



Report for Baseline Assessment of Emergency Lifesaving Assistance in Conflict Affected Populations Project of Adventist Development and Relief Agency

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EMPOWER Consultancy

EMPOWER
through Synergy Search

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ACRONYMS

ADRA	Adventist Development and Relief Agency
AMW	Auxiliary Midwife
ANC	Ante Natal Care
ARI	Acute Respiratory Infection
ATT	Anti-Tetanus Toxoid
BHA	Bureau for Humanitarian Assistance
BCG	Bacille Calmette-Guérin
CDM	Civil Disobedient Movement
CFU	Colony Forming Unit
CHW	Community Health Worker
CIDKP	Committee for Internally Displaced Karen People
DHF	Dengue Hemorrhagic Fever
DOTS	Direct Observed Treatment Short course
DPT	Diphtheria, Pertussis and Tetanus Toxoid
EAO	Ethnic Arm Organization
ELACAP	Emergency Life Saving Assistance in Conflict Affected Populations
EmOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunization
EWAR	Early Warning Alert and Response
FGD	Focus Group Discussions
FRC	Free Residual Chlorine
G6PD	Glucose 6 Phosphate Deficiency
IDI	In-Depth Interview
IDPs	Internally Displaced Persons

IEC	Information, Education and Communication
ITT	Indicator Tracking Table
IUD	Intrauterine Device
KDHW	Karen Department of Health and Welfare
KII	Key Informant Interview
KNU	Karen National Union
LLIN	Long Lasting Insecticide Net
MCH	Maternal & Child Health
MDG	Millennium Development Goal
METF	Malaria Elimination Task Force
MMK	Myanmar Kyat
MMUs	Mobile Medical Units
MNCH	Maternal, New-Born and Child Health
MOHS	Ministry of Health and Sports
MSI	Marie Stopes International
MUAC	Mid Upper Arm Circumference
MW	Midwife
NGO	Non-Government Organization
NFI	Non Food Items
NTU	Nephelometric Turbidity Unit
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PAB	People Administrative Body
PCV	Pneumococcal Conjugate Vaccine
PDF	People Defense Force
PLS	Plain Language Statement
PLW	Pregnant and Lactating Women
PNC	Post Natal Care
PPS	Proportionate to Sample
PSU	Primary Sampling Unit
RDT	Rapid Diagnostic Test
RHC	Rural Health Centre
SBA	Skill Birth Attendant
SD	Safe Delivery
SMRU	Shoklo Malaria Research Unit
SRH	Sexual Reproductive Health
SRHC	Sub Rural Health center
TBA	Traditional Birth Attendant
TOR	Term of Reference
TT	Tetanus Toxoid
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
VHW	Village Health worker
VIP	Ventilated Improved Pit latrine
VTHC	Village Tract Health Centre
WASH	Water, Sanitation and Hygiene

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EMPOWER Consultancy Limited

1. EXECUTIVE SUMMARY

1.1. Background and Objectives

The ELACAP project is being implemented by ADRA Myanmar in Karen and Chin states to meet urgent emergency health and Water, Sanitation and Hygiene (WASH) needs of conflict-affected Internally Displaced Persons (IDPs).

The baseline assessment was carried out with the following objectives.

- (1) Finalize baseline indicators for the project with reference to project Indicator Tracking Table (ITT), needs analysis and minimum standards from secondary reference such as Sphere Standards for measuring performance of project outcomes.
- (2) Design methodology for data collection and analysis for finalized indicators to make one group pre-post-test comparative analysis using mixed methods to analyze project performance.
- (3) Collect data and provide a report with analysis of the baseline status for finalized indicators against which project end line can make a comparative analysis of project performance.

1.2. Overview of Key Findings

Analysis of both the quantitative data and qualitative data provided the following key findings around health system, Sexual and Reproductive Health, child health, WASH, communicable diseases and injury and trauma.

1. Health System

The health system in the brigade 5, 6 and 7 controlled areas was assessed to be plagued with some weaknesses after the military coup on 1 February 2021. The health system in Mindat township and in the areas where IDPs resided was not functioning due to the arm conflicts between the military regime and PDFs. The number of people outweighed the number of medical units, health care providers, medicines, equipment and materials.

2. Sexual and Reproductive Health

The existing health facilities from Kayin State could not provide Sexual and Reproductive Health essential services in a timely manner and adequately and that there was a low adoption

of essential ante natal practices by pregnant women. Pregnant women from camps in Mindat township and Yaw area of Magway region did not receive proper ANC, safe delivery and PNC adequately.

3. Child Health

Unhealthy practice during new baby delivery could made New-Born babies vulnerable to life-threatening infections, particularly neonatal tetanus. A low coverage of vaccines and disruption of the EPI in both Mindat township and Karen state underscored the vulnerability of children to major vaccine preventable childhood communicable diseases.

4. Communicable Diseases

There was no severe outbreak of communicable diseases such as Malaria, Cholera, Diphtheria, Pertussis, Meningitis and Tuberculosis in the brigade 5, 6 and 7 controlled areas and Mindat's camps. Some villages in the brigade 7 controlled areas had many villagers who were infected with the COVID-19.

5. Injury and Trauma

Eleven percent of adult household members encountered injury between September 2020 and August 2021. In comparison, the most common cause of injury was types of injuries other than road traffic injury, fall, burn and landmines and gun shots at 31.8 percent followed by fall at 27.3 percent and road traffic injury at 18.2 percent. Seriously injured patients needed rapid transportation, and the arm forces of the military regime stopped them from reaching the desired destinations. The existing health care facilities were ill equipped to deal with a large number of patients with injuries and/or life-threatening injuries.

6. WASH

Major sources for drinking and cooking water were public water tap, unprotected spring, protected lake/well, unprotected hand-dug well and pipe water connected to house, and the proportion of households which used these water sources varied among rainy season, winter and summer. The most commonly used water cleansing methods were identified as boiling before drinking, filter by cloth and drink, filter by cloth, boil, filter by cloth again and sediment, and filter by cloth, boil and then drink. The proportion of households using these cleansing methods varied from one season to another but a majority of households (less than 60 percent) boiled water before drinking.

WASH committees were formed in some villages or camp management committees oversaw WASH. A lack of proper long term plans, resources and capacity hindered effective implementation of WASH activities by them.

The survey found that 77.7 percent of household members older than 5 years used a household latrine, 10.7 percent used a communal latrine and 10.3 percent used open defecation. In comparison, 35.3 percent of under five children used open defecation, 33.3 used a household latrine, 15 percent used plastic bag, 5 percent used plastic pot, and 3.7 percent used dipper. 39.8 percent of mothers disposed child's feces in the places other than latrines and 21.5 percent left feces at the place where children excreted.

Regarding open defecation practice, findings suggested that the likelihood of contamination of soil with feces was high, which could contribute to food and water borne diseases and worm infestation. Observation of latrines discovered that 6.4 percent of latrines were found to be full with feces, 7.2 percent had feces on the floor, 46.8 percent had a strong odor, and 41.1 percent had fly (s) inside the toilet. These findings were indicative of the considerable degree of poor sanitation.

The proportion of mothers who did not wash their hands ranged from 14.3 to 78.3, which was indicative of potential contamination of food and water with harmful organisms.

2. INTRODUCTION

The ELACAP project is being implemented by ADRA Myanmar in Karen and Chin states to meet urgent emergency health and WASH needs of conflict-affected IDPs. The project will provide free primary healthcare services through Mobile Medical Units (MMUs) to conflict affect populations to increase access to high-quality, critical and life-saving health services. It also aims to increase access to high-quality curative and preventive primary health care services through supporting health systems, basic primary health care, and supplying pharmaceuticals. Additionally, it will work for rehabilitation of water points, training beneficiaries on sustainable water use and operations, including maintenance of water sources, and promoting essential hygiene friendly behaviors through giving messages and WASH Non Food Items (NFI). It will support conflict affected populations to improve access to safe water, sanitation and hygiene, which in turn will facilitate better household and community health conditions.

The purposes/outcomes of ELACAP are:

- (1) To increase access to high-quality curative and preventive primary health care services among conflict-affected IDPs in Karen state in Myanmar; and
- (2) To increase access to life-saving water and sanitation services, and to provide key health and hygiene messages to reduce the occurrence of water-borne diseases among conflict affected IDPs in Karen and Chin states in Myanmar

The target areas of the project in Karen state are the locations which are controlled by Karen National Union (KNU) or both KNU and the military regime. The entire target area is divided into the administrative locations under the control of brigade 5, brigade 6 and brigade 7. In comparison, the target areas in Chin state consist of camps of IDPs spreading across Mindat township and adjoining areas in Saw and Yaw areas of Magway region. The target populations in both Karen and Chin states are local residents and displaced people who moved into the target areas due to the arm conflicts between PDF or EAO and the military regime arm forces or the suppression of the military regime.

The baseline study applied a group pre and post-test design in order to compare data from the baseline and an end evaluation around a set of indicators from the representative samples of populations with similar demographic characteristics – education, age, ethnicity, etc. -- residing in the target villages and camps of three districts in Karen state and one district in Chin state. To correspond to the study design, a sequential mixed methods approach was utilized to design and implement the study.

The survey was carried out from 2nd week of September to last week of September 2021. The respondents of the survey were chosen from the target villages where ELACAP intended to provide the health care services. Random samples were drawn from a list of the target villages and households provided by the ADRA team. 15 trained enumerators carried out a face-to-face interview of 300 mothers and 200 adult household members other than mothers using Kobo digital software. A multi-stage sampling strategy was applied to select 500 samples randomly. To complement the survey findings, Key Informant Interviews (KII) with 1 camp manager and 1 member of People Administration Body (PAB) of Mindat township, and 4 In-Depth Interviews (IDI) with mothers of under 5 children and KIIs with 3 clinic in-charges and 3 village leaders from the Brigades 5, 6 and 7 controlled areas were facilitated. The participants of IDIs and KIIs were identified purposively.

3. METHODOLOGY

3.1 BASELINE STUDY DESIGN AND PURPOSE

The baseline study applied a one group pre and post-test design, implying that both a baseline assessment and an end of the project evaluation would collect data regarding a set of indicators from the representative samples of populations with similar demographic characteristics – education, age, ethnicity, etc. -- residing in the target villages and camps of three districts of Karen state and Chin state. To correspond to the study design, a sequential mixed methods approach was utilized to design and implement the study as shown in the Annex Figure 3.1 (Creswell, 2003).

This study design and the corresponding data collection methods enabled ADRA to undertake a comparative analysis of the situation before and after the implementation of the intervention, which could draw inferences on the project performance statistically. Furthermore, qualitative analysis enriched the study with the explanations of causes, factors and the context that had influence on the size of the measurements of the project baseline indicators. The proposed baseline assessment was carried out in 3 phases as follows.

In addition, a participatory and utilization-focused approach was employed to facilitate optimal use of the baseline findings (Patton, 1997). Data triangulation was undertaken at three levels to maximize validity of data as well: (1) data collection from more than three sources; (2) methodological triangulation using quantitative method and several qualitative methods; and (3) data analysis using a team of analysts for both quantitative and qualitative data (Denzin, 1978).

3.2 SCOPE, APPROACH AND METHODOLOGY

The scope of the assessment encompassed Sexual and Reproductive Health (SRH), child health, communicable diseases, injury and trauma, WASH and basic primary health care.

3.2.1 EXPLORATORY QUALITATIVE PHASE

First, a document review was undertaken to understand the needs and the effective interventions against emergency health and WASH needs of conflict-affected IDPs in Karen and Chin states and other similar contexts in Myanmar. Relevant documents and secondary data from the following sources were utilized: (a) WHO, UNICEF and other United Nations agencies; (b) Donors and multi-lateral organizations such as USAID, World Bank, etc.; (3) Non-Governmental Organizations; (4) Ministry of Health and Sports; and (5) Sphere standards.

Second, 2 consultation meetings with ADRA and key stakeholders from Yangon and each of 3 districts where the project is being implemented were held. During this exploratory phase, ways of constructing key terminologies, wording and phrasing of a structured questionnaire were examined, which enabled the study team to develop an appropriate questionnaire. Languages that needed to be used in interviews, operational challenges, recruitment of interviewees and logistic issues were investigated and planned in this phase.

These 2 means helped the baseline study team to finalize the study design, methodology, sample size and sampling strategies, questionnaires for quantitative data collection, semi-structured guidelines for Key Informant Interviews (KII), schedule for training of enumerators and a detailed work-plan.

The proposed baseline study examined 4 major components in line with the standard indicators of the Sphere guidelines. Components and indicators were finalized jointly by the consultant team, ARDA and key stakeholders during an inception phase.

3.2.2 QUANTITATIVE METHOD PHASE

A structured questionnaire survey was implemented to collect data from 300 households with mothers of under five children and 200 adult male and female populations other than mothers from Brigade 5, 6 and 7 in Kayin State and Mindat township in Chin State. In detail, 72 mothers of children under 5 years old and 46 adult household members from Brigade 5, 92 mothers of children under 5 years old and 60 adult household members from Brigade 6, 81 mothers of children under 5 years old and 56 adult household members from Brigade 7 and 55 mothers of children under 5 years old and 38 adult household members from Mindat.

A sampling frame was constructed by using the population data of the target groups collected by ADRA. A multi-stage sampling method was used to identify samples. Information obtained from an exploratory qualitative data collection was used to develop a structured questionnaire, which was reviewed and refined with involvement of ADRA and key stakeholders. Trained interviewers were assigned to selected households. A Plain Language Statement (PLS) was read, and informed consent was sought. After that, trained interviewers interviewed selected households using Kobo digital software.

The consultants and supervisors reviewed the completed questionnaires every day during the data collection period to examine validity and accuracy of data collected and skills of enumerators via online methods. Weaknesses of data collection process and enumerators were

redeemed, and enumerators revisited the respondents to verify data when the questionnaires had illogical data. This daily monitoring of data collection ensured the validity and accuracy of answers.

3.2.3 EXPLANATORY QUALITATIVE PHASE

KIIs were undertaken to elicit explanations and elaborations for quantitative data analyses and to formulate recommendation around the strategies and activities (See details in Annex Table 3.1). Tape recording of KIIs was done so that transcripts were used for analysis.

The total number of the structured interview was 300 mothers of under five children and 200 adult household members other than mothers, 3 KIIs of clinic in-charge of VTHC, 3 KIIs of village leaders, 1 KII of camp manager and 1 KII of member of the PAB and 4 IDIs of mothers of under five children.

3.4 SAMPLING

A multi-stage sampling method was utilized for a structured survey. A total of 69 villages and 18 IDP resettlements from 3 districts were divided into 30 clusters. During the first stage, Primary Sampling Units (PSUs) were chosen using a Population Proportionate to Sample (PPS) approach. Estimated populations of each of 69 villages and 18 IDP resettlements were enumerated, and cumulative populations were derived. A sampling interval was computed by dividing the total estimated population with 30 clusters. A first random number that fell between 1 and a sampling interval number was chosen using SPSS software. After that, successive random numbers were derived by adding the sampling interval to the first random number. Clusters to which the first random number and successive numbers fell were chosen as PSUs.

During the second stage, individual samples were selected from PSUs through applying a systematic random sampling. A first house on the right hand side of the village entry road was chosen first and after that every 4th household on the right hand side were selected. When there were more than 1 mother of under five children in one chosen household, one mother was selected randomly.

With regard to selection of respondents for KIIs, a purposive sampling method was used. The most knowledgeable key informant of the health and WASH issues from the brigade 5, 6 and 7 and Mindat township were identified in accord with the purpose of each KII.

3.5 SAMPLE SIZE

The required sample size was estimated through taking into consideration of the following parameters (Kirkwood and Stern, 2003, p. 420):

1. significance level of 5 %;
2. study power of 90 %;
3. design effect of 2; and
4. the level of the key indicators at the baseline assessment and the level of these key indicators predicted to be achieved at the end of the project (3 years) as presented in Annex Table 3.2.

The sample size was finalized with ADRA and key stakeholders in consideration of the available time, budget and manpower during an inception period. (1) 300 mothers with children under five years old were interviewed to cover child health, SRH and WASH; and (2) 200 adult populations (18 to 60 years old) were interviewed to cover communicable diseases, and injury and trauma.

3.6 STUDY LIMITATIONS AND CHALLENGES

The continuation of COVID-19 pandemic taking place since March 2020 and the military coup taking place since 1 February 2021 necessitated using telephone and other online means to collect qualitative data, which might not produce the same quality of data as the physical data collection methods yielded.

Second, some enumerators of the survey did not have prior experience in carrying out a face-to-face interview around health and WASH issues. Although they received training and a close supervision and support from the consultant teams, some of them did not ask some questions as instructed. As a result, answers were incorrect for these questions. This limitation was addressed by revisiting the respondents by these enumerators.

Third, the study team could not elicit detail information about the Mobile Medical Units because the study team could not obtain an appointment to facilitate KIIs of people who are knowledgeable about the Mobile Medical Units.

Nevertheless, application of both quantitative and qualitative methods, triangulation of methods, data sources and analysts, and employing a utilization-focused, participatory approach mitigated these drawbacks to make the baseline assessment findings valid and credible.

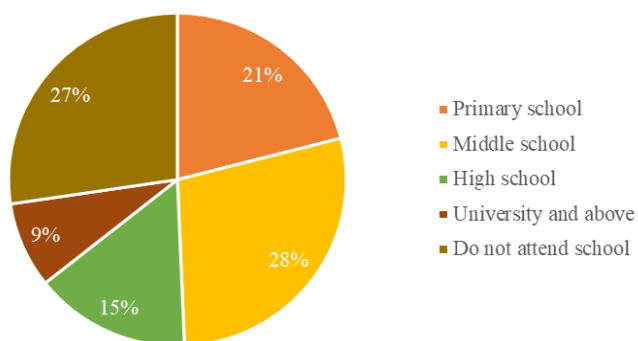
4. DETAILED FINDINGS

This chapter presents analyses of data from the survey of 300 mothers with under five-year-old children, and 200 adult household members, KIIs of 3 clinic in-charges of VTHC and 3 village leaders of brigade 5, 6 and 7 of KNU controlled areas, KIIs of one camp management and one People Administrative Body member of Mindat township and IDIs of 4 mothers of under five children from brigade 5, 6 and 7 controlled areas.

4.1 DEMOGRAPHIC INFORMATION OF SAMPLE HOUSEHOLDS

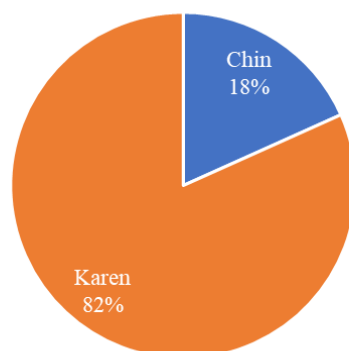
The baseline study discovered that 21 percent of 300 participating mothers studied the primary school level – 1 to 4 grade -- followed by the middle school level – 5 to 8 grade -- with 28.3 percent, the high school level – 9 to 10 grade -- with 15 percent and the university level with 8.3 percent. The respondents who did not attend the government school or KNU's school was 27.3 percent. The average school grade passed was 7.

Figure 4.1 Education Level of Mothers Participated in Baseline



Regarding the ethnicity of the participants, 81.7 percent were Karen and 18.3 percent were Chin.

Figure 4.2 Ethnicity of Mothers Participated in Baseline



A majority of the respondents are Buddhist at 55.7 per cent followed by Baptist at 24.3 per cent, Roman Catholic at 8 per cent and other religions at 12 per cent. An average monthly household income of the respondents was 81,778 MMK or 43 USD at the exchange rate of 1,900 MMK to 1 USD. (median income was 80,000 MMK, minimum was 0 MMK and maximum was 500,000 MMK). In comparison, an average household member per family who shared income and expenses was 5.76. 4 percent of the respondents did not have income because they could not work while staying in camps. Detail demographic information of mothers was shown in the Annex Table 4.1

A principal livelihood was Agriculture with 70.3 per cent followed by other livelihood such as working at car workshop, weaving, carpenter, government staff, health care provider, hard laborer, taxi driver, teacher with 13.3 per cent, international migrant with 3.3 per cent, groceries, food stall and tea shop business with 3 per cent, livestock with 2.3 per cent, trading with 2.3 per cent and timber or firewood production with 1.3 per cent respectively. A principal livelihood of Households was shown in Annex Table 4.2.

4.2 FINDINGS AGAINST INDICATORS OF ELACAP

Analysis of both the quantitative data and qualitative data provided essential information for the project key indicators as well as key indicators of Sphere Standard pertaining to health system, communicable diseases, child health and Sexual and Reproductive Health (SRH) as illustrated in the table below and detail was shown in the Annex table 4.3.

Table 4.1 Baseline Findings against the Project Indicators

HEALTH SYSTEM: HEALTH SYSTEM STANDARD 1.1 (HEALTH SERVICE DELIVERY)
ELACAP Indicator (ADRA, 2021): Health Systems Support: (1) Number of health facilities supported; Basic Primary Health Care (a) Number of outpatient consultations
Zero at the baseline
HEALTH SYSTEM STANDARD: (HEALTH CARE WORKFORCE)
ELACAP Indicator: (1) Number of Community Health Workers supported (total within activity area and per 10,000 population) (2) Number of health care staff trained
There were no Community Health Worker supported and trained by ELACAP at the baseline
HEALTH SYSTEM STANDARD 1.3 (ESSENTIAL MEDICINES AND MEDICAL DEVICES)
ELACAP Indicator: (1) Number of health facilities out of stock of any medical commodity tracer products, for longer than one week, 7 consecutive days)
Analysis of qualitative data revealed the following evidence which suggested that the existing supply chain system had some weaknesses and gaps. These analyses were for the indicators of both ELACAP and Sphere.
One VTHC from the brigade 6 controlled area had the stock of Paracetamol, Metronidazole, Cephalosporin, Cloxacillin, Vitamin A, oral contraceptive pills, 3-month Depo injection, implant and Intra Uterine Device (IUD) at the time of interview. Many essential medicines were out of the stock, including iron supplements, since May 2021 due to the disruption of the supply chain of medicines. Medicines, equipment and materials are usually purchased from Myawaddy, a border town with Thailand, but stringent block and search attempts by the military regime stopped flowing of supply of medicines to the clinic. Some medicines such as Doxycycline were expired and Paracetamol would be expired at the end of September 2021.
One VTHC from the brigade 7 controlled area reported that oral and injectable antibiotics, Vitamin C, Vitamin B 1, Vitamin B 6, needles and syringes were frequently out of stock. The reasons for shortage of essential medicines were:

(a) the quantity of medicines supplied per time was low compared to a consumption rate; (b) supplies were sent every 6 months; and (c) recent disruption of a supply chain management system for unknown reasons. The VTHC also encountered the problem of drug expiry. Some medicines were close to the expiry date at the time of delivery and some medicines which were not used commonly were sent in a large quantity. The VTHC had 3 blood pressure cuffs, 3 stethoscopes, thermometers, and test kits for urine sugar and blood sugar.
ELACAP Indicator: (1) Number of individuals trained in medical commodity supply chain management
Qualitative findings discovered that VTHC staff members did not receive capacity building around medical commodity supply chain management system.
HEALTH SYSTEM STANDARD: (HEALTH INFORMATION SYSTEM)
ELACAP Indicator: (1) Percent of total weekly surveillance reports submitted on time by health facilities
Analysis of qualitative data suggested that notification of suspected cases of major communicable diseases was made in the brigade 5, 6 and 7 controlled areas within 24 hours by static health facilities, but the notification system has not been functioning since the military coup in Mindat township. The KDHWS system in Karen state could not verify and investigate the suspected cases. VTHCs submitted a monthly routine report to the district level KDHWS.
SEXUAL AND REPRODUCTIVE HEALTH STANDARDS: REPRODUCTIVE, MATERNAL AND NEW-BORN HEALTHCARE
ELACAP Indicator: (1) Number and percent of deliveries attended by skilled attendant
50 percent of births of the last pregnancy of the participating mothers were attended by Skilled Birth Attendants. SBAs were defined as doctors, nurses and Midwives of the Ministry of Health and Sports and Emergency Obstetric Care and Maternal and Child Health Midwives of KDHWS. The existing Mobile Medical Units from Mindat township assisted delivery of pregnant women at camps when they were called whereas all deliveries in the brigade 5, 6 and 7 controlled areas were assisted by static health facilities or Traditional Birth Attendants at home.
WATER AND SANITATION: HYGIENE PROMOTION STANDARD
ELACAP Indicator: (1) Percent of water points developed, repaired, or rehabilitated that are clean and protected from contamination
Zero at the baseline assessment
ELACAP Indicator: (1) Percent of beneficiary households with soap and water at a hand washing station on premises
89.9 percent of mothers made soap and water available for hand washing. The evaluators did not ask if there was a specific hand washing station, but it is safe to assume that the mothers made this soap and water available at a specific location in the household. Hence this baseline value is applicable for this indicator.
ELACAP Indicator: (1) Number of individuals directly utilizing improved water services provided with BHA funding
50 percent of mothers collected drinking water from protected water sources
ELACAP Indicator: (1) Percent of households targeted by the hygiene promotion activity who store their drinking water safely in clean containers
45.3 percent of mothers stored drinking water in clean and covered containers
ELACAP Indicator: (1) Number of individuals gaining access to a basic sanitation service as a result of BHA assistance
Zero at the baseline
HYGIENE PROMOTION STANDARD: IDENTIFICATION, ACCESS TO AND USE OF HYGIENE ITEMS
ELACAP Indicator: (1) Percent of households reporting satisfaction with the quantity of the WASH NFIs received through direct distribution (i.e. Kits) or vouchers; (2) Percent of households reporting satisfaction with the contents of WASH NFIs received through direct distribution (i.e., Kits) of vouchers
Zero at the baseline for ELACAP. 35.7 percent (107 of 300 mothers) of mothers reported that they received hygiene items. 100 percent of mothers reported that they used at least one hygiene item after receiving. Among 107 mothers who received hygiene items, 92 percent of mothers received soap, 42 percent received detergent, 51 percent received tooth-paste, 41 percent received tooth brush, 31 percent received other hygiene items such as hand gel and sanitary pad from other donors.

<u>WATER SUPPLY STANDARD: ACCESS AND WATER QUANTITY</u>
ELACAP Indicator: (1) Estimated safe water supplied per beneficiary in liters/person/day
Average volume of water used for drinking, cooking and domestic hygiene per household was 215 liters. An average household number was 5.8, which implied that one person used 37 liters. 95.9 percent of households used at least 15 liters per person per day.
ELACAP Indicator: (1) Percent of hand washing stations build or rehabilitated in health facilities that are functional
Zero at the baseline
<u>EXCRETA MANAGEMENT STANDARD: ENVIRONMENT FREE OF HUMAN EXCRETA</u>
ELACAP Indicator: (1) Percent of households in target areas practicing open defecation
The total number of households participated in the survey was 300. 24 percent of 300 mothers reported that adult household member adopted open defecation practice. 88.4 percent of 300 mothers reported that household member older than 5 years used latrines. 41 percent of 300 mothers reported that household members younger than five years used latrines.
<u>EXCRETA MANAGEMENT STANDARD: MANAGEMENT AND MAINTENANCE OF EXCRETA</u>
<u>COLLECTION, TRANSPORT, DISPOSAL AND TREATMENT</u>
ELACAP Indicator: (1) Number of individuals directly utilizing improved sanitation services provided with BHA funding
Zero at the baseline
ELACAP Indicator: (1) Average number of users per functioning toilet
An average number of household members who share one functioning toilet were 5.6.
<u>ACCESS TO INFORMATION REGARDING COMMUNICABLE DISEASES, CHILD HEALTH, SEXUAL AND REPRODUCTIVE HEALTH, INJURY AND TRAUMA AND WASH</u>
ELACAP Indicator: (1) Number of individuals receiving direct hygiene promotion (excluding mass media campaigns and without double counting)
32.1 percent reportedly received information pertinent to Sexual and Reproductive Health between September 2020 and August 2021. 25.3 percent reportedly received information pertinent to child health between September 2020 and August 2021. 67.5 percent reportedly received information pertinent to communicable diseases between September 2020 and August 2021. 23 percent reportedly received information pertinent to injury and trauma between September 2020 and August 2021. 29.3 percent responded that they received information around WASH between September 2020 and August 2021.
ELACAP Indicator: (1) Total number of individuals receiving WASH NFIs assistance through all modalities (without double counting)
Zero at the baseline
<u>ADDITIONAL INDICATORS</u>
(1) Proportion of mothers currently using contraceptives
73.1 percent
(2) Proportion of pregnant women receiving at least 2 ANC visits
57.0 percent
(3) Proportion of pregnant women receiving at least 4 ANC visits
26.0 percent
(4) Proportion of mothers receiving at least 2 PNC visits
28.0 percent
(5) Proportion of mothers receiving at least 4 PNC visits
5.7 percent

A summary of key findings of the baseline study is presented below.

4.2.1. Health System

The health system in the brigade 5, 6 and 7 controlled areas was set up and operated by the Karen Department of Health and Social Welfare (KDHW) of Karen National Union (KNU). This system was assessed to be plagued with some weaknesses after the military coup on 1 February 2021: (a) supply chain of essential medicines was disrupted and many essential medicines were out of stock and expired; (b) vaccines supply by the MOHS was halted and a regular vaccination was ceased; and (c) influx of IDPs into the catchment areas of the basic health unit outstretched the system.

