YANGON UNIVERSITY OF ECONOMICS
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KNOWLEDGE, ATTITUDE AND PRACTICES OF COMMUNITY ON MATERNAL, NEWBORN AND CHILD HEALTH (MNCH) (A CASE STUDY IN SAW TOWNSHIP, MAGWAY REGION)

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(A CASE STUDY IN SAW TOWNSHIP, MAGWAY REGION)

A thesis submitted in partial fulfillment of the requirements for the Master of Development Studies (MDevS) Degree

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This is to certify that this thesis entitled **"Knowledge, Attitude and Practices of Community on Maternal, Newborn and Child Health (MNCH) (Case Study in Saw Township, Magway Region)"** submitted as a partial fulfillment of the requirements for the degree of Master of Development Studies has been accepted by the Board of Examiners.

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ABSTRACT

Magway region has the highest under-five mortality rate and the third highest maternal mortality rate in Myanmar. The objective of this study is to assess the Knowledge, Attitude and Practices on Maternal, Newborn and Child Health(MNCH) in Saw township based on Primary and Secondary data. The study indicates that the knowledge and attitude of community on danger signs and symptoms of Antenatal, Intra-natal, Postnatal period, Newborn and Under-five children is strongly related to health awareness activities, active participation and engagement of the community and stakeholders.95.6% of respondents aware the places to seek Emergency Health Care and 52.7% want to seek health care from hospital. 25% of key informant said human resource is not enough and 100% said the government's medicine supply is not sufficient. Hence, the prioritization on health education using interactive ways, advocacy to multi-stakeholders for more engagement and participation in health care activities, fulfillment of human resource for health, sufficient medicines supply by the government, would promote the MNCH services.

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LIST OF ABBREVIATIONS

3MDG	Three Millennium Development Goals
AAP	American Academy of Pediatrics
AMW	Auxiliary Midwife
ANC	Ante-natal Care
APH	Ante-partum Haemorhage
BEmONC	Basic Emergency Obstetric and New-born Care
BHS	Basic Health Staff
CEmONC	Comprehensive Emergency Obstetric and New-born Care
CHW	Community Health Worker
CMH	Commission on Macroeconomics and Health
DHS	Demographic and Health Surveys
ECC	Emergency Child Cases
EmOC	Emergency Obstetric Cases
EPI	Expanded Programme on Immunization
EPMM	Ending Preventable Maternal Mortality
FIGO	International Federation of Gynecology and Obstetrics
GDP	Gross Domestic Produce
HA	Health Assistant
HA-1	Health Assistant-1
HE	Health Education
HF	Health Facilities
HMIS	Health Management and Information System
HR-H	Human Resource for Health
ICM	International Confederation of Midwives

ICN	International Council of Nurses
IMR	Infant Mortality Rate
IOM	International Organization for Migration
IPA	Independent Physician Association
JOICFP	Japanese Organization for International Cooperation
JSI	John Snow Inc.
KAP	Knowledge, Attitude and Practice
KII	Key Informant Interview
LB	Live Birth
LBW	Low Birth Weight
LHV	lady Health Visitor
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMR	Maternal Mortality Rate
MNCH	Maternal, Newborn and Child Health
MNH	Maternal and New-born Health
MOHS	Ministry of Health and Sports
MW	Midwife
NCD	Non-communicable Diseases
NGO	Non-Government Organization
NHP	National Health Plan
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PHS I	Public Health Supervisor I
PHS II	Public Health Supervisor II

PNC	Postnatal Care
PPH	Post-partum Hemorrhage
RHC	Rural Health Center
RMNCH	Reproductive,Maternal, Newborn and Child Health
SDG	Sustainable Development Goal
SEAR	South-East Asian Region
SH	Station Hospital
SMO	Station Medical Officer
SN	Staff Nurse
Sub-RHC	Sub-Rural Health Center
Sub-RHC	Sub-Rural Health Center
TBA	Traditional Birth Attendant
THD	Township Health Department
THN	Township Health Nurse
TMO	Township Medical Officer
TN	Trained Nurse
TTBA	Trained Traditional Birth Attendant
U5MR	Under-five Mortality Rate
UHC	Universal Health Coverage
UNFPA	United Nation Population Fund
UNICEF	United Nation International Children Emergency Fund
WHO	World Health Organization

CHAPTER I
INTRODUCTION

1.1 Rationale of Study

Myanmar is the lowest life expectancy among the South East Asian Region(SEAR). Under the Sustainable Development Goals (SDGs), all UN Member States have agreed to strive to achieve Universal Health Coverage (UHC) by 2030. The UHC movement in Myanmar has been picking up momentum over the past few years. The country's political leadership has expressed a strong commitment to accelerating the health care system to meet the SDGs goals. The Ministry of Health and Sport's (MoHS) National Health Plan (NHP) 2017 - 2021 aims to achieve Universal Health Coverage (UHC) through a basic package of essential health services, prioritizing townships for investment based on Maternal, Newborn and Child Health situation and mortality rates.

With ongoing political, social and economic transition, there is a real opportunity for the country to live up to its full potential. Investing in health could contribute not only in improving the overall health status of the population but also stimulate economic growth of the country. Rendering quality essential health services together with improving access is critical to sustainable development of the country. For a long time, specialized or tertiary care has been prioritized, mainly in urban areas at the expense of basic essential care for the majority of the population (Ministry of Health and Sports, 2016).

The health of women, mothers and children is fundamental to development, as reflected in Millennium Development Goals (MDGs) 4 (reducing child mortality) and 5 (improving maternal health and achieving universal access to reproductive health). Significant additional investments are needed to achieve MDGs 4 and 5 and to improve women's and children's health beyond the MDG target date of 2015. Demonstrating the broader societal returns of investment in women's and children's health can be a

critical tool in mobilizing additional resources.The relationships between maternal and child health outcomes and Gross Domestic Produce (GDP) run in both directions, with the majority running from maternal and child health to GDP. The evidence that the causal effects of GDP on maternal and child health outcomes are stronger in low-income countries and low-middle income countries relative to high-income countries and upper-middle income countries. This may reflect that the effect of marginal health investments on health outcomes is higher at low levels of GDP (Arshia Amiri, Ulf-G Gerdtham, 2013).

Magway Region has the highest children under five mortality rate and infant mortality rate and the third highest maternal mortality rate and the lowest life expectancy among 7 States and 7 Regions and Naypyitaw Union Territory in Myanmar. There were 1,090,638 women aged 15 – 49 in Magway Region during the time of the census. Of these, 682,526 were ever married. The total fertility rate (TFR) for all women aged 15 – 49 in Magway Region is 2.1 children per woman, which is slightly lower than the Union TFR of 2.3 (Department of Population Ministry of Immigration and Population, 2014).

The estimated number of newborns that die before reaching age 1 (Infant Mortality Rate, IMR) for Magway Region is 89 per 1,000 live births, which is the highest in the country and is much higher than the Union level IMR of 62 infant deaths per 1,000 live births. The Under-five Mortality Rate for Magway Region is also the highest in the country at 108 deaths per 1,000 live births. The Union level Under-5 Mortality Rate is 72 (Department of Population Ministry of Immigration and Population, 2014).

Under the Gangaw district, in Magway region, there are two townships, Saw and Htilin. Even though Magway region has the highest under-five mortality rate (U5MR) and infant mortality rate (IMR) across 7 States ,7 Regions and Naypyitaw Union Territory in Myanmar, Gangaw district has the lowest IMR and U5MR mortality rate (IMR-73/1,000 LB and U5MR-87/1,000LB) among the 26 townships under Magway region. It is relatively lower than in most of the townships where located in Lowest IMR,U5MR and MMR States and Regions (Department of Population Ministry of Immigration and Population, 2014).

Thus, a comprehensive study about the Knowledge, Attitude and Practices on Maternal, Newborn and Child Health of community as well as the health care services provided by the health care provider in Myanmar is necessary to answer questions regarding the introduction of interventions to improve the Maternal, Newborn and Child Health Care. This study was conducted with the aim of assessing the Knowledge, Attitude and Practices on Maternal, Newborn and Child Health and the health care services provided in rural population of Saw Township which has the lowest U5MR and IMR rate across 25 townships under Magway Region.

1.2 Objectives of the Study

The objective of the study is to assess the Knowledge, Attitude and Practices of community on Maternal, Newborn and Child Health in the rural area of Saw Township.

1.3 Method of Study

Descriptive method is mainly applied in this study. Both quantitative and qualitative approaches are used based on the primary data. The required data are collected by conducting personal interview to targeted 135 pregnant women, fathers and mothers who have under five children from 135 Households in selected 12 villages out of 115 villages. The Key Informant Interview was conducted to 4 Midwives and 4 Public Health Supervisors from selected 2 Rural Health Centers and 2 Sub-Rural Health Centers. The secondary data were obtained from Saw township health department.

1.4 Scope and Limitations of the Study

Because of the time and budget limitation, the study was carried out only to targeted 135 respondents from 135 Households in selected 12 villages and 8 Basic Health Staff from selected 2 RHCs and 2 Sub-RHCs. The study was confined on Knowledge,Attitude and Practices on Maternal,Newborn and Child Health from the aspect of allopathic medicine and didn't cover for traditional medicines.

1.5 Organization of the Study

The study comprised of five chapters: Chapter 1 is composed of introduction, rationale of study, objectives of the study, method of study and scopes and limitation of the study. Chapter 2 express the literature review and Chapter 3 presents the

background of the Maternal, Newborn and Child Health in Myanmar and overview of health care condition under Saw township health department. Chapter 4 shows survey analysis of KAP on Maternal,Newborn and Child Health and the services provided by Basic Health Staff in rural area of Saw township. Chapter 5 explores the conclusion, salient findings and suggestions.

CHAPTER II
LITERATURE REVIEW

2.1 Definition of Maternal, Newborn and Child Health

World Health Organization (WHO) states that health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.

Maternal health refers to the health of women during pregnancy, childbirth and postpartum period. While motherhood is often a positive and fulfilling experience, for too many women it is associated with suffering, ill-health and even death. The major direct causes of maternal morbidity and mortality include hemorrhage, infection, high blood pressure, unsafe abortion and obstructed labor (World Health Organization, 2019).

Children's health encompasses to the physical, mental, emotional, and social well-being of children from infancy through adolescence. All children should have regular well-child check ups according to the schedule recommended by their physician or pediatrician. The American Academy of Pediatrics advises that children be seen for well-baby check ups at two weeks, two months, four months, six months, nine months, twelve months, fifteen months, and eighteen months. Well-child visits are recommended at ages two, three, four, five, six, eight, 10, and annually thereafter through age 21.In addition, an immunization schedule should be followed to protect against disease and infection (Encyclopedia, 2019).

A newborn, infant, or neonate, is a child under 28 days of age. During these first 28 days of life, the child is at highest risk of dying. It is thus crucial that appropriate feeding and care are provided during this period, both to improve the child's chances of survival and to lay the foundations for a healthy life (World Health Organization, 2018).

According to Wikipedia, Maternal health is the health of women during pregnancy, childbirth, and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal, and postnatal care in order to

ensure a positive and fulfilling experience, in most cases, and reduce maternal morbidity and mortality, in other cases (Wikipedia, 2019).

Child health is a state of physical, mental, intellectual, social and emotional well-being and not merely the absence of disease or infirmity. Healthy children live in families, environments, and communities that provide them with the opportunity to reach their fullest developmental potential (McAvoy, H., Purdy, J., Mac Evilly, C. and Sneddon, H., 2013).

2.2 Maternal, Newborn, Child Health and Economic Development

Reproductive, maternal, newborn & child health (RMNCH) is fundamental to development, which is reflected in Millennium Development Goals (MDGs) 4 (reducing child mortality) and 5 (improving maternal health and achieving universal access to reproductive health). It has been demonstrated that significant additional investments are needed to achieve MDGs 4 and 5 and improve women's and children's health beyond the MDG target date of 2015.The stakeholders such as Ministries of Finance and Planning which are critical to mobilize additional resources need to be convinced in developing and presenting economic arguments that spending on RMNCH.

For a long time, the prevailing view among economists was that the link between health and economic development ran in one direction only, from economic development to investment in health. This view was articulated in an influential background paper to the World Development Report 1993 entitled "Wealthier is Healthier". It recognized that economic development leads to improved health outcomes through its impact on indirect pathways to health such as better nutrition, water and sanitation, living environment and education but the reverse direction of health's impact on economic development was not fully acknowledged. This paradigm began to shift about 10 years ago, particularly through the work of the Commission on Macroeconomics and Health (CMH). The CMH demonstrated that the causality runs in both directions and that "Healthier is Wealthier" (Arshia Amiri, Ulf-G Gerdtham, 2013).

2.2.1 Health in Sustainable Development Goal

Ensuring healthy lives and promoting the well-being at all ages is essential to sustainable development. Significant strides have been performed in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality, but working towards achieving the target of less than 70 maternal deaths per 100,000 live births by 2030 would require improvements in skilled delivery care. Achieving the target of reducing premature deaths due to incommunicable diseases by 1/3 by the year 2030 would also require more efficient technologies for clean fuel use during cooking and education on the risks of tobacco. Many more efforts are needed to fully eradicate a wide range of diseases and address many different persistent and emerging health issues. By focusing on providing more efficient funding of health systems, improved sanitation and hygiene, increased access to physicians and more tips on ways to reduce ambient pollution, significant progress can be made in helping to save the lives of millions (United Nation, 2015).

The concept of good health is shifting towards creating and maintaining good health and well-being, rather than only preventing and treating disease. Health is the hub of sustainable development and health is a factor of development, at the same time, development brings about better health. In this sense, greater synergies between health and other sectors will have huge impact on progressing health and well-being as well as sustainable development (Ministry of Health and Sports, 2014).

The Sustainable Development Goal on health (SDG 3) includes ambitious global targets to reduce maternal and neonatal mortality in all countries by 2030. But to achieve these targets, better definition of terms is needed to bring about the necessary focus and improved system functioning that will reduce complications and deaths around the critical time of birth. In particular, a revised definition of “skilled health personnel” who are competent to provide care during labour and childbirth, and expanded guidance regarding education, training and regulation of maternal and newborn health (MNH) professionals are needed. These can also be expected to support a wider strategy to improve the health of women and newborns globally (World Health Organization, 2018).

