than one point. Thus, everyone can access the health facility provided by the Deepak Foundation. Similarly, in the Vagra block, only Sambheti village has group Grampanchayat with Samarpol village. MHU services are available only at Sambheti village (Gram Panchayat), and Samarpol village people must go there to get those services.**

Table 9.3: List of group gram panchayat in the Roha block

Villages	**Gram Panchayat**
A) Roha Block, Maharashtra	

Devkanhe, Dhankanhe	Devkanhe
Shirwali, Muthwali, and Gove	Shirwali
Sanegaon, Yashwantnagar	Sanegaon
Pale Bk., Sambhegaon	Pale bk.
Virjoli, Halgaon	Virjoli
B) Vagra Block, Gujarat	
Sambheti, Samarpol	Sambheti

9.6 Impact of health camps

A health camp organized by the MHU focuses on specific health concerns such as vaccinations and maternal and child health. These camps organize with the consent and with the help of village leaders. Health camps by mobile health units play a vital role in addressing healthcare issues and improving healthcare outcomes for rural people. Health camps held by MHUs, have a significant impact on these villages. Due to health camps, the overall health of the villagers has improved. Since it is cost-effective, villagers take advantage of MHU services and their health camps.

In most of the study areas, health camps are organized regularly. A few respondents from Bhatsai, Virjoli, Shirwali, and Pale Bk eagerly await camps. As per community mobilizers and the villagers, health camps are organized on special days; therefore, they know about particular health issues. They are satisfied with the services received from MHUs.

9.7 Impact of anemia and malnourishment

MHU provides important health services for adolescent anemia and malnourishment in both blocks. Most of the girls who have anemia issues are recovered after the treatment received from the MHUs. If they do not recover after the treatment, MHU staff observes that patient until they recover. Moreover, MHU provides free treatment to anemic and malnourished patients; they charge ₹10 from other patients in the Vagra block. Anemic girls get shampoo, comb, sanitary, iron tablets, nutrition counseling, and blood tests free from MHU in the Vagra block. **In the Roha block, villagers demanded food for malnourished children and awareness about adolescent anemia.**

9.8 Views of local people

As per community mobilizers, MHU visits every community area of the study regions. Some respondents suggested that MHU needs to improve, whereas some were happy after taking treatments from the MHU. Some respondent from the Roha block is not happy with the services provided by MHU **specifically, Bhatsai, Devkanhe, Dhankanhe, and Virjoli villagers living outside the village said they do not know what services MHU provides or when they visit their areas. Many respondents said MHU service is good, their whole staff is very cooperative, and some villagers stated that MHU service needs to improve.**

Moreover, some village people from Roha suggested that MHU needs to visit their village twice in fifteen days. An old lady from the Ghosale village was crying when asked about the MHU service; she replied, "*MHU treatment is very effective, charging only ₹5 and giving medicines and eye drops".* After discussion with community mobilizers, ASHA and AWW, we understand that some villages need more health facilities. Some villagers depend upon MHU's health services only because they do not have the nearest health facility and public transport.

9.9 Summary

MHU has provided good services in these villages irrespective of geographical location, population, weather, and Covid-19 restrictions. **In the Roha block, according to the ASHA and AWW, health services need to reach Adivasi pada and Baudh wada. These two parts are away from the main village; therefore, MHU must stand at more than one point. They said that MHU must send messages to the villagers when they arrive so every household can benefit from health services. Many villagers stated that MHU timing needs to increase because 1 or 2 hours, the allotted time is insufficient to cover the whole village. Most villages are divided into parts in Roha; every village has three features a main village, Adivasi pada, and Baudh wada. Likewise, the same situation is in the Vagra block. In Vagra block, Khojabal village has divided into seven parts, and many villages come under one Gram Panchayat. Community mobilizers suggested that MHU must visit all villages instead of only Gram Panchayats.**

MHUs have emerged as an innovative solution to address the barriers many faces when accessing healthcare services. They are typically equipped with medical staff, equipment, and technology that enable them to deliver health services to communities in need. Finally, the benefits of MHUs are numerous and have the potential to make a significant impact on healthcare, particularly in hard-to-reach areas.