The health system in Mindat township and in the areas where IDPs resided was not functioning due to the arm conflicts between the military regime and PDFs. Basic health care services were provided by mobile medical units under the management of the township People Administrative Body (PAB) but they were ill equipped with medicines, equipment and other resources. The number of people outweighed the number of medical units, health care providers, medicines, equipment and materials.

4.2.2 Sexual and Reproductive Health

Approximately three fifth of mothers received at least 2 ANC and 26.0 percent received 4 ANC. On contrary, 52 percent of mothers attending ANC received at least 2 TTs, 17.4 percent of mothers attending ANC took at least 180 iron supplements, 9.1 percent of mothers attending ANC got Malaria prevention medication and 61.6 percent of mothers slept under the insecticide-treated bed nets during their last pregnancy. 17.1 percent of pregnant women attending ANC received a deworming medication at the 4th month of pregnancy. These findings suggested that the existing health facilities could not provide essential services in a timely manner and adequately and that there was a low adoption of essential ante natal practices by pregnant women.

Slightly more than 7 in 10 mothers delivered their babies at home and only 50 percent of births of the last pregnancy of the participating mothers in the survey were attended by SBAs, which were defined as doctors, nurses and Midwives of the Ministry of Health and Sports and Emergency Obstetric Care and Maternal and Child Health Midwives of the KDHW. Inappropriate practices by some TBAs – pushing a baby from the abdomen, pulling out a placenta immediately after coming out of a baby, and bathing a baby immediately after birth – were likely to pose detrimental effects on the health and lives of mothers and children. Home delivery prevented mothers from obtaining PNC sufficiently – 28.0 percent and 5.7 percent of mothers received PNC at least 2 times and 4 times, respectively.

Pregnant women from camps in Mindat township and Yaw area of Magway region did not receive proper ANC, safe delivery and PNC adequately. There were 4 reported cases of maternal deaths that could have been preventable. A referral system for pregnant women who faced any obstetric emergency situation was not existed, which increased the risks of dying of mothers and New-Born babies.

Although the contraceptive prevalence was high at 73.0 percent, a lack of availability of contraceptives in Mindat's camps and the presence of misconception and improper use of some contraceptives such as 3-month injection by women in Karen state would increase occurrence

of unwanted and untimely pregnancies in the near future. This would consequently make women vulnerable to risks of encountering maternal morbidity and mortality given the sub-optimal quality and coverage of ANC, safe delivery and PNC.

4.2.3 Child Health

6.3 percent of mothers reported that the umbilical cord of their New-Born babies were cut by birth attendants using improperly sterilized apparatus, which likely to cause an entry of harmful organisms into the umbilical cord. Furthermore, 71.0 percent of birth attendants applied materials onto a cord stump that could increase risks of being contaminated with harmful organisms. These practices could made New-Born babies vulnerable to life-threatening infections, particularly neonatal tetanus.

12.4 percent of children received 3 doses of DPT at 2 months, 4 months and 6 months of age. 10.2 percent received the first dose of measles vaccine at 9 month of age and the second dose of measles vaccine at 18 months of age. 1.5 percent received 4 doses of Vitamin A supplement at appropriate age (first dose at 6 months, second dose at 12 months, third dose at 18 months and fourth dose at 24 months). No primary health care facilities in Karen State and Mindat township provided EPI services at least 20 days per month. KDHW mobile medical units gave vaccination to children at villages every 2 to 3 months. In comparison, the MOHS EPI stopped operating in Mindat township since 1 February 2021.

A low coverage of vaccines and disruption of the EPI in both Mindat township and Karen state underscored the vulnerability of children to major vaccine preventable childhood communicable diseases. Although there was no evidence of reemergence of Tuberculosis, Diphtheria, Pertussis, Tetanus, Poliomyelitis, measles, etc. at the time of this baseline study, prolongation of unavailability of vaccines may increase the likelihood of resurgence of these diseases in the near future.

The survey findings showed that 9 percent of under five children suffered from childhood diarrhea within the 2 weeks from the time of interview, and 74.1 percent of those children were given ORS and zinc supplement immediately. The survey findings also indicated that 16.5 percent of under five children contracted childhood ARIs within the 2 weeks from the time of interview, and that 26 per cent of these children progressed into a more severe form of ARI. In comparison, 94 percent of those children received treatment. Qualitative findings explained that a majority of children with severe forms of ARIs received an appropriate treatment from VTHCs that consisted of antipyretic and antibiotics.

The presence of considerable degree of diarrhea and ARI and a lack of receiving ORS and zinc supplement by 25 percent of children with diarrhea warranted a more stringent surveillance of these childhood illnesses and making ORS and zinc supplement readily available to these children.

4.2.4 Communicable Diseases

There was no severe outbreak of communicable diseases such as Malaria, Cholera, Diphtheria, Pertussis, Meningitis and Tuberculosis in the brigade 5, 6 and 7 controlled areas and Mindat's

camps. Some villages in the brigade 7 controlled areas had many villagers who were infected with the COVID-19.

The survey finding discovered that 39 percent of adult household members suffered from chills, rigors and fever or suspected Malaria symptoms between September 2020 and August 2021. 87.2 percent of them sought an investigation for the last episode of such fever, of which 13.2 percent got an investigation within 24 hours from the onset of fever. 29.5 percent of adult household members slept under insecticide treated bed nets every night between September 2020 and August 2021, and 46 percent used insecticide treated bed nets during the last night. Despite the high proportion of people seeking an investigation, only a fraction of them did so in a timely manner, which suggested that risks of developing into severe forms of Malaria and dying could be increased if they contracted falciparum Malaria. A low proportion of populations sleeping under the insecticide treated bed nets underlain the vulnerability of this population to Malaria because many of these villages still had the presence of mosquitos carrying Malaria parasites.

Notification of suspected cases of major communicable diseases was made in the brigade 5, 6 and 7 controlled areas within 24 hours, but the notification system has not been functioning since the military coup in Mindat township. The KDHW system in Karen state could not verify and investigate the suspected cases of communicable diseases. This weakness could impede timely verification of any outbreak and initiation of the control measures against an occurrence of communicable diseases.

The survey discovered that the proportion of the populations who adopted preventative behaviors against the COVID-19 was low as only 22 percent always put on a facial mask, 9.5 percent always washed their hands and 2.5 percent always stayed at least 6 feet away from other people between February 2021 and August 2021. This low prevalence of preventative practices would enhance their risks of contracting the COVID-19 infection and spark spread of the virus.

4.2.5 Injury and Trauma

Eleven percent of adult household members encountered injury between September 2020 and August 2021. The most common part of the body injured was lower limbs at 40.9 percent, upper limbs at 36.4 percent and other parts of the body at 22.7 percent. In comparison, the most common cause of injury was types of injuries other than road traffic injury, fall, burn and landmines and gun shots at 31.8 percent followed by fall at 27.3 percent and road traffic injury at 18.2 percent.

Qualitative findings showed that landmines and gunshot caused serious injuries, and the people with those types of injuries needed referrals to hospitals where surgical interventions could be performed. The patients from Karen state were referred to hospitals in Mae Sot province of Thailand and the patients from Mindat township were referred to Pakokhu and Mandalay. These patients needed rapid transportation, and the arm forces of the military regime stopped them from reaching the desired destinations. The existing health care facilities were ill equipped to deal with a large number of patients with injuries and/or life-threatening injuries.

4.2.6 WASH

Major sources for drinking and cooking water were public water tap, unprotected spring, protected lake/well, unprotected hand-dug well and pipe water connected to house, and the proportion of households which used these water sources varied among rainy season, winter and summer. By contrast, major sources for water other than drinking and cooking purposes were public water tap, unprotected spring, protected lake/well, unprotected hand-dug well and pipe water connected to house, and the proportion of households which used these water sources varied among rainy season, winter and summer.

The most commonly used water cleansing methods were identified as boiling before drinking, filter by cloth and drink, filter by cloth, boil, filter by cloth again and sediment, and filter by cloth, boil and then drink. The proportion of households using these cleansing methods varied from one season to another but a majority of households (less than 60 percent) boiled water before drinking.

Proper investigations for the quality of water was not undertaken for any water source, and water supply from public water tap and household tap dwindled in summer, which necessitated relying on alternative sources such as water wells and rivers or springs. WASH committees were formed in some villages or camp management committees oversaw WASH. A lack of proper long term plans, resources and capacity hindered effective implementation of WASH activities by them.

The survey found that 77.7 percent of household members older than 5 years used a household latrine, 10.7 percent used a communal latrine and 10.3 percent used open defecation. In comparison, 35.3 percent of under five children used open defecation, 33.3 used a household latrine, 15 percent used plastic bag, 5 percent used plastic pot, and 3.7 percent used dipper. 39.8 percent of mothers disposed child's feces in the places other than latrines and 21.5 percent left feces at the place where children excreted.

When adoption of the open defecation practice was verified, 24 per cent revealed that they defecated in the open space during the previous month. The most commonly cited reasons for adoption of this practice were: (a) no latrine was available; (b) it was too dark at night to go to the nearest latrine; and (c) unable to control urination. These findings suggested that the likelihood of contamination of soil with feces was high, which could contribute to food and water borne diseases and worm infestation. Observation of latrines discovered that 6.4 percent of latrines were found to be full with feces, 7.2 percent had feces on the floor, 46.8 percent had a strong odor, and 41.1 percent had fly (s) inside the toilet. These findings were indicative of the considerable degree of poor sanitation.

85.7 percent of mothers washed her hands before eating, 57.0 percent of mothers washed their hands before cooking/meal preparation, 57.7 percent washed their hands after defecation and urination, 21.7 percent before breastfeeding, 62.7 percent before feeding food to a child and 56.7 percent after handling a child's stool/changing a nappy/cleaning a child's bottom. Hence, the proportion of mothers who did not wash their hands ranged from 14.3 to 78.3, which was indicative of potential contamination of food and water with harmful organisms.

4.3 SEXUAL AND REPRODUCTIVE HEALTH: FAMILY PLANNING

An average number of children that each family planned to rear was 4 while 32 percent of mothers had a plan to get a child in the next 2 years.

Analysis of qualitative data demonstrated that a majority of mothers did not adopt proper family planning at the time of their marriage. Couples did not discuss the number of children that they would raise, an interval between two successive children and contraceptive methods that they would use. Only few utilized contraceptive methods soon after their marriage.

Table 4.2 Basic Family Planning Information

	Brigade 5	Brigade 6	Brigade 7	Mindat	Total
Categorical Data (percent and number)					
Number of children each family expects	n = 72 Me = 4.61 Med = 5.0 Min = 1 Max = 9	n = 92 Me = 2.61 Med = 3.0 Min = 1 Max = 4	n = 78 Me = 3.29 Med = 3.0 Min = 1 Max = 8	n = 55 Me = 4.15 Med = 4.0 Min = 1 Max = 9	n = 297 Me = 3.56 Med = 3.0 Min = 1 Max = 9
Intention to have a child in the next 2 years (n = 300)	48.4% (30)	19.3% (17)	40.3% (29)	22.0% (11)	32% (87)
Currently having a pregnancy (n = 300)	20.8% (15)	2.2% (2)	7.4% (6)	3.6% (2)	8.3% (25)

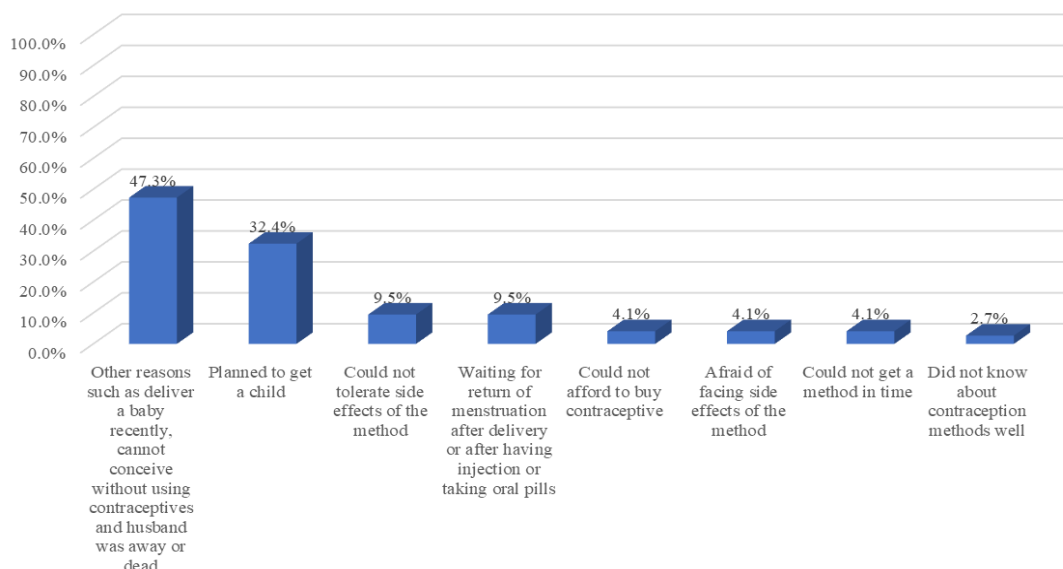
Seventy three percent of mothers were using a contraceptive method at the time of interview. Examination of reasons for not utilizing any contraceptive revealed that having a plan to get a child with 32.4 percent was the most common one followed by other reasons such as husband was away or dead, delivered a baby recently, etc. with 47.3 percent and not able to tolerate side effects of methods and waiting for return of menstruation after delivery or after having injection or taking oral pills with 9.5 percent each.

Qualitative findings corroborated above quantitative analysis. Contraceptives were not readily available in the places where IDPs resided in Mindat township in contrast to contraceptive availability in the areas controlled by brigade 5, 6 and 7. Some mothers did not use any contraceptive because they did not know which method they should use even after delivering the desired number of children. The desire to get children was dissimilar between a husband and a wife. For example, a husband wanted his wife to continue to bear more pregnancies when a wife did not want to get more pregnancies after delivering 4 children that a couple planned to raise. This mother did not know types of contraceptives that she should use even after having the fourth pregnancy. Contraceptive methods that required involvement of male such as condoms and male sterilization were rarely utilized.

Some mothers of Karen state who were using contraceptives at the interview did not know how to use contraceptives properly and had misconception on contraceptive methods. For instance, they did not start using 3-month injection on the 45th day after the delivery and seek follow-up injections on the due date. Rather, they waited for a return of menstruation after the delivery or

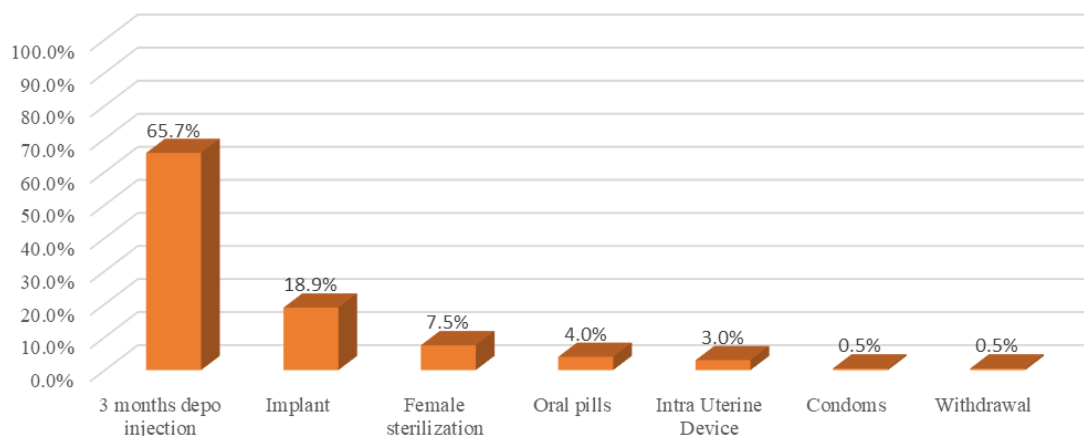
at the end of 3 month period before starting an injection or seeking a follow-up injection. They believed that if they obtained an injection without having menstruation, they might be conceived. These findings implied that mothers could get unwanted pregnancies while taking contraceptives. One mother skipped 7 iron supplements of an oral pill strip after taking 21 oral pills and started taking a new pill immediately. This incorrect practice could disrupt a normal menstrual cycle. This woman did not take oral pills when her husband was away from home and resumed pills 2 to 3 days before her husband return home, which could hamper the effectiveness of pills to prevent pregnancy.

Figure 4.3 Reasons for not Using any Contraceptive Method



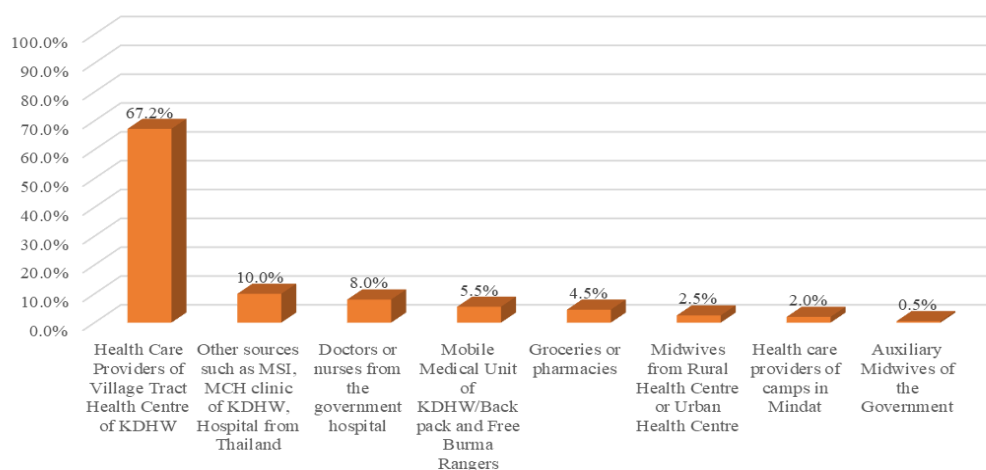
The most commonly used contraceptive was 3-month injections followed by implant, sterilization, oral contraceptive pills and intra uterine device. These findings were substantiated by the qualitative data analysis as the most preferred method was 3-month injection and the second most preferred method was implant. Few mothers sought female sterilizations for medical reasons that required them to avoid having another pregnancy. Many mothers did not want to take oral pills because they tended to forget taking one pill at a regular time every day. A majority of mothers sought oral pills or 3-month injections or implant or Intra Uterine Device (IUD) from Village Tract Health Center (VTHC) of Karen Department of Health and Social Welfare (KDHW) free of charge. At each consultation, health education around how to use contraceptives properly was given, blood pressure was measured and appropriate medication was prescribed when mothers faced side effects of contraceptives such as dizziness.

Figure 4.4 Types of Contraceptive Methods Currently Used



VTHC was the most accessible health care facility to obtain contraceptives at 67.2 percent between September 2020 and August 2021. Other sources such as MSI, MCH clinic of KDHW, Hospital from Thailand was the second most accessible health care facility while doctors or nurses from the government hospital were the third most accessible place. These findings were verified by the qualitative data analysis as all VTHC made contraceptives such as 3-month injectable, oral pills, implant, IUD and condoms available free of charge. Mothers who needed female sterilization were referred to either Ministry of Health and Sports (MOHS) hospitals or KDHW's hospitals.

Figure 4.5 Types of Service Providers from which Mothers Received Contraceptives First Time between September 2020 and August 2021



4.4 SEXUAL AND REPRODUCTIVE HEALTH: ANTE NATAL CARE

All mothers had a pregnancy between September 2016 and August 2021 whereas 29.7 per cent had a pregnancy between September 2020 and August 2021. 77.3 percent received Ante Natal

Care (ANC) services between September 2020 and August 2021. 57.0 percent of these mothers received at least 2 ANC visits and 26.0 percent received at least 4 ANC visits.

Table 4.3 Having Pregnancy and Access to Ante Natal Care

	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Had a pregnancy between September 2016 and August 2021	100.0% (72)	100.0% (92)	100.0% (81)	100.0% (55)	100.0% (300)
Had a pregnancy between September 2020 and August 2021	36.1% (26)	21.7% (20)	34.6% (28)	27.3% (15)	29.7% (89)
Received ANC service for the pregnancy of the last child between September 2020 and August 2021	63.9% (46)	75.0% (69)	79.0% (64)	96.4% (53)	77.3% (232)
Proportion of pregnant women receiving at least 2 ANC visits	59.7% (43)	21.7% (20)	72.8% (59)	89.1% (49)	57.0% (171)
Proportion of pregnant women receiving at least 4 ANC visits	20.8% (15)	0.0% (0)	32.1% (26)	67.3% (37)	26.0% (78)

VTHC was the health care facility with the highest proportion of mothers receiving ANC for the first ANC visit followed by other health facilities and government district hospitals. In comparison, VTHC was the health care facility with the highest proportion of mothers receiving ANC for the second ANC visit followed by other health facilities and government district hospitals.

EMOC/MCH of VTHC of the KDHW was the top rank health care provider from which mothers received the first ANC followed by MWs from RHC or Urban Health Centre and doctors from government hospitals. In comparison, EMOC/MCH of VTHC of the KDHW was the top rank health care provider from which mothers obtained the second ANC followed by doctors from government hospitals and MWs from RHC or Urban Health Centre.

Qualitative findings were similar to the survey findings. VTHC or a maternal and child hospital from brigade 7 provided ANC in the brigade 5, 6 and 7 controlled areas whereas mobile medical unit was the main source from which mothers received ANC in Mindat's camps after the occurrence of arm conflicts among PDFs and the military regime's arm forces in April 2021. Emergency Obstetric Care (EMOC) and Maternal and Child Health (MCH) Midwives (MW) provided ANC services in the brigade 5, 6 and 7 controlled areas. By contrast, doctors or nurses or MWs gave ANC services in Mindat township.

VTHCs and the MCH hospital rendered the following services to pregnant women during ANC visits. (a) examination of fetal position; (b) measuring blood pressure and weight; (c) testing the presence of malaria parasites and prescribing anti-malaria treatment for positive cases; (d) testing the presence of worm eggs in feces and prescribing deworming medication for the mothers who were found to have worm eggs; (e) investigation of hemoglobin level by some facilities; (f) investigation of urine and blood sugar; (g) provision of iron, folic acid and Vitamin B 1; (h) provision of Tetanus Toxoid; and (i) health education. Some mothers received de-worming medication without undergoing an investigation of worm eggs. Pregnant women

were asked to seek ANC visits once a month until their pregnancy reached the 8th month and to seek ANC visits twice a month after the 8th month of pregnancy.

Figure 4.6 Types of Health Care Facilities from Which Pregnant Women Received First Ante Natal Care Service

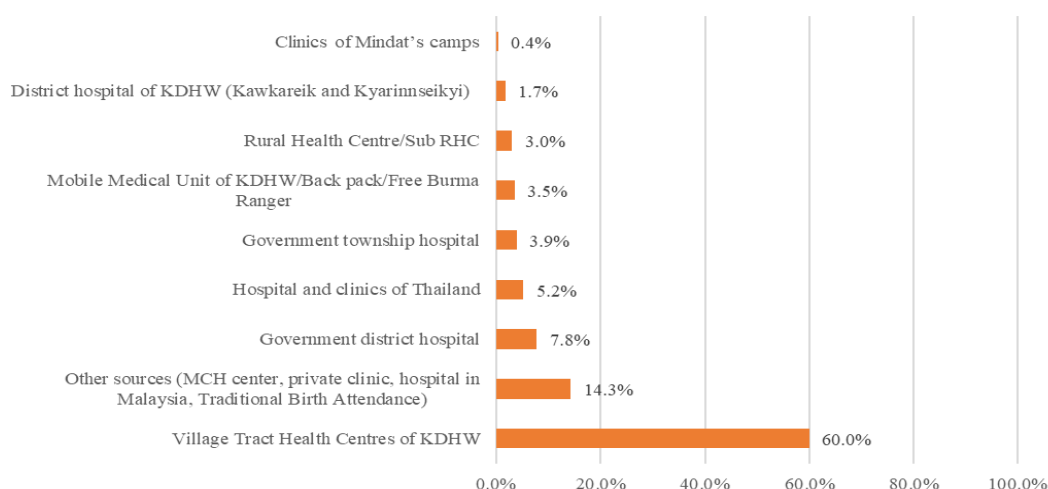
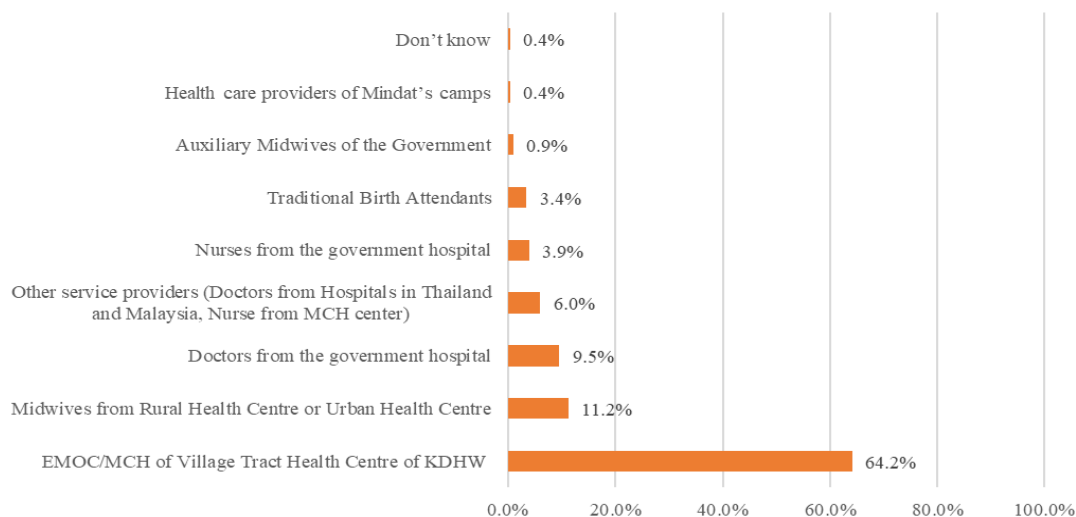


Figure 4.7 Types of Service Providers from Whom Pregnant Women Received First Ante Natal Care Service



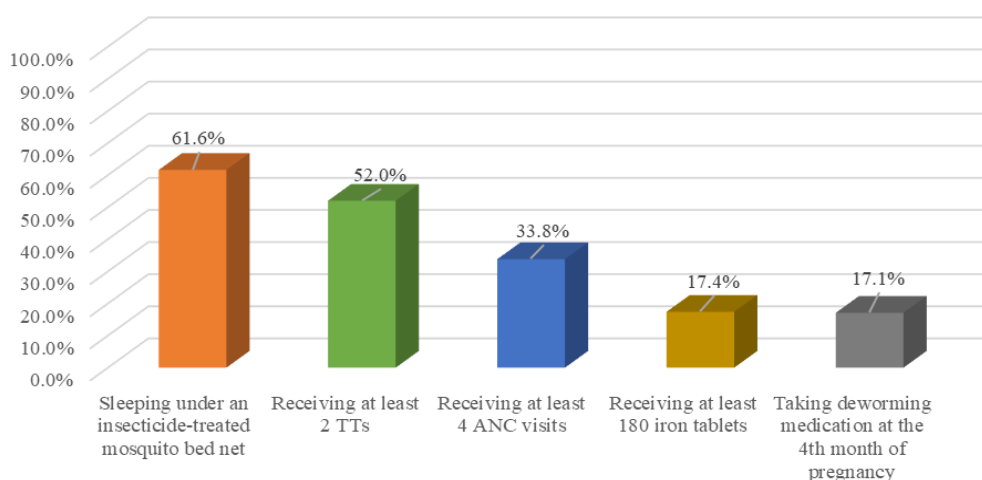
52 per cent of mothers received at least 2 TTs, 17.4 per cent of mothers took at least 180 iron supplements, 9.1 per cent of mothers got malaria prevention medication and 61.6 per cent of mothers slept under the insecticide-treated bed nets during their last pregnancy. 17.1 per cent of pregnant women received deworming medication at the 4th month of pregnancy. These findings suggested that many of the ANC services could not provide essential services in a timely manner and adequately as well as a low adoption of essential Ante Natal practices

Qualitative findings were consistent with the survey findings. Mothers sought the first ANC between the 1st month and 5th month of pregnancy. A majority of mothers sought at least 2 ANC and some obtained as many as 7 times. Some mothers sought ANC from Thai Village Health Centers in addition to receiving ANC from VTHC or the maternal clinic of KNU whereas some sought services from Traditional Birth Attendants (TBAs) who gave massage to relieve pain and discomfort arising from the pressure of pregnancy. Some mothers received ANC from a mobile medical unit of VTHC who provided services at their villages.

Mothers who only received ANC 1 to 2 times cited the reasons as: (a) it took at least 5 hours to reach the health care facilities; (b) pregnant women perceived that their health was normal, which did not require them to seek ANC; and (c) EMOC/MCH MWs told them that they did not have to seek more ANC visits if their health was normal.

They received at least 2 TT, one deworming medication between 4 to 5 month of pregnancy, 30 iron and Vitamin B1 supplements per time and 4 folic acid tablets per time. Those who had many ANC visits took as many as 150 to 180 iron supplements.