In the Improving Maternal, Newborn and Child Health in South-East Asian Region report (2005), it was mention that South-East Asia Region (SEAR)accounts for

nearly one fourth of the world's population. Most countries in the Region have very young populations, with nearly 50% in the reproductive age group. Consequently, the numbers of pregnant women and the numbers of babies born annually are very large. An estimated 37 million childbirths take place annually. The Region has about 180 million children under the age of five. Unfortunately, the Region also accounts for more than 170,000 maternal deaths and over 3 million child deaths annually. These statistics make the issue of maternal, newborn and child health a major priority for the Region. To enable women to contribute to national development and for children to achieve their full potential, the health of women and children and family-friendly policies must receive higher priority. These include targets not only for maternal and child health, but also for other critical areas including nutrition, communicable diseases, access to essential drugs and safe water and improved sanitation. Improving access to education and empowerment of women, are also necessary to improve maternal and child health. Intensified collaboration among partners and efficient use of resources is needed to realize these goals (World Health Organization, 2005).

(i) Maternal Mortality, Newborn Mortality and Under Five Mortality Trends

Child Health is a basic right, and the level of child mortality is an important indicator in the assessment of the development of any society. It is therefore not surprising that the United Nations' Sustainable Development Goals declaration (2015) to improve the health and welfare of the world's poorest people includes reducing child mortality as one of its goals, which was earlier laid out by the Millennium Development Goals (MDG) declaration (1990). Annually, 5.6 million children under the age of 5 die worldwide, primarily in low-income and middle-income countries. Given that most of these deaths can be easily prevented or treated with cheap and effective interventions, such high mortality is unacceptable even in resource-constrained settings.

India is the world's largest democratic nation, with 16% of the global population.India has the highest number of under-5 deaths, with a total of 1.08 million deaths in 2016. It is one of the six countries that contribute to 50% of the world's under-5 mortality rate (U5MR). On its own, India contributes to 19% of all under-5 deaths and 24% of all neonatal deaths. However, infant mortality rate (IMR) and U5MR have declined over the years in India. For example, U5MR reduced from 114 per 1000 live births in 1990 to 39 in 2016 at an annual rate of 3%. Similarly, IMR reduced from 81

to 34 per 1000 live births between 1990 and 2016. However, the distribution of these gains is uneven across states. For example, at the national level, U5MR is estimated at 39, and it varies from 43 in rural areas to 25 in urban areas. Among the bigger states/union territories, it varies from 11 in Kerala to 55 in Madhya Pradesh (MP). Similarly, at the national level, IMR is reported to be 34, and varies from 38 in rural areas to 23 in urban areas. Among the four most populated states, it varies from 38 in Bihar to 47 in MP (Mrigesh Bhatia, Laxmi Kant Dwivedi, Mukesh Ranjan, Priyanka Dixit, 2019).

A substantial decline in maternal and child mortality was seen in almost all countries during 2000 to 2015. In 2015, according to the latest update of UN estimates, the un-weighted average of neonatal mortality for the 81 Countdown countries was 24 deaths per 1,000 live births, and the un-weighted average of under-five mortality for the 81 Countdown countries was 59 deaths per 1,000 live births. But for countries to reach the Sustainable Development Goal targets for neonatal mortality (12 deaths per 1,000 live births) and under-five mortality (25 deaths per 1,000 live births), the rate of decline must accelerate, especially in the 50 Countdown countries with the highest mortality levels. The average annual rate of reduction in those countries will need to more than double for neonatal mortality and nearly double for under-five mortality during 2015 to 2030 compared with 2000 to 2015. Reaching every Newborn Action Plan global target for stillbirths (12 or fewer per 1,000 births)3 and the Sustainable Development Goal global target for maternal mortality (fewer than 70 maternal deaths per 100,000 live births) by 2030 will also require accelerating the annual rate of reduction. Neonatal mortality continues to decline but at a slower pace than mortality among children ages 1 to 59 months (United Nation Children's Fund and World Health Organizaztion, 2017).

Thus the proportion of child deaths worldwide occurring in the first month of life has increased, to 46% in 2016. The slower decline in neonatal mortality has focused attention on newborn interventions and led to greater inclusion of newborn care in global and country strategies. In the 50 Countdown countries with the highest mortality levels the decline in stillbirth rates was even slower than the decline in neonatal mortality. The last UN update of maternal mortality levels and trends was completed in 2015 to inform the final assessment of the Millennium Development Goals, and it acknowledged the large uncertainty with the estimates because of a lack of recent data.

The average annual rate of reduction in maternal mortality in the 50 Countdown countries with the highest maternal mortality levels was 3.3% (United Nation Children's Fund and World Health Organizaztion, 2017).

There is no global target for mortality among adolescents ages 10 to 19. In general, adolescent mortality is relatively low and therefore more difficult to measure in the absence of complete death registration systems. Globally, adolescent mortality has been estimated at 1.1 deaths worldwide per 1,000 adolescents ages 10 to 19, with a much higher rate in Sub-Saharan Africa (2.8 deaths per 1,000 adolescents ages 10 to19) and large uncertainty. Because the adolescent population is large, these rates translated into 1.3 million adolescent deaths in 2012 (United Nation Children's Fund and World Health Organizaztion, 2017).

(ii) Neonatal Health and Mortality globally

Neonatal mortality is the probability of a newborn dying between birth and the first 28 completed days of life. The latest estimates from the World Health Organization, which date from 2004, indicate that around 3.7 million children died within the first 28 days of life in that year. Within the neonatal period, however, there is wide variation in mortality risk. The greatest risk is during the first day after birth, when it is estimated that between 25 and 45 percent of neonatal deaths occur. Around three quarters of newborn deaths, or 2.8 million in 2004, occur within the first week the early neonatal period (United Nation Children's Fund, 2008).

(iii) Child Health and Mortality globally

17,000 fewer children die each day than in 1990, but more than five million children still die before their fifth birthday each year. Since 2000, measles vaccines have averted nearly 15.6 million deaths. Despite determined global progress, an increasing proportion of child deaths are in Sub-Saharan Africa and Southern Asia. Four out of every five deaths of children under age five occur in these regions. Children born into poverty are almost twice as likely to die before the age of five as those from wealthier families. Children of educated mothers even mothers with only primary schooling are more likely to survive than children of mothers with no education (United Nation, 2015).

Elevated fertility rates, combined with weak access to basic health-care and maternity services, can have lifelong implications for women's survival. In the developing world as a whole, a woman has a 1 in 76 lifetime risk of maternal death, compared with a probability of just 1 in 8,000 for women in industrialized countries. By way of comparison, the lifetime risk of maternal mortality ranges from just 1 in 47,600 for a mother in Ireland, to 1 in every 7 in Niger, the country with the highest lifetime risk of maternal death (United Nation Children's Fund, 2008).

(iv) Maternal Health and Mortality globally

Maternal mortality has fallen by 37% since 2000.In Eastern Asia, Northern Africa and Southern Asia, maternal mortality has declined by around two-thirds. But maternal mortality ratio the proportion of mothers that do not survive childbirth compared to those who do in developing regions is still 14 times higher than in the developed regions. More women are receiving antenatal care. In developing regions, antenatal care increased from 65 per cent in 1990 to 83 per cent in 2012.Only half of women in developing regions receive the recommended amount of health care they need. Fewer teens are having children in most developing regions, but progress has slowed. The large increase in contraceptive use in the 1990s was not matched in the 2000s. The need for family planning is slowly being met for more women, but demand is increasing at a rapid pace (United Nation, 2015).

2.3 Review on Previous Studies

Several studies have been evaluated on Maternal, Newborn and Child Health Care in different countries, they found a set of possible factors that may influence on the Maternal, Newborn and Child Health Care due to the Knowledge, Attitude and Practices of the community even it may vary depending on the level of development of the respective country under analysis.

Hirotsugu Aiga et al. (2016) studied on Knowledge, attitude and practices: by assessing maternal and child health care handbook intervention in Vietnam. The objective of this study was to assess the changes in pregnant women's behavior towards the frequencies of their antenatal care service utilizations and subsequent breastfeeding practices up to six months of age, through the MCH Handbook intervention. This is

because the levels of pregnant women's (KAP) towards their antenatal care service utilizations and exclusive breastfeeding practices have been previously neither analyzed nor reported in relation to MCH home-based records in Vietnam. This study analyzed the pre-intervention data baseline in 2011 and post-intervention data collected in 2013.

Structured interviews were conducted with randomly selected 810 mothers of children 6-18 months of age in the four provinces. A focus group discussion among mothers in each of four provinces was conducted. There was no significant difference in pregnant women's knowledge about the need for ≥3 antenatal care visits between pre- and post-interventions. The proportion of pregnant women who made ≥3 antenatal care visits in post-intervention was significantly higher than in pre-intervention. Thus, MCH Handbook is likely to have contributed to practicing ≥3 antenatal care visits, by changing their attitude. The proportion of mothers who know the need for exclusive breastfeeding necessary during the initial six months significantly increased between pre- and post-interventions. The proportion of those practicing exclusive breastfeeding significantly increased between pre- and post-interventions, too. Thus, MCH handbook is likely to have contributed to the increase in both knowledge and practices of exclusive breastfeeding. The results of study imply that MCH handbook contributed to the increase in pregnant women's practices of ≥3 antenatal care visits and in their knowledge about and practice of exclusive breastfeeding. While there is room for improvement in the level of its data recording, the study confirmed that MCH Handbook plays a catalytic role in ensuring a continuum of MNCH care (Hirotsugu Aiga, Vinh Duc Nguyen, Cuong Dinh Nguyen, Tho Thi Thi Nguyen and Lien Thi Phuong Nguyen, 2016).

Frances Ampt et al. (2015) conducted a cross-sectional study of married men with one or more children aged up to one year in a peri-urban region of Myanmar. This study aimed to construct appropriate indicators of male involvement in MNH, and assess sociodemographic, knowledge and attitude correlates of involvement using data from a peri-urban township in Myanmar. Structured questionnaires measured participants' involvement in MNH, and their sociodemographic characteristics, knowledge and attitudes. An ordinal measure of male involvement was constructed describing the subject's participation across five areas of MNH, giving a score of 1–4.

Proportional-odds regression models were developed to determine correlates of male involvement.

A total of 210 men participated in the survey, of which 203 provided complete data. Most men reported involvement level scores of either 2 or 3 (64 %), with 13 % reporting the highest level (score of 4). Involvement in MNH was positively associated with wives' level of education (AOR = 3.4; 95 % CI: 1.9-6.2; $p < 0.001$) and men's level of knowledge of MNH (AOR = 1.2; 95 % CI: 1.1-1.3; $p < 0.001$), and negatively correlated with number of children (AOR = 0.78; 95 % CI: 0.63-0.95; $p = 0.016$). These findings can inform the design of programs aiming to increase male involvement, for example by targeting less educated couples and addressing their knowledge of MNH. The composite index proved a useful summary measure of involvement; however, it may have masked differential determinants of the summed indicators. The evidence suggests that increasing male involvement in maternal and newborn health (MNH) may improve MNH outcomes. However, male involvement is difficult to measure, and further research is necessary to understand the barriers and enablers for men to engage in MNH, and to define target groups for interventions. There is a need for greater understanding of the influence of gender attitudes on male involvement in Myanmar and more robust indicators that capture these gender dynamics for use both in Myanmar and globally (Frances Ampt, Myo Myo Mon, Kyu Kyu Than, May May Khin, Paul A. Agius,Christopher Morgan, 2015).

John Snow Inc. Research & Training Institute (2015) studied on trends on Maternal, Newborn and Child Health Care practices. This study conducted three rounds of household and community surveys to measure the impact of project innovations on reproductive, maternal, newborn, and child health (RMNCH) care-seeking behavior and practices. The Round I (baseline) survey was conducted from December 2008–January 2009; Round II between December 2010 and January 2011; and Round III between December 2014 and January 2015. This summary report presents across-survey changes in: 1) the kebele (sub-district) health system's support of HEP; 2) access and exposure to RMNCH messages and services; and 3) RMNCH behavior and practices.The report discusses the adequacy of these changes and identifies gaps that need closing.

The three rounds of cross-sectional surveys applied two stages stratified cluster sampling to obtain: 1) family planning information from women of reproductive age (15-49 years); 2) MNH information on women with children 0-11 months; and 3) child health information from women with children 12-23 months in the L10K intervention areas. In Round I, 204 kebeles were visited, from which 203 community questionnaires were completed and 6,178 women, including 4,000 of reproductive age; 2,400 with children 0-11 months; and 2,000 with children 12-23 months were interviewed. In Round II, 330 kebeles were visited, from which 324 community questionnaires were completed and 9,781 women, including 3,888 of reproductive age; 3,887 with children 0-11 months; and 3,876 women with children 12-23 months were interviewed. In Round III, 324 kebeles were visited, from which 316 community questionnaires were completed and 9,449 women, including 3,988 of reproductive age; 3,883 with children 0-11 months; and 3,903 with children 12-23 months were interviewed. The coverage of the health extension program improved during the project period, reaching almost universal in Round III; 99 percent of the kebeles had at least one health post and 97 percent of at least one health extension worker . The ratio of population to one health extension worker in a kebele was 3,278 in Round I; 2,942 in Round II; and 3,067 in Round III. This situation analysis of health services in kebeles indicates major improvement in health extension program infrastructure and coverage. The availability of any health facility is almost universal, with population-to-health extension worker ratio approaching its target 1:2,500. There was no change in PNC in 48 hours between the last two survey rounds. Thus, the major gap in the current strategy is to ensure early PNC, when the bulk of maternal and newborn mortalities take place (John Snow Inc. Research & Training Institute, Inc. (JSI)'s The Last Ten Kilometers, 2015).