9.10 Key Recommendations

- **According to some villagers from the Roha block, a few community mobilizers are not visiting their houses to convey messages about MHU visits. Also, they suggest that MHUs have to announce their visits on mike.**
- The respondents from both blocks demanded emergency services during pregnancy.
- Camps and awareness sessions should be organized regularly.
- **Since it is an essential health service, it must stand over 3 hours.**
- **Some villages are big in population, and some come under one Gram Panchayat; therefore, MHU needs to consider this and increase their visits to the particular village.**
- Provide sanitary pads to every girl who needs them.

A) Photos of respondents during interviews from the villages of Roha and Vagra blocks during the field visit.

Photos of Roha block

1)Village name: Bhatsai,Roha Dist.Raigad. Date of visit 08/12/2022

2)Village name: Bhatsai,Roha Dist.Raigad. Date of visit 08/12/2022

3)Village name: Bhatsai,Roha Dist.Raigad. Date of visit 08/12/2022

4)Village name: Bhatsai,Roha Dist. Raigad. Date of visit 08/12/2022

5)Village name: Dhankanhe ,Roha dist.Raigad Date of visit 09/12/2022

6)Village name: Dhankanhe ,Roha Dist. Raigad Date of visit 09/12/2022

7)Village name: Devkanhe ,Roha Dist. Raigad. Date of visit 09/12/2022

8)Village name: Pale Bk. ,Roha Dist. Raigad. Date of visit 10/12/2022

9)Village name: Shenvai ,Roha Dist. Raigad. Date of visit 07/12/2022

10)Village name: Sanegaon ,Roha. Date of visit 08/12/2022

11)Village name: Pale Bk. ,Roha. Date of visit 10/12/2022

B)

Photos of Vagra block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CHAPTER – 10: SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

10.1 Summary

Healthcare is an essential service, and quality healthcare should be easily accessible to all. However, quality healthcare services are not easily accessible for people from remote, difficult-to-reach regions and poor socio-economic backgrounds. Mobile Health Unit (MHU) is an initiative started by Deepak Foundation to provide doorstep medical health facilities in these areas. Based on the need for providing a last-mile reach of direct health services in remote and underserved rural populations, two mobile health units mainly cater to such areas. These MHUs give curative services, free-of-cost medicines, and referral support to reduce out-of-pocket expenditure.

In this chapter, we discuss the summary of existing MHU services in Raigad (Maharashtra) and Bharuch (Gujarat) districts and areas to be strengthened that may hold potential for enhancing the quality of services and improving productivity.

10.1.1 Health Profile of the Respondents

Overall, the study sample shows that more than ninety-three percent of the respondents have ration cards, and fifty-eight percent of the respondents fall under the BPL, and the rest come under the APL. About half of the respondents average monthly household consumption expenditure is more than ₹10000, and two-fifth of the respondents spent between ₹5000 - ₹10000.

Overall, about 53% and 47% of the individuals suffering from any health issues, and average health expenditure is ₹2899 if the patient is availing treatment from private facilities, which comes down to ₹172 in the government facilities **and just ₹7 in the MHUs**. Most of this health expenditure was accounted for the purchase of medicines.

10.1.2 Awareness about the Health camps and Counselling conducted by MHU

Awareness about any service is essential in availing of the benefit of that particular service. The finding of the current study suggests that the awareness of Mobile Health Unit services among the respondents was more significant in the Bharuch district compared to the Raigad district. This is

similar to the case of awareness of health camps provided by MHU; respondents in the Bharuch district are more aware of the health camps than the respondents of the Raigad district. MHU services in Jharkhand has provided an opportunity to spread awareness and provide health services to the hard-reach areas (Nandan and Kumar, 2009). Similarly, the finding of the current study revealed that most of the respondents are aware of the MHU services in their remote areas. However, slightly lower than one-fourth of the respondents from Raigad district are aware of the health camps conducted by MHU, whereas, in Bharuch district, about seventy percent of the respondents were aware of health camps.

10.1.2 Accessibility of MHU Services

The accessibility and availability of service are necessary for every individual to avail the use of that service. The current study revealed that the MHUs were easily accessible for most respondents as the place where MHU was serving was within walking distance of the respondents.

Each mobile health unit provides for the health needs of 20 villages and patrols all the villages within its scope once every 15 days. The services rendered by these MHUs include curative healthcare, addressing reproductive and child healthcare issues, counselling for family planning, sanitation, hygiene, nutritional awareness, and overall lifestyle modification for well-being, and during the visits of MHUs, around 87% of respondents have benefited from the OPD services.