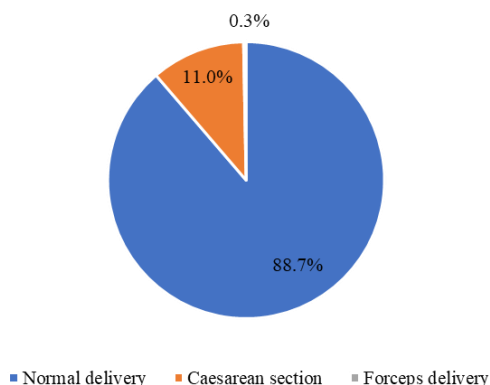
Figure 4.8 Adoption of Preventative Behaviors by Pregnant Women during their Last Pregnancy



4.5 SEXUAL AND REPRODUCTIVE HEALTH: SAFE DELIVERY

88.7 per cent of pregnant women had a normal delivery, 11 per cent underwent Caesarean section and 0.3 per cent had a forceps delivery.

Figure 4.9 Types of Delivery of Last Child



71.7 per cent of pregnant women delivered their last child at home. The most common health facilities in which pregnant women delivered their last child was government district hospitals followed by VTHC of KDHW and government township hospital. 50 per cent of pregnant women delivered their last baby by Skilled Birth Attendants, who were defined as government doctors, nurses and MWs and EMOC/MCH of KDHW.

Table 4.4 Health Care Facilities where Pregnant Women Delivered Last Baby

Type of Health Care Facilities	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Village Tract Health Centers of KDHW	6.9% (5)	1.1% (1)	16.0% (13)	0.0% (0)	6.3% (19)
Mobile Medical Unit of KDHW/Back pack/Free Burma Ranger	0.0% (0)	1.1% (1)	0.0% (0)	0.0% (0)	0.3% (1)
District hospital of KDHW (Kawkareik and Kyarinnseikyi)	1.4% (1)	1.1% (1)	0.0% (0)	0.0% (0)	0.7% (2)
Hospital and clinics of Thailand	0.0% (0)	1.1% (1)	6.2% (5)	0.0% (0)	2.0% (6)
Mae Tao clinic in Mae Sot of Thailand	0.0% (0)	0.0% (0)	1.2% (1)	0.0% (0)	0.3% (1)
Clinics of Mindat's camps	0.0% (0)	0.0% (0)	0.0% (0)	1.8% (1)	0.3% (1)
Government district hospital	0.0% (0)	0.0% (0)	2.5% (2)	67.3% (37)	13.0% (39)
Government township hospital	0.0% (0)	1.1% (1)	13.6% (11)	3.6% (2)	4.7% (14)
Government station hospital	0.0% (0)	1.1% (1)	0.0% (0)	0.0% (0)	0.3% (1)
Rural Health Centre/Sub RHC	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Deliver at home	91.7% (66)	93.5% (86)	60.5% (49)	25.5% (14)	71.7% (215)
Other sources (Hospital in Malaysia)	0.0% (0)	0.0% (0)	0.0% (0)	1.8% (1)	0.3% (1)

Qualitative data analysis corroborated the survey findings. None of the mothers faced any abnormal conditions during their pregnancies such as edema, high blood pressure and bleeding from a birth canal. They reportedly gained weight of at least 1 kilogram per month.

A majority of mothers gave birth to their last babies with TBAs or EMOC/MCH MWs at home whereas few delivered their babies at the maternal and child hospital with EMOC/MCH MWs. The main reasons for giving birth with TBA at home were: (a) pregnant women perceived that their health condition was normal that suited a home delivery; and (b) they were accustomed to home delivery for all generations.

EMOC MWs with assistance from MCH MWs carried out shaving of pubic hair, measured blood pressure and other necessary cleaning before a delivery. Pregnant women were asked to walk and squat before a delivery. During the labor process, dilatation of the opening of a birth canal was examined manually.

EMOC MWs cut an umbilical cord with a sterilized scissor, sucked mucus from nasal canal and mouth with a penguin apparatus, mopped a baby's body with a piece of cloth and put a baby onto the chest of a mother and wrapped both mother and baby with a cloth to raise the body temperature (Kangaroo Mother Care). Breast feeding was given to a New-Born baby after delivering placenta and suturing cuts and wounds of a mother, which indicated late initiation of colostrum – colostrum should be given 30 to 60 minutes from the birth and before delivering a placenta.

One TBA and one assistant assisted the delivery of a baby, cut the umbilical cord with a blade soaked in hot water, sucked mucus from nasal canal and mouth with a penguin apparatus or rubbed mucus with tissue paper, mopped a baby's body with a piece of cloth and put a baby onto the chest of a mother. Breast feeding was given to a New-Born child after delivering placenta and suturing cuts and wounds of a mother, which indicated late initiation of colostrum – colostrum should be given 30 to 60 minutes from the birth and before delivering a placenta. TBAs did not apply any substance onto a cut cord stump.

Nevertheless, the study found one harmful practices adopted by TBAs. First, an assistant pushed a baby from the abdomen while TBA was pulling a baby out from a birth canal. This practice could pose risks to lives of both a mother and a child. Second, TBAs took out a placenta before cutting an umbilical cord and taking care of a New-Born baby, which could contribute excessive bleeding from a uterus and hypothermia and respiratory distress of a New-Born baby. Third, TBA gave bath to a New-Born baby immediately after the birth, which could lower the baby's body temperature. Furthermore, TBAs heated a brick and touched the surrounding of a birth canal with this heated brick with the belief that it would heal cuts and bruises caused by a birth process.

The KDHW provided TBAs with a one-month training course and equipped them with a delivery kit consisting of forceps, scissors, blades, gloves, strings for tying a cord, ethyl alcohol, cottons, gauzes, penguin suction apparatuses, soaps, a torch light, a clock, a weighing machine and a plastic bed sheet. Mothers reported that TBAs changed their delivery practices after obtaining the training course. For examples, they did not wear gloves before but wore gloves after the training course. They sterilized scissors or blades before cutting an umbilical cord now as opposed to not sterilizing an instrument before.

Figure 4.10 Types of Health Care Facilities for Delivery of Last Child

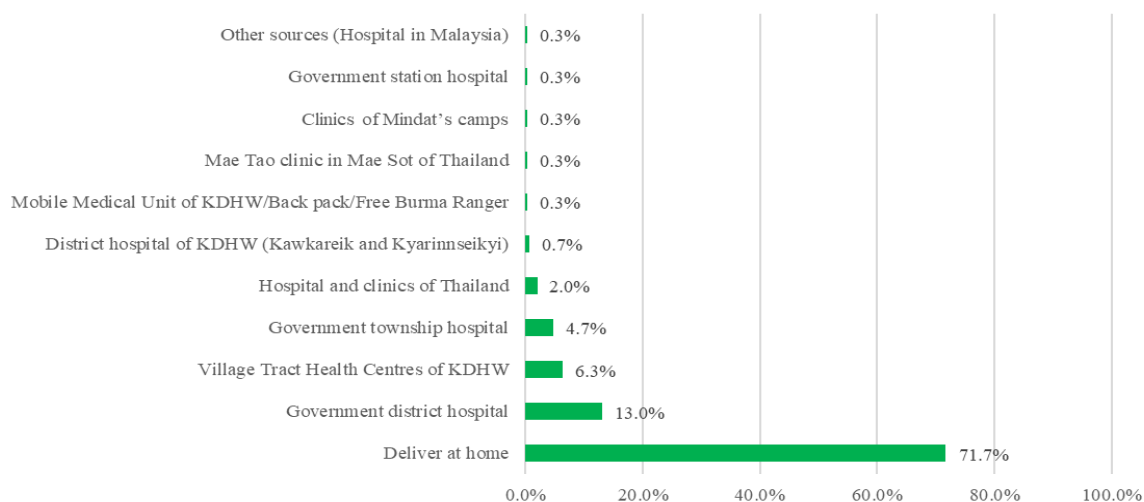
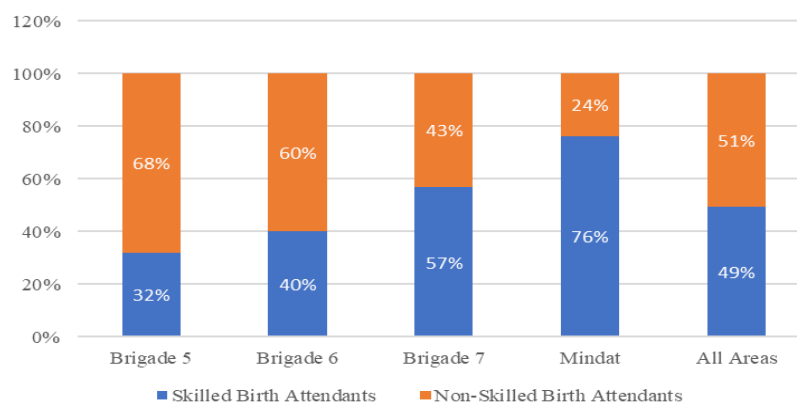


Figure 4.11 Delivery of Last Child Attended by Skills Birth Attendants



18.0 percent of mothers reported that they faced obstetric emergency situation during pregnancy, delivery and post-natal periods. 20.8 percent received a referral for this obstetric emergency situation.

Table 4.5 Experience of Obstetric Emergency and Referral Services for Last Pregnancy

	Brigade 5 (n=69)	Brigade 6 (n=92)	Brigade 7 (n=79)	Mindat (n=55)	Total (n=295)
Categorical Data (percent and number)					
Encountered any obstetric	4.3% (3)	28.3% (26)	6.3% (5)	34.5% (19)	18.0% (53)

emergency situation during pregnancy, delivery and post natal period					
Received a referral for this obstetric emergency situation during pregnancy, delivery and post natal period	0.0% (0)	3.8% (1)	20.0% (1)	47.4% (9)	20.8% (11)
Received a referral before 1 February 2021	0.0% (0)	100.0% (1)	100.0% (1)	100.0% (9)	100.0% (11)

Among those who received a referral, 63.6 percent of mothers reported that they went to a hospital before the onset of labor and delivered a baby there. 27.3 percent received an emergency transportation to go to a hospital whereas 27.3 percent got financial assistance to deliver a baby at a hospital and deliver a baby at a hospital.

Table 4.6 Types of Obstetric Emergency Assistance Received for Last Pregnancy

	Brigade 6 (n=1)	Brigade 7 (n=1)	Mindat (n=9)	Total (n=11)
Categorical Data (percent and number)				
Went to a hospital before the onset of labour and gave birth there	100.0% (1)	0.0% (0)	66.7% (6)	63.6% (7)
Geen emergency trasportation to go to a hospital	0.0% (0)	100.0% (1)	22.2% (2)	27.3% (3)
Get financial assistance to deliver a baby at a hospital and deliver a baby at a hospital	0.0% (0)	0.0% (0)	33.3% (3)	27.3% (3)

4.6 SEXUAL AND REPRODUCTIVE HEALTH: POST NATAL CARE

47.7 per cent of pregnant women received at least one Post Natal Care between September 2020 and August 2021. Mean number of PNC was 2.3 times whereas 28 per cent of pregnant women received at least 2 PNC visits and 5.7 percent of pregnant women received at least 4 PNCs.

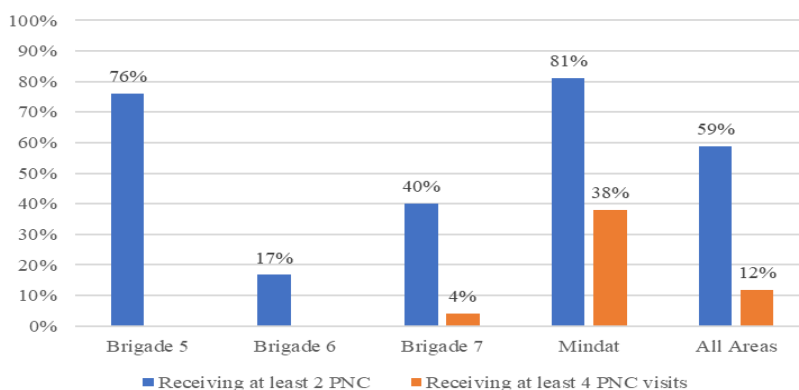
Qualitative findings expanded the survey findings. Pregnant women who delivered their babies at home with TBAs did not seek proper PNC services. Rather, TBAs revisited these nursing mothers at home every day for 4 to 5 days, and in each visit, they examined blood and other liquid coming out from a birth canal, gave massage to a uterus from an abdomen and touched the surrounding area of a birth canal with a heated brick. Some mothers received some kinds of injections from EMOC or MCH of VTHC about one hour after the delivery but they did not know the purpose of this treatment.

Pregnant women who delivered their babies with EMOC/MCH at home received 3 PNC visits by these health care providers. In each visit, these health care providers examined cuts and wounds of a birth canal, stiches, volume and color of secretion coming out from a birth canal, the conditions of a cord stump, contraction of uterus and vital signs of both mother and child.

Pregnant women who delivered their babies with EMOC/MCH at VTHC or a maternal and child hospital were required to stay at the health care facility for 3 days, in which PNC services were provided. After that, women were asked to seek 2 PNC visits 2 days after the discharge from the health care facilities.

New-Born babies with yellow coloration of skin and/or eyes were examined and treated at the maternal and new-born hospital. A test, which was believed to investigate Glucose 6 Phosphorus Deficiency (G6PD), was performed, and appropriate treatment was provided to a child accordingly. This hospital was equipped with an incubator to treat children with severe Jaundice.

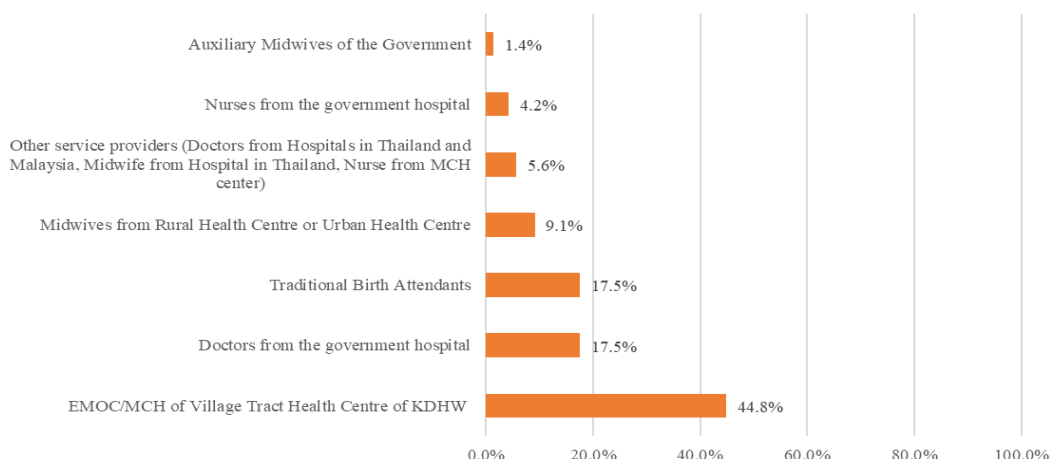
Figure 4.12 Receiving at least 2 Post Natal Care Visits and 4 Post Natal Care Visits for the Last Child Delivery



The first Post Natal Care of 44.8 percent of mothers was attended by EMOC/MCH MW of VTHC of KDHW, which was the most common one. The second most common health care providers who attended PNC was TBAs and doctors from government hospitals and the third most highest was Midwives from Rural Health Centre or Urban Health Centre at 9.1 percent.

The second Post Natal Care of 36.1 percent of mothers was attended by EMOC/MCH of Village Tract Health Centre of KDHW, which was the most common. The second most common health care providers who attended PNC was doctors from government hospitals at 25.3 percent and the third highest was from TBAs with 15.7 percent.

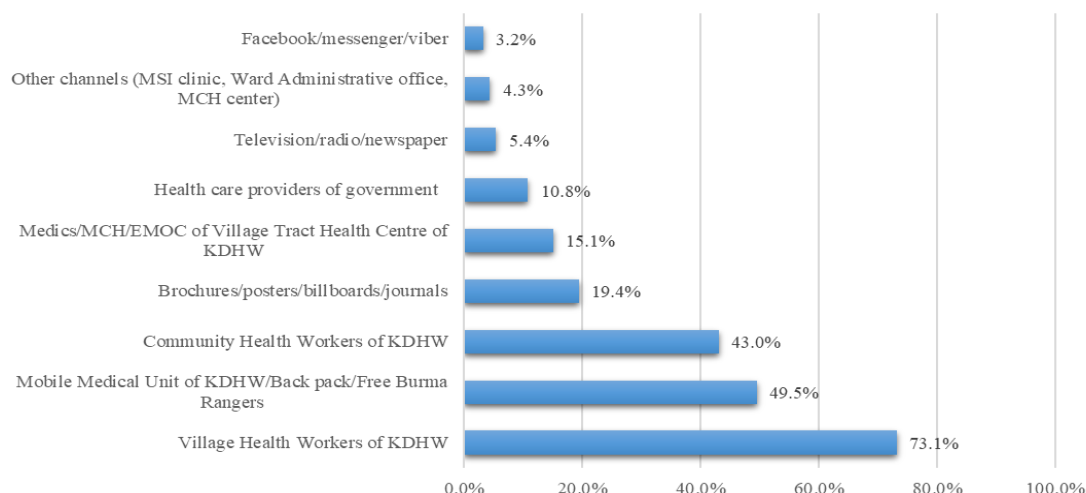
Figure 4.13 Types of Health Care Providers for First Post Natal Care of Last Child



32.1 per cent received information around SRH between September 2020 and August 2021. The most common channel from which mothers received information pertaining to SRH was Village Health Workers of KDHW with an average of 1.5 times followed by Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers with an average of 1.2 times and Community Health Workers of KDHW with an average of 1.8 times.

KIIs with mothers disclosed that they received information regarding SRH from clinic staff when they sought ANC or delivery or PNC from VTHC or the maternal and child hospital of KDHW and that VHWs organized health education sessions periodically. VTHC staff discussed how pregnant women should consume nutritious food, how pregnant women should take iron, folic acid and Vitamin A supplements and why pregnant women should deliver their babies at either a VTHC or a maternal and child hospital of KDHW. However, when pregnant women asked whether they could give birth to their babies at home, health care providers allowed them to do so. This might be one of the reasons why some pregnant women delivered their babies at home.

Figure 4.14 Communication Channels from which Respondents Received Messages around Sexual and Reproductive Health Issues



4.7 CHILD HEALTH: NEW-BORN CARE

The baseline study examined to what extent essential New-Born care practices were adopted by health care providers. First, with respect to cutting an umbilical cord, 83.3 per cent of cases used properly boiled or sterilized blade or scissors. 4.3 per cent of cases used bamboo or split bamboo blade and 2 per cent of cases used not properly boiled blade or sterilized blade or scissors. 10.3 per cent of cases did not know how to cut the umbilical cord. These findings suggested that 6.3 percent of New-Born babies were likely to be exposed to an entry of harmful organisms into the umbilical cord. Furthermore, 71 percent of health care providers applied materials onto a cord stump that could increase risks of being contaminated with harmful organisms. These circumstances could made New-Born babies vulnerable to life-threatening infections, particularly neonatal tetanus.

Investigations of other New-Born Care practices revealed that 79 per cent of birth attendants sucked mucus from the nose and mouth of a New-Born baby properly, 96.7 per cent dried a body and 95 per cent adopted the Kangaroo Mother Care method, which could give a range of benefits to mothers and New-Born child. These included stabilizing the baby's heart rate, improving the baby's breathing pattern and making the breathing more regular, improving oxygen saturation levels and increasing binding between a mother and a child.

Figure 4.15 Types of Instruments Used to Cut Umbilical Cord

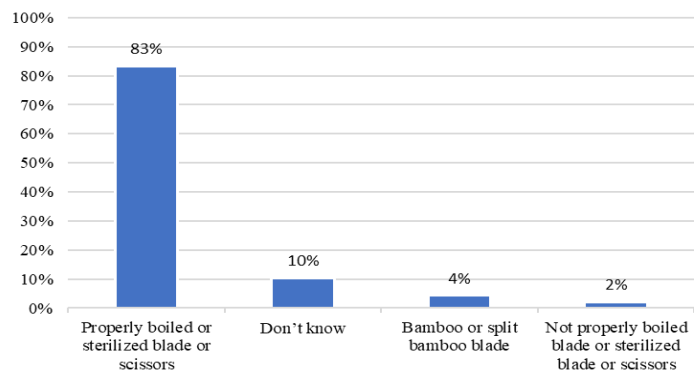


Figure 4.16 Types of Materials Applied to Cord Stump

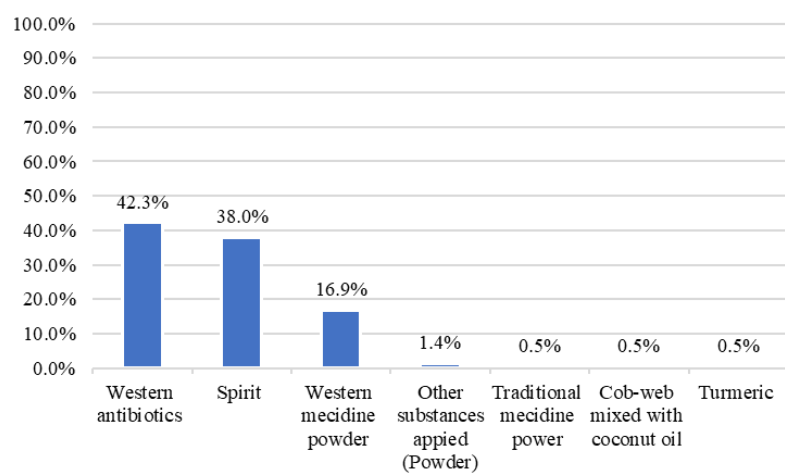
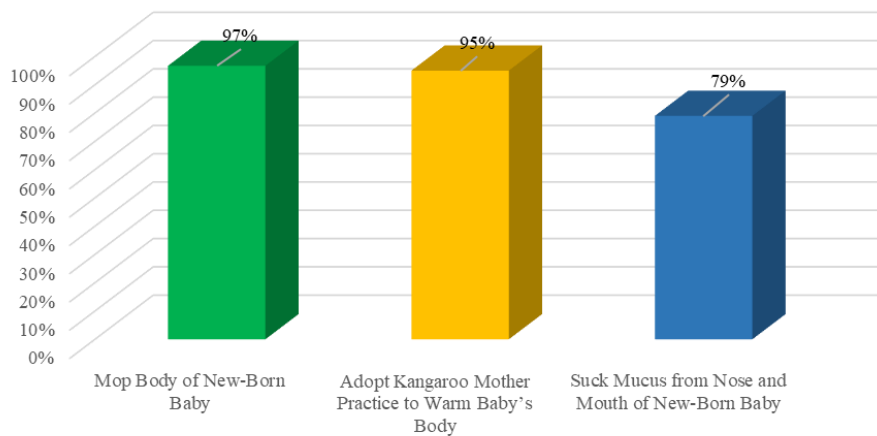


Figure 4.17 Access to Essential New-Born Care



4.8 CHILD HEALTH: CHILDHOOD DIARRHOEA

Nine percent of under five children suffered from childhood diarrhea within the 2 weeks from the time of interview. 74.1 percent of those children were given ORS and zinc supplement.

Qualitative data analysis verified these findings and further elaborated them. A majority of mothers got ORS and zinc supplement from VTHC. Alternatively, mothers purchased ORS sachets from village groceries. The in-depth analysis of ways of dispensing ORS and feeding ORT to children shed light on incorrect method of dissolving ORS. For instance, mothers put one sachet of ORS into a bottle of drinking water and shook a bottle to dissolve ORS. This method could lead to partial dissolution of ORS powder, which could hinder correction of salt and water balance of a body. In addition, a majority of mothers did not know how much amount of Oral Rehydration Therapy (ORT) should be given to a child and gave ORT to a sick child on a demand base.

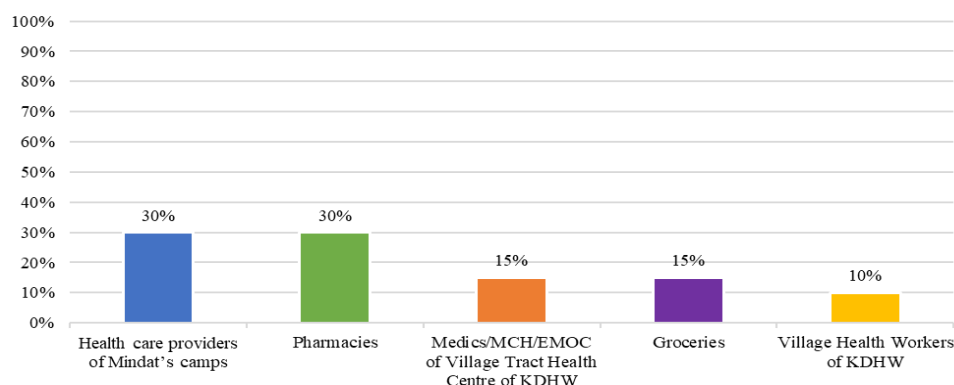
Qualitative data also suggested that the prevalence of childhood diarrhea could be much higher than the prevalence detected by the survey. The survey question asked mothers the episodes of diarrhea within 2 weeks from the time of interview to minimize the recall bias. Qualitative interviews expanded the period to one year, which disclosed higher prevalence. Diarrhea was more prevalent in June and July or March and April than the remaining months of the year.

Table 4.7 Occurrence of Diarrhea and Receiving ORS and Zinc Supplement

Occurrence of Diarrhea and Receiving ORS and Zinc	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Had episodes of diarrhea during the previous 2 weeks	13.9% (10)	1.1% (1)	9.9% (8)	14.5% (8)	9.0% (27)
Received ORS and Zinc	90.0% (9)	100.0% (1)	37.5% (3)	87.5% (7)	74.1% (20)

With respect to health care providers who gave ORS and Zinc, pharmacies and health care providers of Mindat's camps were ranked first at 30 percent each. The second most common source was VTHC and groceries at 15 per cent each followed by VHW with 10 percent.

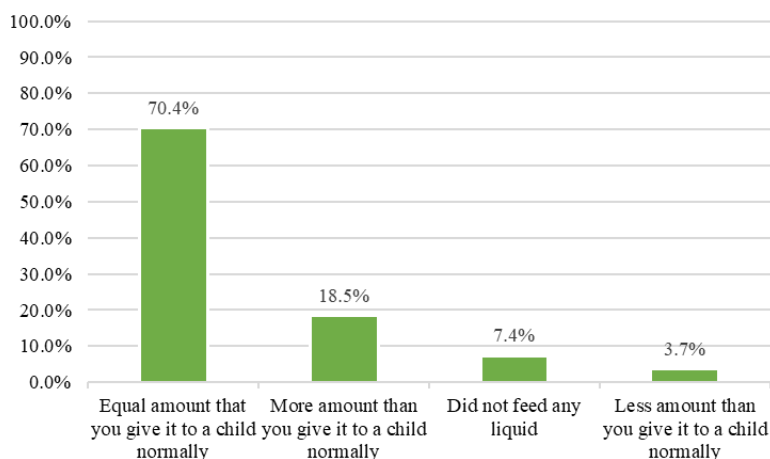
Figure 4.18 Health Care Facilities/Health Care Providers from which Child Received ORS and Zinc



18.5 percent of mothers fed more amount of liquid than they give it to a child normally, 70.4 percent of mothers gave equal amount of liquid that they give it to a child normally, 3.7 percent of mothers fed less amount of liquid than they give it to a child normally and 7.4 percent did not feed any liquid to a child with diarrhea.

Qualitative findings disclosed that some mothers gave more amount of breast milk than they normally gave to a child with diarrhea whereas some gave the same amount of breast milk and other liquid to their children that they give to their children normally.

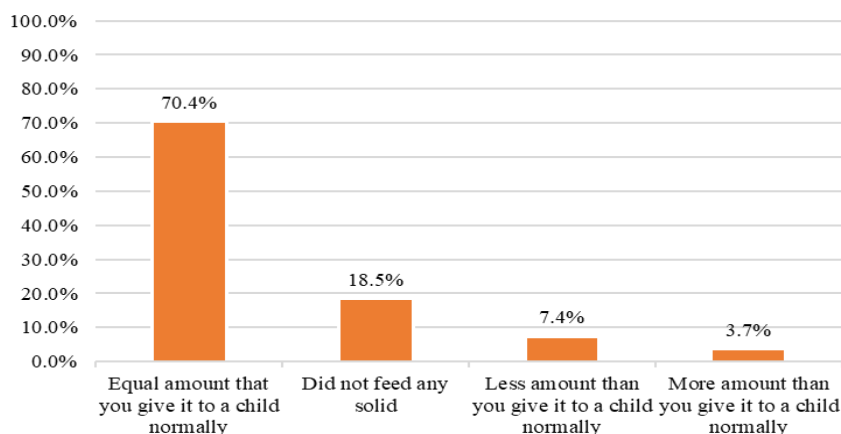
Figure 4.19 Feeding Liquid to Child with Diarrhea in Previous 2 Weeks



3.7 percent of mothers fed more amount of solid food than they give it to a child normally, 70.4 percent of mothers gave equal amount of solid food that they give it to a child normally, 7.4 percent of mothers fed less amount of solid food than they give it to a child normally and 18.5 percent did not feed any solid food to a child with diarrhea.