A cross-sectional descriptive study was conducted in Htantabin, Hmawbi and Hlegu Townships in Northern Yangon District by Department of Medical Research in 2015.The primary objective of this study was to identify the challenges experienced by midwives in the provision of delivery and postpartum care services. A total of 108 midwives were interviewed by using a structured, pre-tested questionnaire. The age ranged from 24 to 55 years (mean age of 36.4+7.3 year). Almost all midwives performed their basic functions of delivery and post-partum care services. The mean numbers of delivery and postpartum patients were 5 and 7 per month respectively for each midwife.They encountered operational challenges including insufficient supply of

drugs and instruments, poor patient compliance and increased workload in provision of the services. In particular, 13% of midwives stated that misoprostol was out of stock for few months which was essential for prevention of postpartum hemorrhage.

Moreover, they did not have enough materials such as artery and sponge forceps (33.3%), single-used catheter (37.5%) and suture (58.3%). Nearly 64% of midwives experienced other health activities apart from MNCH services within previous one month in which 53.6% considered that such activities caused overburden to their routine MNCH services. With regards to insufficient supply and increased workload, 75% tried to overcome these challenges by reporting their superiors. Regarding their needs, 87%, 64.8% and 42.6% of midwives respectively from three study sites suggested to provide a bicycle or motorcycle, more logistics supplies and more training related to MNCH services. Midwives from peri-urban areas were needed to support more drugs and instruments supplies and transportation arrangement. In conclusion, this study highlighted the mostly encountered challenges that midwives had experienced in performing in MNCH services, and it also revealed the priority and practical means of solutions for overcoming the challenges for improving MNCH services (Department of Medical Research, 2015).

Javed Memon et al. (2019) conducted a study on Knowledge, attitude, and practice among mothers about newborn care in Sindh,Pakistan. The purpose of this study is to assess the knowledge, attitude, and practices (KAP) among mothers about newborns' care and its related factors in district Badin Sindh province of Pakistan. A community-based cross-sectional study was conducted from July 2017 to August 2017 to assess the (KAP) in mothers regarding newborn care. A structured questionnaire was administered, after pretest, for data gathering through face to face interview. All survey participants were identified using multi-stage cluster sampling. A scoring system was used to calculate the level of KAP among participants. Independent sample t-test, ANOVA, and GLM were applied to identify the statistical difference between the means of various groups.

A total of 518 survey participants were interviewed. Among the study sample, more than half of the newborns were bathed within six hours of delivery. Around 50% started breastfeeding after 1 h of birth. A substantial proportion (45%) of mothers gave pre-lacteal feeding and 44.8% of them did not feed colostrum to their newborns. Among

those who administered pre-lacteal to their newborn babies included animal/formula milk (15.4%), honey (24.5%) and fresh butter/ghee (5.2. %). Mothers with no education had less significant KAP score about newborn care as compared to those who had higher education ($p < 0.05$). This study revealed that high-risk factors such as immediate bathing, application of traditional substances on the cord, delayed initiation of breastfeeding, discarding colostrum and giving pre-lacteal feed to newborns were highly prevalent. This requires urgent attention of Maternal, Newborn and Child Health (MNCH) programs and health care delivery system to prevent harmful care practices and adopt healthy practices especially in the rural settings (Javed Memon, Kourosh Holakouie-Naieni,Reza Majdzadeh,Mir Saeed Yekaninejad, 2019).

In addition, a cross-sectional descriptive study in 87 villages in Bogale and Mawlamyinegyun Townships by Department of Medical Research during 2014 focused on internal migrants who are moving around within the country. The aimed of the study is to determine the immunization status and factors influencing immunization of migrant children. A total of 493 migrant mothers having children under two-year old were selected by snowball sampling after collecting migrant's information from Basic Health Staffs (BHSs) in each village and then interviewed with semi-structured questionnaires. Fifteen Focus-Group-Discussions with migrant mothers and 40 Informant-Interviews with 56 Voluntary Health Workers, 25 BHSs and 12 Village Health Committee members were performed.

Migrants were identified into four types--in inbound migrants (222/493, 45%), outbound migrants (194/493, 39.4%), mobile hawkers (25/493, 5.2%) and local mobile (52/493, 10.5%). Among 17 months to two years old migrant children, only (35/197, 17.76%) received full dose of EPI. Number of children with complete immunization was highest in local mobiles who frequently travel outside of their residential villages for not more than one month (5/20, 25%) and lowest in hawkers (1/9, 11.1%). Majority of migrant mothers did not aware the date and place of immunization at their destination villages. A few claimed transportation barriers and travel expenses to the place of immunization. Some BHS stated migrants were not included in their immunization due lists. BHS could not be able to determine which dose to administer because migrant mothers could not tell the dose that had been given. Some migrant mothers also did not have immunization cards. Majority of BHS suggested the local authority and employers could support them by collecting and sharing lists of under 2-year old migrant children.

In conclusion, there should be a strong collaboration between health care providers, local authorities and employers to be able to get information of migrants (Department of Medical Research, 2015).

CHAPTER III
OVERVIEW OF HEALTH CARE CONDITION IN MYANMAR AND SAW TOWNSHIP

3.1 Health and Economic Correlation in Myanmar

According to Myanmar National Health Plan (2017-2021), investing in health could contribute not only in improving the overall health status of the population but also to stimulate economic growth of the country. Rendering quality essential health services together with improving access is critical to sustainable development of the country.

The Myanmar health system currently faces many challenges. These relate to the availability and distribution of inputs (e.g. human resources, physical infrastructure, essential medicines and supplies, financial resources) and to weaknesses in key functions such as supportive supervision, referral, supply chain, health management information system, and public financial management. Limited oversight, leadership and accountability further exacerbate these challenges. Myanmar currently allocates only 3.65 percent of its total budget on health, which is extremely low by global and regional standards. As a result, out-of-pocket spending by households remains the dominant source of financing for health. It can push or keep households in poverty and it prevents many from seeking necessary health care (Ministry of Health and Sports, 2016).

The National Health Plan (NHP) aims to strengthen the country's health system and pave the way towards UHC, choosing a path that is explicitly pro-poor. The main goal of NHP 2017-2021 is to extend access to a Basic Essential Package of Health Services (EPHS) to the entire population by 2020 while increasing financial protection. The NHP also aims to promote further alignment at several levels, among programs (e.g. by encouraging more integrated training, joint supportive supervision,better

aligned referral mechanisms, a more streamlined health information system), among development partners (DPs), through stronger oversight and coordination, among the different types of providers, through the engagement of Ethnic Health Organizations (EHOs), Non-Governmental Organizations (NGOs), private-for-profit providers, etc.,among implementing agencies by ensuring that projects and initiatives contribute to the achievement of the National Health Plan goals (Ministry of Health and Sports, 2016).

3.2 Maternal, Newborn and Child Health Care Services in Myanmar

For the sake of ensuring Maternal, Newborn and Child Health, the basic health staff (BHS) have been down to the grassroots level to provide preventive, curative and rehabilitative services through Primary Health Care approach. In Myanmar, Basic Health Staff are major frontline health workers responsible for providing primary health care services at the community level. According to manpower of Rural Health Center, one Health Assistant (HA), one Lady Health Visitor (LHV), five Midwives (MWs) and five Public Health Supervisors Grade II (PHS II) must be present in each and every RHC but previously one to two PHS II was assigned in each RHC. Main duties of PHS II are disease control activities, water and sanitation, vector-borne diseases control activities, immunization activities but due to the shortage of PHS II, Midwives and Lady Health Visitors have to provide all primary health care activities addition to Maternal, Newborn and Child Health Care services particularly in rural area.

The total number of health workforce in the public sector by the union territory and 7 States and 7 Regions is 16,292 medical doctors, 36,054 nurses, 715 dentists, 503 dental nurses, 184 pharmacists, 2,156 health assistants, 1,867 lady health visitors, 12,295 midwives, 2,465 public health supervisors (Grade I), and 11,484 public health supervisors (Grade II) and they are working for the public sector in Myanmar as of October 2016 (Yu Mon Saw,Thet Mon Than,Yamin Thaung,Sandar Aung,Laura Wen-Shuan Shiao,Ei Mon Win,Moe Khaing,Nyein Aye Tun,, 2019).

In Myanmar, there are 64,134 villages, thus, it is not possible to assign one health staff to one village yet. To reach to sustainable development for improving health, community empowerment is a prerequisite.Community volunteers, Auxiliary

Midwife(AMW) and Community Health Workers(CHW) are one of the health workforces and minor and primary health care activities still rely on them particularly in emergency situation. Aiming to have one community health volunteer at one village community health volunteer training were approved in 2014-2015.

According to in Health in Myanmar 2012, 70% of the country total populations reside in rural area, resources and interventions need to be centered to rural residing beneficiaries, who are mothers, newborn babies and under five children in rural area such as providing proper antenatal and postnatal care, promoting skilled and institutional delivery, providing essential newborn care, promoting adolescent and reproductive health, empowering male involvement, promoting the emergency referral system for mother and children (Ministry of Health, 2012).

3.2.1. Maternal Health Care

Table (3.1) Direct estimates of pregnancy-related mortality rates for the 7 years preceding the survey, by 5-year age groups, 2015-2016 Myanmar Demographic Health Survey

Age	Percentage of female deaths that are pregnancy related	Number of pregnancy related deaths	Exposure years	Pregnancy related mortality rate
15-19	2.6	0	16,600	0.02
20-24	7.7	3	21,850	0.13
25-29	8.2	4	24,241	0.15
30-34	14.2	8	24,064	0.33
35-39	10.4	4	21,357	0.18
40-44	7.0	4	15,948	0.26
45-49	0.0	0	11,534	0.00
15-49	8.1	22	135,595	0.16[a]

Source : Myanmar Demographic Health Survey (2015-2016)

General fertility rate (GFR)[2] is 69[a],Pregnancy-related mortality ratio (PRM)[3] is 227 (CI: 131-323),Lifetime risk of maternal death[4] is 0.005, CI = Confidence interval, [1]Expressed per 1,000 woman-years of exposure,[2]Expressed per 1,000 women age 15-493,Expressed per 100,000 live births; calculated as the age-adjusted pregnancy related mortality rate times 100 divided by the age-adjusted general fertility rate, [4]Calculated as $1-(1-PRM)^{TFR}$, where TFR represents the total fertility rate for the 7 years preceding the survey,[a]Age-adjusted rate.

According to table (3.1), the 2015-16 Myanmar Demographic Health Survey (MDHS), it revealed that the pregnancy related mortality ratio is 227 deaths per 100,000 live births (confidence interval of 131to 323). Thus, we can say that every 1,000 live births in Myanmar during the seven years before the 2015-16 MDHS, approximately two women died during pregnancy, during childbirth, or within two months of childbirth (2015-2016 MDHS).

The 2015-2016 MDHS showed that over 80% of women with a live birth in the five years before the survey received antenatal care (ANC) from a skilled provider (doctor, nurse, midwife, or lady health visitor). 13% of women received no antenatal care. The timing and quality of prenatal care are also important. 59% of women age between 15-49 had four or more antenatal care visits throughout their pregnancy life, and forty per cent had their first ANC visit in the first trimester of pregnancy, as recommended. Women in urban areas are more likely to receive more than 4 antenatal care visits than women in rural areas, but only about 40% of women in both urban and rural areas attend ANC during the first trimester. Majority (87%) of women with a live birth in the five years before the survey took iron tablets or syrup during their pregnancy period. Around 60% of women had their blood or urine tested during their pregnancy. 75% of women were informed about signs of pregnancy complications. The last birth of women (72%) was protected against neonatal tetanus. More than one third (37%) of births in Myanmar are delivered in a health facility. This means that 63 per cent of births occurred as home delivery (Ministry of Health and Sports(MoHS) and ICF, 2017).

70% of women in urban areas deliver in a health facility, while only 28% of women in rural areas deliver in a health facility. Health facility births vary to state by state and region by region, ranging a low of 15% in Chin State to a high of 65% in

Yangon Region. Health facility delivery increases along with mother's education: only 13% of births to women with no education occur in a health facility, compared with 83% of births to women with more than secondary education. Despite the relatively low percentage of facility-based births, 60% of births are delivered by a skilled provider. While 99% of births that are delivered in a health facility are assisted by a skilled provider, 37% of birth that are delivered elsewhere are also assisted by a skilled provider. The delivery by a skilled provider is much more common in urban than rural areas, increases with a woman's education and wealth.

Postnatal care prevents complications after child birth, more than 70% of women who gave birth in the two years before the survey received a postnatal checkup within two days of delivery. Around 25% of women didn't received postnatal checkup within 41 days after delivery. Postnatal care is less common among newborns: only 36% of newborns received a postnatal checkup within 2 days of birth, as recommended. Eclampsia, post-partum hemorrhage, and abortion related mortality remain the major leading causes of maternal deaths in Myanmar. More than 75% of all maternal deaths occurred during delivery and the immediate post-partum period. Addition to these direct causes of maternal mortality, a number of household and community level factors such as social determinants, nutritional status of girls and pregnant women, educational level, health knowledge, also underpinned the higher level maternal mortality.

3.2.2 Newborn and Child Health Care

According to 2015-2016 Myanmar Demographic Health survey, 98% per cent of children in Myanmar are ever breastfed. (67%) were breastfed in first one hour of delivery, as recommended by WHO. More than half (51%) of children under 6 months are exclusively breastfed in Myanmar. Weaning diet should be introduced when a child is over six months old to reduce the risk of malnutrition. About three-quarters (72%) of children age 6-8 months are receiving weaning diet and breastfeeding, as recommended. The 2015-16 MDHS showed that over half (55%) of children age 12-23 months received all basic vaccinations containing vaccine and polio. Basic vaccination coverage increases with mother's education 41% of children whose mothers have no education have received all basic vaccinations compared with 80% of children whose mothers' education beyond secondary school. 8% of children age 12-23 months have received no vaccinations. Three percent of children under-five had symptoms of an

acute respiratory infection in the two weeks before the survey. Among them,58% were taken to a health facility or health care provider for advice or treatment and 43% received essential antibiotic. Ten per cent of children under-five had diarrhea in the two weeks before the survey. Diarrhea was common among the age of 12-23 months (17%). Among those with diarrhea cases, 54% were taken to health facility or health care provider. More than two-thirds of children (68%) under-five with diarrhea received ORT or increased fluids, while 14% received no treatment at all (Ministry of Health and Sports(MoHS) and ICF, 2017).