10.1.3 Adolescent Anaemia

Anaemia is the most common nutritional disorder among adolescent girls. The current study revealed that out of 84 households where adolescent girls were present, more than sixty per cent of the adolescent girls were screened, of which about eighty-five per cent were anaemic. Most of them have received treatment and counselling from MHU. These counselling sessions were provided individually and in groups to adolescent girls.

The MHU provided follow-up services to the anaemic patients. The haemoglobin count was checked in the follow-up treatment; 48 respondents received the first follow-up, 37 respondents received the second follow-up, and 34 received the third follow-up treatment from MHU. Also, MHU provided nutritional guidance to about 98% of anaemic patients.

10.1.4 Underweight Children Programme

The knowledge about the Underweight Children Programme is relatively low in both districts as only one-fourth of the respondents are aware and have knowledge about the underweight children program conducted by Mobile Health Units. Although education level plays an important role in the awareness about any program among the respondents; however, in both districts, there is no relation between knowledge about the program and education level. Resulting, only one-fifth of the children of the households have received health check-ups in both the district from the Mobile Health Units. However, among these, ninety-six percent of case papers were maintained in the Bharuch district. The MHU staff mentioned most of the information on those case papers.

About nine percent of the respondents do have malnourished children in their households. Of these, nearly three-fourths is following the instruction provided during the treatment by MHU, and more than sixty-five percent have received multi-micronutrient supplements from the MHU. Interestingly, a higher percentage of the children are malnourished in the households among the secondary level of education and self-employed respondents. Among the malnourished children, more than sixty-four per cent in the Bharuch district and sixty-six per cent in the Raigad district were cured at the time of data collection.

10.1.5 Immunization and Pregnancy Consulting Services

Immunization and counselling services are essential for a healthy pregnancy and healthy childbirth. In both districts, these services are provided to the selected respondents, such as pregnant women and children under five. A total of 35 respondents received counselling on immunization and specific vaccine, whereas 34 received advice during the pregnancy on the diet plan and follow-up consultation. Apart from these counselling services, a few selected respondents have also received free-of-cost medicine from the MHU.

10.1.6 Services for COVID-19 patients during the outbreak

The prevalence of covid-19 was pervasive; therefore, WHO declared covid-19 a pandemic. There are many restrictions for everyone, but MHU helps villagers and gives them doorstep treatment at a minimal cost. In Raigad and Bharuch, they have also provided health services and created awareness about hygiene. Even if they had a hectic schedule during the pandemic, they have followed every standard protocol of covid set up by the government. A total of 17 respondents

have reported that they had been infected with COVID-19 and have received treatment from the MHU along with referral services to a higher facility.

10.1.7. Field report

In the Roha block, according to the ASHA and AWW, health services need to reach Adivasi pada and Baudh wada. These two parts are away from the main village; therefore, MHU must stand at more than one point. They said that MHU must send messages to the villagers when they arrive so every household can benefit from health services. Many villagers stated that MHU timing needs to increase because 1 or 2 hours, the allotted time is insufficient to cover the whole village. Most villages are divided into parts in Roha; every village has three features a main village, Adivasi pada, and Baudh wada. Likewise, the same situation is in the Vagra block. In Vagra block, Khojabal village has divided into seven parts, and many villages come under one Gram Panchayat. Community mobilizers suggested that MHU must visit all villages instead of only Gram Panchayats.

MHUs often need to reach difficult areas to provide health services to the underserved population or need to respond to emergencies in remote areas.In general the transportation and health facility is inadequate in Roha and Vagra blocks, the respondent, especially from the Roha block, expects ambulance facility from MHU. Also, villagers from Roha block demanded food for malnourished children and awareness about adolescent anemia

10.2 Gaps Identified

MHU needs to increase halt timing and point according to the geographical location; some households live 2 to 3 km away from the main halt point of MHU. For example, Ghosale, Dhankanhe, and Virjoli from Roha block have Adivasi pada, and Baudh wada villages are far from the MHU point. Community mobilizers are of the opinion that these areas are almost unreachable during monsoon. Therefore, MHU must halt for more time and increase the frequency of visit in these areas. Sanitary pads were not provided to the adolescent girls in the Roha block, whereas it is provided in the Vagra block.