Qualitative findings disclosed that some mothers the same amount of solid food that they give normally to their children and some withheld solid food feeding during the illness.

Figure 4.20 Feeding Solid Food to Child with Diarrhea in Previous 2 Weeks



4.9 CHILD HEALTH: CHILDHOOD ACUTE RESPIRATORY INFECTION

16.5 per cent of under five children suffered from childhood ARIs within the 2 weeks from the time of interview. 26 per cent of these children encountered more severe form of ARI. 94 per cent of those children received treatment.

Qualitative data analysis verified these findings and further elaborated them. A majority of mothers got treatment from VTHC, which gave antipyretics to mild cases and antibiotics and antipyretics to severe cases.

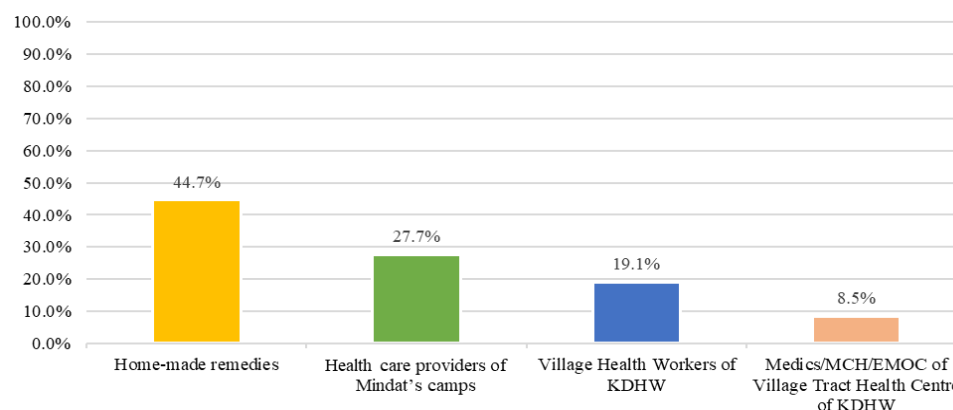
Qualitative data also suggested that the prevalence of childhood ARIs could be much higher than the prevalence detected by the survey. The survey question asked mothers the episodes of ARIs within 2 weeks from the time of interview to minimize the recall bias. Qualitative interviews expanded the period to one year, which disclosed higher prevalence. ARI was more prevalent in June and July and November and December than the remaining months of the year.

Table 4.8 Occurrence of Acute Respiratory Infections and Access to Treatment

Occurrence of Acute Respiratory Infections and Receiving Treatment	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Had episodes of ARI during the previous 2 weeks	26.4% (19)	4.3% (4)	9.9% (8)	34.5% (19)	16.7% (50)
Encountered rapid and labored breathing during the previous 2 weeks	31.6% (6)	0.0% (0)	12.5% (1)	31.6% (6)	26.0% (13)
Received treatment	100.0% (19)	100.0% (4)	100.0% (0)	84.2% (16)	94.0% (47)

The most common health care facilities/providers from which mothers sought treatment for their children with ARIs for the first time was self-medication followed by health care provider from Mindat Camp, Village Health Workers of KDHW and Medics/MCH/EMOC from VTHC of KDHW.

Figure 4.21 Type of Health Care Providers who provided First Treatment for Children Suffering from ARI in Previous 2 Weeks

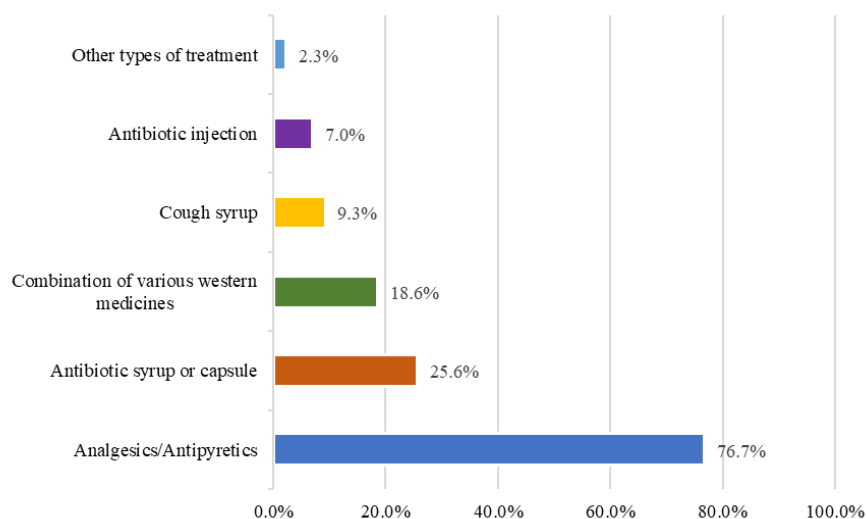


The most common type of treatment that health care facilities/providers prescribed to the children with ARIs was analgesics or antipyretics followed by antibiotic syrup or capsule and combination of various western medicines.

Table 4.9 Type of Medicines Prescribed by Health Care Providers

Type of Treatment	Brigade 5 (n=19)	Brigade 6 (n=4)	Brigade 7 (n=8)	Mindat (n=16)	Total (n=47)
Categorical Data (percent and number)					
Gave oral pills or injection to a child	84.2% (16)	100.0% (4)	100.0% (8)	93.8% (15)	91.5% (43)
Did not give oral pills or injection to a child	15.8% (3)	0.0% (0)	0.0% (0)	6.3% (1)	8.5% (4)
Antibiotic syrup or capsule	6.3% (1)	75.0% (3)	50.0% (4)	20.0% (3)	25.6% (11)
Antibiotic injection	12.5% (2)	0.0% (0)	0.0% (0)	6.7% (1)	7.0% (3)
Analgesics/Antipyretics	87.5% (14)	50.0% (2)	50.0% (4)	86.7% (13)	76.7% (33)
Cough syrup	18.8% (3)	25.0% (1)	0.0% (0)	0.0% (0)	9.3% (4)
Traditional medicine or home-remedies	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Combination of various western medicines	43.8% (7)	25.0% (1)	0.0% (0)	0.0% (0)	18.6% (8)
Other types of treatment	0.0% (0)	0.0% (0)	12.5% (1)	0.0% (0)	2.3% (1)

Figure 4.22 Type of Treatment



8.5 per cent of mothers fed more amount of liquid than they give it to a child normally, 76.6 per cent of mothers gave equal amount of liquid that they give it to a child normally, 2.1 per cent of mothers fed less amount of liquid than they give it to a child normally and 12.8 per cent did not feed any liquid to a child with diarrhea.

Qualitative findings disclosed that some mothers gave more amount of breast milk than they normally gave to a child with ARI whereas some gave the same amount of breast milk and other liquid to their children that they give to their children normally.

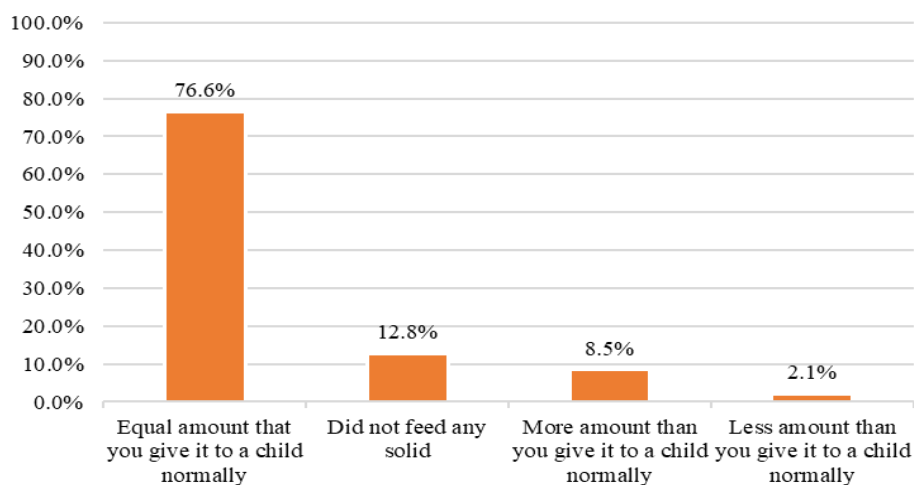
Table 4.10 Liquid Feeding Practices for Children with ARI in Previous 2 Weeks

Liquid Feeding Practices	Brigade 5 (n=19)	Brigade 6 (n=4)	Brigade 7 (n=8)	Mindat (n=16)	Total (n=47)
Categorical Data (per cent and number)					
More amount than you give it to a child normally	0.0% (0)	50.0% (2)	12.5% (1)	6.3% (1)	8.5% (4)
Equal amount that you give it to a child normally	73.7% (14)	50.0% (2)	75.0% (6)	87.5% (14)	76.6% (36)
Less amount than you give it to a child normally	0.0% (0)	0.0% (0)	0.0% (0)	6.3% (1)	2.1% (1)
Did not feed any liquid	26.3% (5)	0.0% (0)	12.5% (1)	0.0% (0)	12.8% (6)

2.1 per cent of mothers fed more amount of solid food than they give it to a child normally, 66 per cent of mothers gave equal amount of solid food that they give it to a child normally, 19.1 per cent of mothers fed less amount of solid food than they give it to a child normally and 12.8 per cent did not feed any solid food to a child with diarrhea.

Qualitative findings disclosed that some mothers the same amount of solid food that they give normally to their children and some withheld solid food feeding during the illness.

Figure 4.23 Feeding Solid Food to Child with ARI in Previous 2 Weeks



4.10 CHILD HEALTH: VACCINATION OF CHILDREN

22.9 per cent of children reportedly received 3 doses of DPT/Penta vaccines. In examining whether these children received each dose at the recommended age of 2, 4 and 6 month 12.4 per cent received them in line with the protocol.

Table 4.11 Coverage of DPT/Penta and Measles of Children

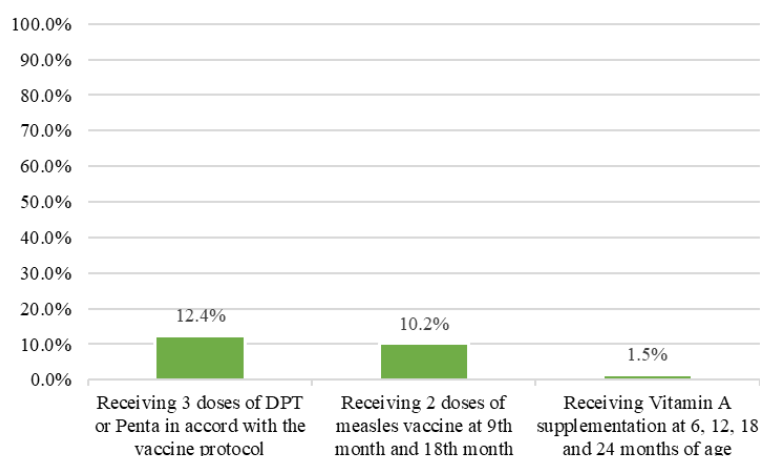
Receiving Vaccines	Brigade 5 (n=66)	Brigade 6 (n=86)	Brigade 7 (n=71)	Mindat (n=52)	Total (n=275)
Categorical Data (percent and number)					
Received DPT or Penta before a child reached the first year birthday	57.6% (38)	84.9% (73)	83.1% (59)	92.3% (48)	79.3% (218)
Received 3 doses of DPT or Penta before a child reached the first year birthday	3.0% (2)	0.0% (0)	46.5% (33)	53.8% (28)	22.9% (63)
Received 3 doses in accord with the vaccine protocol, which was the 2 nd , 4 th and 6 th month	0.0% (0)	0.0% (0)	28.2% (20)	26.9% (14)	12.4% (34)
Received measles vaccine at least one time between 9 to 18 months of age	56.1% (37)	84.9% (73)	53.5% (38)	61.5% (32)	65.5% (180)
Received first dose of measles at the 9 th month	15.2% (10)	4.7% (4)	42.3% (30)	46.2% (24)	24.7% (68)
Received second dose of measles at the 18 th month	0.0% (0)	2.3% (2)	28.2% (20)	15.4% (8)	10.9% (30)
Received measles vaccine 2 times at 9 th month and 18 th month	0.0% (0)	1.2% (1)	26.8% (19)	15.4% (8)	10.2% (28)

36.4 per cent of children reportedly received Vitamin A supplementation but only 1.5 per cent received the first dose, the second dose, the third dose and the fourth dose at 6, 12, 18 and 24 months of age.

Table 4.12 Coverage of Vitamin A Supplementation

Receiving Vitamin A	Brigade 5 (n=66)	Brigade 6 (n=86)	Brigade 7 (n=71)	Mindat (n=52)	Total (n=275)
Categorical Data (per cent and number)					
Received Vitamin A supplementation between 6 to 59 months old	4.5% (3)	32.6% (28)	46.5% (33)	69.2% (36)	36.4% (100)
Number of Vitamin A supplement received at appropriate age	0.0% (0)	0.0% (0)	1.4% (1)	5.8% (3)	1.5% (4)

Figure 4.24 Coverage of DPT/Penta, Measles and Vitamin A of Children



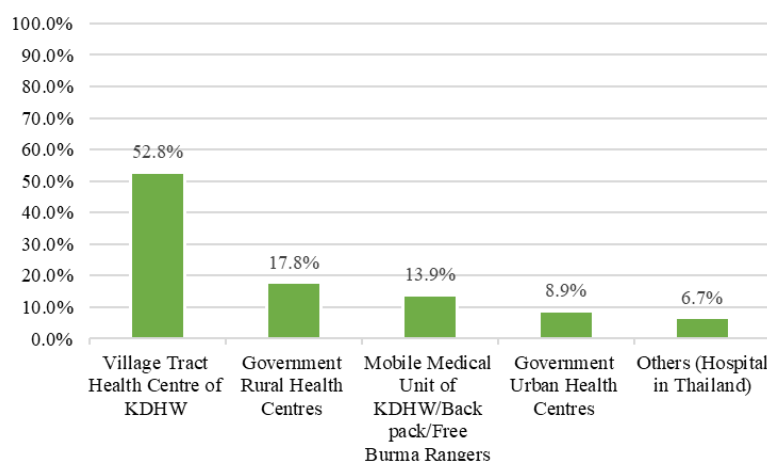
The most common health facilities/health care providers from which children received measles vaccines was Village Tract Health Centre of KDHW followed by Government RHC and Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers.

Qualitative finding explained how vaccines were delivered to under five children. Mobile vaccination teams of KDHW provided vaccines to children every 2 to 3 months at their villages. This service has been halted since March 2020 in some areas and October 2020 in other areas, which was believed to be caused by the COVID-19 pandemic and the military coup. Vaccines were supplied by the MOHS until the military coup took place, and KDHW health care workers adhered to the MOHS's vaccine protocol. Some vaccines such as BCG, Rota, PCV and Human Papillomavirus appeared to be unavailable to children. Some children received vaccines from health facilities of Mae Sot province in Thailand. Mothers reported that their children did not receive Vitamin A supplement.

A majority of mothers did not seem to have adequate knowledge on type of vaccines, the appropriate age of children to which each vaccine should be given and type of disease that each vaccine can protect children. This low knowledge could blur the accuracy of the data that they gave in a face-to-face interview and was likely to contribute to a low vaccine coverage.

IDIs with mothers probed how growth monitoring of under five children was undertaken. Weight of children was measured when a birth registration was processed and a vaccination session was organized. Although health care providers noted down weight, mothers did not receive a growth monitoring chart. Mothers did not report that Mid Upper Arm Circumference (MUAC) of children was measured.

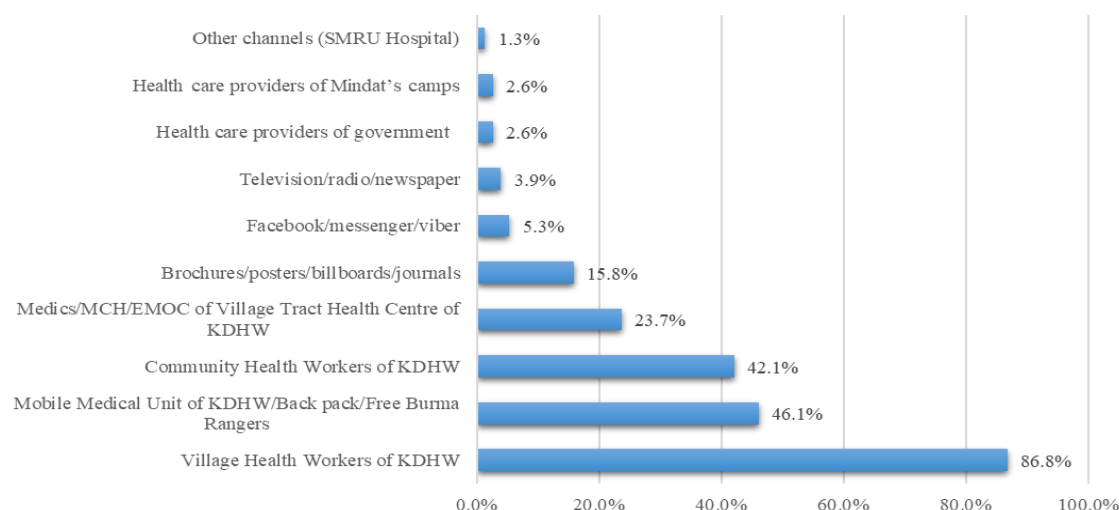
Figure 4.25 Health Care Facilities from which Children Received Vaccines



25.3 percent received information around child health between September 2020 and August 2021. The most common channel from which mothers received information pertaining to child health was Village Health Workers of KDHW with an average of 1.4 times followed by Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers with an average of 1 time and Community Health Workers of KDHW with an average of 1.8 times. KIIs with mothers disclosed that they received information regarding child health from clinic staff when they

sought treatment for a sick child from VTHC or a maternal and child hospital of KDHW and that VHWs organized health education sessions periodically.

Figure 4.26 Communication Channels from which Mothers Received Information Pertinent to Child Health



4.11 WATER, SANITATION AND HYGIENE: HAND WASHING KNOWLEDGE AND PRACTICE

An average knowledge score of 7 questions concerning ways of preventing diseases caused by unsanitary water and environment was 2.1. Plus one score was assigned to the correct answer and minus one score was given to the incorrect answer. A maximum possible score was 7.

Table 4.13 Knowledge around Ways of Preventing Diseases Caused by Unsanitary Water and Environment

Detailed Knowledge Items	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Wash hands with water and soap before eating, before cooking, before handling food, before giving breast feeding, before feeding food to a child, after handling feces of a child and after changing child's diaper	100.0% (72)	95.7% (88)	67.9% (55)	69.1% (38)	84.3% (253)
Filter or sediment water before drinking	45.8% (33)	51.1% (47)	22.2% (18)	21.8% (12)	36.7% (110)
Boil or chlorinate water before drinking	61.1% (44)	20.7% (19)	60.5% (49)	85.5% (47)	53.0% (159)
Wash hands with water or water and ash	33.3% (24)	45.7% (42)	6.2% (5)	21.8% (12)	27.7% (83)

Cover food well to protect them from insects	40.3% (29)	56.5% (52)	12.3% (10)	10.9% (6)	32.3% (97)
Defecate onto soil directly	6.9% (5)	1.1% (1)	1.2% (1)	0.0% (0)	2.3% (7)
Use sanitary latrine	55.6% (40)	89.1% (82)	21.0% (17)	43.6% (24)	54.3% (163)
Continuous Data (Number (n), Mean (Me), Median (Med), Minimum (Min) and Maximum (Max))					
Knowledge score	n = 72	n = 92	n = 81	n = 55	n = 300
	Me = 2.3	Me = 1.5	Me = 3.1	Me = 2.4	Me = 2.1
	Med = 2	Med = 2	Med = 3	Med = 2	Med = 2
	Min = -2	Min = -4	Min = 1	Min = -2	Min = -4
	Max = 6	Max = 4	Max = 6	Max = 6	Max = 6

An average knowledge score of three important occasions when people should wash their hands was 3.2. One score was assigned to the Yes answer and zero was given to the No answer. No score was assigned to the questions for which the respondents did not give an answer. A maximum possible score was 6.

Table 4.14 Knowledge around Important Occasions when People Should Wash their Hands

Detailed Knowledge Items	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Before eating	100.0% (72)	98.9% (91)	100.0% (81)	98.2% (54)	99.3% (298)
Before cooking/meal preparation	65.3% (47)	45.7% (42)	43.2% (35)	25.5% (14)	46.0% (138)
After defecation	72.2% (52)	58.7% (54)	69.1% (56)	92.7% (51)	71.0% (213)
Before breastfeeding	9.7% (7)	27.2% (25)	3.7% (3)	9.1% (5)	13.3% (40)
Before feeding food to a child	37.5% (27)	41.3% (38)	44.4% (36)	29.1% (16)	39.0% (117)
After handling a child's stool/changing a nappy/cleaning a child's bottom	80.6% (58)	52.2% (48)	51.9% (42)	32.7% (18)	55.3% (166)
Continuous Data (Number (n), Mean (Me), Median (Med), Minimum (Min) and Maximum (Max))					
Knowledge score	n = 72	n = 92	n = 81	n = 55	n = 300
	Me = 3.7	Me = 3.2	Me = 3.1	Me = 2.9	Me = 3.2
	Med = 3	Med = 3	Med = 3	Med = 3	Med = 3
	Min = 2	Min = 2	Min = 1	Min = 2	Min = 1
	Max = 6	Max = 6	Max = 6	Max = 6	Max = 6

It was observed that 73.3 per cent of households had a hand washing station at a communal toilet or individual toilet, 70.3 per cent of households had water and 47.3 per cent had soap. 66 per cent of mothers reported that they washed their hands using soap and water after defecation in the previous day. It was observed that 33 per cent of households had a specific hand washing device/station in their house where their household members washed their hands.

85.7 per cent of mothers washed her hands before eating, 57 per cent of mothers washed their hands before cooking/meal preparation, 57.7 per cent washed their hands after defecation and urination, 21.7 per cent before breastfeeding, 62.7 per cent before feeding food to a child and 56.7 per cent after handling a child's stool/changing a nappy/cleaning a child's bottom.

KII findings were in tandem with the survey findings. A majority of mothers reported that they washed their hands with water and soap after defecation, before feeding food to their children and after cleaning their children's feces. Nevertheless, some mothers did not wash their hands before preparing food and feeding breast milk. The reasons were: (a) they were in hurry; and (b) they did not have access to soap and water when they gave their children breast milk outside of their house.

Table 4.15 Hand Washing Facilities and Hand Washing Behaviors

Hand Washing Facilities and Hand Washing Behaviors	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
There is the presence of a hand washing station at the communal toilet or individual toilet	73.6% (53)	98.9% (91)	45.7% (37)	70.9% (39)	73.3% (220)
There is the presence of water in the hand washing station	70.8% (51)	98.9% (91)	38.3% (31)	69.1% (38)	70.3% (211)
There is the presence of soap in the hand washing station	15.3% (11)	97.8% (90)	35.8% (29)	21.8% (12)	47.3% (142)
Washed hands using soap and water after defecation in the previous day	29.2% (21)	96.7% (89)	50.6% (41)	85.5% (47)	66.0% (198)
There is the presence of a specific hand washing device/station in your house where your household washes their hands	0.0% (0)	71.7% (66)	13.6% (11)	40.0% (22)	33.0% (99)
Type of Hand Washing Device					
Basin	0.0% (0)	25.8% (17)	0.0% (0)	18.2% (4)	21.2% (21)
Pouring device (e.g. tipi tap)	0.0% (0)	1.5% (1)	9.1% (1)	13.6% (3)	5.1% (5)
Bucket/ Cup	0.0% (0)	72.7% (48)	90.9% (10)	45.5% (10)	68.7% (68)
Other (pool)	0.0% (0)	0.0% (0)	0.0% (0)	22.7% (5)	5.1% (5)
There is the presence of water in the specific hand washing device/station	0.0% (0)	100.0% (66)	100.0% (11)	90.9% (20)	98.0% (97)
There is the presence of soap in the specific hand washing device/station	0.0% (0)	92.4% (61)	81.8% (9)	90.9% (20)	90.9% (90)
Washed your hand with soap and water in the following situations during 24 hours					
Before eating	84.7% (61)	84.8% (78)	86.4% (70)	87.3% (48)	85.7% (257)
Before cooking/meal preparation	48.6% (35)	54.3% (50)	56.8% (46)	72.7% (40)	57.0% (171)
After defecation and urination	63.9% (46)	44.6% (41)	50.6% (41)	81.8% (45)	57.7% (173)
Before breastfeeding	11.1% (8)	44.6% (41)	3.7% (3)	23.6% (13)	21.7% (65)
Before feeding food to a child	59.7% (43)	66.3% (61)	50.6% (41)	78.2% (43)	62.7% (188)

After handling a child's stool/changing a nappy/cleaning a child's bottom	86.1% (62)	22.8% (21)	59.3% (48)	70.9% (39)	56.7% (170)
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4.12 WATER, SANITATION AND HYGIENE: WATER SOURCES

The survey discovered that the most common water sources for drinking and cooking purposes in the rainy season was public tap and unprotected spring at 19.3 percent each followed by protected lake/well at 19.0 percent and unprotected hand-dug well at 18.3 percent.

Many villages had access to more than one water sources. First, a pipe water system brings spring water to a communal village tank from which water flows down to individual household. Water taps were set up for every 3 to 5 households. The distance between water taps and individual households was short, and it took about 5 to 10 minutes to reach water taps. This water system reduced time spent for fetching water, alleviated burden of carrying water and provide clean water to people. All households used the water from this system for drinking and cooking and some also used it for bathing and laundry depending on the number of family members and the amount of water available.

However, the study identified some challenges. Each household had to contribute money for setting up a communal water pipe system. For instance, each household of one village had to pay 300,000 MMK. Households who could not afford this contribution did not get access to the water system. To do maintenance of a system, a village committee collected 50 MMK per month per house. The amount of money collected was insufficient to cover the maintenance cost. Monthly fees could not be raised because some did not want to pay more. Second, available water quantity was less in summer than in the rainy season and winter, which made households use alternative water sources. Third, proper investigations were not performed for the presence of harmful organisms and heavy metals. Consequently, the extent to which water was good enough for drinking and cooking was unknown.

Second, water from shallow water wells was the second water source, which was available throughout the year except April and early May. Many households had own water wells and/or had access to communal water wells. For instance, there were 3 to 4 communal water wells in one village and there were 40 households with own water wells in another village. Those who relied on this water source used it for bathing and laundry primarily. The wall of water wells was made with concrete rings, and concrete rings were built about the opening to protect water wells from contamination.

Challenges of water wells are uncovered by the study. First, proper investigations were not performed for the presence of harmful organisms and heavy metals. Consequently, the extent to which water was good enough for drinking and cooking was unknown. Second, there was no roof for some water wells and designated pavements for bathing and laundry beside water well. Many people took bath and did laundry beside communal water wells. Some communal water wells did not have sufficient water for users during summer.

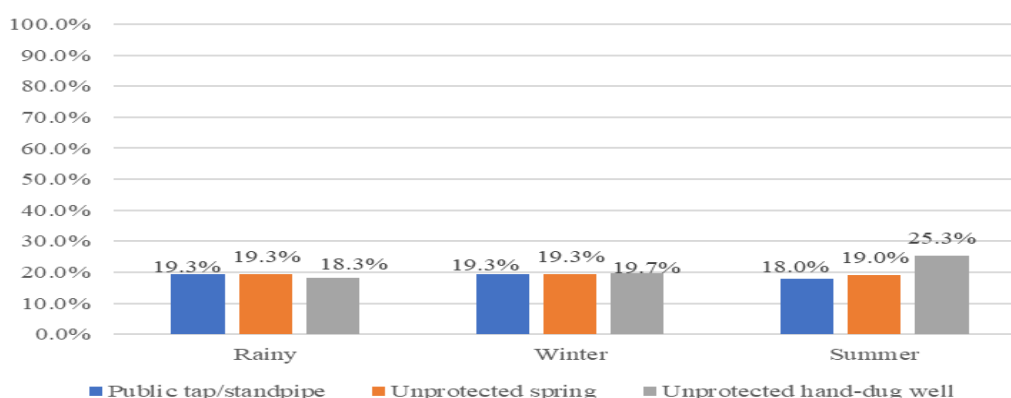
Third, many households collected rain water with plastic containers and/or concrete tanks, which was used for all purposes. Fourth, some used water from nearby rivers or streams,

particularly in winter and summer. Water from this water source was used mainly for laundry and bathing.

The most common water sources for drinking and cooking in winter was unprotected hung-dug well at 19.7 percent followed by public tap and unprotected spring at 19.3 percent each and pipe connection to house at 16.7 percent.

The most common water sources for drinking and cooking in summer was unprotected hung-dug well at 25.3 percent followed by unprotected spring at 19.0 percent and public tap at 18.0 percent.