3.2.3 Benefits of Exclusive Breastfeeding

Breast milk provides the ideal nutrition for infants. It has a nearly perfect mix of vitamins, protein, and fat everything the baby needs to grow. And it's all provided in a form more easily digested than infant formula. Breast milk contains antibodies that help the baby fight off viruses and bacteria. Breastfeeding lowers the baby's risk of having asthma or allergies. Plus, babies who are breastfed exclusively for the first 6 months, without any formula, have fewer ear infections, respiratory illnesses, and bouts of diarrhea. They also have fewer hospitalizations and trips to the doctor. Breastfeeding has been linked to higher Intelligent Quotient scores in later childhood in some studies. The physical closeness, skin-to-skin touching, and eye contact all help the baby bond with mother and feel secure. Breastfed infants are more likely to gain the right amount of weight as they grow rather than become overweight children. The American Academy of Pediatrics, AAP, says breastfeeding also plays a role in the prevention of sudden infant death syndrome. It's been thought to lower the risk of diabetes, obesity, and certain cancers as well, but more research is needed.

For breastfeed mother, breastfeeding burns extra calories, so it can help mother lose pregnancy weight faster. It releases the hormone oxytocin, which helps the uterus return to its pre-pregnancy size and may reduce uterine bleeding after birth. Breastfeeding also lowers your risk of breast and ovarian cancer. It may lower the risk of osteoporosis, too. Since breastfeed mother don’t need to buy and measure formula, sterilize nipples, or warm bottles, it saves the time and money (WebMD, 2019).

3.3 Demographic Profile of Magway Region

Table (3.2) Demographic Profile of Magway Region

Description	**Number/Percentage**
Number of Districts	5
Number of townships/sub-townships	26
Total Population	3,917,055
Population Male	1,813,974 (46.31%)
Population Female	2,103,081 (53.69%)
Percentage of urban population	15.0%
Area(Km^2)	44,820.6
Population density (per Km2)	87.4
Median age	29.4
Number of private households	919,777
Percentage of households urban	14.3%
Percentage of female headed households	24.7%
Mean household size	4.1
Children (0 – 14 years)	27.0%
Economically productive (15 – 64 years)	65.8%
Elderly population (65+ years)	7.2%
Ageing index	26.7
Sex ratio	86 males per 100 females
Literacy rate (persons aged 15 years and over)	92.2%
Literacy rate (persons aged 15 years and over) Male	96.5%
Literacy rate (persons aged 15 years and over) Female	88.9%

Source : Census report (2014)

According to table (3.2), there are 5 districts and 26 townships under Magway Region. The total population is 3,917,055 and 46.31% are male and 53.69% are female. The urban population is 15.0%, the area is 44,820.6 Km^2 and the population density is 87.4/Km^2. The median age is 29.4, the number of private households is 919,777 and the urban households is 14.3% and the female headed households is 24.7%. The mean household size is 4.1, the population between 0 to 14 years is 27.0%, 15 to 64 years is 65.8% and over 65 population is 7.2% and the ageing index is 26.7. The sex ratio is 86 males to 100 females and the literacy rate aged over 15 years is 92.2% and the male literacy rate is 96.5% and the female literacy rate is 88.9% respectively. Most of the community 85% reside in the rural area under Magway region.

3.4 Demographic Background of Saw Township

Saw township is located in Gangaw district under Magway region, Myanmar. The principal township is Gangaw and under Gangaw district, there are two townships, Saw and Htilin. The area of Saw township is 687,67 Square Km and in the East is Seik Phyu and Pauk townships, in the West is Kanpetlet and Mindat townships, in the South is Sedoktaya and Salain townships, in the North is Htilin township. Saw is composed of 5 wards, 68 village tracts and 115 villages. The total population in Saw township is 73,832 and out of that number, 10,756 reside in urban area and 63,076 reside in rural area (the urban rural population ratio is 1:6.3). Among the 73,832 residents, 35,609 are male and 38,223 are female thus the sex ration is 1:1.1. The under-one year population is 1012, the under-five population is 4, 579, age between 0 to 14 year population is 15,205 and reproductive age (age between 15 to 49 years) population is 39,748. (Source- Saw township health profile 2015-2017)

3.4.1 Health Facilities under Saw township

Health facilities include healthcare infrastructures such as township hospital, station hospital, units attached to township hospital, healthcare centers at the grass root level like rural health center (RHC), sub-rural health center (SRHC),

Table (3.3) Health facilities under Saw township (2014- 2018)

No.	Health Facilities	2014	2015	2016	2017	2018
1	Township hospital (25) bedded	1	1	1	1	1
2	Station hospital (16 bedded)	2	2	2	2	2
3	Maternal and Child Health Unit	1	1	1	1	1
4	Rural Health Centers	8	8	8	8	8
5	Sub-rural Health Centers	39	39	39	39	39
6	Dental Health Unit	1	1	1	1	1
7	TB Control Unit	1	1	1	1	1
8	Vector Borne Disease Control Unit	1	1	1	1	1

Source: Saw township health profile (2014-2018)

As mention in the table (3.3), there is 1 township hospital (25 bedded), 2 Station Hospitals (16 bedded), 1 Maternal and Child Health Unit, 8 Rural Health Centers, 39 Sub-rural health centers, 1 Dental Health Unit, 1 TB control Unit, 1 Vector Borne Disease Control Unit since 2014.The number of health facilities in the Saw township remained the same from 2014 to 2018. It can assume that the healthcare infrastructure in Saw township remain the same though the health care services might improve between 2014 to 2018.

3.4.2 Health Manpower of Saw township

The number of health staff providing essential health care services in Saw township whom Sanction, Appointed and Vacant between 2014 to 2018 in table (3.2).

Table (3.4) Health Manpower of Saw Township (2014-2018)

No.	Category		2014	2015	2016	2017	2018
1	Doctor (Dr.)	Sanction	7	7	7	7	7
		Appointed	4	4	5	4	4
2	Township Health Nurse (THN)	Sanction	1	1	1	1	1
		Appointed	1	1	1	1	1
3	Health Assistant 1 (HA1)	Sanction	1	1	1	1	1
		Appointed	1	1	1	1	0
4	Health Assistant (HA)	Sanction	6	6	6	10	10
		Appointed	6	6	6	7	7
5	Lady Health Visitor (LHV)	Sanction	7	7	7	11	11
		Appointed	7	7	5	5	6
6	Midwife (MW)	Sanction	59	59	59	59	59
		Appointed	56	56	58	58	59
7	Staff Nurses(SN)	Sanction	9	9	9	9	9
		Appointed	9	9	9	9	9
8	Trained Nurses(TN)	Sanction	18	18	18	18	18
		Appointed	15	16	16	16	17
9	Public Health Supervisor I (PHS I)	Sanction	3	3	3	5	5
		Appointed	1	1	1	2	2
10	Public Health Supervisor II (PHS II)	Sanction	55	55	55	55	55
		Appointed	20	26	29	37	38

Source: Township Health Department Manpower of Saw (between 2014 to 2018)

As shown in the below table (3.4), the number of Medical Doctors sanction are 7 during 2014 to 2018 and the number of appointed Medical Doctors are 4 in 2014 and 2015, 5 in 2016 and 4 in 2017 and 2018. The number of Township Health Nurse

sanction is 1 during 2014 to 2018 and the number of appointed THN is also 1 during 2014 to 2018. The number of Health Assistant-1 sanction is 1 during 2014 to 2018 and the number of HA-1 appointed is 1 during 2014 to 2017 but the HA-1 was vacant in 2018.

The number of Health Assistant sanction in 2014 and 2016 is 6 and the number of appointed is also 6 during those years. In 2017 and 2018, the number of Health Assistant sanction was increased to 10 but the appointed number is 7. The number of Lady Health Visitor in 2014 and 2016 is 7 and the appointed LHV is 7 in 2014 and 2015 and 5 in 2016. In 2017 and 2018, the number of LHV sanction was increased to 11 and the number of appointed LHV is 5 in 2017 and 6 in 2018.

The number of Midwife(MW) sanction is 59 during 2014 to 2018 and the number of appointed MW was 56 in 2014 and 2015, 58 in 2016 and 2017 and 59 in 2018. The number of staff nurses sanction was 9 during 2014 to 2018 and the appointed number was also 9 during those years. The number of trained nurses sanction was 18 during 2014 to 2018 and the number of appointed TN was 15 in 2014, 16 during 2015 to 2017 and 17 in 2018. The number of Public Health Supervisor-I sanction was 3 in 2014-2016 and 5 in 2017-2018 and the appointed number was 1 in 2014-2016 and 2 in 2017-2018. The number of Public Health Supervisor-II sanction was 55 during 2014 to 2018 and the appointed number was 20 in 2014, 26 in 2015, 29 in 2016, 37 in 2017 and 38 in 2018.

The number of Auxiliary Midwife and Community Health Worker whom are providing essential health care services at the community level between 2014 to 2018 in table (3.3)

Table (3.5) Health Manpower (community volunteer) in Saw Township

No.	Category		2014	2015	2016	2017	2018
1	Auxiliary Midwife (AMW)	Total villages	115	115	115	115	115
		Functioning volunteer	100	117	101	101	101
2	Community Health Worker(CHW)	Total villages	115	115	115	115	115
		Functioning volunteer	60	68	61	57	53

Source: Township Health Department Manpower of Saw (between 2014 to 2018)

As demonstrated in table (3.5), the number of total villages in Saw during 2014 to 2018 is 115 and the number of functioning Auxiliary Midwife was 100 in 2014,117 in 2015 and 101during 2016 to 2018. The number of functioning Community Health Worker was 60 in 2014,68 in 2015, 61in 2016,57 in 2017 and 53 in 2018. Both types of volunteers are government trained volunteers and they are the frontline worker to provide primary health care services at the community level.

3.5 Health Service Indicators of Saw Township

Table (3.6) School Health indicator of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Percentage coverage of schools examined	100	100	100	100	100
2	Percentage coverage of primary schools students examined	98	100	99.9	97	99
3	Percentage coverage of schools with sanitary latrine	95	97	97.4	100	99

Source: Township Health Profile of Saw (between 2014 to 2018)

As presented in the table (3.6), the coverage of schools examined was 100 % during 2014 to 2018. The coverage of primary school students examined was 98% in

2014, 100% in 2015, 99.9% in 2016 and 97% in 2017. The coverage of schools with sanitary latrine was 95% in 2014, 97% in 2015, 97.4% in 2016, 100% in 2017 and 99% in 2018. The services provided by Saw township health department and basic health staff were more or less the achievements during 2014 to 2018 showing that the community received the health care services.

Table (3.7) Health Education Activities of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Average number of HE session per month	120	141	116	196	198
2	Average number of HE session per BHS	96	98	100	104	101

Source: Township Health Profile of Saw (between 2014 to 2018)

The average number of HE session per month was 120 in 2014, 141 in 2015, 116 in 2016,196 in 2017 and 198 in 2018. The average number of HE session per BHS was 96 in 2014, 98 in 2015, 100 in 2016, 104 in 2017 and 101 in 2018 accordingly. The average HE sessions significantly increased in 2017 and 2018 compared to 2016 and it showed that the BHS were conducting HE session regularly and the community received the HE awareness session and messages.

Table (3.8) Primary Health Care Activities of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	General clinic attendance (%)	48	49	54.93	55.48	57.3
2	Number of cases referral	320	350	395	513	550

Source: Township Health Profile of Saw (between 2014 to 2018)

As shown in the table(3.8), in regards to primary health care, the general clinic attendance was 48% in 2014,49% in 2015, 54.93 in 2016, 55.48 in 2017 and 57.3% in 2018.The number of referral cases were 320 in 2014, 350 in 2015, 395 in 2016,513 in 2017 and 550 in 2018.The rate of general clinic attendance was more or less the same during 2014 to 2018 but the number of referral cases significantly increased from 2016

to 2018. The community might need to go to general clinic to reduce the preventable diseases or pregnancy related referrals which might cost to community pockets and could be financial burden to them.

Table (3.9) Reproductive Health Activities of Saw township

No.	Category	2014	2015	2016	2017	2018
1	Antenatal coverage (%)	97.5	98.6	99	110	109
2	% of home deliveries by basic health staff	33.2	40.76	34.32	50.14	52.3
3	% of institutional deliveries	33.5	34.72	38.80	35.97	36.2
4	% of skilled birth attendant	80	84	86	92	92
5	Rate of referral (%)	35.3	35.40	37.98	46.80	47.2
6	Average number of attendance,Antenatal	4	5	5	6	6
7	Average number of attendance,Postnatal	3	3	3	3	3
8	% of postnatal care coverage	93	96	94	95	96

Source: Township Health Profile of Saw (between 2014 to 2018)

As demonstrated in table (3.9), the antenatal care(ANC) coverage was 97.5% in 2014, 98.6% in 2015, 99% in 2016,110% in 2017 and 109% in 2018. The percentage of institutional deliveries was 33.5% in 2014,34.72% in 2015, 38.80% in 2016,35.97% in 2017 and 36.2% in 2018. The percentage of skilled birth attendant was 80% in 2014,84% in 2015, 86% in 2016 ,92% in 2017 and 2018. The rate of referral was 35.3 % in 2014, 35.40% in 2015, 37.98% in 2016,46.80 % in 2017 and 47.2% in 2018. The average number of antenatal attendance was 4 in 2014, 5 in 2015-2016 , 6 in 2017 and 2018. The average number of postnatal attendance was 3 during 2014 to 2018. The percentage of postnatal care coverage was 93% in 2014,96% in 2015, 94% in 2016,95% in 2017 and 96% in 2018.

The ANC coverage was around 100% during 2014 to 2018 and the skilled births attendant rate was more than 80% for those three years. The institutional delivery rate was more or less the same during 2014 to 2018 .The average ANC was 5 and the average PNC was 3 which showed that the MNCH health care services under Saw township is quite good.