10.3 Views of local people

Some respondents from the Roha block are not happy with the services provided by MHU specifically, Bhatsai, Devkanhe, Dhankanhe, and Virjoli villagers living outside the village said they do not know what services MHU provides or when they visit their areas. Many respondents said MHU service is good, their whole staff is very cooperative, and some villagers stated that MHU service needs to improve.

Moreover, some village people from Roha suggested that MHU needs to visit their village twice in fifteen days. An old lady from the Ghosale village was crying and satisfied when asked about the MHU service; she replied, "*MHU treatment is very effective, charging only ₹5 and giving medicines and eye drops".*

10.4 Conclusion

The study attempts to evaluate and assess the Mobile Health Unit (MHU) Services in Roha and Bharuch districts, which provide primary preventive and curative health services in the form of OPD and free-of-cost medicine spreading the knowledge and awareness about the different health programmes. So, we evaluated the benefits to the people, such as the availability and accessibility of the MHU, prior information about the visit of the MHU, counselling, and referral services of the MHU, etc.

The counselling and OPD services are good in both districts. However, some areas need to be focused on strengthening the MHU services, which are mentioned below with the key recommendations.

10.5 Key recommendations

- The awareness of MHU services is good in both districts; however, awareness about the health camps is very poor in the Raigad district. Before organizing any camps, they would have to be publicized to attract more people. So that people can understand and be aware of the health camps and can be benefited from the health services.

- For better awareness and mobilization of the MHU services, better planning from the head office is needed, which should be shared with all the community mobilizers on 1st day of every month.
- The MHU provides counselling, lab, and medicine services to adolescent girls to reduce anaemia levels. In this regard, the MHU has screened more than sixty per cent of adolescent girls. Among them, 8 of 10 adolescents are anaemic. After receiving the treatment and a few follow-up counselling, these girls' haemoglobin level has improved. It would be great if MHU should increase the screening of adolescent girls in these remote areas. The more the screening, the more frail teenage girls can be treated.
- Similarly, the MHU also provides counselling and nutrition services to malnourished children. During the COVID-19 pandemic, the MHU has provided counselling services on various nutrition topics to the parents/caregiver of the children. However, nearly one-fourth of the parents have not received any counselling services, and more than half have not received counselling on vaccination, breastfeeding, and hygienation.
- Through campaigns, it is recommended to strengthen the counselling and nutrition services for parents and children. Also, it can be done via the capacity building of the AWW.
- Good ANC service during the childbearing process is one of the important factors. For this, the public health sector is doing a great job. However, in remote areas, most pregnant women cannot go to public health centers, and sometimes, ANMs cannot track them. To these pregnant women, the MHU provides counselling and free drug services. However, the coverage of ANC services is poor, as only thirteen percent of the respondents have reported that the MHU provides ANC services. It is recommended to increase the awareness camps through the community mobilizer and plan the visit of MHU along with ANMs of the Sub-Centre/Primary Health Centres.
- One of the important objectives of the MHU is to provide OPD and medicines services at the door in remote areas to reduce the health expenditure, in which they have imensly successful by reducing the health expenditure for the OPD or minor illness patient to just an average ₹7 from the health expenditure of ₹172 at the government facilities of which travelling cost is attributing for the most with an average ₹131.

- Some villages are big in population, and some come under one Gram Panchayat; therefore, MHU needs to consider this and increase their visits to the particular village.By considering the population size, geographical area, and village structure, MHU needs to increase its halt timing and points. Since it is an essential health service, it must stand over 3 hours. MHUs often need to reach difficult areas to provide health services to the underserved population or need to respond to emergencies in remote areas.
- According to some villagers from the Roha block, a few community mobilizers are not visiting their houses to convey messages about MHU visits. Also, they suggest that MHUs have to announce their visits on mike. Community mobilizers, particularly from the Roha block, suggest that MHU needs to increase camps and remove the minimum criteria of 150 people for camps.
- Among these villages, only the Shirwali village population is having population size less than 400. Further, community mobilizers stated that these villages are around 2km away from each other and needed more MHU visits and halt more than one point. Thus, everyone can access the health facility provided by the Deepak Foundation. Similarly, in the Vagra block, only Sambheti village has group Grampanchayat with Samarpol village. MHU services are available only at Sambheti village (Gram Panchayat), and Samarpol village people must go there to get those services.
- Finally, due to rural and remote areas and financial issues, many girls from these blocks needed help spending money on sanitary pads.Therefore, it is recommended that MHU must provide sanitary pads to adolescent girls in their areas.

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