Figure 4.27 Three Major Water Sources for Drinking and Cooking Water in Rainy Season, Winter and Summer

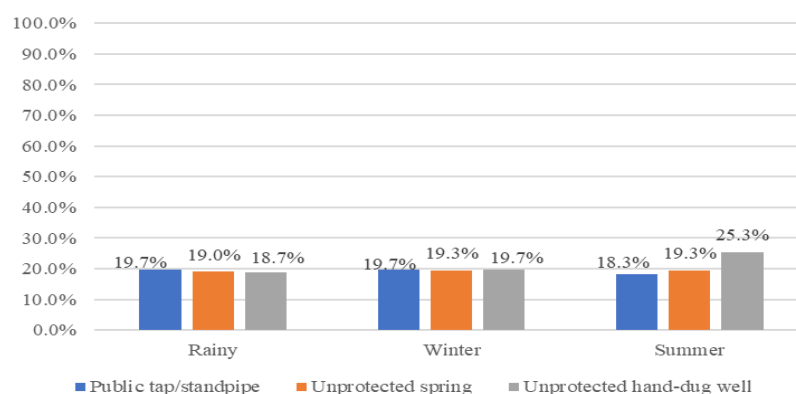


The most common water sources for the purposes other than drinking and cooking in the rainy season was protected lake/well at 20.3 percent followed by public tap at 19.7 percent and unprotected spring at 19.0 percent.

The most common water sources for the purposes other than drinking and cooking in winter was unprotected hand-dug well and public tap at 19.7 percent each, unprotected spring at 19.3 percent and pipe connection to house (or) neighbor's house at 18.7 percent.

The most common water sources for the purposes other than drinking and cooking in summer was unprotected hand-dug well at 25.3 percent followed by unprotected spring at 19.3 percent and public tap and pipe connection to house (or) neighbor's house at 18.3 percent each.

Figure 4.28 Three Major Water Sources for Purposes other than Drinking and Cooking Water in Rainy Season, Winter and Summer



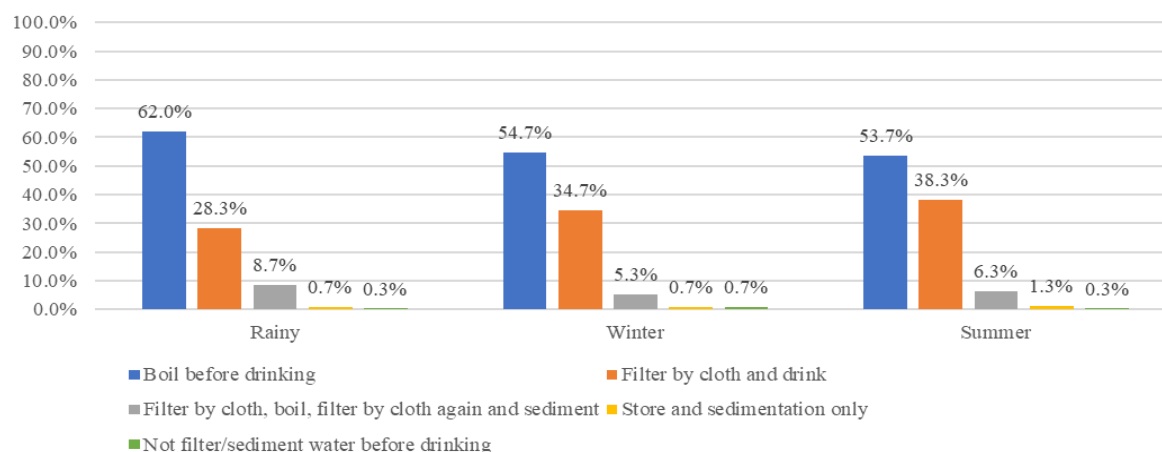
The most commonly used water cleansing method in the rainy season was boil before drinking at 62.0 percent followed by filter by cloth and drink at 28.3 percent and filter by cloth, boil, filter by cloth again and sediment at 8.7 percent.

Findings from IDIs and KIIs supported the survey findings. Some households boiled water and kept them in specific containers for drinking whereas some filter water, kept them in specific containers and drink it without boiling. There was no difference in this practice among 3 seasons.

The most commonly used water cleansing method in winter was boil before drinking at 54.7 percent followed by filter by cloth and drink at 34.7 percent and filter by cloth, boil, filter by cloth again and sediment at 5.3 percent.

The most commonly used water cleansing method in summer was boil before drinking at 53.7 percent followed by filter by cloth then drink at 38.3 percent and filter by cloth, boil, filter by cloth at 6.3 percent.

Figure 4.29 Three Major Means of Cleaning Drinking Water in Rainy Season, Winter and Summer



An average time spent for fetching water from water source in the rainy season was 6.4 minutes, winter was 7.7 minutes and summer was 9.3 minutes. Women 18 years old and older than 18 years old took the main responsibility of carrying water at 24.3 per cent. Detail in Annex Table 4.53.

26.5 per cent of households reported that they could not obtain adequate water to meet the household's needs. Further investigation of reasons for inadequate water supply showed that not having enough water containers at home was the most cited reason at 77.2 percent followed by water shortage at 19.0 percent.

Table 4.16 Obtaining Sufficient Water and Reasons for Insufficiency of Water for Household Consumption

Sufficient Water Supply and Reasons for not Obtaining Sufficient Water	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Obtained enough water to meet all your households' needs (excluding animal use, brickmaking, agriculture, gardening, etc.)	47.2% (34)	100.0% (91)	81.5% (66)	51.9% (28)	73.5% (219)
Reasons for not Getting Enough Water					
There is water shortage	0.0% (0)	0.0% (0)	6.7% (1)	53.8% (14)	19.0% (15)
It is too far to fetch water	2.6% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1.3% (1)
Cannot afford to buy enough water	0.0% (0)	0.0% (0)	0.0% (0)	3.9% (1)	1.3% (1)
Do not have enough water container at home	97.4% (37)	0.0% (0)	93.3% (14)	38.5% (10)	77.2% (61)
Water containers are shared with other households	0.0% (0)	0.0% (0)	0.0% (0)	3.9% (1)	1.3% (1)

4.13 WATER, SANITATION AND HYGIENE: EXCRETA DISPOSAL SYSTEM

The survey elicited how household members older than 5 year passed their feces and found that 77.7 percent used a household latrine, 10.7 percent used a communal latrine and 10.3 percent used open defecation. In comparison, 35.3 percent of under five children used open defecation, 33.3 used a household latrine, 15 percent used plastic bag, 5 percent used plastic pot, and 3.7 percent used dipper. 39.8 percent disposed child's feces in the places other than latrines and 21.5 percent left feces at the place where children excreted. These findings suggested that the likelihood of contamination of soil with feces was high, which could contribute to food and water borne diseases and worm infestation.

Qualitative data analysis was consistent with and further elaborated the survey findings. Households of mothers had soap and water inside a household toilet, household members used water and soap to clean an anal area and after that, they washed their hands with water and soap.

Some mothers reported that when pits were filled with feces, they had to move to a new site to construct new toilets. Some of these new toilets did not have proper door with a lock inside. Some households had many household members and one latrine. When household members could not hold their feces while waiting for their turns, they defecated on the ground of home premises.

Some households of some villages did not have toilets, and these household members disposed their feces on the ground in the vicinity of their villages. As there was no water and soap, they used paper or wooden stick to clean their anuses. Some washed their hands with water and soap when they came back to their houses but it was likely that some did not wash their hands properly. Some mothers discarded their children's feces in garbage pits located inside the home premises or communal garbage pits. These findings suggested that soil could be contaminated with worm eggs and other communicable infections, which might cause spread of worm infestation and food and water borne diseases. Analysis of data from one VTHC of brigade 6 discovered that villages where people practiced open defecation had higher prevalence of childhood and adult diarrhea cases.

Table 4.17 Ways of Defecating

Ways of Defecating	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Ways of Defecating of Household Members Older than 5 Years					
Household latrine	75.0% (54)	98.9% (91)	77.8% (63)	45.5% (25)	77.7% (233)
Communal latrine	0.0% (0)	0.0% (0)	3.7% (3)	52.7% (29)	10.7% (32)
Open defecation (defecation at outside)	25.0% (18)	1.1% (1)	13.6% (11)	1.8% (1)	10.3% (31)
Plastic bag	0.0% (0)	0.0% (0)	1.2% (1)	0.0% (0)	0.3% (1)
Other means (relative's latrine, old latrine)	0.0% (0)	0.0% (0)	3.7% (3)	0.0% (0)	1.0% (3)
Ways of Defecating of Household Members who are under 5 Years Old					
Household latrine	36.1% (26)	42.4% (39)	30.9% (25)	18.2% (10)	33.3% (100)
Communal latrine	0.0% (0)	0.0% (0)	2.5% (2)	38.2% (21)	7.7% (23)
Open defecation (defecation at outside)	59.7% (43)	9.8% (9)	46.9% (38)	29.1% (16)	35.3% (106)
Plastic bag	0.0% (0)	44.6% (41)	2.5% (2)	3.6% (2)	15.0% (45)
Plastic pot	1.4% (1)	3.3% (3)	8.6% (7)	7.3% (4)	5.0% (15)
Other means (Dipper)	2.8% (2)	0.0% (0)	8.6% (7)	3.6% (2)	3.7% (11)
Ways of Disposing Faeces under 5 Children who Did not Dispose their Feces in Latrines					
Collected and disposed in latrine	30.4% (14)	3.8% (2)	9.3% (5)	14.3% (4)	13.9% (25)
Collected and disposed elsewhere	47.8% (22)	41.5% (22)	30.8% (17)	41.7% (10)	39.8% (71)

Leave feces as it is	19.6% (9)	3.8% (2)	48.1% (26)	4.2% (1)	21.5% (38)
Buried feces under the Ground	0.0% (0)	50.9% (27)	3.7% (2)	0.0% (0)	16.4% (29)
Other means (washing with water and feed to dog)	2.2% (1)	0.0% (0)	6.2% (3)	39.9% (9)	7.9% (13)
Don't know	0.0% (0)	0.0% (0)	1.9% (1)	0.0% (0)	0.6% (1)

When adoption of the open defecation practice was verified, 24 per cent revealed that they defecated in the open space during the previous month. The most commonly cited reasons for adoption of this practice were: (a) no latrine was available; (b) it was too dark at night to go to the nearest latrine; and (c) unable to control urination. The proportion of populations who adopted the open defecation practice was found to be higher than 10.3 percent reported in an initial question when a cross-verification probing question was asked.

Table 4.18 Adoption of Open Defecation Practice and Reasons

Open Defecation Practice	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Categorical Data (percent and number)					
Adult members of your household defecated in the open space during the last month	51.4% (37)	9.8% (9)	30.9% (25)	1.8% (1)	24.0% (72)
Reasons for Open Defecation					
No latrine was available	45.9% (17)	77.8% (7)	52.0% (13)	100.0% (1)	52.8% (38)
It was too far to reach the nearest latrine	2.7% (1)	22.2% (2)	0.0% (0)	0.0% (0)	4.2% (3)
It was too dark at night to go to the nearest latrine	2.7% (1)	22.2% (2)	48.0% (12)	0.0% (0)	20.8% (15)
I could hardly control	0.0% (0)	11.1% (1)	28.0% (7)	0.0% (0)	11.1% (8)
Don't know	2.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1.4% (1)

Enumerators observed the type of latrine used by households and sanitary conditions of the latrine and discovered that 53.2 percent used Non-Ventilated Improved Pit latrine, 37.7 per cent used Ventilated Improved Pit latrine and 9.1 per cent used pit latrine. 54.7 per cent of toilets had internal locks and adequate lighting whereas 72.8 percent of mothers felt that their latrines were safe for women and girls.

98.5 percent of latrines were being used at the time of observation whereas 60.4 percent had a cover on a pit. 6.4 percent of latrines were found to be full with feces, 7.2 percent had feces on the floor, 46.8 percent had a strong odor, and 41.1 percent had fly (s) inside the toilet. These findings were indicative of the considerable degree of poor sanitation.

Table 4.19 Type of Latrines and Sanitary Conditions of Latrines Used by Respondents

Types and Sanitary Conditions	Brigade 5 (n=54)	Brigade 6 (n=91)	Brigade 7 (n=66)	Mindat (n=54)	Total (n=265)
Categorical Data (percent and number)					
Latrine had internal locks and adequate lighting	74.1% (40)	39.6% (36)	72.7% (48)	38.9% (21)	54.7% (145)
Toilet used is safe for women and girls	72.2% (39)	81.3% (74)	72.7% (48)	59.3%	72.8%

of your family				(32)	(193)
Types of Latrines by Observation					
Pit latrine	0.0% (0)	26.4% (24)	0.0% (0)	0.0% (0)	9.1% (24)
Ventilated Improved Pit Latrine	35.2% (19)	31.9% (29)	43.9% (29)	42.6% (23)	37.7% (100)
Non-Ventilated Improved Pit Latrine	64.8% (35)	41.8% (38)	56.1% (37)	57.4% (31)	53.2% (141)
Sanitary Conditions of Latrines by Observation					
The latrine was currently being used	100.0% (54)	96.7% (88)	98.5% (65)	100.0% (54)	98.5% (261)
The latrine was full	0.0% (0)	4.4% (4)	3.0% (2)	20.4% (11)	6.4% (17)
There was the presences of feces on the floor of the toilet	0.0% (0)	2.2% (2)	4.5% (3)	25.9% (14)	7.2% (19)
There was the presences of feces on the seat of the toilet	0.0% (0)	2.2% (2)	4.5% (3)	24.1% (13)	6.8% (18)
There was the presence of strong odor in the toilet	24.1% (13)	70.3% (64)	25.8% (17)	55.6% (30)	46.8% (124)
There was the presence of fly (s) in the toilet	20.4% (11)	65.9% (60)	21.2% (14)	44.4% (24)	41.1% (109)
There was the presence of a cover on the pit	74.1% (40)	96.7% (88)	19.7% (13)	35.2% (19)	60.4% (160)

40.8 percent of households used metal, 35.1 percent used thatch/ leaves and 12.8 percent used brick to build the superstructure of latrines. 53.2 percent of households used wood, 30.9 percent used concrete and 9.4 percent used log to build the slab of latrines.

Table 4.20 Materials Used for Construction of Latrines

	Brigade 5 (n=54)	Brigade 6 (n=91)	Brigade 7 (n=66)	Mindat (n=54)	Total (n=265)
Categorical Data (percent and number)					
Material used for the superstructure of latrine					
Bricks	0.0% (0)	29.7% (27)	7.6% (5)	3.7% (2)	12.8% (34)
Plastic sheeting	0.0% (0)	1.1% (1)	0.0% (0)	0.0% (0)	0.4% (1)
Fabric	5.6% (3)	12.1% (11)	0.0% (0)	0.0% (0)	5.3% (14)
Metal	9.3% (5)	23.1% (21)	47.0% (31)	94.4% (51)	40.8% (108)
Wood	5.6% (3)	0.0% (0)	12.1% (8)	0.0% (0)	4.2% (11)
Thatch/leaves	74.1% (40)	34.1% (31)	31.8% (21)	1.9% (1)	35.1% (93)
Other	5.6% (3)	0.0% (0)	1.5% (1)	0.0% (0)	1.5% (4)
Material used for the slab of latrine					
Wood	57.4% (31)	64.8% (59)	25.8% (17)	63.0% (34)	53.2% (141)
Logs	38.9% (21)	3.3% (3)	1.5% (1)	0.0% (0)	9.4% (25)
Concrete	3.7% (2)	30.8% (28)	54.5% (36)	29.6% (16)	30.9% (82)
Other materials	0.0% (0)	1.1% (1)	18.2% (12)	7.4% (4)	6.4% (17)

4.14 WATER, SANITATION AND HYGIENE: QUANTITY AND COST OF WATER AND HYGIENE ITEMS

35.3 percent of mothers reportedly received Non-Food Items of WASH in the previous 3 months. The most common item included: (a) soap with 92.5 percent; (b) toothpaste with 51.4 percent; and (c) detergent with 42.5 percent.

When asking whether household members used these NFI, 99 percent, 100 percent and 100 percent used the first item (soap), the second item (toothpaste) and the third item (detergent), respectively. 16.3 percent reported that the quantity of the first item was sufficient, 8.9 percent reported that the quantity of the second item was sufficient and 38.2 percent reported that the quantity of the third item was sufficient. 98 percent, 100 percent and 100 percent reported that the quantity of the first item, the second item and the third item were useful, respectively.

An average gram of bathing soap per month used by household members was 308, an average price per soap bar was 667 MMK and an average cost per month was 1,917 MMK. An average gram of laundry soap per month used by household members was 2,140, an average price per pack of laundry soap was 4,709 MMK and an average cost per month was 5,870 MMK. An average liter of water per day used by household members was 215, an average price per liter was 6 MMK and an average cost per day was 1,113 MMK.

The total cost per month for water, bathing soap and laundry soap was 9,563 MMK. As an average monthly income per family was 81,778, the cost for WASH constituted 11.7 percent. An average family member was 5.8, which meant that one person used an average of 1,649 MMK per month.

Table 4.21 Water and Soap Quantity Used and Cost

	Brigade 5 (n=72)	Brigade 6 (n=92)	Brigade 7 (n=81)	Mindat (n=55)	Total (n=300)
Continuous Data (Number (n), Mean (Me), Median (Med), Minimum (Min) and Maximum (Max))					
Quantity of bathing soap used by family per month in gram	n = 72 Me = 186 Med = 210 Min = 105 Max = 315	n = 92 Me = 287 Med = 200 Min = 200 Max = 900	n = 81 Me = 364 Med = 330 Min = 100 Max = 900	n = 55 Me = 420 Med = 300 Min = 100 Max = 1,000	n = 300 Me = 308 Med = 270 Min = 100 Max = 1,000
Price per soap bar in MMK	n = 70 Me = 777 Med = 600 Min = 400 Max = 3,200	n = 92 Me = 497 Med = 500 Min = 250 Max = 1,000	n = 78 Me = 650 Med = 600 Min = 400 Max = 2,500	n = 47 Me = 863 Med = 800 Min = 450 Max = 4,500	n = 287 Me = 667 Med = 600 Min = 250 Max = 4,500
Cost per month in MMK	n = 70 Me = 1,304 Med = 1,200 Min = 600 Max = 3,200	n = 92 Me = 1,243 Med = 1,000	n = 78 Me = 2,251 Med = 2,250	n = 47 Me = 3,539 Med = 2,500 Min = 700	n = 287 Me = 1,917 Med = 1,500 Min = 500 Max = 10,000

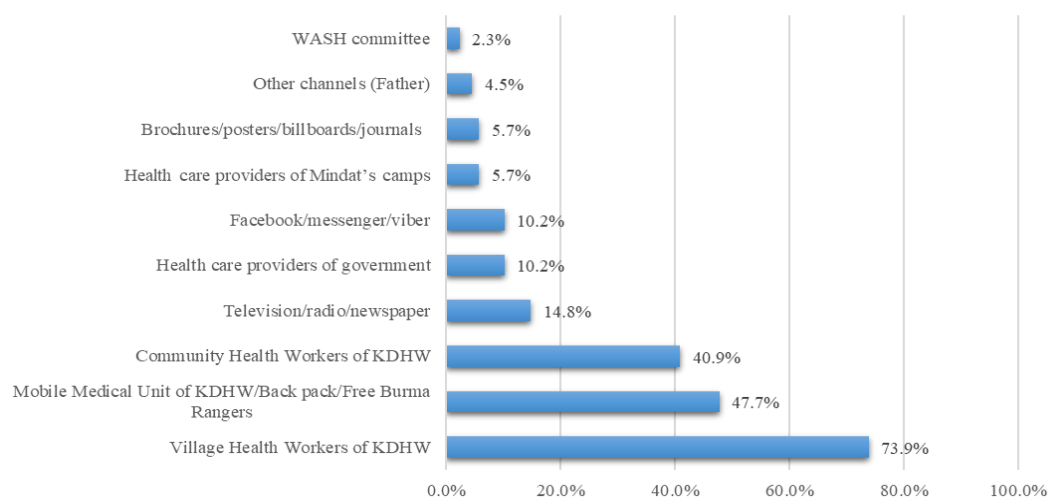
		Min = 500 Max = 2,800	Min = 600 Max = 5,000	Max = 10,000	
Quantity of laundry soap used by family per month in gram	n = 72 Me = 1,304 Med = 1,000 Min = 800 Max = 3,000	n = 92 Me = 3,489 Med = 4,000 Min = 1,000 Max = 4,500	n = 81 Me = 1,627 Med = 1,400 Min = 200 Max = 4,000	n = 55 Me = 1,730 Med = 1,200 Min = 200 Max = 8,000	n = 300 Me = 2,140 Med = 2,000 Min = 200 Max = 8,000
Price per pack in MMK	n = 70 Me = 3,063 Med = 3,000 Min = 2,000 Max = 4,700	n = 92 Me = 7,415 Med = 8,500 Min = 1,200 Max = 9,500	n = 80 Me = 4,889 Med = 5,750 Min = 300 Max = 7,500	n = 49 Me = 1,684 Med = 1,500 Min = 300 Max = 9,000	n = 291 Me = 4,709 Med = 4,200 Min = 300 Max = 9,500
Cost per month in MMK	n = 70 Me = 5,006 Med = 5,800 Min = 2,000 Max = 12,600	n = 93 Me = 7,459 Med = 8,500 Min = 1,200 Max = 9,500	n = 80 Me = 5,408 Med = 6,000 Min = 300 Max = 14,000	n = 49 Me = 4,879 Med = 3,600 Min = 900 Max = 15,000	n = 291 Me = 5,870 Med = 6,000 Min = 300 Max = 15,000
Quantity of potty, scoop or nappies used by family per month in piece	n = 72 Me = 13 Med = 0 Min = 0 Max = 60	n = 92 Me = 32 Med = 30 Min = 30 Max = 90	n = 81 Me = 14 Med = 0 Min = 0 Max = 90	n = 55 Me = 39 Med = 30 Min = 0 Max = 150	n = 300 Me = 24 Med = 30 Min = 0 Max = 150
Price per piece in MMK	n = 29 Me = 462 Med = 350 Min = 150 Max = 750	n = 92 Me = 295 Med = 300 Min = 250 Max = 300	n = 34 Me = 312 Med = 275 Min = 200 Max = 500	n = 30 Me = 360 Med = 300 Min = 200 Max = 875	n = 185 Me = 335 Med = 300 Min = 150 Max = 875
Cost per month in MMK	n = 29 Me = 13,574 Med = 14,000 Min = 3,000 Max = 22,500	n = 92 Me = 9,505 Med = 9,000 Min = 7,500 Max = 22,500	n = 34 Me = 9,178 Med = 9,000 Min = 2,100 Max = 22,500	n = 30 Me = 26,035 Med = 21,750 Min = 5,000 Max = 75,000	n = 185 Me = 12,764 Med = 9,000 Min = 2,100 Max = 75,000
Quantity of water used by family per day in liter	n = 72 Me = 205 Med = 180 Min = 80	n = 92 Me = 216 Med = 200 Min = 100	n = 81 Me = 214 Med = 200 Min = 80	n = 55 Me = 228 Med = 200 Min = 40	n = 300 Me = 215 Med = 200 Min = 40

	Max = 500	Max = 400	Max = 500	Max = 720	Max = 720
Price per liter in MMK	n = 0 Me = 0 Med = 0 Min = 0 Max = 0	n = 1 Me = 4 Med = 4 Min = 4 Max = 4	n = 0 Me = 0 Med = 0 Min = 0 Max = 0	n = 15 Me = 6 Med = 4 Min = 1 Max = 20	n = 16 Me = 6 Med = 4 Min = 1 Max = 20
Cost per day in MMK	n = 0 Me = 0 Med = 0 Min = 0 Max = 0	n = 1 Me = Med = 1,800 Min = Max = 1,800	n = 0 Me = 0 Med = 0 Min = 0 Max = 0	n = 15 Me = 1,067 Med = 500 Min = 200 Max = 4,800	n = 16 Me = 1,113 Med = 500 Min = 200 Max = 4,800

29.3 percent of mothers responded that they received information around WASH between September 2020 and August 2021. The most common channel was VHWs of KDHW with an average of 2 times, Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers with an average of 1 time and CHW of KDHW with an average of 2 times.

Qualitative data analysis elaborated the survey findings. Only few mothers received health education around WASH from VHW and one NGO for one time during the previous year whereas a majority of mothers did not participate in any health education session.

Figure 4.30 Communication Channels from which Mothers Received Information Pertinent to WASH

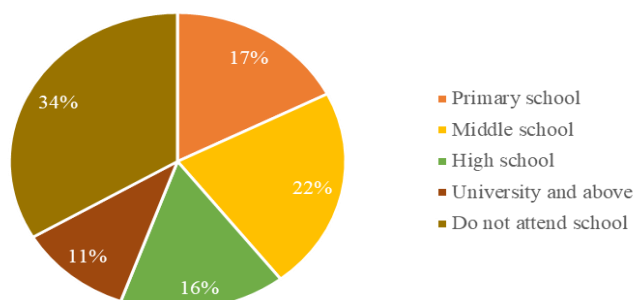


4.15 DEMOGRAPHIC INFORMATION OF SAMPLE HOUSEHOLDS OF ADULT RESPONDENTS

The baseline study discovered that 33.5 percent of the 200 participating adult household members other than mothers did not attend the government school or KNU's school. 17.5 percent studied the primary school level, 22 percent studied the middle school level, 16 percent

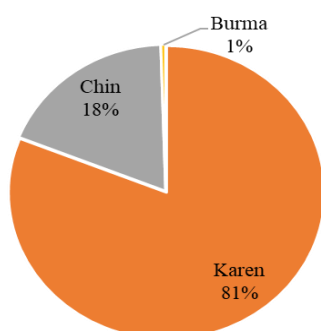
studied the high school level and 11 percent studied the university level. An average school grades passed was 8.

Figure 4.31 Education Level of Adults Participated in Baseline



Regarding the ethnicity of the participants, 81 percent were Karen and 18 percent were Chin.

Figure 4.32 Ethnicity of Adults Participated in Baseline



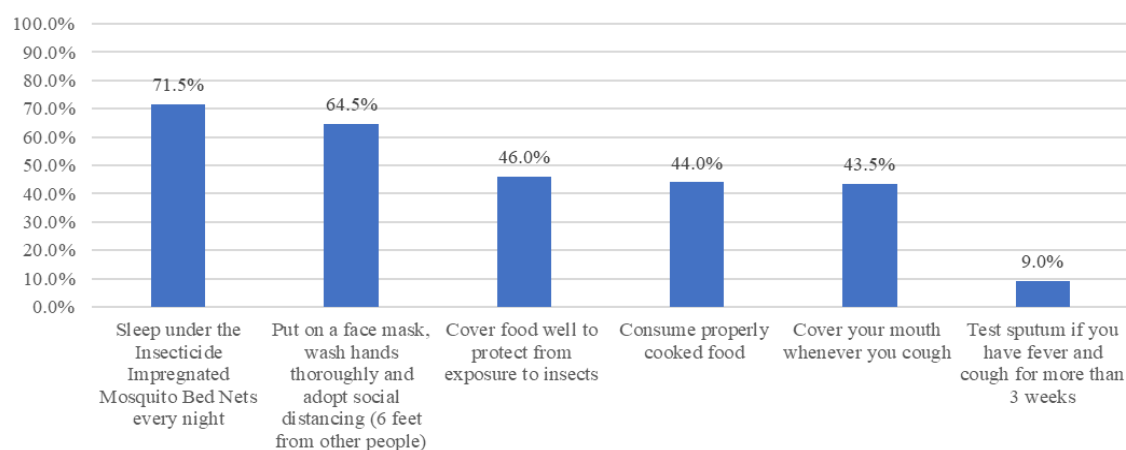
A majority of the respondents believed in Buddhist at 55.5 per cent followed by Baptist at 23 per cent, Roman Catholic at 8 per cent and other religions at 14 per cent. An average monthly household income of the respondents was 73,913 MMK compared to an average household members who shared income and expenses of 6 (median income was 50,000 MMK, minimum was 0 MMK and maximum was 500,000 MMK). 4 per cent of respondents did not have income because they could not work while staying in camps.

A principal livelihood was Agriculture with 74 percent followed by other types of livelihoods such as weaving, carpenter, government staff, malaria volunteer, manual laborer, teacher, etc. with 13.0 percent, groceries, and food stall and tea shop business with 3 per cent each. Detail in Annex Table 4.63.

4.16 COMMUNICABLE DISEASES: MALARIA AND COVID-19

An average knowledge score of 6 questions concerning ways of preventing communicable diseases was 2.8. Plus one score was assigned to the Yes answer and zero score was given to the No answer. A maximum possible score was 6.

Figure 4.33 Knowledge on Prevention Methods of Communicable Diseases



29.5 percent of adult household members slept under insecticide treated bed nets every night, 57.5 percent slept some nights and 13 percent did not sleep at all between September 2020 and August 2021. By contrast, 46 percent used insecticide treated bed nets during the last night. Investigation of reasons for not using insecticide treated bed nets uncovered that feeling hot was the most common one followed by not having an insecticide treated bed net or bed net was damaged and other reasons -- using ordinary bed net instead of Long-Lasting Insecticide Bed Nets (LLIN).

Qualitative findings disclosed that LLIN were distributed free of charge 2 times, the first in 2015 or 2017 and the second in 2019, in some study villages. The number of bed nets given to each household was determined by the number of household members in some villages whereas only one bed net was given to each household in other villages. Some household members used these bed nets every night when bed nets were intact and had adequate potency.