Table (3.10) Child Health and Nutrition Activities of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	% of oral rehydration therapy (ORT) use rate	95	100	67.3	100	100
2	% of antibiotics coverage in pneumonia cases	100	100	100	100	100
3	% of new-born care coverage within 3 days	96.3	98.9	93	102.53	101.5
4	% of new-born with low birth weight(LBW)	1.90	1.46	0.88	0.83	0.80
5	% of under five children with underweight	3.9	3.6	1.17	0.2	0.23
6	% of villages/wards with qualified consumption of adequately iodized salt	95	97	98.7	98	98.5

Source: Township Health Profile of Saw (between 2014 to 2018)

As shown in the table (3.10), the percentage of ORT use rate was 95 in 2014,100 in 2015, 67.28 in 2016 and 100 again in 2017 and 2018. The percentage of antibiotics coverage for pneumonia cases was 100 during 2014 to 2018. The percentage of new-born care coverage within 3 days was 96.3 in 2014,98.9 in 2015, 93 in 2016,102.53 in 2017 and 101.5 in 2018. The percentage of new-born with LBW was 1.90 in 2014,1.46 in 2015, 0.88 in 2016,0.83 in 2017 and 0.80 in 2018.The percentage of under five children with underweight was 3.9 in 2014, 3.6 in 2015, 1.17 in 2016 ,0.2 in 2017 and 0.23 in 2018. The percentage of villages/wards with qualified consumption of adequately iodized salt was 95 in 2014, 97 in 2015, 98.7 in 2016 , 98 in 2017 and 98.5 in 2018.

The Newborn care coverage within 3 days was more than 90% during 2014 to 2018 and antibiotics coverage in pneumonia cases was 100% during those three years and the low birth weight percentage and under-weight for under-five children was

reduced year by year from 2014 to 2018. It revealed that the community received the health care services from health care providers, Basic Health Staff.

Table(3.11)Expanded Program on Immunization (EPI) activities of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Bacillus Calmette-Guerin Vaccine (BCG) %	97.35	98.25	101.53	104	102.4
2	Oral Polio Vaccine (OPV3) %	78.92	79.44	105.24	103	103.6
3	Pentavalent3 %	78.92	79.44	105.24	103	103.6
4	Measles %	92.23	93.73	92.81	89	90.4
5	Tetanus Toxoid (TT2)%	90.5	90.68	96.85	104	103

Source: Township Health Profile of Saw (between 2014 to 2018)

As shown in table(3.11), the percentage of Bacillus Calmette-Guerin vaccine(BCG) was 97.35 in 2014, 98.25 in 2015, 101.53 in 2016,104 in 2017 and 102.4 in 2018. The oral polio vaccine (OPV3) and pentavalent3 percentages was 78.92 in 2014,79.44 in 2015, 105.24 in 2016, 103 in 2017 and 103.6 in 2018. The percentage of measles coverage was 92.23 in 2014,93.73 in 2015, 92.81 in 2016,89 in 2017 and 90.4 in 2018. The percentage of tetanus toxoid (TT2) was 90.5 in 2014,90.68 in 2015, 96.85 in 2016 ,104 in 2017 and 103 in 2018. Almost all of the vaccine coverage increased year by year during 2014 to 2018 apart from measles. It showed that the children in Saw township received the regular immunization activities.

3.6 Health Impact Indicators of Saw Township

Table (3.12) Health Impact Indicators of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Population growth rate %	0.40	0.42	0.48	0.65	0.67
2	Reported Infant Mortality Rate /1,000 Live Birth	14.5	16.5	17.05	13.46	14.9
3	Reported Under-five Mortality Rate/1,000 Live Birth	19.4	19.8	19.19	17.3	18.3
4	Reported Maternal Mortality Rate/100,000 Live Birth	0	0	2.19	0.96	0.85

Source: Township Health Profile of Saw (between 2014 to 2018)

As shown in the table (3.12), the population growth rate was 0.40 in 2014, 0.42 in 2015, 0.48 in 2016,0.65 in 2017 and 0.67 in 2018. The reported Infant Mortality Rate was 14.5 in 2014, 16.5 in 2015, 17.05 in 2016, 13.46 in 2017 and 14.9 in 2018.The reported under-five mortality rate was 19.4 in 2014, 19.8 in 2015, 19.19 in 2016, 17.3 in 2017 and 18.3 in 2018.The reported maternal, mortality rate was 0 in 2014 and 2015,2.19 in 2016,0.96 in 2017 and 0.85 in 2018. The population growth rate was increased year by year during 2014 to 2018. The Infant Mortality Rate, IMR was more or less the same during 2014 and 2016 but it was reduced in 2017 and 2018. There was no Maternal Mortality Rate, MMR in 2014 and 2015 but it was more than 2 in 2016 and less than 1 in 2017 and 2018.

Table (3.13) Malaria, Tuberculosis and Leprosy of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Number of Malaria cases among out-patients (NEW)	130	114	19	7	5
2	Number of new TB sputum positive cases	22	20	19	19	17
3	Number of TB sputum negative cases	30	31	12	23	20
4	Number of extra-pulmonary TB cases	12	14	11	10	11
5	Remaining leprosy cases	1	1	2	3	3

Source: Township Health Profile of Saw (between 2014 to 2018)

As shown in the table (3.13),the number of outpatient malaria cases was 130 in 2014, 114 in 2015, 19 in 2016, 7 in 2017 and 5 in 2018.The number of new TB cases with sputum positive was 22 in 2014, 20 in 2015,19 each in 2016 and 2017 and 17 in 2018.The number of TB sputum negative cases was 30 in 2014, 31 in 2015, 12 in 2016, 23 in 2017 and 20 in 2018.The number of extra-pulmonary TB cases was 12 in 2014, 14 in 2015, 11 in 2016,10 in 2017 and 11 in 2018. The number of remaining leprosy cases was 1 in 2014 and 2015, 2 in 2016 and 3 in 2017 and 2018. The malaria cases reduced dramatically from year to year and the TB sputum positive cases were more or less the same during 2014 to 2018 according to township health profile data of Saw township.

Table (3.14) Non-communicable Diseases and Risk Factors of Saw Township

No.	Category	2014	2015	2016	2017	2018
1	Number of Hypertension cases	1420	1458	1580	1509	1580
2	Smoking cases per 1,000 > 15 years age population	169	174	175	173	177
3	Alcoholic cases per 1,000 population	0.93	0.97	0.42	1.12	1.5
4	Deafness cases per 1,000 population	0.01	0.01	0	0.02	0.01
5	Blindness cases per 1,000 population	0	0	0	0.01	0.01

Source: Township Health Profile of Saw (between 2014 to 2018)

According to table (3.14), regarding to non-communicable diseases and risk factors, the number of Hypertension was 1420 in 2014, 1458 in 2015, 1580 in 2016, 1509 in 2017 and 1580 in 2018. The smoking cases per 1,000 populations >15 years of age was 169 in 2014, 174 in 2015, 175 in 2016, 173 in 2017 and 177 in 2018. The alcoholic cases per 1,000 populations was 0.93 in 2014, 0.97 in 2015, 0.42 in 2016,1.12 in 2017 and 1.5 in 2018. The deafness cases per 1,000 populations was 0.01 in 2-14 and 2015, no cases in 2016,0.02 in 2017 and 0.01 in 2018. There were no blindness cases during 2014-2016 and 0.01 cases in 2017 and 2018 counting to blindness case per 1,000 populations. The number of hypertension cases increased dramatically from 1420, in 2014 to more than 1500 in 2017 and 2018. The alcoholic cases increased significantly from 0.93 in 2013 to 1.5 in 2018 but it was reduced in 2016 as 0.42. The smoking is more or less the same between 2014 to 2018.

CHAPTER IV
SURVEY ANALYSIS

4.1 Survey Profile

This study aims to assess the Knowledge, Attitude and Practices on Maternal, Newborn and Child Health Care in rural area of Saw Township under Magway Region and to explore the knowledge of community on danger signs and symptoms during prenatal, intra-natal, postnatal, newborn and under-five period as well as the attitude and practices of community in seeking emergency health care, nutrition and feeding practices to newborn and under-five children. The sample size of the study was selected 135 pregnant women, fathers and mothers of under-five children from 135 Households (out of 1,350(10%) Households in selected 12 villages, out of 115 (10%) villages). The key informant interview (KII) was conducted to 4 Midwives and 4 Public Health Supervisor II to assess the maternal, newborn and child health care services providing at the community level.

4.2 Survey Design

The research used both quantitative and qualitative approaches and the required data were collected using structured questionnaires. The survey questionnaires composed of three parts. Part I is the Socio- Demographic Characteristics of pregnant women, fathers and mothers of under-five children. Part II focuses on Knowledge, Attitude and Practices of the community on Maternal, Newborn and Child Health. Part III examines the Knowledge and Attitude on Nutrition and infant and young child feeding practices. The secondary data obtained from Saw township health department.

4.3 Survey Analysis

4.3.1 Socio-demographic Characteristics of Pregnant Women, Fathers and Mothers of Under-five Children

Regarding socio-demographic characteristics of pregnant women, fathers and mothers who have under-five children; age, gender, educational status, occupation, marital status, number of pregnancy, history of miscarriage, race, religious of pregnant women, fathers and mothers who have under-five children are presented in this part I. Table (4.1) shows the socio-demographic characteristics of community in rural area of Saw Township.

Table (4.1) Socio-demographic Characteristics of Pregnant Women, Fathers and Mothers of Under-five Children

No.	Characteristics	Total	
		N	%
1	**Age (Years)**		
	<30	56	(41.5)
	≥ 30	79	(58.5)
2	**Gender**		
	Male	42	(31.1)
	Female	93	(68.9)
3	**Education**		
	Illiterate	0	(0.0)
	Read/write	0	(0.0)
	Monastery Education	0	(0.0)
	Primary school (up to 4th standard)	44	(32.6)
	Middle school (up to 8th standard)	37	(27.4)
	High school (up to 10th standard)	30	(22.2)
	University/Colleague	11	(8.2)
	Graduated	13	(9.6)

4	**Marital Status**		
	Single	0	(0.0)
	Married	133	(98.6)
	Divorced	1	(0.7)
	Widowed	1	(0.7)
5	**Number of Pregnancies (for female respondents)**		
	One	49	(52.7)
	Two	29	(31.2)
	Three	12	(12.9)
	Four	1	(1.1)
	More than 4 times	2	(2.2)
6	**History of miscarriage/abortion (for female respondents)**		
	Yes	13	(14.0)
	No	80	(86.0)
	If yes, how many times?		
	One	12	(92.3)
	Two	1	(7.7)
7	**Years of Marriage**		
	<5 years	59	(43.7)
	≥ 5 years	76	(56.3)
8	**Age at Marriage**		
	Male		
	< 20 years	1	(2.4)
	≥ 20 years	41	(97.6)
	Female		
	< 20 years	16	(17.2)
	≥ 20 years	77	(82.8)

9	**Ethnicity**		
	Burmese	122	(90.4)
	Chin	13	(9.6)
	Other	0	(0.0)
10	**Religious**		
	Buddhist	135	(100)
	Christian	0	(0.0)
	Islam	0	(0.0)
	Hinduism	0	(0.0)
	Other	0	(0.0)
11	**Occupation**		
	Farmer	90	(68.9)
	Skilled Labour	17	(12.6)
	Causal Labour	10	(7.4)
	Shopkeeper	2	(1.5)
	Own business	1	(0.7)
	Other	12	(8.9)
	Chin Traditional Language Teacher	1	(0.7)
	Primary School Teacher	3	(2.2)
	School Clerk	1	(0.7)
	Dependent	7	(5.2)
12	**Total**	**135**	**(100)**

Source : Survey Data (August, 2019)

According to Table (4.1), the respondents involved in this survey, whom are younger than 30 years and above were 41.5% and 58.5% respectively. Regarding with gender, vast majority of respondents were female and it was 68.9%. In education status of the respondents of Saw Township, majority of the community (over 32.6 %) in these villages attained primary education, followed by middle school education (27.4%) and high school (22.2). 8.2 per cent of the community in the rural areas were reached to university education and 9.6 per cent were graduated.

As the assessment was intended to pregnant women, fathers and mothers of under-five children, 98.6% were married, divorced and widowed were 0.7 respectively. The number of pregnancy one time was 52.7%, two times was 31.2% and three times was 12.9 % and more than four times was only 2.2 % which was response by female respondents. The women who has history of abortion was 14.0% and no abortion history was 86.0%. Out of the 14.0% of women who has history of abortion, women who experienced abortion one time were 92.3% and two times was 7.7%.

The years of marriage more than 5 years were 56.3% and less than 5 years were 43.7%. For male respondents, age of marriage younger than 20 years were 2.4% and elder than 20 years were 97.6% and in regards to female respondents, age of marriage younger than 20 years were 17.2% and elder than 20 years were 82.8%. Regarding to ethnicity, vast majority of the community were Burmese (90.4%) and a few were Chin (9.6%), and, all of the respondents were Buddhist. Majority of the community worked in the agricultural sector, farmer (68.9%), and some worked as skilled labor (12.6%) and some worked as causal labor (7.4%), dependent are 5.2% and very few worked as primary school teacher(2.2%).

4.3.2 Analysis on Knowledge, Attitude and Practices of Community about Maternal, Newborn and Child Health Care

In regards to analysis on Knowledge, Attitude and Practices of community about Maternal, Newborn and Child Health Care: the knowledge of the community on the places to seek the MNCH health care services, the community's experiences in attending health education sessions on Maternal, Newborn and Child Health, the knowledge of community on danger signs and symptoms during ante-natal , intra-natal and postnatal period as well as the danger signs and symptoms of Newborn and Under-five Children, the attitude and willingness of community to seek emergency health care at health facilities and the places that the community prefer to go when they need emergency health care are analyzed in this Part II.

Table (4.2) indicates the proportion of community's knowledge to seek maternal, newborn and child health care when they encounter emergency condition.

Table (4.2) The knowledge of community on the place to seek Maternal, Newborn and Child Health care

No.	The knowledge of community on the place to seek maternal, newborn and child health care	Number	Percentage
1	Yes	129	(95.6)
2	No	6	(4.4)

Source : Survey Data (August 2019)

According to table (4.2), majority of the community (95.6%) know the place that can get maternal, newborn and child health care but few community still don't know where they can get the health care services which might delay in seeking emergency health care from skilled health personnel.

Table (4.3) Health Facilities that provide Maternal, Newborn and Child Health Care services (N=135) (multiple response)

No.	Health facility that provide maternal, newborn and child health care	Number	Percentage
1	Township Hospital	68	(52.7)
2	Station Hospital	32	(24.8)
3	RHC	47	(36.4)
4	Sub-RHC	49	(38.0)
5	Private clinic/hospital	3	(2.3)
6	CHW	2	(1.6)
7	AMW	12	(9.3)
8	TBA	0	(0.0)
9	Traditional healer	0	(0.0)
10	Other	0	(0.0)

Source : Survey data (August 2019)

According to table (4.3), most of the community member (52.7%) response that township hospital is the place that can get Maternal, Newborn and Child Health care services. Sub-rural Health Center stand second (38.0%) and Rural Health Center stand third place(36.4) and station hospital stand in fourth place(24.8%). Very few community (2.3%) response as private clinic where they can get the health care services. Some of the community (9.3%) seek the health care from auxiliary midwifes, frontline health care worker, who are providing Maternal, Newborn and Child Health

care services at the community level under the guidance and supervision of basic health staff from Ministry of Health and Sports.

Table (4.4) The community's experiences in attending health education session on maternal health

No.	The community's experiences in attending the health education session on maternal health	Number	Percentage
1	Yes	93	(68.9)
2	No	42	(31.1)

Source: Survey data (August 2019)

Table (4.4) indicates the attendant of the community on the health education session on maternal health and the community who didn't have the experiences in attending health education session on maternal health. Around two third of the community (68.9%) have experiences attending the health education session on maternal health to gain their knowledge on danger signs and symptoms of antenatal, intra-natal and postnatal period. But nearly one third of the community (31.1%) didn't have experiences attending the health education session on maternal health.

Table (4.5) The knowledge of community on danger signs and symptoms during pregnancy (N=135) (Multiple responses)

No.	The knowledge of community on danger signs and symptoms during pregnancy indicating to seek health care	Number	Percentage
1	Fever	11	(8.1)
2	Shortness of breath/fast difficult breathing	2	(1.5)
3	Vaginal bleeding	44	(32.6)
4	Swelling of face/body/hands	57	(42.2)
5	Severe headache/blurred vision	20	(14.8)
6	Severe abdominal pain	5	(3.7)
7	Fits/loss of consciousness	4	(3.0)
8	Baby stop moving	8	(5.9)
9	Other	34	(25.2)
10	Don't know	39	(28.9)
11	Community who know danger signs and symptoms <2	91	(67.4)
12	Community who know danger signs and symptoms ≥2	44	(32.6)

Source : Survey data (August 2019)

The data in table (4.5) shows the knowledge of community on danger signs and symptoms during pregnancy indicating to seek emergency health care. 8.1% of the respondents know that High Fever is one of the danger signs and symptoms during pregnancy, 1.5% said as shortness of breath and difficult in breathing, 32.6% response vaginal bleeding, 42.2% answered swelling of face/body/hands, 14.8% answered severed headache, 3.7% response severe abdominal pain, 3.0% said fits/loss of consciousness, 5.9% response baby stop moving, 28.9% answered don't know about the danger signs and symptoms during pregnancy.

25.2% answered other signs and symptoms such as malaria, anaemia, white discharge. More than two-third of the community (67.4%) know less than two danger signs and symptoms during pregnancy and it can delay in seeking maternal health care services from health care provider. Around one third of the community (32.6%) know more than two danger signs and symptoms during pregnancy that indicate to seek emergency health care to the nearest health facility. It indicates that the awareness

raising to community on maternal health during pregnancy period need to promote than the current situation.

Table (4.6) The knowledge of community on danger signs during delivery and immediate after delivery (N=135) (Multiple response)

No.	The knowledge of community on danger signs during delivery and immediate after delivery that indicate to seek health care	Number	Percentage
1	High Fever	11	(8.1)
2	Heavy Bleeding	47	(34.8)
3	Convulsions	11	(8.1)
4	Labour lasting more than 12 hours	30	(22.2)
5	Placenta not delivered within 30 minutes	21	(15.6)
6	Headache/Blurred vision	4	(3.0)
7	Fast/Difficult Breathing	2	(1.5)
8	Don't Know	36	(26.7)
9	Other	36	(26.7)
10	Community who know danger signs and symptoms <2	34	(25.2)
11	Community who know danger signs and symptoms ≥2	101	(74.8)

Source : Survey data (August 2019)

The table (4.6), indicates the knowledge of community on danger signs and symptoms during delivery and immediate after delivery, 8.1% know High Fever and Convulsions, 34.8% answered Heavy Bleeding, 22.2% response the labour lasting more than 12 hours, 15.6% answered placenta not delivered within 30 minutes after delivery, 3.0% answered Headache/Blurred vision, 1.5% response Fast/Difficult breathing, 26.7% answered as don't know the danger signs and symptoms during delivery and immediate after delivery.

26.7 % of the respondent response as other signs and symptoms such as tingling, numbness, fatigue, pre-eclampsia, anaemia. The community who know danger signs and symptoms during delivery and immediate after delivery less than two signs and symptoms was 25.2% and it can cause delay in referral and seeking in emergency maternal health care. 74.8 per cent of the community know more than two danger signs and symptoms during delivery and immediate after delivery that indicate to seek health

care from nearest and skilled health care providers which can reduce the maternal deaths. It also show that the health promotion and awareness raising on danger signs and symptoms during delivery and immediate after delivery need to promote at the grass root level.

Table (4.7) The community's experiences in attending health education session on newborn and child health

No.	The attendant of community on the health education session of newborn and child health	Number	Percentage
1	Yes	96	(71.1)
2	No	39	(28.9)

Source : Survey data (August 2019)

The data obtained from table (4.7) shows that 71.1% of the community had experienced in attending the health education session on newborn and child health to get knowledge on danger signs and symptoms of newborn and under-five children as well as to know the best practices how to provide care to newborn and under-five children to prevent from diseases and to seek health care in case of emergency. 28.9 per cent of the community didn't have experiences in attending health education session on newborn and child health that might be delayed in seeking health care services when emergency is encountered.

Table (4.8) The knowledge of community on danger signs and symptoms of newborn and under-five children (N=135) (Multiple response)

No.	The knowledge of community on danger signs and symptoms of newborn and under-five children that indicates to seek health care	Number	Percentage
1	Fast or difficult breathing	47	(34.8)
2	Noisy breathing/stridor	15	(11.1)
3	Fits	10	(7.4)
4	Flaccid/stiffness	1	(0.7)
5	High fever	15	(11.1)
6	Poor sucking or feeding	24	(17.8)
7	Baby feels cold	0	(0.0)
8	Baby too small/too early	7	(5.2)
9	Swollen abdomen	5	(3.7)
10	Unconscious	3	(2.2)
11	Pus, redness, bleeding from umbilicus	15	(11.1)
12	Yellow skin/eye	52	(38.5)
13	Don't know	22	(16.3)
14	Other	50	(37.0)
15	The community who know danger signs and symptoms <2	52	(38.5)
16	The community who know danger signs and symptoms ≥2	83	(61.5)

Source : Survey data (August 2019)

The knowledge of community on danger signs and symptoms of newborn and under-five are presented in the table (4.8), 34.8% answered as fast/difficult breathing,11.1% response noisy breathing/stridor, 7.4% answered fits, 0.7% said flaccid/stiffness11.1% response high fever,17.8% answered poor sucking or feeding and no one answered baby feels cold. 5.2% response baby too small/too early, 3.7% answered swollen abdomen, 2.2% response unconscious, 11.1% answered pus, redness,bleeding from umbilicus, and 38.5% answered as yellow skin/eye.

16.3% answered that they don't know the danger signs and symptoms of newborn and child health and 37.0% answered other such as rhinitis, Japanese encephalitis, malaria, abdominal pain. Out of the 135 respondents, 38.5% of them know

less than two danger signs and symptoms of newborn and under-five children that can be delayed in referral and seeking health care services from skilled health care provider. 61.5 per cent of the community member know more than two danger signs and symptoms of the newborn and under-five children and they assume to seek newborn and under-five care from nearest health facilities and skilled health personnel when they found danger signs and symptoms.

Table (4.9) Health Facilities that community seek emergency health care

No.	Health facilities that community seek emergency health care	Number	Percentage
1	Hospital (Township/Station Hospital)	83	(61.5)
2	RHC/Sub-RHC	51	(37.8)
3	Private clinic/hospital	0	(0.0)
4	Don't know	1	(0.7)

Source : Survey data (August 2019)

As shown in the table (4.9), vast majority of the community (134, 99.3%) willing to seek the emergency health care services from nearest health facilities. Out of 135 respondents, 61.5% of the community members want to seek the emergency health care services from township or station hospitals which can provide the secondary health care services.

37.8 per cent of the respondents willing to seek the emergency health care from the RHC/Sub-RHC which is near to their resident than the township and station hospital. No one wants to seek the emergency health care from private clinic/hospital because the cost at private clinic/hospital will be much higher than the public hospital as well as there is no private clinic/hospital which has skilled health care provider in the rural areas. 1 respondent (0.7%) don't know where to seek emergency health care services that might be delayed to get emergency health care services.

Table (4.10) Attitude community to seek maternal, newborn and under-five health care from health facilities

No.	Attitude of community to seek maternal, newborn and under-five health care from health facilities	Number	Percentage
1	Yes	134	(99.3)
2	No	1	(0.7)

Source : Survey data (August 2019)

Table (4.10) indicates the attitude and willingness of community to seek maternal, newborn and child health care from health facilities. Almost all of the communities (99.3%) want to seek the maternal, newborn and child health care services from the health facilities in the aspect of preventive measure as well as in case of emergency. But one respondents don't want to seek the maternal, newborn and child health care services from health facilities even in emergency cases because of the difficulty in communication with health care service providers as well as financial burden.This show that the attitude of most of the community want to seek emergency health care from health facilities when they encountered the emergency condition.

4.3.3 Analysis on Knowledge and Practices of Community on Nutrition and Infant and Young Child Feeding

Nutrition is critical for Newborn and Under-five health particularly starting from pregnancy period to the age of 2 years of the baby. Thus, regarding to Knowledge and Practices of community on Nutrition and Infant and Young Child Feeding: the knowledge of community to initiate first time breastfeeding after birth, the community who have heard about exclusive breastfeeding, the community's knowledge on the term "exclusive breastfeeding, knowledge of community when the baby should stop the breast milk, when the baby should initiate the weaning diet and the places that the community received the advices or information on health , nutrition and personal hygiene were analyzed to examine the knowledge and practices of community on nutrition ,infant and young child feeding.

Table (4.11) shows the knowledge of community when the baby should initiate first time breastfeeding after birth.

Table (4.11) Time to initiate first time breastfeeding after birth

No.	Time to initiate breastfeeding for the first time after birth	Number	Percentage
1	As soon as possible	88	(65.2)
2	Within 30 minutes	19	(14.1)
3	Within 1 hour	9	(6.7)
4	Don't know	9	(6.7)
5	Other	10	(7.3)

Source : Survey data (August 2019)

As presented in the table (4.11), around two third of the community (65.2%) have knowledge to initiate early breastfeeding which indicate good signs to baby's health such as preventing from diseases, hypothermia. 14.1 per cent of the respondents response that breastfeeding should initiate within 30 minutes after birth and which is also good signs for the babies' health and nutrition status. 6.7 per cent answered to initiate within 1 hour which might delayed to certain extent in getting early breastfeeding that can cause hypothermia, hypoglycemia in some cases.

Another 6.7 per cent response that they don't know when the breastfeeding should initiate to baby after birth. 7.3 per cent of the respondents answered as other such as after 3 hours, after 6 hours and after one day that would delay the early breastfeeding practices and may harm to the babies' health and nutrition status.

Table (4.12) Community who have heard on exclusive breastfeeding

No.	Community who have heard about exclusive breastfeeding	Number	Percentage
1	Yes	131	(97.1)
2	No	3	(2.2)
3	No answer	1	(0.7)

Source : Survey data (August 2019)

As shown in the table (4.12), majority of the community (97.1%) answered that they have heard about exclusive breastfeeding and the benefits of the exclusive breastfeeding. 2.2 per cent of the respondents answered that they don't know about exclusive breastfeeding and 1 (0.7%) was not answered.

Table (4.13) Knowledge of community on exclusive breastfeeding

No.	Knowledge of community on exclusive breastfeeding	Number	Percentage
1	Breast milk only	117	(86.7)
2	Breast milk and water	1	(0.7)
3	Breast milk, medicine prescribed by a health care provider and oral rehydration salt	1	(0.7)
4	Breast milk and traditional medicine	0	(0.0)
5	Don't know	11	(8.1)
6	Other	5	(3.7)

Source : Survey data (August 2019)

Table (4.13) indicates the knowledge or understanding of community on the term “exclusive breastfeeding”. Vast majority of the community (86.7%) understand the exclusive breast feeding as breast milk only to baby before the age of six months and it can assume the community has well knowledge on exclusive breastfeeding. Rarely 1 (0.7%) of the respondent response that exclusive breastfeeding as breast milk and water as well as breast milk, medicine prescribed by a health care provider and oral rehydration salt. No one was answered as breast milk and traditional medicine as exclusive breastfeeding. 8.1 per cent of the respondents still don’t know the exclusive breastfeeding and 3.7 per cent answered the exclusive breastfeeding as other such as to get more attachment between mother and baby, for brain development, weaning diet should start at the age of 6 months.

Table (4.14) Knowledge of community how long should a baby receive breast milk

No.	Knowledge of community how long should a baby receive any breast milk (not just exclusive breastfeeding)	Number	Percentage
1	Up to 6 months	57	(42.2)
2	Up to 18 months	13	(9.6)
3	Up to 2 years	35	(26.0)
4	Up to 2 years and beyond	20	(14.8)
5	As long as mother and baby want	2	(1.5)
6	Don’t know/No answer	2	(1.5)
7	Other	6	(4.4)

Source : Survey data (August 2019)

The data obtained from table (4.14) represents the knowledge of community how long should baby receive the breast milk which mean not only exclusive breastfeeding and it mean that they baby can receive breast milk and weaning diet according to their respective age. In regards to this, majority of the respondents (42.2%) response that the baby should receive the breast milk up to six months. 26.0 per cent of the respondents answered the baby should receive up to 2 years and 14.8 per cent replied as up to 2 years and beyond. 9,6 per cent of the community answered as up to 18 months. 2 (1.5%) respondents didn’t answer on this and 4.4 % response as other such as 5 years, 1 year and 8 months.