Most of the LLINs were either damaged or did not have effects of insecticides at the time of interview. At the time of interview, they no longer used LLINs or LLINs could not dispel mosquitos when LLINs were used. The primary reason for damage was kicking and pushing by children while sleeping. Some mothers perceived that the odor was LLIN was pungent and felt hot and irritated when they touched a bed net.

Table 4.22 Malaria Prevention Behaviors

	Brigade 5 (n=46)	Brigade 6 (n=60)	Brigade 7 (n=56)	Mindat (n=38)	Total (n=200)
Categorical Data (percent and number)					
Between September 2020 and August 2021 ,did you sleep under insecticide treated bed nets					
Every night	30.4% (14)	8.3% (5)	48.2% (27)	34.2% (13)	29.5% (59)
Some nights	63.0% (29)	91.7% (55)	23.2% (13)	47.4% (18)	57.5% (115)
Not slept at all	6.5% (3)	0.0% (0)	28.6% (16)	18.4% (7)	13.0% (26)

Y ouslept under insecticide treated bed nets during the previous night	45.7% (21)	38.3% (23)	51.8% (29)	50.0% (19)	46.0% (92)
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Figure 4.34 Slept with Insecticide Treated Bet Nets Between September 2020 and August 2021 and during Previous Night

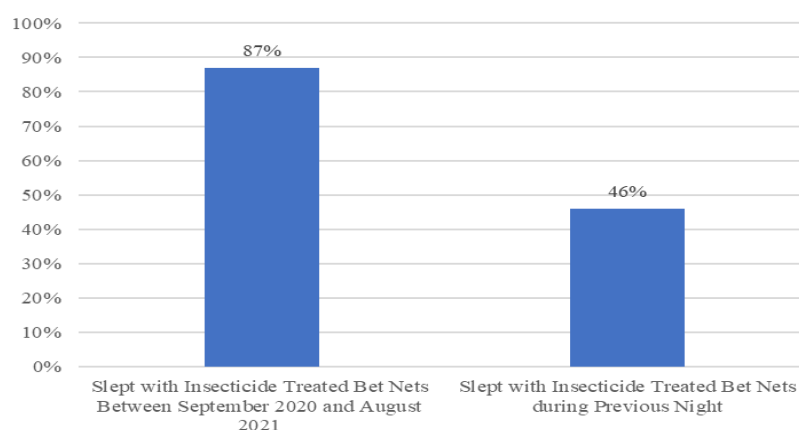
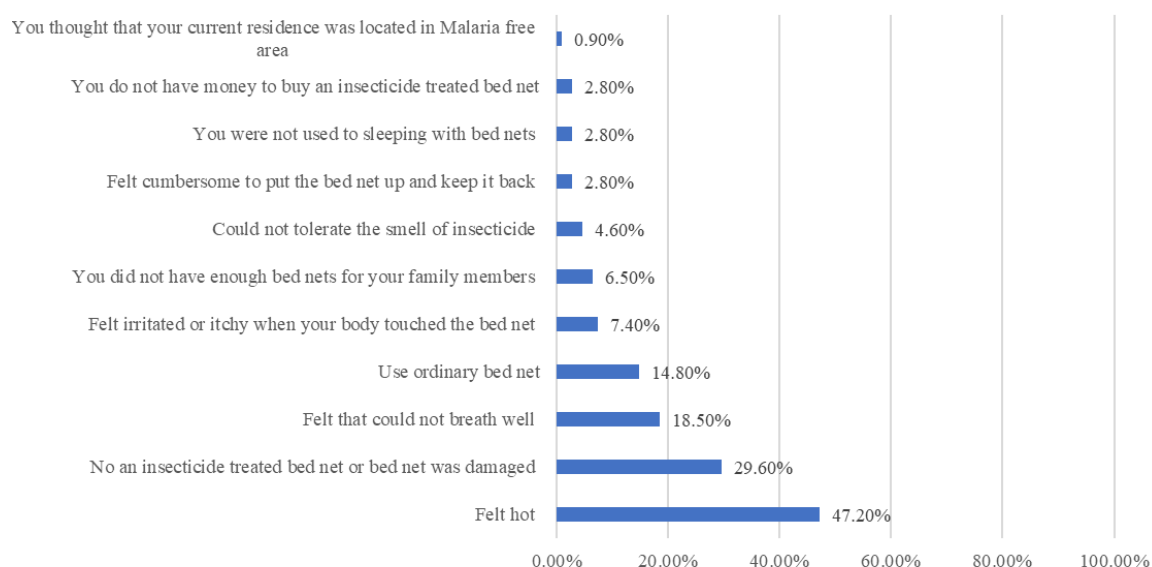


Figure 4.35 Reasons for Not Sleeping with Insecticide Treated during Previous Night



39 percent of adult household members suffered from chills, rigors and fever or Malaria between September 2020 and August 2021. 87.2 percent of them sought an investigation for the last episode of such fever, of which 13.2 percent got an investigation within 24 hours from the onset of fever. With respect to the type of health care facilities/providers from which an

investigation was sought, health care providers of VTHC was the most common followed by SMRU, Malaria Volunteer and health care provider from Mindat camps.

Qualitative findings disclosed that the prevalence of malaria among villagers has declined over the previous 10 years. A majority of mothers did not hear occurrence of malaria among their villagers. Only few knew that there were 2 cases of malaria per month in their villages. VTHC had Rapid Diagnostic Tests to investigate the presence of malaria, and provided such tests to suspected patients. Those who were found to have malaria parasites were treated in accord with the MOHS protocol.

Mothers participating in KIIs did not hear villagers who suffered from Tuberculosis, Meningitis, Pertussis, Diphtheria, and Dengue Hemorrhagic Fever in the previous year. Some adult diarrhea cases were observed in the villages in the last year where many people defecated in the open space.

Examination of reasons for not seeking investigations for malaria showed that Malaria is not life-threatening disease was the most common reason, the other reasons -- clinic is not opened and there was no health care provider at clinic -- was the second most common reason and not enough money to pay for test, occupied with work and taking home remedies to treat illness was the third most common reason.

Figure 4.36 Occurrences of Malaria, Access to Investigations, Access to Investigation within 24 Hours, Access to Treatment and Access to Treatment within 24 Hours

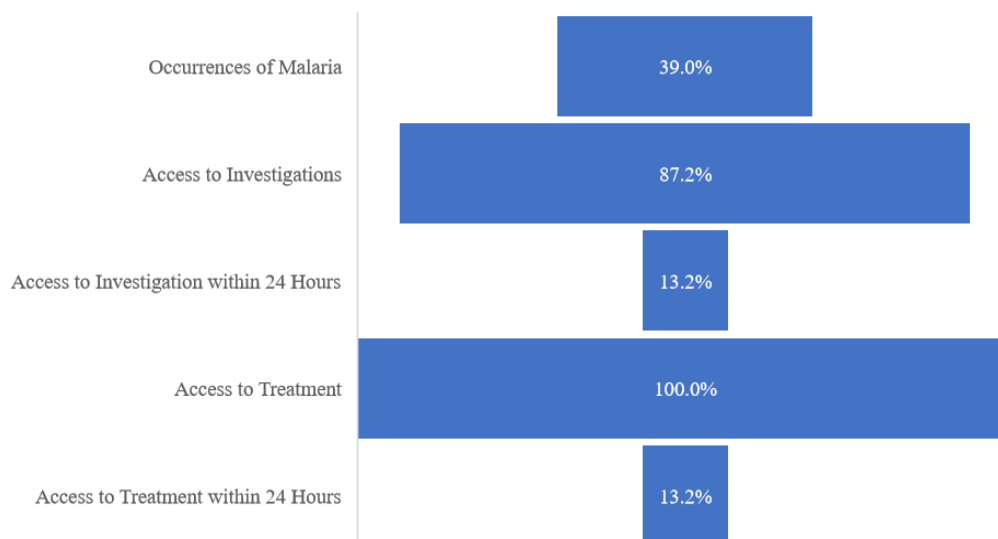


Figure 4.37 Health Care Facilities/Providers from which Investigations were Sought

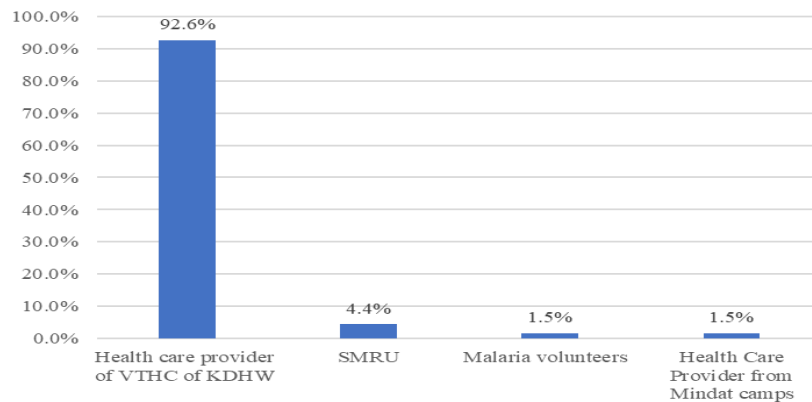
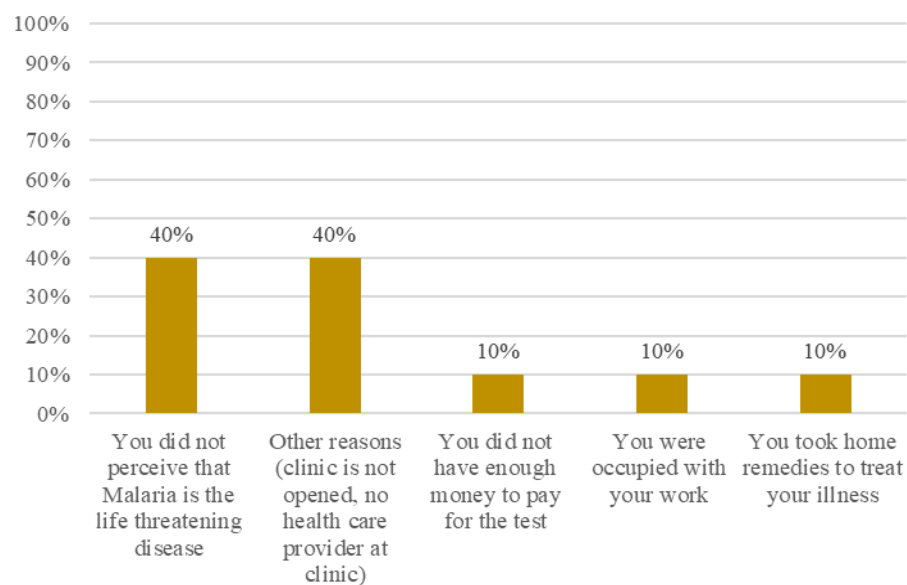
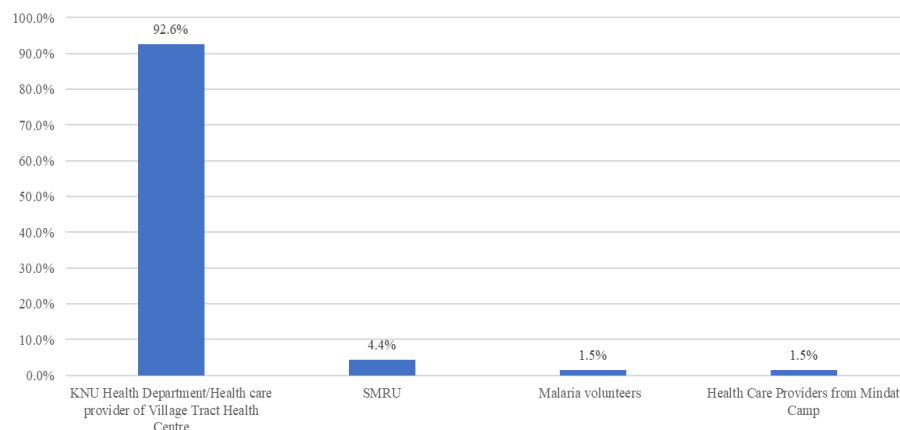


Figure 4.38 Reasons for not Seeking Investigations



100 percent of the respondents who had suspected Malaria symptoms sought a treatment for the last episode of such fever between September 2020 and August 2021, of which 13.2 percent got a treatment within 24 hours from the onset of fever. With respect to the type of health care facilities/providers from which a treatment was sought, health care providers of VTHC was the most common followed by Malaria Volunteer, SMRU and health care providers from Mindat Camp.

Figure 4.39 Health Care Facilities/Providers from which Treatment were Sought



The survey uncovered the following preventative behaviors against the COVID-19 were adopted by adult household members.

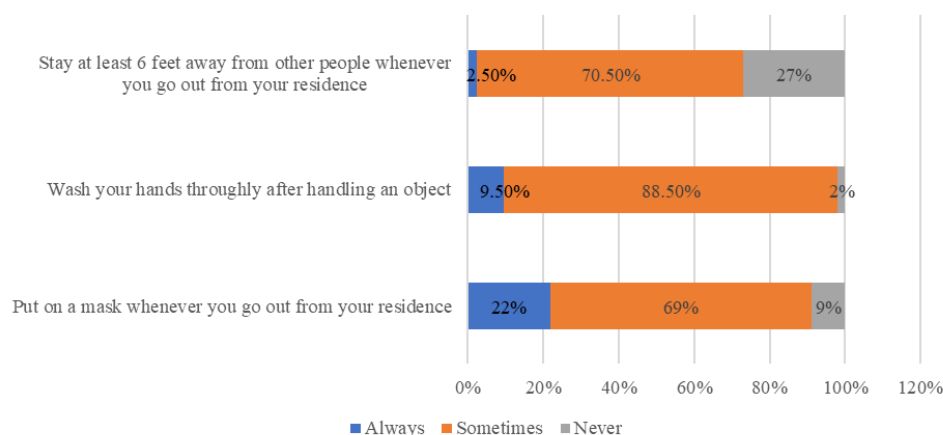
22 percent always put on a facial mask, 69 percent sometimes use a mask and 9 percent never used a mask whenever they went out from their residences between February 2021 and August 2021.

9.5 percent always washed their hands, 88.5 percent sometimes washed their hands and 2 percent never washed their hands thoroughly after handling an object between February 2021 and August 2021.

2.5 percent always stayed at least 6 feet away from other people, 70.5 percent sometimes stayed at least 6 feet away from other people use a mask and 27 percent never stayed at least 6 feet away from other people whenever they went out from their residences between February 2021 and August 2021.

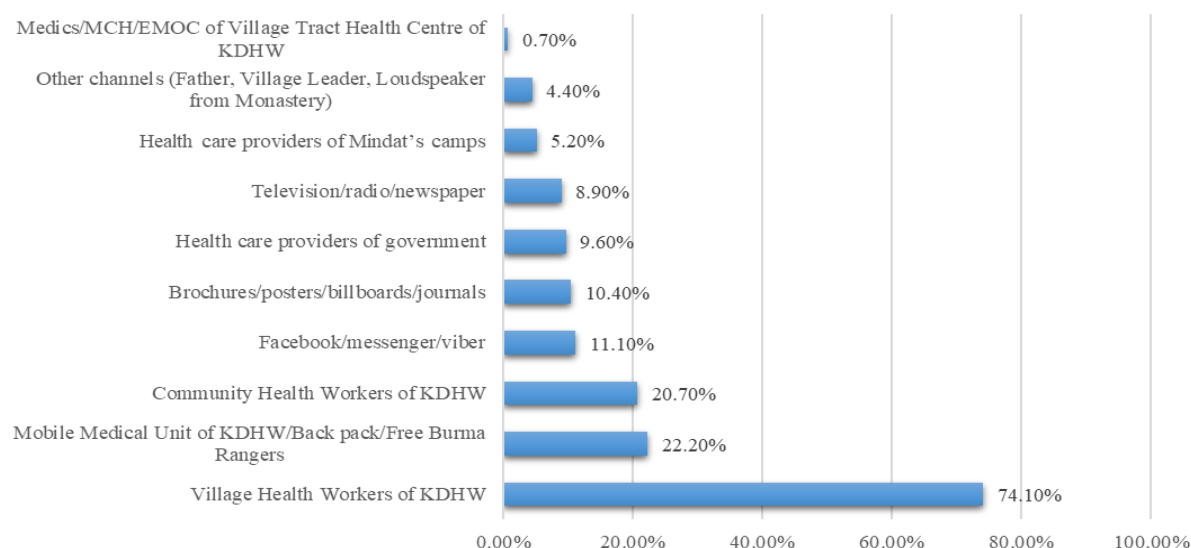
Analysis of KIIs with mothers demonstrated that some villages faced the outbreaks of the COVID-19 with as many as half of the population infected but other villages did not encounter any outbreak. There was no reported death from the COVID-19 in the villages with a high infection rate. A majority of villagers from the villages with no COVID-19 cases did not wear a facial mask and stay at least 6 feet away from other people when they went out from their home in their own villages and did not wash their hands after handling an object. On contrary, villagers put on a facial mask when they went to towns.

Figure 4.40 Adoption of COVID-19 Prevention Behaviors



VHW of KDHW was the most common communication channels with an average of 1.7 times from which adult household members received information pertinent to communicable diseases. Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers was the second most common channel with an average of 1.9 times whereas CHW of KDHW was the third most common one with an average of 1.9 times. Analysis of KIIs with mothers revealed that they received health education around ways of prevention 2 times during the previous year given by VTHC staff in village meetings.

Figure 4.41 Communication Channels from which Adult Household Members Received Information Pertinent to Communicable Diseases



4.17 INJURY AND TRAUMA

11 percent of adult household members encountered injury between September 2020 and August 2021. The most common part of the body injured was lower limbs at 40.9 percent,

upper limbs at 36.4 percent and other parts of body at 22.7 percent. In comparison, the most common cause of injury was types of injuries other than road traffic injury, fall, burn and landmines and gun shots at 31.8 percent followed by fall at 27.3 percent and road traffic injury at 18.2 percent.

Qualitative findings with mothers disclosed that the most prevalent cause of injury was road traffic accident by motorcycle ranging from 2 to 5 cases per month per village. Other causes included cuts by sharp equipment and drowning. Few people were hit by landmines, which was severe enough to refer them to Mae Sot provincial hospital in Thailand. Some lost their lower limbs after undergoing amputation. Mothers did not observe occurrence of bites by poisonous animals, ingestion of poisons and fall from heights. Villagers with injury sought treatment from VTHC at the first place and those who needed further treatment were referred to township or state hospitals in Karen state or provincial hospitals in Mae Sot province of Thailand.

Figure 4.42 Occurrence of Injury and Trauma between September 2020 and August 2021

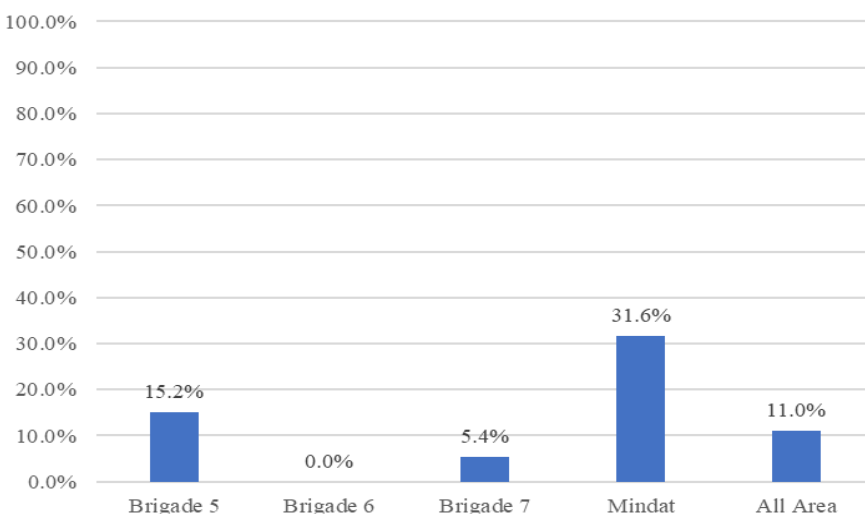


Figure 4.43 Body Parts Injured

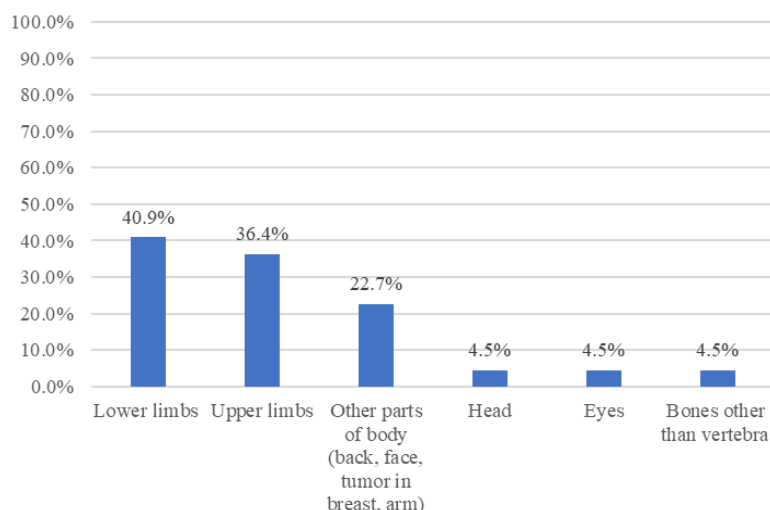
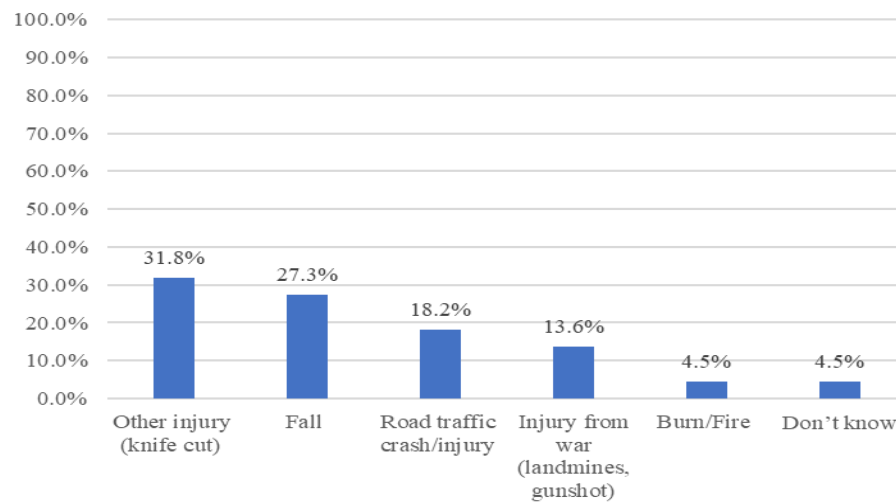
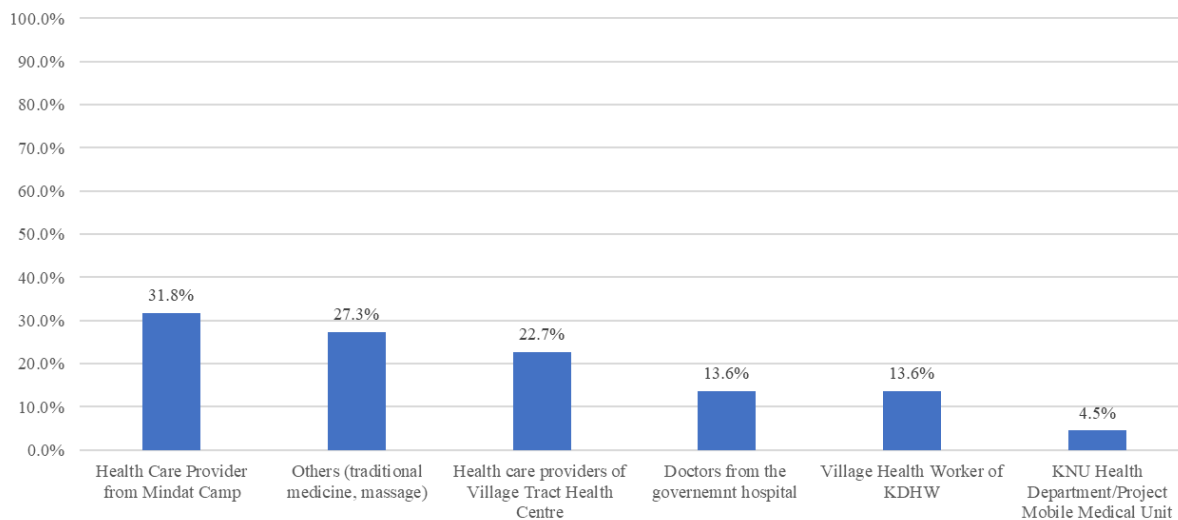


Figure 4.44 Causes of Injuries



100 percent of those who encountered received treatment, and the most common health care facilities/providers was health care providers of Mindat Camp at 31.8 percent followed others at 27.3 percent and health care providers of VTHC at 22.7 percent. 91 percent reported that their injury was cured at the first health care facility. In comparison, no one was referred.

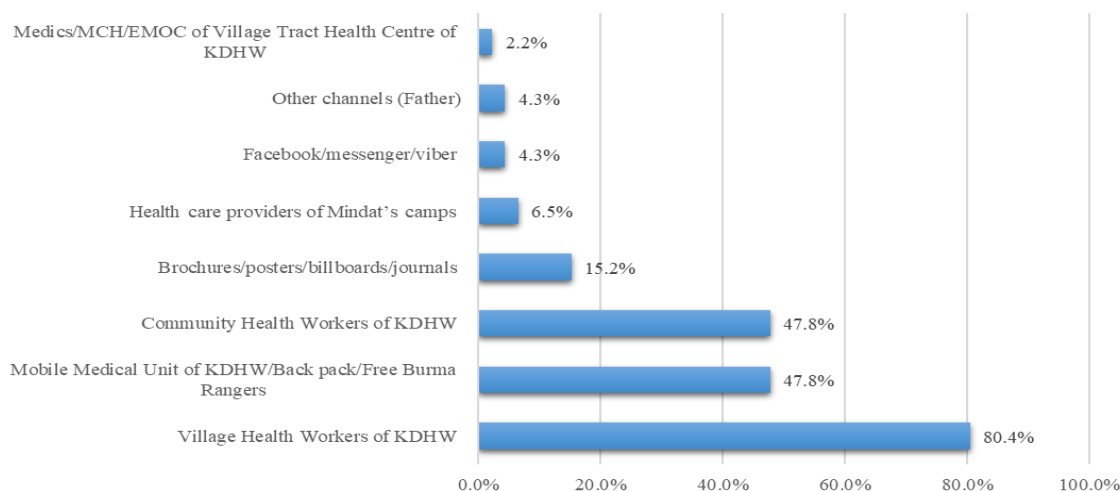
Figure 4.45 Access to Treatment



23 per cent received information pertinent to injury and trauma. VHW of KDHW was the most common communication channels with an average of 1.6 times from which adult household members received information pertinent to injury and trauma. CHW of KDHW was the second most common channel with an average of 2 times whereas Mobile Medical Unit of KDHW/Back pack/Free Burma Rangers was the third most common one with an average of 1

time. Analysis of KIIs with mothers revealed that they did not receive health education around injury and trauma from any channel.

Figure 4.46 Communication Channels from which Adult Household Members Received Information Pertinent to Injury and Trauma



4.18 QUALITATIVE FINDINGS EXPANDING AND EXPLAINING QUANTITATIVE FINDINGS

Qualitative data analysis from Key Informant Interviews with one camp manager and one Township People Administrative Body from Mindat township and 3 clinic in-charges of VTHC and 3 village leaders from the brigade 5, 6 and 7 controlled areas corroborated, expanded and explained above findings from the survey.

4.18.1 Situation of Camp Population in Northern Part of Mindat Township

A. Population Versus Availability of Basic Health Care Services

Approximately 50 villages in station one, two and three located in the northern part of Mindat township were affected by the arm conflict between PDF and the military regime forces. Estimated 6,000 population comprising 3,000 local residents and 3,000 IDPs from the Mindat town resided in these villages. IDPs took refuge in houses of local villagers, schools, churches and monasteries. It was estimated that there were 200 under five years old children and 20 deliveries between May and August 2021.

A township People Administrative Body (PAB) was formed to govern the whole township except the areas occupied by the military forces. This PAB comprised 8 to 9 sub-committees to oversee various issues, and a health sub-committee planned and provided health care services. Approximately 10 mobile medical units delivered basic health care services. The size of mobile medical units varied from one unit to another with a minimum of 3 to 4 personnel per unit. These medical units were formed with 6 doctors, nurses, MWs, Public Health Supervisor (PHS) one and two, members of red-cross and lay persons, and there was at least one nurse per unit. Furthermore, two mobile medical units from the mainland Myanmar rendered basic medical care and other humanitarian assistance to IDPs. One of these two teams had 20 team members comprising 5 specialist doctors – Obstetric and Gynecologists, anesthetists and

surgeons – and many nurses. Another team had one doctor and some lay person volunteers to provide not only health care services but also food to IDPs.

There medical units delivered ANC, delivery, health care of senior citizens, treatment for injuries and general illnesses to each village or camp every two weeks on an average. They also provided services upon an emergency call. Surgical operations were performed at station hospitals or villages/camps depending on the severity and urgency of illness. As arm forces of the military regime were confined to Mindat town only with occasional patrolling to villages, mobile medical units could use the existing health facilities such as station hospitals, RHCs and sub-RHCs. Almost all staff members of the township health department were involved in the Civil Disobedient Movement (CDM), but they continued to provide health care services to people through PAB. Therefore, ELACAP should work with the Township People Administrative Body, the existing medical units and health personnel engaging in CDMs to provide health care services.