Table (4.15) Knowledge of community to introduce weaning diet

No.	Knowledge of community to introduce weaning diet to baby	Number	Percentage
1	3 months	2	(1.5)
2	After 6 months	113	(83.8)
3	8 months	6	(4.4)
4	9 months	3	(2.2)
5	12 months	6	(4.4)
6	18 months	1	(0.7)
7	2 years	2	(1.5)
8	Don't know/No answer	2	(1.5)

Source : Survey data (August 2019)

Table (4.15) represents the knowledge of community when weaning diet should introduce, Majority of the respondents (83.8%) answered that weaning diet should introduce after 6 months of the age which is the best timing for the baby. 2 (1.5%) respondents answered weaning diet should start at 3 months of the age which should not introduce actually. Some of the respondents (4.4%) answered that weaning diet should start at 8 months and 12 months respectively. 1 (0.7%) respondents response it should introduce at 18 months and 2 (1.5%) respondents answered it should start at 2 years which are too late for weaning diet. 2 (1.5%) respondents didn't answer on this as they might not know when the weaning diet should initiate to a baby.

Table (4.16) Places where community get general information or advice on health or nutrition or personal hygiene, (N=135) (multiple response)

No.	Place that community get general information or advice on health or nutrition or personal hygiene	Number	Percentage
1	Township or station hospital	16	(11.9)
2	RHC/Sub-RHC/BHS	71	(52.6)
3	Private clinic/hospital	1	(0.7)
4	CHW	0	(0.0)
5	AMW	35	(25.9)
6	Traditional healers	1	(0.7)
7	Pharmacy/shopkeeper	0	(0.0)
8	Religious leader	0	(0.0)
9	Friend/neighbor	9	(6.7)
10	Relatives	7	(5.2)
11	TV/Radio	14	(10.4)
12	Newspaper/journals	15	(11.1)
13	Mothers/young groups	3	(2.2)
14	CBO	2	(1.5)
15	NGO	51	(37.8)
16	Don't know/No answer	4	(3.0)
17	Other	7	(5.2)

Source : Survey data (August 2019)

The data obtained from table (4.16) presents the places where the communities get the general information or advice on health or nutrition or personal hygiene. About half of the respondents (52.6%) response that they usually received the health related information or advice from RHC/Sub-RHC and basic health staff who are providing health care services at the grass root level. 37.8 per cent of the communities received the such kind of information or advice from NGOs that are providing support to government health care system to certain extent and 25.9 per cent of the respondents answered that they received from AMWs who are providing maternal, newborn and child health care at the community level under the supervision of basic health staff.

11.9 per cent of the communities received health related information or advice from township/station hospital, 11.1 per cent received from newspaper/journals and

10.4 per cent received from TV/radio. No one was received health related information from CHW, pharmacy shopkeeper and religious leader but (1, 0.7%) was received such kind of information or advice from traditional healers. Some of the community (6.7%) received health related information or advice from friend/neighbor and 5.2 % received from relatives.

3 per cent of the respondents didn't answer on this and 5.2 per cent answered that they received health related information or advice from other channels such as social media, Facebook, hearing saying from well experienced person, from township administrative department and mother who have well experienced in nutrition and infant and young child feeding. As mention above most of the health related information or advice received from RHC/Sub-RHC and BHS who are the frontline health care service provider and followed by NGOs and AMWs thus the role of frontline health care services providers (BHS,AMW) and supporting from NGOs should consider as critical role. Average 10% of the communities received such kind of information through media (newspaper/journal, TV/Radio, Facebook) and the role of social media is also important to certain extent.

4.3.4 Socio-demographic Characteristics of Basic Health Staff (Health Care Services Providers)

In regards to socio-demographic characteristics of basic health staff: age, gender, educational qualification, position, assigned duty station, years of service in government sectors and number of villages covered by the concern health facility are presented.

The Key Informant Interview was conducted to 8 Basic Health Staff (4 Midwives and 4 Public Health Supervisor II) from 2 RHCs and 2 Sub-RHCs to examine the number of outreach visits conducted by BHS, the maternal and child deaths and causes under concern health facilities, staff manpower under concern health facilities, condition of the infrastructure and functioning status of health facilities, the capacity building activities to BHS, the drugs supplies from MoHS up to RHC and Sub-RHC level, functioning status and AMWs ,CHWs and the supportive supervision visit to them, the support from Township Health Department team to RHC and Sub-RHC,the number of emergency obstetric cases and emergency child cases annually, the pregnancy and under-five target and the delivery rate and management of illness cases to under-five children, the ANC and PNC services under concern health facilities, other

health problems during PN period and Newborn period, the main health care provider at the community level, the challenges during implementation of Maternal, Newborn and Child Health activities and suggestions to improve the MNCH health care services at the community level are presented in this Part. The table (4.17) shows the socio-demographic characteristics of basic health staff.

Table (4.17) Socio-demographic Characteristics of Basic Health Staff

No.	Characteristics	Total	
		N	%
1	**Age (Years)**		
	<30	3	(37.5)
	≥ 30	5	(62.5)
2	**Gender**		
	Male	2	(25.0)
	Female	6	(75.0)
3	Education of BHS		
	High School	1	(12.5)
	University	0	(0.0)
	Graduated	7	(87.5)
	Other	0	(0.0)
4	**Position of basic health staff**		
	Health Assistant	0	(0.0)
	Lady health visitor	0	(0.0)
	Midwife	4	(50.0)
	Public health supervisor(I)	0	(0.0)
	Public health supervisor(2)	4	(50.0)
5	**Assigned duty station**		
	Rural Health Center	2	(50.0)
	Sub-Rural Health Center	2	(50.0)
6	**Years of service in government sector**		
	<3 years	0	(0.0)
	≥3years	8	(100)
7	**Number of villages covered by each facilities**		
	<3	6	(75.0)
	≥3	2	(25.0)
8	Total	8	(100)

Source: Survey data (August 2019)

According to table (4.17), the age of the basic health staff, frontline health care service provider, younger than 30 years and above were 37.5% and 62.5% respectively and most of them are female (75.0%). Vast majority of the basic health staff were

graduated (87.5%) and the least education level was high school (12.5%). Basic health staff who participated in this key informant interview were Midwife (50.0%) and Public Health Supervisor (50.0%). Four basic health staff (50%.0%) were assigned at Rural Health Center and 4 basic health staff (50.0%) were assigned at Sub-rural health center. Most of the health facility has to cover less than 3 villages (75%) to provide the health care services at the community level.

4.3.5 The Key Informant Interview

The key informants were 8 basic health staff, two Midwives from 2 RHCs, 2 Midwives from 2 Sub-RHCs and 2 Public Health Supervisors II from 2 RHCs and 2 Public Health Supervisors II from 2 Sub-RHCs who are the frontline health care providers of Maternal, Newborn, Child Health services and Nutrition services at the community level. All key informants have interested in Maternal, Newborn and Child Health sectors and welcome the opportunity to contribute to the improvement of the knowledge and suggestions on health care issues at the grass root level.

All the key informants were expressed their satisfaction that the results were relevant to the Maternal, Newborn and Child Health services condition of Saw township as well as situation of the health facilities and health care service providers. The thematic analysis identified and validated 7 majors' themes that incorporated all the data from interviewees. These were outreach visit and provision of health care services during those visits ,Maternal and Child deaths and causes of deaths during last two years, health manpower, capacity building situation of the health facility and medicines supply to health facilities by government, functioning status of the community volunteers (AMW, CHW) and supportive supervision visits to them, pregnancy target vs delivery and under-five target vs treatment provided and referral in case of emergency, the average number of antenatal care and postnatal care and challenges during providing MNCH services at the community level and suggestions to improve health care services at the grass root level.

4.3.6 Analysis on Key Informant Interview to Basic Health Staff (frontline health care services providers)

The interviews were held at the concern RHCs or Sub-RHCs of the BHS who know very well about the local context and the health care services providing at the

grass root level. The KII was conducted to 8 BHS who were assigned in 2 Rural Health Centers and 2 Sub-rural Health Centers. The responses were recorded by hand as the basic health staff were preferred not to be recorded by either audio or visual formats. The interview structure is open-ended and semi-structured and all the data from interviewee has been recorded by hand. The rationale of the development of the interview questionnaires can be seen in the annex.

Table (4.18) Outreach visit and services during outreach visit provided by basic health staff (N=8) (Multiple response)

No.	Outreach visit and service during outreach visits provided by basic health staff	Number	Percentage
1	Number of villages covered <3	6	(75.0)
2	Number of villages covered >3	2	(25.0)
3	Number of outreach visit 1 time/month	2	(25.5)
4	Number of outreach visit 2 times/month	4	(50.0)
5	Number of outreach visit > 2 times/month	2	(25.0)
6	Services during outreach visit-Antenatal care	5	(62.5)
7	Services during outreach visit- Postnatal care	2	(25.0)
8	Services during outreach visit- Under-five care	6	(75.0)
9	Services during outreach visit-Newborn care	4	(50.0)
10	Services during outreach visit-Health Education	3	(37.5)
11	Services during outreach visit-Immunization	0	(0.0)
12	Services during outreach visit-general health care to elder person	3	(37.5)
13	Services during outreach visit-general health care for environmental sanitation	1	(12.5)

Source : Survey data (August 2019)

As shown in the table (4.18), 75% of the BHS has to cover <3 villages and 25% has to cover > 3 villages. 25% of BHS conducted the outreach visit 1 time per month, 50% conducted 2 times per month and 25% conducted the outreach visit more than 2 times per month. 62.5% of BHS provided antenatal care services, 25% provided postnatal care services, 75% provided under-five health care services, 50% provided newborn care services, 37.5% provided health education, no one was provided

immunization services, 37.5% provided general health care to elder person and 12.5% provided environmental sanitation activities during outreach visits. The immunization services should be strengthened during the outreach visits as no one was providing this services.

Table (4.19) Maternal and Child Deaths and causes of deaths during last two years(N=8) (Multiple response)

No.	Maternal and Child Deaths and causes of deaths during last two years	Number	Percentage
1	Maternal deaths during last two year- 0 death	6	(75.0)
2	Maternal deaths during last two year- 1 death	2	(25.0)
3	Maternal deaths during last two year- 2 death	0	(0.0)
4	Maternal deaths during last two year- 3 death	0	(0.0)
5	Causes of maternal death-Antepartum hemorrhage	0	(0.0)
6	Causes of maternal death-Postpartum hemorrhage	0	(0.0)
7	Causes of maternal death-Hypertensive disease of pregnancy	2	(100)
8	Causes of maternal death-Abortion related causes	0	(0.0)
9	Causes of maternal death-Prolong/obstructed labor	0	(0.0)
10	Causes of maternal death-Puerperal sepsis	0	(0.0)
11	Under-five deaths- 0 death	2	(25.0)
12	Under-five deaths- 1 death	6	(75.0)
13	Under-five deaths- 2 deaths	0	(0.0)
14	Under-five deaths- 3 deaths	0	(0.0)
15	Causes of under-five deaths- Pneumonia	2	(33.33)
16	Causes of under-five deaths- Diarrhoea	0	(0.0)
17	Causes of under-five deaths- Malaria	0	(0.0)
18	Causes of under-five deaths-Low birth weight	0	(0.0)

19	Causes of under-five deaths- Prematurity	0	(0.0)
20	Causes of under-five deaths-Neonatal jaundice	0	(0.0)
21	Causes of under-five deaths-Neonatal sepsis	0	(0.0)
22	Causes of under-five deaths-Congenital anomalies	0	(0.0)
23	Causes of under-five deaths-Still birth	4	(66.66)

Source : Survey data (August 2019)

According to table (4.19), 2 key informant (25%) answered that there were one maternal deaths during last two years and 6 answered that there was no maternal deaths during last two years. The causes of 2 maternal deaths was hypertensive related disease, eclampsia and pre-eclampsia. Out of the 8 key informants 6 (75%) answered that there was one under-five deaths during last two years. The causes of under-five deaths were pneumonia (33.33%) and still birth(66.66%). Under-five death was more common than maternal deaths and the main causes of under-five deaths were still birth and pneumonia which are very common at the community level.

Table (4.20) Health Manpower, situation of Health Facilities and Medicines Supplies to Health Facilities by Government and Capacity building of Health Care Provider (N=8) (Multiple response)

No.	Health Manpower, situation of Health Facilities and Medicines Supplies to Health Facilities by Government and Capacity building of Health Care Provider	Number	Percentage
1	Does health manpower enough-Yes	6	(75.0)
2	Does health manpower enough-No	2	(25.0)
3	Capacity building training-Essential Newborn Care	0	(0.0)
4	Capacity building training-Emergency obstetric care	0	(0.0)
5	Capacity building training-Community based newborn care	0	(0.0)
6	Capacity building training-Infant and Young Child Feeding	8	(100)
7	Capacity building training-Malaria and TB treatment	1	(12.5)
8	Capacity building training-Leprosy treatment	1	(12.5)
9	Condition of health facility-Functioning	0	(0.0)
10	Condition of health facility-Not-functioning	8	(100)
11	Medicines supply by government-Enough	0	(0.0)
12	Medicines supply by government-Not-enough	8	(100)

Source : Survey data (August 2019)

Human resource for health is a critical role in providing health care services at all levels.According to table (4.20),6 (75%) of key informants said that the manpower in their health facility is enough to provide health care services at the community level and 2 (25%) said the manpower is not enough. 8 (100%) of the health care provider received Infant and Young Child Feeding training, 12.5% received malaria and TB treatment training and 12.5% received leprosy treatment training as part of capacity building to provide quality health care services. All of the 8 key informant answered that the health facilities are functioning but all said that the medicines supply from

government is not enough particularly to provide general health care services at the community level and the community itself has to cost for the certain medicines which can't be supplied by government. Thus, the government should supply more medicine and the capacity building trainings such as essential newborn care and emergency obstetric care which are critical for MNCH care services should be provided to health care services providers.