Availability of basic and essential medicines, equipment and materials was limited severely due to the blockages and confiscation of these items by the arm forces of the military regime. This was identified as an important barrier for operations of a supply chain management system of essential medicines and medical devices of ELACAP. The PAB overcame this challenge by using motorcycles to carry medicines via short cut roads.

B. Sexual and Reproductive Health

A contraceptive coverage was low among IDPs and general population, and the number of pregnancies and under five children was high. This was considered as a long term health need as well. Currently, commonly used contraceptives are not available for local residents and IDPs. Marie Stope International implemented a SRH project in Mindat township until 2020, which made various contraceptive methods available for residents of villages.

Mobile medical units could not provide adequate number of ANC to pregnant women, and pregnant women only received 1 to 2 ANCs. They delivered their babies at home with MWs, nurses or doctors. When surgical intervention was needed, they requested doctors via telephone to assist their deliveries at a station hospital. The PAB noted 2 obstetric emergency cases. Both a mother and a fetus died in one case whereas only a mother succumbed to death from excessive bleeding after the delivery.

C. Child Health

Childhood under nutrition appeared to be a common health problem. Availability of food with high animal protein was low as most families consumed meat or egg or fish once a week. Pork and beef were available only for festivities or ceremonies. Occasionally, households used own domestically raised chicken, wild animals caught from forests and fish caught from small streams for food.

Chicken eggs are usually supplied by chicken farms from Yaw area in Magway region. Cut off of the supply chain of basic commodities to Mindat township by blocking a highway connecting Mindat and Yaw area by the military regime deprived IDPs and other residents of chicken eggs, which further compounded the protein insufficiency.

There were few large vegetable farms in Mindat township, and people do not grow vegetables on a regular basis. IDPs and local residents harvested vegetables present in nearby forests and/or cultivated along with Elephant Foot Yam in their shifting farms. Varieties were restricted and availability was confined to rainy season and winter.

Arm forces of the military regime destroyed rice and other basic food belonging to local residents and IDPs whenever these arm forces identified them. Transportation of rice as well as medicines to Mindat was also cut off by the military regime. These measures decimated the availability of rice. As a result, many local residents and IDPs resorted to consuming corn mixed with vegetables in lieu of rice. The limited availability of 3 types of nutritious food contributed to under nutrition of not only under five children but also other age groups.

Provision of vaccines to children stopped functioning after the military coup, and only a handful of children sought vaccination at Kyaukhtu town in Yaw area of Magway region.

Childhood diarrhea cases were detected in the rainy season. Some mothers sought ORS from RHCs or sub-RHCs where MWs involved in the CDM were working. If diarrhea occurred when children were staying in shifting farms, mothers fed their children with boiled rice, hot water and chicken soup. ARI occurred during the rainy season and the transition from the rainy season to winter.

Prevalence of ARI was relatively less than that of diarrhea. Some mothers brought their sick child to RHCs or sub-RHCs while some were feeding porridge or chicken soup to their sick child with ARI. There was no reported childhood Malaria case and children suffering from wasting. There were children with short stature to their age and with under development of brain.

D. Communicable Diseases

Seasonal flu was a common illness among IDPs, which occurred between June and September. During the winter, there were few seasonal flu cases. Underlying causes were believed to be not having enough blankets and sweaters and low intake of nutritious food. There were some suspected Malaria cases albeit at a lower prevalence rate than 5 to 10 years ago. Proper investigation of Malaria could not be done by the existing mobile medical units.

DHF cases were identified between July and September among not only children but also adults aged 30 to 40. Many households had water containers, which served as breeding places for *Aedes Aegypti* mosquito that could carry Dengue virus. Diarrhea occurred among camp dwellers of one camp in May, affecting about 10 adults. One case of COVID-19 was also detected.

No outbreak of communicable diseases among adult population was reported. A system for notification and rapid response against communicable disease outbreaks was assessed to be non-functioning at the time of the baseline study, which could conceal any incidence of communicable diseases as well as make the population vulnerable to any outbreak.

E. Other Health Problems

Patients with complaints of gastric pain formed a majority of consultations at the estimated 70 percent. Underlying causes for gastritis were cited as not eating food regularly, consumption of too much chili, drinking few water, doing strenuous physical work and contamination of water with small particles. This health problem was believed to be a long term health need of people from Mindat township as it was prevalent for a long time.

F. Injury and Trauma

The PAB did not observe cases of drowning, fall from height, bites by poisonous animals, and ingestion of poisons or poisonous food. Road traffic injuries primarily caused by motorcycles were the most common type of injury.

Many injuries caused by bullet, bomb shrapnel and land mines were observed by the PAB. Some of these injuries were severe, causing immediate deaths, and some injured limbs. Mobile medical units performed surgeries at station hospitals or houses of villages/camps. Cases that could not be managed were referred to the government hospitals in Pakokku town and Mandalay city. Restrictions by the military regime prohibited some of these referrals from reaching the desired hospitals.

G. Water

A majority of villages set up and operate a system to carry water from springs to collective water tanks in the respective village using water pipes. Water from water tanks flowed to individual households through water pipes. The most common challenges for this type of water system were: (a) blockages of pipes by leaves and small particles present in the spring water; (b) water pipes were damaged by motorcycles and cars which ran over them; and (c) diminished water volumes in summer. Residents had to travel to fetch water from water springs during summer, which took about 30 minutes on an average. A majority of residents boiled water before drinking when they stayed at home, but many drank water without boiling when they stayed at their farms.

There were no designated common bathing, laundry and hand washing places in the villages. Residents took bath at nearby springs below the point where water was tapped with pipes, which did not cause contamination of water flowing into a pipe system with unwanted particles and organisms. WASH NFIs were not donated to the IDPs. Soaps could be purchased whenever residents needed them. The price of sanitary commodities like other basic commodities went up at least two times from the previous price, which compounded the financial problems of residents.

H. Disposal of Excreta

A majority of households in these areas had latrines which were built on the slopes of mountains. Some were VIP latrines whereas some were direct pit latrines. Some latrines did not have proper roofs and doors.

There was no water well or underground water source in the villages. Collective water tanks of the villages located at the higher altitudes than latrines. Before the influx of IDPs into the villages, one latrine was shared by 4 to 5 family members but now one latrine was used by about 10 people. This situation would likely cause filling up of pits in the next few months. Residents passed their urine onto the ground.

I. Hygiene Practices

The Key Informant believed that residents who used VIP latrines washed their hands with soap and water but those who used direct pit latrines did not wash their hands with soap and water because they clean their anus with paper.

J. WASH Management Committee

Most villages did not have a WASH management committee. When they set up a system or there was a need to maintain or repair a system, villagers called a meeting to develop a plan, solicited money and contributed labor to complete tasks. Some villages collaborated with NGOs to carry out activities.

Although water was still sufficient and disposal of excreta did not cause unsanitary environmental situation, the WASH system could be compromised in coming months. When the rainy season is over, water supply may not be sufficient to meet the water needs of the population, Pits will be filled up soon, which necessitated constructing new latrines. This resource poor population may not have any resource to strengthen the existing WASH facilities.

K. Access to Information

There was no regular health education or information dissemination regarding health and WASH issues. When mobile medical units came to the villages, they gave some information. Residents did not have access to large or small media.

4.18.2 Situation of Camp Population in Madat Village of Mindat Township

A. Camp Population Versus Availability of Basic Commodities

A Roman Catholic Church from Madat village of Mindat township accommodated 113 IDPs consisting of 56 males and 57 females as of the third week of September 2021. There were 4 under two children, 15 under five children, 30 to 35 children under 14 years old and 12 senior citizens older than 60 years. At the time of interview, this camp did not have any pregnant women and children under one year old.

The camp population has fluctuated since the inception of the camp on 19 April. For instance, there were approximately 60 people at the time of inception, the population rose to 300 to 400 in early July and declined to 60 after few weeks and then the population size swelled to more than 110 in the middle of September 2021. This population movement has led to rise and fall of the number of women of reproductive age, the number of pregnant women and the number of under five children, which necessitated varying degree of SRH and child health care. Similarly, varying population sizes posed the camp management extreme challenges to predict the amount of water, latrines, food, medicine and health care needed. Limited quantity of food, hygiene materials, water, toilets, food and basic medicines were available throughout the previous 5 months, which were further constrained by growing number of camp populations several times.

B. Access to Basic Health Care Services

A mobile medical unit comprising 1 physician, 2 nurses and 1 Midwife provided some basic health care services every 2 to 3 weeks, Villagers from Madat village transported them to the camp from nearby places using motorcycles. When there was a need for delivery of baby, this mobile medical unit came to the camp to assist a delivery. These health care providers spent 2

to 3 days at the camp to provide ANC, delivery, PNC and child health care services. Health care providers performed a normal delivery using one of the rooms of the church. Furthermore, they examined blood pressure of senior citizens, and gave health education around hypertension and COVID-19. There were estimated 20 consultations per time. Medicines given by these health care providers included Paracetamol, Amoxicillin and ORS. They only had basic equipment such as blood pressure cuffs and stethoscopes.

Although there was a Sub-RHC in Madat village, this clinic did not have essential medicines. A Key Informant revealed that none of the health facilities in Mindat township has been functioning since the military coup because many health care providers are involved in the CDM and the military regime blocked the supply chain of essential medicines and equipment. Transportation of any medicine from Kyauk Htu town in Magway region, which is the nearest town to Mindat, to Mindat was prohibited totally by the military regime.

C. Sexual and Reproductive Health

During the previous 5 months from April to August 2021, there were 4 pregnant women who delivered their babies. One of 4 new-born babies died within one week from the delivery because of aspiration pneumonia, which was believed to be caused by a prolong labor. A baby appeared to be in a mal-presented position at the time of the onset of labor. A physician, a nurse and a Midwife from a mobile medical unit who attended this pregnant woman delivered a baby 12 hours after the membrane rupture. A baby was believed to be exposed to liquid coming out from the membrane rupture for a long period and found to be extremely cold and bluish when coming out from the birth canal of mother. Despite the need of an urgent referral to a secondary or a tertiary health care facility, a baby could not be sent to receive an appropriate care, which consequently led to premature death. All new-born babies went back to their homes at the time of interview. One of 3 New-Born babies suffered from Jaundice soon after his birth and recovered after seeking a treatment from Pakokku hospital.

D. Child Health

Expanded Program on Immunization was not implemented in the camp. There were one to two children who suffered from episodes of diarrhea per month during the previous 5 months. Diarrhea occurrences did not appear to be severe as they stopped after 1 to 2 days. The camp could distribute ORS free of charges to affected children, and so could MW from Madat Sub-RHC. They could not provide zinc supplements for children with diarrhea.

There were 3 to 4 cases of ARIs per month. Traditional medicine, known as Htet Lin Chest Solution, was applied over the chest of children to relieve the symptoms. Alternatively, caregivers took their children to a MF from Madat sub-RHC where children received some medications. Children did not seem to suffer more severe consequences such as pneumonia, and they usually recovered from their illnesses 1 to 2 days from the onset of symptoms.

No child suffered from Malaria symptoms during the previous 5 months. There was one child who encountered severe degree of malnutrition with symptoms such as wasting of muscles and having only skin and bones. The underlying cause was assessed as having another pregnancy just 3 months after the delivery of the preceding child by the mother, which suggested that there was a need for family planning counseling and access to contraceptive methods.

E. Communicable Diseases

The camp management committee did not observe any incidence of major life-threatening communicable diseases, including Malaria, Tuberculosis, Cholera, DHF, Diphtheria, Pertussis, Meningitis and COVID-19 in the camp during the previous 5 months. The communicable disease control and early warning response system was assessed to be non-functioning because of the CDM of many health care providers and the military's attempt to disable the health care system in Mindat township as part of their strategies to suppress the opposition movement.

F. Injury and Trauma

The camp management committee did not notice anyone who encountered injury and trauma during the previous 5 months. There was the absence of medicines, equipment, materials and health care providers to address minor injury and trauma.

G. Basic Medicines

The camp management committee had the stock of 100 pieces of Paracetamol, 100 tablets of Burplex (Multivitamins), 100 tablets of Vitamin C, 1 bottle of Ethyl Alcohol, 1 bottle of Iodine solution for external application and 10 to 15 sachets of ORS.

H. Water

Water for all domestic purposes was supplied by a spring located at the bottom of Mount Victoria or Khaw Nu Song. One makeshift water pond was constructed to capture water from which water was channeled to another pond to filter before flowing down a two-inch pipeline through gravity flow. The entire pipeline was estimated at 6 to 7 miles long, and it took 6 hours to walk to the spring to fetch water.

The water system and water tanks were designed to provide sufficient water for 60 to 70 children who were boarding at the church for study before the conflict. At the time of interview, 113 IDPs and approximately 30 children who were studying had to share water. In a camp, water for domestic use other than drinking and cooking was stored in a concrete container with the size of 4 feet, 6 feet and 3 feet (72 cubic feet), which could keep 2,037.6 liters at the conversion rate of 1 cubic feet is equal to 28.3 liters. Water for drinking and cooking was kept in a concrete container with the size of 5 feet, 4 feet and 3 feet -- 60 cubic feet with the capacity of 1,698 liters at the conversion rate of 1 cubic feet is equal to 28.3 liters. The water tank for drinking and cooking was placed on the top of one storey building, and users could open the water tap to obtain water. With the current camp population of 113 persons and 30 students, one person could get as many as 11.9 liters of drinking water per day and 14.2 liters of domestic use other than drinking and cooking, which exceeded the Sphere standard as illustrated in Table below.

Table 4.23 Basic Survival Water Needs (Sphere Association, 2018)

Survival needs: water intake (drinking and food)	2.5 to 3 liters per day	Depends on: the climate and individual physiology
Basic hygiene practices	2 to 6 liters per day	Depends on: social and cultural norms
Basic cooking needs	1 to 6 liters per day	Depends on: food type, social as well as cultural norms
Total water needs	7.5 to 15 liters per day	

Water for all purposes was assessed to be free from contamination and color was clear. Nevertheless, no investigation was done to test the presence of harmful organisms or turbidity or other water quality attribute. Water was available throughout the year with no diminishing volume or flow. Water was boiled using firewood for all camp populations at one central location, and each individual or household stored the boiled water in containers. Some families shared a small water filter designed for an individual household to filter water.

There was a concrete pavement surrounding the tank storing water for purposes other than drinking and cooking on which residents do laundry and bathing. Waste water was irrigated to outside of the camp. No specific designated washing station was set up. There was the presence of soap and water inside 6 latrines.

I. Disposal of Excreta

Four concrete latrines with proper roof, wall, door, floor, septic tank and drainage were used by IDPs. Furthermore, 2 pit latrines with proper roof, wall, floor and drainage could be used by IDPs. There latrines appeared to be sanitary, and the ratio between latrines and the camp population was balanced except for the periods when the camp population swelled suddenly in July and September. During these 2 occasions with sudden rise in the camp populations, some people had to dispose feces and urines on the ground in the surrounding of the camp. There was no water well or underground water source in the camp. The distance between latrines and the shelters were 200 to 300 feet, and residents could go to 4 concrete latrines under the roof – they could use these latrines even when there is rain without exposing to rain.

J. Hygiene Practices

The Key Informant believed that a majority of camp dwellers washed their hands with soap and water after using toilets and before handling food as water was made available with pipe and tap in the kitchen.

K. Camp Management Committee

A camp management committee was formed with 11 members with 10 specific roles and responsibilities: (a) 7 members took the responsibility for cooking, water supply, and latrine and environmental sanitation; (b) 2 members were assigned for information dissemination; (c) 3 members were responsible for food and maintenance of equipment and materials; (d) 3 members took the responsibility for settlement; (e) 6 arranged transportation; (f) 4 ensured camp security; (g) one general manager; (h) one camp leader; (i) one treasurer; and (j) one accountant. 5 and 6 of 11 committee members were villagers and IDPs, respectively. Many committee members were assigned more than one task. The camp management committee reportedly had capacity to manage their tasks.

During June, July and August 2021, a review and planning meeting was carried out once a week. Although the camp management received donations of rice and chick peas, the camp faced shortage of basic food. It was predicted that rice would run out at the end of September. Camp residents did not have additional food which could be used to prepare curries. Some senior citizens and children could not eat chick pea curry every day. Recently, camp residents grew some vegetables and corn in the vacant camp compound.

L. Access to Information

The camp management committee members organized an education session after a weekly prayer with a main focus on prevention of COVID-19. A mobile medical unit also gave health education with a particular emphasis on COVID-19. There was no other channel from which camp residents obtained information.

4.18.3 Situation of Population in Miphalline Village of Kyarinnseikyi Township (Brigade 6 Control Area) of Karen State

A. Population Versus Availability of Health Care Providers

There were 4 villages – Kudone, Sanphra, Miphline and Ah Suan -- under the catchment area of Dawna 72 VTHC with an estimated total population of 6,000. This VTHC was manned by one clinic in-charge, one MCH MF, one EMOC MF, one Medic, one Community Health Worker (CHW), and one malaria health worker. It meant that there was the presence of 1 MCH, 1 EMOC and 1 CHW per 6,000 populations, which indicated a low health care worker to the population ratio.

EMOC had to attend one year training course, and they usually are selected from experienced MCH Mid Wives. MCH had to attend a six-month training course, and their role was to assist EMOC in providing ANC, PNC and delivering babies. CHW attended a six-month training course and are responsible for provision of treatment of minor illnesses, giving health education and documentation of patient records. Medics were graduates from a one-year training course and take the responsibilities of treating general illnesses. Clinic In-Charge is selected from experienced Medics or CHWs, and responsible for management of supply of medicines and materials in addition to treating patients with general illnesses. All Medics, EMOCs, MCHs and CHWs gave health education to patients coming to the clinic.

The VTHC provided ANC, delivery, PNC, contraceptives, child health services and consultations and treatment for other minor illnesses free of charges, and patients gave donations to the clinic which was used to pay honorarium to health care providers. Patients who suffered from severe illnesses were referred to Taw Naw hospital and Kawkareik hospital run by KDHW. These hospitals were equipped with better equipment, materials, medicines and doctors, nurses and other health care providers to provide treatment for severe illnesses, including surgical delivery of a baby. Transportation of patients from the VTHC to Taw Naw hospital took about half hour and to Kawkareik lasted approximately 50 minutes.

There were 3 arm conflicts in nearby areas of Kawkareik town, which forced 30 to 40 people from these areas to flee into this catchment area between March and August 2021. These people stayed in this area for 2 weeks and went back to their homes when arm conflicts between KNU and the military regime ceased temporarily. Government staffs who were engaged in CDM also took refuge in this target village tract and continued to stay in the catchment areas until the time of baseline study. The local residents provided shelters to these IDPs, including the government staff involved in the CDM. As these IDPs brought their own food, the local residents did not have to give food to them.

A short duration of the stay of refugees did not constrain the existing health care system severely. Similarly, as refugees brought their own food, they did not create additional burden on the existing food supply and stock in the area. Some of the government staff who moved

into this area were doctors, and 6 doctors assisted the local health care providers in rendering basic health care services to the target populations. In addition, there were 10 MWs who either quit or were dismissed from the government services by the military regime returned to the target villages. These MWs also provided SRH services to the villagers, which was an opportunity to enhance the SRH services in the target areas.

B. Sexual and Reproductive Health

Dona 72 VTHC provided ANC services to pregnant women from 4 villages under the catchment area of the clinic. EMOC and MCH MWs examined fetal position and fetal growth, and measured blood pressure and body weight. 7 iron supplements were given at the time of seeking ANC. As one pregnant woman sought 3 ANC visits on an average, each pregnant received 21 iron supplement. Although a deworming medication was given to a pregnant woman previously, the clinic has stopped dispensing this medication since June 2021 because the stock ran out. Consequently, pregnant women bought a deworming medication from village drug stores or groceries. This VTHC did not perform blood tests for Syphilis and HIV, nor it offered Tetanus Toxoid, ANC records were produced and given to mothers by the VTHC.

The VTHC has a labor room, a delivery bed and a delivery kit consisting of scissor, forceps, thread to tie a cord, gloves, etc. Despite the presence of these facilities and Skilled Birth Attendants, a majority of pregnant women delivered their babies at home with EMOC or MCH and TBA or TBA alone – this practice was reported in the villages far away from the clinic. Approximately 20 deliveries were reported per year in the VTHC's catchment area. There were some RHCs and/or Sub-RHCs belonging to the MOHS in some villages, and these health facilities have stopped functioning since the military coup taking place on 1 February 2021.

The VTHC did not have facilities to give blood transfusion and medicines that could prevent excessive bleeding from a birth canal. The clinic did not have any stock of this medicine after June 2021 due to disruption of the supply chain from Kawkaareik to the clinic.

PNC services were also rendered to look after both mothers and New-Born babies. Some mothers who delivered their babies at home sought PNC from the VTHC whereas some received PNC at homes from the clinic staff.

The VTHC made a range of contraceptives available free of charges: (a) oral pills; (b) 3-month injectable; (c) implants; (d) IUD; and (e) condoms. The most common methods were 3-month injectable followed by implants, IUD, oral pills and condoms. Many women did not want to take oral pills because they tended to forget taking pills on a daily basis. Female sterilization was done at the Taw Naw hospital without any service fees, and women who delivered through a surgical operation and deemed unfit to bare another pregnancy were given this service.

C. Child Health

Expanded Program on Immunization was not implemented by the clinic. All EPI activities were implemented by the MOHS. There were estimated 1,000 children under 5 years old.

Attending EMOC or MCH clamped an umbilical cord with two pieces of forceps and cut a cord with a scissor, tied a cut end of cord with a string, sucked mucus from New-Born babies using a Penguin suction apparatus, mopped the body of New-Born babies with a piece of cloth

and put a baby onto the chest of a mother and wrapped them up with a piece of cloth to warm up the baby.

The clinic had about 500 reported cases of childhood diarrhea per year. Childhood diarrhea occurred mostly in May and June, and mothers sought treatment from health care providers of the VTHC as well as some health care provides from the target villages whose qualification and performance could not be assessed properly based on the information obtained. The health care provides of the VTHC provided ORS, Chloramphenicol syrup and Metronidazole syrup for the mild and moderate degree of cases and intravenous infusion to the severe degree of cases.

The clinic saw about 500 reported cases of childhood ARIs per year. Most of the children recovered from their illnesses after receiving treatments from the clinic. Paracetamol syrup, cough syrup and Chloramphenicol syrup are usually prescribed by the clinic. Mothers also sought treatment from village injectors.

Although suspected childhood malaria was present, investigation using RDT revealed negative results. Some mothers gave their children some anti-Malaria medications, which might have caused negative RDT results. Approximately 300 children were brought to the clinic by their mothers for abdominal pain, which were believed to be caused by worms.

KDHW has a system to identify and notify under five children and maternal deaths. There was no reported under five children death between September 2020 to August 2021. In comparison, there was one incidence where both a mother and a child died during the pregnancy. This mother was believed to have underlying conditions of hypertension, heart disease and lung disease and did not take iron supplements prescribed by the VTHC.

The VTHC carried out growth monitoring of children who attended the clinic through measuring the body weight of children. Progress of the growth was documented in a growth chart.

D. Communicable Diseases

The VTHC did not have any reported cases of Malaria, Cholera, Diphtheria and Pertussis during the previous year. Suspected tuberculosis patients were referred to the government's tuberculosis clinic in Kawkareik town, where they were diagnosed as having tuberculosis after going through investigations. Approximately 10 patients took anti-tuberculosis medication in the past year. Although one patient was suspected of suffering from DHF or Meningitis or Hepatitis, a lack of availability of investigations for DHF, Meningitis and Hepatitis impeded a confirmation of these diseases.

There were numerous suspected COVID-19 cases in all 4 villages of the catchment area of the clinic but a lack of testing facilities barred the VTHC from establishing the definitive diagnosis. The communicable disease control and early warning response system was assessed to be non-existence.

There was no reported case of death from communicable diseases during the previous year. The most common cause of deaths in the catchment area of VTHC were general deterioration

of health of senior citizens older than 80 years and stroke most probably due to hypertension among people older than 70 years. Hypertension and anemia were the most common diseases among adult populations. There were 10 villagers who suffered from stroke or numbness of limbs in one of 4 villages of this clinic. There were 1 to 3 VHWs per one village depending on the population size.

E. Injury and Trauma

The VTHC reported only 2 cases with cuts caused by knives during the previous one year from September 2020 to August 2021. There were no reported cases of road traffic accidents, drowning, falls, bites by poisonous animals, ingestion of poisons, gun shots and mine injuries. The VTHC was capable of providing services for minor injury and trauma cases such as suturing minor wounds, application of Iodine and Eusol solution and basic antibiotics (Amoxicillin and Cloxacillin).

F. Basic Medicines

The VTHC had the stock of Paracetamol, Metronidazole, Cephalosporin, Cloxacillin, Vitamin A, oral contraceptive pills, 3 month Depo injection, implant and IUDs at the time of interview. Many essential medicines have been out of the stock, including iron supplements, since May 2021 due to the disruption of the supply chain of medicines. Medicines, equipment and materials are usually purchased from Myawaddy, a border town with Thailand, but stringent block and search attempts by the military regime stopped flowing of supply of medicines to the clinic. Some medicines such as Doxycycline were expired and Paracetamol would be expired at the end of September 2021. These findings suggested that a supply chain management system of essential medicines had some weaknesses.

G. Water

Water for all domestic purposes was supplied by a spring located approximately 2 miles or 30 to 40 minute walk from the Miphline village. The pipeline size is 4 inches, 3 inches and 2 inches from the spring to two village water tanks. Water flows from the water tank to individual households via pipes. Water taps were set up in individual house. Each water tank has the capacity of 2,000 gallons and the total water storage capacity is 4,000 gallons or 16,000 liters. Both water sources can provide water throughout the year. Approximately 200 of 265 households or 75 percent of the total households received water from this system whereas 65 or 25 percent used water from water wells. Villagers also used water from a nearby stream for bathing.

With the current village population of 1,000, one person could get as many as 160 liters of water for all purposes per day from the pipe water system, which exceeded the Sphere standard as illustrated in Table 4.74.

No investigation was done to test the presence of harmful organisms or turbidity or other water quality attributes. About one third of 265 households were believed to boil water before drinking. The remaining two thirds used a water filter and drank the filtered water without boiling. This segment of the population perceived that drinking un-boiled water was tastier than boiled water. There was no designated bathing, laundry and hand washing areas in the village.

H. Disposal of Excreta

One third of the households used a sanitary latrine and two thirds of the households defecated onto the ground in the vicinity of the village. Sanitary latrines were located at least 50 feet away from water wells and latrines and water wells were located at the same altitude. The soil inside the village did not have contamination with feces.

I. Hygiene Practices

The Key Informant believed that a majority of villagers washed their hands with soap and water after using toilets. Those who passed feces onto the ground used stick to clean their anus.

J. WASH Management Committee

A WASH management committee was formed with more than 100 young people. The entire village was divided into 5 administrative units, and each unit has a group of committee with young people.

A garbage system was set up and run by this committee. Each household had an own garbage disposal place inside an own house premise. The village built a collective garbage disposal site with 8 feet height, 8 feet width and 8 feet depth where dry garbage was disposed. Garbage was burnt during the dry season. Wet garbage was disposed into an own garbage disposal site inside the home premise.

A water committee was formed with 10 members. Roles were delineated as: (a) 1 leader; (b) 1 deputy leader; (c) 1 accountant; (d) 1 treasurer; and (e) 6 members. The committee did not have fund. Nor it convened a regular meeting. Ad hoc meetings were organized as issues emerged. Contributions were collected from households to maintain the water system on ad hoc basis.

K. Access to Information

There was no regular health education session around the health and WASH issues. Whenever there was a village meeting arranged on ad hoc basis, 10 to 15 minutes were set aside for health education. There were 8 to 10 village meetings per year. The VTHC also provided health education sessions to the villagers who sought health care services from the clinic. When there was no patient at the VTHC, the health team visited the villages to give health education. Health education sessions at the VTHC or at the respective village took place once or twice per year.

4.18.4 Situation of Population in Maw Pa Khoe Village of Hlaingbwe Township (Brigade 7 Control Area) of Karen State

A. Population Versus Health Care Providers and Services

There were 11 villages – Maw Pa Koh, Kler Dae, Kler Koh, Htimahtikhi, Kler Ta, Tarkarekhi, Maw Kui, Karaehtut, Taebalay Lasa, Hti Baw New and Hti Lae Do -- under the catchment area of Kler Dae VTHC with an estimated total population of 2,000. This VTHC was manned by one clinic in-charge, one deputy clinic in-charge, two MCH MF, four Medics, and 9 CHWs. This implied that there was 1 MCH per 1,000, 1 medic per 500 and 1 CHW per 222 populations, which indicated a high health care worker to the population ratio. This VTHC was regarded as a district level VTHC, and more manpower was assigned to the clinic accordingly.

About 40 percent of the total population was children under five years old, and estimated 700 children under five years old were present in 11 villages. There were approximately 400 Women of Reproductive Age and 100 senior citizens older than 60 years living in 11 villages. It was estimated that 100 IDPs took refuge in this village tract.

Maw Pa Khoe village with estimated population of 600 and 160 households was re-established 7 years ago after destruction of the old village by arm conflicts. Houses with sanitary latrines were constructed with an aid from Nippon Foundation. Major livelihoods of villagers included working in Thailand, trading, vendors, charcoal baking, and cutting bamboo and harvesting bamboo shoots from nearby forests. Estimated 25 percent of the village population was migrant workers living in Thailand, and a majority of them was young and middle age men. There were only few people who engaged in the cultivation of crops because villagers did not possess farm land. Villagers from the remaining 10 villages had own farm land on which they cultivated rice and other crops.

There were approximately 100 IDPs migrating from the brigade 1 and 5 controlled areas. This population included students who attended a KNU's basic high school in Maw Pa Khoe village. Students from 11 villages were enrolled in this school as this was the only school with 12 grades in the entire village tract.

EMOC had to attend one year training course, and they usually are selected from experienced MCH MWs. MCH had to attend a six-month training course and two three-month follow-up training courses, and their role was to assist EMOC in providing ANC, PNC and delivering babies. CHW attended a six-month training course and were responsible for provision of treatment of minor illnesses, giving health education, taking vital signs of patients and documentation of patient records. Medics were graduates from a one-year training course and took the responsibilities of treating general illnesses. A Clinic In-Charge is selected from experienced Medics or CHWs, and responsible for management of supply of medicines and materials in addition to treating patients with general illnesses. All Medics, EMOCs, MCHs and CHWs gave health education to patients coming to the clinic.

A maternal and New-Born hospital in this village tract was equipped with 5 beds and a delivery room. This hospital was operated by one doctor and 10 to 12 EMOC, MCH and Medics. It provided ANC, delivery, PNC and New-Born care up to 3 months old. It also had incubators to treat New-Born babies with a low birth weight and/or who suffered from neonatal Jaundice.

The VTHC provided ANC, PNC, contraceptives, child health services, consultations and treatment for other minor illnesses free of charges, and patients gave donations to the clinic which was used to pay honorarium to health care providers.

B. Sexual and Reproductive Health

Kler Day VTHC provided ANC services to pregnant women from 11 villages under the catchment area of the clinic. MCH MVs examined fetal position and fetal growth and measured blood pressure and body weight. 30 iron supplements were given at the time of seeking ANC. As one pregnant woman sought 5 to 6 ANC visits on an average, each pregnant received 150 to 180 iron supplements. Tetanus Toxoid was given to pregnant women and a

majority of pregnant women received 2 doses at one month interval. A deworming medication was given to a pregnant woman if an investigation of feces found worm eggs. Malaria was tested using a RDT and hemoglobin level was also investigated.

Health care providers also rendered ANC services to mothers at their villages every 3 months. During these visits, iron supplements were given to all pregnant women and edible oil, eggs and chick peas were provided to women with under nutrition. TT was not given during these visits. Health education was given, in which pregnant women were urged to deliver their babies at a MCH hospital.

Kler Day MCH hospital also provided ANC services and conducted blood tests for Syphilis, HIV and hepatitis. Hemoglobin level was measured, and the microscopic examination of Malaria parasites was undertaken.

Kler Day VTHC did not deliver babies and referred pregnant women to the MCH hospital for delivery. Pregnant women had to stay in the hospital for 3 days, during which PNC was provided. Nursing mothers were asked to return to the hospital one month after the delivery. In addition to provision of physical examination, Glucose 6 Phosphate Deficiency (G6PD) of New-Born child was tested. Most nursing mothers did not show up for PNC at Kler day VTHC.

Eight out of 10 pregnant women gave birth to their babies at home because all generations liked the home delivery. Only few pregnant women went to the MCH hospital before the onset of labor. A majority of women sought the hospital delivery when they faced problems in delivering at home. It took 1 to 2 hours from 11 villages to reach the MCH hospital.

There were 1 to 2 TBAs in each of 11 villages. KDHW implemented capacity building activities for TBAs through an one-week training course, in which safe delivery methods and 6 types of clean needed during the delivery were taught. TBAs were also provided with a delivery kit consisting of forceps, scissors, blade, glove, string for tying a cord, ethyl alcohol, cotton, gauze, soap, torch light, clock, weighing machine and plastic bed sheet. Strengthening the capacity of and equipping TBAs with essential materials and devices enabled TBAs to adopt safe delivery practices, including 6 types of cleaning.

As the MCH hospital made various contraceptives such as oral contraceptive pills, 3-month injections, implants, IUDs and condoms available free of charges, Kler Day VTHC stopped rendering these methods to villagers. 3-month injectable was the method used by the highest number of villagers, which was followed by implants, oral pills, IUDs and female sterilization. Pregnant women with medical conditions unfavorable for further pregnancies were advised by doctors to undergo female sterilization at Hlaingbwe and Hpa-an government hospitals and Mae Sot hospital. It was assessed by the Key Informant that contraceptive prevalence was still low, and many women had multiple pregnancies with a short interval, which consequently contributed to maternal and child under nutrition. High prevalence of home delivery was another important gap, which needs an appropriate intervention.

One pregnant woman died in 2020 due to excessive bleeding from a birth canal during the pregnancy. One pregnant woman died in 2019, and the cause of death was believed to be toxemia of pregnancy because this pregnant woman suffered from convulsion at the 8th month of pregnancy.

C. Child Health

Until September 2020, vaccines were given to children every 3 months through mobile medical units of KDHW. Vaccines were supplied and training of health care workers of KDHW was organized by the MOHS. DPT, Penta, polio, hepatitis B, measles and mumps and Japanese Encephalitis were made available to children. EPI has ceased functioning since September 2020.

There was one reported death of under five children in 2019, which was believed to be caused by rabies. A 4-year old child died from drowning in 2020 and one under five child died from COVID-19 and severe malnutrition in September 2021. There was no reported neonatal and infant mortality in 2019, 2020 and 2021.

The most common childhood illness was ARI, and the highest incidence was observed in June, July, November and December. An average of 15 to 20 cases was reported per month. Approximately 10 percent of cases developed severe forms of ARI with rapid and labored breathing. Paracetamol syrup, ORS and Vitamin C were given to children with mild and moderate forms of ARI. Severe forms of ARI were treated using antibiotics (intravenous Gentamycin), and oxygen was given if necessary. The MCH hospital gave treatment to children up to 3 months, and the VTHC provided treatment to children older than 3 months.

The second most common childhood illness was diarrhea, and the highest incidence was reported in March and April. An average of 5 to 6 cases was reported per month. Mild and moderate forms of diarrhea were treated with ORS and zinc supplement, which was prescribed in accord with the age and weight of a child – 10 tablets for a 6-month and younger child and 20 tablets for a child older than 6 months. Severe forms of ARI and diarrhea, which could not be handled by the VTHC and the MCH hospital, were referred to Hpa-an hospital or Mae Sot hospital. Most of the cases could be treated successfully by the VTHC.

One to 2 cases of malaria were detected among under five children using RDT. There was higher incidence of Malaria cases in July and August than other months. All Malaria cases were caused by Plasmodium vivax. About 5 cases of Malaria among adult population were reported. Plasmodium vivax cases were treated using Chloroquine for 3 days and Primaquine for 14 days, which was prescribed only after ruling out the G6PD with a laboratory investigation. In comparison, Plasmodium falciparum cases were treated with Coartam for 3 days in combination with a single dose of Primaquine given on the first day of treatment.

Malaria Elimination Task Force (METF) supported the VTHC with RDT, Coartam, Chloroquine and Primaquines. 3 Millennium Development Goal (MDG) fund provided insecticide-impregnated bed nets in 2015 to every single household of 11 villages whereas another donor handed out one piece of insecticide-impregnated bed net per household in 2019. Many of the bed nets distributed in 2019 were reportedly damaged at the time of the baseline study. Some households did not receive these bed nets whereas some did not use insecticide-

treated bed nets although they received it. These factors collectively diminished the coverage and effectiveness of insecticide-treated bed nets for prevention of mosquito bites.

One to 2 cases of suspected DHF cases were reported per month but these cases did not develop shocks. It was estimated that 1 in every 20 under five children encountered malnutrition. The VTHC measured Mid Upper Arm Circumference (MUAC) of children from 11 villages every 3 months. Measurement results were recorded in a growth monitoring chart, which showed green, yellow and red color to indicate normal nutrition status, mild and moderate malnutrition status and severe malnutrition status, respectively. A project that specifically monitored and treated malnutrition of under five children was implemented between 2018 and 2020 through assignment of one CHW by this VTHC. Severe degree malnutrition cases were required to stay at the VTHC for 2 weeks or until the nutritional status returned to the normal condition and seek follow-up examinations and treatments. Malnourished children were given nutrient powder and edible oil.

D. Communicable Diseases

The VTHC reported 5 cases of adult Malaria per month on an average. 2 to 3 suspected Tuberculosis cases were seen and referred by the VTHC to Hlaingbwe hospital where essential investigations were carried out to establish a definitive diagnosis. Confirmed patients were prescribed anti-Tuberculosis medicines. Trained volunteers were assigned to conduct Direct Observed Treatment Short course (DOTS), which required that patients be observed at their home to ensure that patients took medication regularly.

There were 3 to 4 cases of adult diarrhea per month with a higher incidence during the rainy season than other seasons. 2 to 3 suspected adult Meningitis cases were reported as well. Approximately one third of population of Maw Pa Khoe village appeared to contract COVID-19 but a lack of testing inhibited the health care workers from establishing a definitive diagnosis. 16 of 17 VTHC staff were also infected. ORS, Paracetamol and Vitamin C were given to these suspected cases. 1 to 2 cases needed Oxygen therapy. One house was designated as a quarantine center where suspected cases and their contacts stayed.

The communicable disease control and early warning response system was assessed to be present, The VTHC submitted a report of communicable diseases within 24 hours from the detection to the district level KDHW. Nevertheless, cases could not be verified and investigated due to a lack of equipment and other resources.

E. Other Health Problems

There were 5 to 10 patients who complained of gastric pain, nausea and vomiting, passing coffee ground color feces and vomiting of old blood clot. Underlying causes were excessive drinking, irregular eating and consumption of too much amount of chili. The VTHC prescribed antacid, Gelmag, Cimetidine and Omiprazole to these patients.

Three patients with hypertension took medication such as Enalapril maleate from the VTHC regularly. Antihypertensive drugs were out of stock frequently. In 2019 and 2020, the VTCH mobile team carried out blood pressure measurement of villagers once a month at their villages. The emergence of the COVID-19 pandemic impeded continuation of this activity after March 2020.

F. Injury and Trauma

The VTHC reported approximately 10 cases of Road Traffic Injury, primarily caused by motorcycles. 14 years old girl encountered drowning in 2020 while taking bath in Thaung Yin river. There was one case of ingestion of poisons in 2020. Two patients, 14 years old and 30 year old, were injured by land mines in 2021, and they were referred to Mae Sot hospital where one patient had to undergo an amputation of lower limbs. Few villagers were injured with strayed bullets while hunting wild animals but there were no reported cases of fall and bite of poisonous animals.

G. Basic Medicines

The VTHC reported that oral and injectable antibiotics, Vitamin C, Vitamin B 1, Vitamin B 6, needles and syringes were subject to frequent stock-outs. The reasons for shortage of essential medicines were: (a) the quantity of medicines supplied per time was low compared to a consumption rate; (b) supplies were sent every 6 months; and (c) recent disruption of a supply chain management system for unknown reasons. The VTHC also encountered the problem of drug expiry. Some medicines were close to the expiry date at the time of disbursement and some medicines which were not used commonly were sent in a large quantity. These pieces of evidence suggested that the existing supply chain system had some weaknesses and gaps. The VTHC had 3 blood pressure cuffs, 3 stethoscopes, thermometers, and test kits for urine sugar and blood sugar.

H. Water

A water system was built in 2018 with financial and technical support from one NGO who formed a partnership with CIDKP. Water for all domestic purposes was supplied by a spring located approximately 2 miles or 40 to 60 minute walk from the Moe Pa Khoe village. There was no filter tank and storage tank at the place water was connected to pipes. Rather, spring water was blocked by a small weir from which water was connected to pipes.

The pipeline size was 3 inches to 2 inches from the spring to a village water tank with the capacity of 20,000 liters. Water flowed from the water tank to individual households with 3 to 1 inch pipes. One water tap was set up for 5 households. Villagers had to wait 5 to 10 minutes at a water tap. This water system could deliver 20,000 liters every 2 days, which implied that one person could get 40 liters per 2 days or 20 liters per day. The altitude of the water source was 17 feet higher than the attitude of a village water tank, and the pipeline had to climb up and down through ridges. These circumstances decreased the water volume reaching the water tank. The quantity of water coming out was equivalent to the one and half inches pipe during the rainy season and to one inch pipe in winter and summer. At the time of data collection, all 160 households had access to the pipe water system, and they used the water of this system for all domestic purposes.

Many villagers collected rain water in the rainy season and used water from both the village water system and rain water. As a result, they could use more amount of water in the rainy season than winter and summer. Some used concrete tanks whereas some used plastic containers with the capacity of 30 to 50 gallons per container. Rain water ran out after the rainy season.

The third water source was 3 shallow water wells which were located 5 to 10 minutes away from the houses. Approximately 50 households used well water for all domestic purposes. Well water was not tested yet, and the color was clear. The fourth water source was Thaung Yin river, and villagers used the river water in winter and summer mainly for bathing and laundry. Water available from 4 water sources exceeded the Sphere standard as illustrated in Table 4.73.

No investigation was done to test the presence of harmful organisms or turbidity or other water quality attributes. The color of water was clear in summer and winter but turbid in the rainy season. 3 water wells did not have a roof but had a wall made up of concrete rings, which could prevent influx of contamination into the water. The depth of each water well was 5 to 6 feet. There was no designated area for collective bathing, laundry and hand washing.

About 75 percent of households were believed to boil water before drinking using charcoal. The remaining 25 percent used a water filter and drank the filtered water without boiling. Chlorine was not used to clean water. Some WASH NFI and basic food items such as rice and chili were donated by philanthropists through the VTHC, churches and monasteries.

I. Disposal of Excreta

All of 160 households used sanitary latrines, which were constructed by Nippon Foundation. These latrines were assessed as having cleanliness, free from flies and bad odor, being protected and safe for users. There was the presence of water and soap inside each latrine to enable users to wash their hands.

All adults and children used sanitary latrines, and no one disposed excreta on the open ground. Some IDPs and their host families had to share toilets, which led to filling of a septic tank in the near future. Although sanitary latrines were located at the altitude higher than water wells, the space of more than 50 feet between latrines and water wells prevented any contamination of water with excreta. The village leader did not notice the presence of excreta on the ground.

J. Hygiene Practices

The Key Informant believed that a majority of villagers washed their hands with soap and water after using toilets, before eating food and before feeding food to children. Many villagers had adequate knowledge on WASH because they received health education from the VTHC clinic staff.

K. WASH Management Committee

A Village Administrative Committee was formed in September 2020 with 15 members led by an elected village chairman, and roles were delineated as a chairman, a secretary, a treasurer, an audit, a responsible person for security, a responsible person for transportation, a responsible person for health and WASH, a responsible person for education, a village judge and members. Village Development Committee and Village Health Committee which were set up previously were merged with the Village Administrative Committee.

This committee has not been functioning in a full-fledged manner because some of the committee members did not have prior experience, some did not have sufficient knowledge and skills, some were occupied with their own livelihoods and some contributed their time only when they wanted to as they were volunteers. Their main challenges were: (a) villagers wanted more water supply from the village water system; (b) many villagers did not want to contribute

water fees, which led to collection of only 1,500 to 2,000 MMK per month or 18,000 to 24,000 MMK per year; (c) inadequate capacity, especially financial management, planning and monitoring and evaluation; (d) some members did not want to contribute their time and efforts for collective benefits; (e) although a reform was needed, some villagers and some committee members did not want to spare their time for a reform; (f) there was the absence of a proper work-plan; and (g) there was a lack of fund.

Only 50 households contributed 30 MMK per month as service fees for usage of water. A committee did not convene a regular meeting although it had the desire to call a regular meeting. Meetings were organized on an ad hoc basis.

L. Access to Information

There is no regular health education session around the health and WASH issues. The VTHC organized health education sessions when a village meeting was held with the whole village on an ad hoc basis. The second information dissemination channel was the health care providers from the VTHC who used loud speakers to deliver messages to villagers, particularly the COVID-19 prevention messages. Third, health education messages were beamed via brochures and billboards during the first wave of the COVID-19 pandemic. The village chairman had a plan to use own computer and printer to develop Information, Education and Communication (IEC) materials.

5. PROGRAMMATIC IMPLICATIONS

ELACAP intends to provide life-saving emergency health care around SRH, child health, communicable diseases and trauma and injury and WASH services to the conflict affected populations. The baseline assessment discovered the needs and gaps with respect to these issues and provided specific recommendations on the interventions. Furthermore, it provided the baseline status that could be used to define the attainable targets of the key indicators at the end of the project.

The baseline study findings are indicative of the relevance of the intervention. The sole area in which the project should invest more resources is health system strengthening -- in addition to provision of life saving health care services. Investing in health system strengthening in Karen state will not only optimize the effectiveness of life saving interventions but also facilitate the long term sustainability of the interventions and their impacts beyond the project life span.

6. CONCLUSIONS AND RECOMMENDATION

The baseline study discovered that the existing health system of the KDHW in the brigade 5, 6 and 7 controlled areas of Karen state was weakened after the military coup and ensuing arm conflicts between the arm forces of the military regime and opposition organizations. In particular, the disruption of vaccine supply and essential medicines compounded the already understrength health care facilities, and could hamper the quality of basic health care. In comparison, the health care system operated by the MOHS in Mindat stopped functioning, and local residents and IDPs had to rely on about 10 Mobile Medical Units. These sub-optimal health care systems could lead to rise in morbidity and mortality of the populations.

The study identified low proportion of deliveries attended by Non-Skilled Birth Attendants, low access to PNC, low childhood vaccination coverage, prevalence of childhood diarrhoea and ARI, prevalence of Malaria among adult populations and prevalence of and low adoption of preventative behaviors against the COVID-19 among adult population as key health problems. With respect to WASH, a lack of examination of the quality of water, inadequate hand washing practices and considerable degree of open defecation were major issues of concern.

In light of these findings and in consideration of the proposed interventions of ELACAP, the following recommendations are made.

(1) The existing health system of the KDHW should be strengthened. In particular, a review of a supply chain management system of essential medicines of the KDHW should be undertaken and appropriate actions should be taken accordingly to address the existing impediments. Alternative ways of vaccine supply should be examined and actions should be taken accordingly in order to restore a regular supply of vaccines. The existing manpower, equipment and materials of both KDHW and mobile medical units of Mindat township should be upgraded to make more balance between the demand and supply of basic health care services. A partnership should be forged between the ELACAP and the KDHW in Karen state and the PAB in Mindat township to reinvigorate the health system.

(2) A comprehensive SRH intervention should be designed and implemented to increase not only the coverage but also the quality of ANC, safe delivery, PNC and family planning. First, tailored Behavior Change Communication strategies and messages should be delivered to women of reproductive age to encourage them to use ANC, safe delivery by SBAs and PNC and adopt essential practices – taking 180 iron supplements during the pregnancy and deworming medication at the 4th month of pregnancy, receiving at least 2 doses of TT and sleeping under insecticide treated bed nets every night.

Second, EMOC and MCH MWs of VTHC and other health units of the KDHW and mobile medical units of Mindat should assist pregnant women in delivering at home. Third, knowledge and skills of TBAs should be reviewed and refreshed to discard inappropriate practices such as pushing a baby from the abdomen and to encourage them to wait for at least 30 minutes from the birth for a delivery of a placenta when a placenta will be detached naturally and to avoid bathing a baby immediately after the birth. Fourth, EMOC and MCH MWs of VTHC and other health units of the KDHW and mobile medical units of Mindat should render PNC to women at home.

A supply chain of contraceptives should be strengthened to make them readily available to women of reproductive age so that couples can plan pregnancies and deliveries. These will reduce maternal morbidity and mortality. Women should also be taught correct use of contraceptives and to dispel misconceptions.

(3) A comprehensive child health intervention should be developed and implemented to not only raise the coverage but also improve the quality of New-Born care, EPI, diarrhea and ARI.

TBAs should be given refresher training courses concerning usage of sterilized apparatus for cutting an umbilical cord and avoid applying harmful substances onto a cord stump. In addition, appropriate ways of sucking mucus, mopping a body of a baby and Kangaroo Mother Care method should also be revisited.

EPI should be upgraded. First, tailored Behavior Change Communication strategies and messages should be delivered to mothers of under five children to encourage them to seek vaccines at an appropriate age in accord with the vaccine protocol, understand the types of vaccines, age at which vaccines should be sought, benefits of each vaccine and address misconceptions. Second, mobile medical units should provide vaccines every one or two months to children at their villages or camps. Third, a vaccination record should be given to mothers so that they know which vaccines are given at what age of the children and when they should seek the next vaccines.

Prevention and control of childhood diarrhea and ARIs should be enhanced. Mothers should be given tailored Behavior Change Communication messages around ways of prevention and promptly seeking appropriate treatment within 24 hours from the onset of symptoms of these illnesses. Access to ORS and zinc supplement by a sick child with diarrhea and antipyretics and antibiotics by a child with severe forms of ARIs should be improved.

(4) Priorities should be given to prevention and control of the COVID-19 pandemic in all areas regardless of the existing prevalence. In particular, tailored Behavior Change Communication strategies and messages should be delivered to all residents to encourage them to adopt preventative behaviors such as putting a face mask, staying at least 6 feet away from other people and washing hands after handling an object. Vaccines should be made available as soon as possible.

Access to insecticide treated bed nets should be increased. Behavior Change Communication messages around symptoms of Malaria, and importance of using insecticide impregnated bed nets and seeking an appropriate investigation and an appropriate treatment within 24 hours after the onset of symptoms should be discussed with both mothers of under five children and adult populations, particularly those who encroach forests.

A community-based surveillance system should be set up and implemented for all major communicable diseases because there is a likelihood of resurgence of the existing ones and emergence of new ones given the fragile health system. Notification, investigation and verification of any outbreak of communicable diseases should be undertaken immediately. Public should be informed promptly and comprehensively and control measures should be set in place immediately after confirmation of any outbreak.

(5) The existing health care facilities should be equipped with essential medicines, equipment and materials to accommodate patients who encounter serious injuries and a larger number of injured patients caused by arm conflicts in the future. Health care workers should also be trained on essential care services of injuries and trauma. A referral system should be set up and run and necessary supports should be rendered to health care facilities and patients to receive life saving treatment.

(6) A comprehensive WASH intervention should be developed and implemented to not only increase the water quantity available throughout the year but also improve the water quality. First, tailored Behavior Change Communication strategies and messages should be discussed with mothers and other members of households to facilitate hand washing with soap and water before preparing food, before feeding food and breast milk to their children and after defecation and handling wastes of children. Second, BCC messages around importance of using toilets should be discussed with IDPs and local residents. Third, water sources should be upgraded and a management system should be set in place to maximize efficient use of water. Water quality should be examined before using water. Fourth, communal sanitary latrines should be constructed in the camps and villages where the existing latrines are insufficient or there is no existing latrine. Fifth, capacity of WASH management committees should be strengthened for sustaining the WASH system.

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7. REQUIRED ANNEXES

7.1 Annex I

7.1.1 Data Management and Analysis

A. Qualitative Data

Qualitative data analysis followed a sequential and iterative process and sought to classify analysis by theme, content, and question. The evaluation team kept a field record during data collection that contained key points of interest made by participants, comments raised, evaluators' spontaneous interpretations and impressions, emerging trends and themes, probing questions, and notes for new issues to be explored in further interviews. Trained and experienced evaluation team members took notes of KIIs. One folder was constructed for each issue and township to keep electronic transcripts of study participants.

B. Quantitative Data

SPSS version 22 was used for data entry, data cleaning, and data analysis. Data were examined for distribution of continuous and categorical variables for verification and cleaning before they were analysed. For continuous variables, summary measures were sought for each

variable to examine mean, median, minimum, and maximum values. The tabulate command was used to examine whether categories were permissible, frequencies were reasonable, and data were consistent for categorical variables. Univariate analyses were undertaken to determine the baseline status of the project key indicators and indicators of SPHERE standards.

7.1.2 Ethical Conduct of Study

The highest ethical standards were adhered to in the course of the baseline study. Privacy, anonymity, and confidentiality were major ethical issues to follow. The following measures were undertaken to ensure ethical best practices during the course of the baseline assessment.

(1) The plain language statement outlined the objectives of and risks involved in the baseline study, types of information and reasons for seeking such information, how results would be utilized, where and to whom participants could report ethical misconduct and could seek more information on the study.

(2) A five-day workshop for the baseline team members was arranged, in which the following issues were discussed: (a) importance of ethical issues in baseline study; (b) how to seek informed consent, to provide assistance to participants, and to document standards of ethical conducts; (c) how to safeguard anonymity and confidentiality; (d) importance of giving respect to study population to ensure their dignity and diversity; (e) compliance with codes for vulnerable groups; (f) how to redress negative mental impact; and (g) avoidance of potential harm.

(3) Interviewers identified a place for an interview that could protect the rights of the study population within the limitations of the situation of each household or village.

(4) Guidelines and questionnaire were constructed through incorporating languages that are appropriate to culture, gender and vulnerability of the study population.

(5) Questionnaires and voice records were kept by the study team members under security conditions while fieldwork was being undertaken.

(6) When a report was produced, identifiable information – name, position/title, etc. – were not be revealed as much as possible to prevent readers from identifying informants.

(7) The baseline study ensured that all data collection team members would comply to ADRA's values and ethical standards, including child protection and adult safeguarding.

7.2 Annex II

7.2.1 Questionnaire (English Version)

7.2.2 Questionnaire (Myanmar Version)

7.2.3 Plain Language Statement (Myanmar Version)

7.2.4 Guidelines for Key Informant Interviews of Health Care Providers and

7.2.5 Guidelines for Key Informant Interviews of Camp and Village Management Committee

7.2.6 Consent Form (Myanmar Version)

7.2.7 Indicator Tracking Table

7.2.8 Indicator Estimate Table

7.2.9 Annex: Figures

7.2.10 Annex: Tables

7.3 Annex III

ADRA Recommendations for updated ITT

Following the baseline assessment, comprehensive report, and evaluator's recommendations; the team has identified the following adjustment and changes for the ITT.

Indicator H04: Number of health care staff trained. 50 was the original target allocated since there will be a total of 50 Community Health Workers (now community health outreach volunteers). However, based on the indicator it is evident that the project will need to train more professional/formal staff within the health sector such as midwives, nurses, doctors etc., hence the number is readjusted to 25 calculated @ 5 healthcare staff per MMU for 5 MMUs.

Indicator H23: Number of individuals trained in medical commodity supply chain management- Upon further analysis it is clear that the project has no direct budget or activity linked to this result. Hence ADRA proposes to delete this indicator from the ITT. The project staff will not provide formal training on the management of medical commodity supply chain but will ensure through monitoring and technical capacity engagement that the partner organizations have adequate capacity to manage the supply chain.

Indicator W14: Number of individuals gaining access to a basic sanitation service as a result of BHA assistance- The target was originally set at 10,441 in the initial ITT. However, it is clear that there is an error here since the indicator is meant to measure the number of individuals gaining access to the sanitation services direction due to BHA funding. The project is only directly constructing two community latrine facilities; hence the team has revised the target to 1,054 which is the expected number of persons that will have direct access to the sanitation service.

Indicator W15: Percent of households in target areas practicing open defecation- The baseline study revealed that 24% of the adult population practices open defecation. The original target was set as <1%. With the data from the baseline study is clear that the originally assigned target of <1% is unrealistic. Hence the team is proposing to increase it to <18% which is more achievable based on intervention timeline.

Indicator W08: Percent of beneficiary households with soap and water at a handwashing station on premises- The baseline revealed that 89.9% of mothers ensured that soap was available at the household. The originally allocated target for this indicator was 90% which is almost the same as the baseline value. Hence the team sees the need to increase the target to 92% so that the indicator would have a meaningful impact. While the team deliberated on a higher target 92% was settled on based on the following factors: (1) the timeframe of the project, (2) the large size of the WASH beneficiaries, and (3) adjusting for the potential error rate of the baseline data.

Indicator W32: Estimated safe water supplied per beneficiary in liters/person/day- The baseline identifies that the sample population had access to a total of 37 liters per day/per person. However, the evaluators could not verify if this was "safe water". Based on local knowledge it is a practice of

beneficiaries to boil or filter water before drinking, but this has not been measured. Hence the project will follow up on this indicator during implementation and report back to the donor.

Indicator W23: Percent of hand washing stations build or rehabilitated in health facilities that are functional-Since the project is not building or rehabilitating hand washing stations in health facilities, ADRA wishes to replace indicator W23 with Indicator W19 “Percent of latrines/defecation sites in the target population with handwashing facilities that are functional and in use.” With an LOA target of 80%.

Indicator W25: Total number of individuals receiving WASH NFIs assistance through all modalities (without double-counting)-Target revised to 26,500 from previous 29,000. The calculation is based on 5,300 households who will receive NFI kits as per the final budget and calculated at 5 persons per household.