Table (4.21) Functioning status of community volunteers(AMW,CHW) and supportive supervision to them

No.	Functioning status of community volunteers (AMW,CHW) and supportive supervision to them	Number	Percentage
1	Number of AMW under concern health facility-1 AMW	1	(12.5)
2	Number of AMW under concern health facility-2 AMWs	3	(37.5)
3	Number of AMW under concern health facility-3AMWs	4	(50.0)
4	Supportive supervision visit to AMW-1 time/month	0	(0.0)
5	Supportive supervision visit to AMW- 2 times/month	2	(25.0)
6	Supportive supervision visit to AMW- 3 times/month	2	(25.0)
7	Supportive supervision visit to AMW- 4 times/month	2	(25.0)
8	Supportive supervision visit to AMW- >4 times/month	2	(25.0)
9	Number of CHW under concern health facility- 0 CHW	4	(50.0)
10	Number of CHW under concern health facility- 1 CHW	2	(25.0)
11	Number of CHW under concern health facility- 2 CHW	2	(25.0)
12	Number of CHW under concern health facility- 3 CHW	0	(0.0)
13	Supportive supervision visit to CHW- 0 time/month	8	(100)
14	Supportive supervision visit to CHW- 1 time/month	0	(0.0)
15	Supportive supervision visit to CHW- 2 times/month	0	(0.0)

Source : Survey data (August 2019)

The community health volunteer plays an important role to provide health care services at the community level particularly to hard to reach areas where basic health staff are not easily accessible and in emergency condition. According to table (4.21),

12.5% of the BHS has 1 AMW, 37.5% has 2 AMW and 50.0% has 3 AMW who are supporting them in providing primary health care services. 25% of the BHS conducted regular supportive supervision visits to AMW two times, three times , four times and more than four times per month respectively. 50% of the BHS doesn't have CHW and 25% has 1 CHW and 25% has 2 CHW who are supporting in providing primary health care services. But no BHS was conducted regular supportive supervision visit to those CHW. The AMW and CHW are the community level volunteers providing primary health care services under the supervision of basic health staff and promoting supportive supervision visit particularly to CHW should be carried out in order to improve the capacity of community health volunteer.

Table (4.22) Pregnancy target vs delivery and under-five target vs treatment provided and emergency referral

No.	Pregnancy target vs delivery and under-five target vs treatment provided and emergency referral	Number	Percentage
1	Number of pregnancy target <15	2	(25.0)
2	Number of pregnancy target >15	6	(75.0)
3	Number of delivery under concern facility <4	4	(50.0)
4	Number of delivery under concern facility >4	4	(50.0)
5	Number of obstetric emergency referral cases <10	6	(75.0)
6	Number of obstetric emergency referral cases>10	2	(25.0)
7	Number of under-five target <50	6	(75.0)
8	Number of under-five target >50	2	(25.0)
9	Number of under-five treated <50	0	(0.0)
10	Number of under-five treated>50	8	(100)
11	Number of emergency child cases referral- <10	6	(75.0)
12	Number of emergency child cases referral >10	2	(25.0)

Source : Survey data (August 2019)

As shown in the table (4.22), 25% of the BHS has the pregnancy target less than 15 pregnant women and 75% has to cover more than 15 pregnant women annually.

50% of the BHS answered that they delivered less than 4 deliveries and 50% answered that they delivered more than 4 deliveries annually. 75% of the BHS answered they referred less than 10 emergency obstetric cases and 25% said they referred more than 10 emergency obstetric cases to township or station hospitals.75% of the key informant answered that they have under-five target more than 50 per year and 25% has less than 50 under-five target. All of the key informant answered that they are providing under-five treatment more than 50 per year. 75% of the BHS said that they referred more than 10 emergency child cases and 25% answered that they referred less than 10 emergency child cases to township and station hospitals. It indicates that the BHS are providing under-five treatment more than 50 which is much more higher than the under-five target. The emergency obstetric cases and emergency child cases are referring to township and station hospital and it shows that strengthening of emergency referral mechanism as well as providing support to emergency referral to reduce the financial burden to community should be considered.

Table (4.23) Average number of Antenatal and Postnatal Care

No.	Average number of Antenatal and Postnatal Care	Number	Percentage
1	Average number of Antenatal care- 3 times	0	(0.0)
2	Average number of Antenatal care- 4 times	2	(25.0)
3	Average number of Antenatal care- > 4 times	6	(75.0)
4	Average number of Postnatal care- 3 times	0	(0.0)
5	Average number of Postnatal care- 4 times	5	(62.5)
6	Average number of Postnatal care- 5 times	2	(25.0)
7	Average number of Postnatal care- 6 times	1	(12.5)

Source : Survey data (August 2019)

As presented in the table (4.23), 25% of the key informants said they are providing antenatal care on average 4 times and 75% answered that they are providing antenatal care more than four times. During antenatal care, they examine the gestational weeks of the pregnancy, measuring blood pressure, making the urine test, checking the severe signs and symptoms of pregnancy related problems, checking the fetal heart sounds and position of the fetus etc… 62.5% of the key informants response that they normally conducted postnatal care visit four 4 times, 25% answered that they conducted

5 times postnatal care visit and 12.5% answered that they conducted 6 times postnatal care visit depend on the condition of postnatal mother and newborn babies.During those PN care visits, they usually carried out checking whether postpartum hemorrhage or not, puerperal sepsis, signs of anemia, health condition of the newborn babies such as checking the jaundice, umbilical sepsis, sucking of the breast milk etc…On average, the antenatal and postnatal care services are around 75% and it is good for pregnant, postnatal mother and newborn babies.

Table (4.24) Challenges in providing Maternal,Newborn and Child Health services and suggestions to improve health care services (N=8) (Multiple response)

No.	Challenges in providing Maternal,Newborn and Child Health services and suggestions to improve health care services	Number	Percentage
	Challenges in providing Maternal,Newborn and Child Health Services		
1	Community only participated when the government staff initiate and led the activities. Lack of community participation in health care services activities.	2	(25.0)
2	Not enough medicines to provide general health care.	8	(100)
3	The community didn't follow the nutrition related practices though BHS conducted the awareness and HE session.	2	(25.0)
	Suggestions to improve Maternal,Newborn and Child Health Care services		
1	The active participation of community when BHS carrying out of the MNCH activities at the community level.	6	(75.0)
2	The village authority and stakeholders should involve and lead to implement the health care activities at the community level.	4	(50.0)
3	To reduce the poverty and to reduce the financial burden of community. To give more time in caring of children.	2	(25.0)
4	Enough medicines supply to provide general health care services and MNCH services at the community level.	8	(100)

Source : Survey data (August, 2019)

The key informants answered that they have lot of challenges during the providing MNCH services at the community level but they like to stress on the following challenges. According to table (4.24), 25% of key informant said that community only participated when the government staff initiate and led the activities and lack of community participation in health care services activities. 100% of key informant answered that the medicine supply from government is not enough to provide general health care services at the grass root level. 25% of the BHS said that The community didn't follow the nutrition related practices though BHS conducted the awareness and HE session frequently and this could be because of the low socio-economic status.

According to table (4.24), in order to improve the primary health care services as well as maternal, newborn and child health care services at the community level, 75% of the key informants suggested to convince to community for more engagement and participation in providing maternal,newborn and child health care services at the community level. 50% of the BHS answered that to advocate to local authority and stakeholders to get more engagement and involvement in providing health care services at the grass root level. 25% of the key informants suggested to provide more time in caring of children to improve nutrition status and to promote the livelihood and the socio-economic status and reduction of poverty to community would improve the health status of the community. 100% of the key informant answered that more supply of medicines from government would be improved in providing maternal, newborn and child health care as well as general health care to community. To promote health education and awareness session using interactive communication ways to the community would also improve the health knowledge of the community.

CHAPTER V
CONCLUSION

5.1 Findings

This study presents an analysis of the Knowledge, Attitude and Practices on Maternal, Newborn and Child Health in rural area of Saw Township as well as the MNCH health care services provided by basic health staff at the community level. MNCH care in the study was defined as antenatal care, intra-natal care, post-natal care, care for pregnancy related health problems among mothers and health and nutritional care to newborn and children who are under-five years old. The study respondents were the pregnant women, fathers and mothers who have under-five years old children. The key informant interview was conducted to basic health staff, frontline health care services providers, to know the primary health care and MNCH health care services at the community level.

The total number of health workforce in the public sector by the union territory and 7 States and 7 Regions is 16,292 medical doctors, 36,054 nurses, 715 dentists, 503 dental nurses, 184 pharmacists, 2,156 health assistants, 1,867 lady health visitors, 12,295 midwives, 2,465 public health supervisors (Grade I), and 11,484 public health supervisors (Grade II) and they are working for the public sector in Myanmar as of October 2016(Heliyon,2019). In Myanmar, there are 64,134 villages,thus, one health staff to one village cannot be accomplished yet. To reach to sustainable development for improving health, community empowerment is a prerequisite. Community volunteers, Auxiliary Midwife(AMW) and Community Health Workers(CHW) are one of the health workforces and minor and primary health care activities still rely on them particularly in emergency situation. The 2015-16 Myanmar Demographic Health Survey (MDHS) revealed that the pregnancy related mortality ratio is 227 deaths per 100,000 live births (confidence interval of 131to 323). Thus, we can say that every 1,000 live births in Myanmar during the seven years before the 2015-16 MDHS, approximately two women died during pregnancy, during childbirth, or within two months of childbirth (2015-2016 MDHS).

About two thirds (67%) were breastfed in first hour of life, as recommended by WHO , exclusive breast feeding for the first six months of life. More than half (51%) of children under six months are exclusively breastfed in Myanmar. Children breastfeed for an average of 24 months but are exclusively breastfed for an average of under 4 months. Weaning diet should be introduced when a child is six months old to reduce the risk of malnutrition. Around (72%) of children age 6-8 months are receiving weaning diet and breastfeeding, as recommended.

According to Saw township health department data (2014-2018), the average number of HE session per month was 120 in 2014, 141 in 2015, 116 in 2016,196 in 2017 and 198 in 2018. The average number of HE session per BHS was 96 in 2014, 98 in 2015, 100 in 2016, 104 in 2017 and 101 in 2018 accordingly. The average HE sessions significantly increased in 2017 and 2018 compared to 2016 and it showed that the BHS were conducting HE session regularly and the community received the HE awareness session and messages.The general clinic attendance was 48% in 2014,49% in 2015, 54.93 in 2016, 55.48 in 2017 and 57.3% in 2018.The number of referral cases were 320 in 2014, 350 in 2015, 395 in 2016,513 in 2017 and 550 in 2018. The average number of AN attendance was 4 in 2014, 5 in 2015-2016 , 6 in 2017 and 2018. The average number of PN attendance was 3 during 2014 to 2018. The percentage of postnatal care coverage was 93% in 2014,96% in 2015, 94% in 2016,95% in 2017 and 96% in 2018. The percentage of antibiotics coverage for pneumonia cases was 100 during 2014 to 2018. The percentage of new-born care coverage within 3 days was 96.3 in 2014,98.9 in 2015, 93 in 2016,102.53 in 2017 and 101.5 in 2018. The percentage of new-born with LBW was 1.90 in 2014,1.46 in 2015, 0.88 in 2016,0.83 in 2017 and 0.80 in 2018.The percentage of under five children with underweight was 3.9 in 2014, 3.6 in 2015, 1.17 in 2016 ,0.2 in 2017 and 0.23 in 2018. The reported Infant Mortality Rate was 14.5 in 2014, 16.5 in 2015, 17.05 in 2016, 13.46 in 2017 and 14.9 in 2018.The reported under-five mortality rate was 19.4 in 2014, 19.8 in 2015, 19.19 in 2016, 17.3 in 2017 and 18.3 in 2018.The reported maternal, mortality rate was 0 in 2014 and 2015,2.19 in 2016,0.96 in 2017 and 0.85 in 2018. The population growth rate was increased year by year during 2014 to 2018.

Among the pregnant women, fathers and mothers of under-five children who involved in our study, (95.6%) of the respondents know the place to seek maternal, newborn and child health services and most of the community (52.7%) want to seek the

health care from township hospital, (38.0%) want to seek from Sub-RHC, 36.4% want to seek from RHC level and 24.8% want to seek the maternal, newborn and child health care from station hospital. Around two third (68.9%) of the community have experiences in attending health education session on maternal health but only 32.6% of the community can tell at least two danger signs during antenatal period and 74.8% of the respondents can tell at least two danger signs during delivery and immediate after delivery such as massive bleeding, severe anemia, prolong labor, retained placenta.

More than two third of the respondents (71.1%) attended the health education session on newborn and under-five care but 61.5% of the community can tell at least two danger signs and symptoms of newborn and under-five children such as fast breathing, chest in drawing, umbilical sepsis, severe pneumonia and diarrhea. Vast majority of the community (99.3%) want to seek emergency health care from health facility but 1 (0.7%) respondent response that don't want to seek emergency health care in health facility because of the communication difficulties with health care service providers.

Around two third of the community (65.2%) expressed to initiate the early breastfeeding and 14.1% answered to initiate breastfeeding within 30 minutes which are impressive answers on their know about breastfeeding and nutrition practices to newborn babies. 97.1% of respondents said they know exclusive breastfeeding, but only 86.7% of respondents can answer the correct meaning of exclusive breastfeeding (feeding milk only). 83.8% of the community correctly response that the weaning diet should initiate after 6 months of the baby and few respondents (1.5%) still answer the weaning diet should initiate at the age of 3 months.

Regarding to knowledge on how long should a baby receive the breast milk, 42.2% of the respondents told that baby should receive the breast milk till 6 months and they are wrongly marked with exclusive breastfeeding period of the baby. 26.0% of the community response baby should receive the breast milk till 2 years and 14.8% response that it should receive 2 years and beyond and which are the more relevant answers but 4.4% still answered as baby should receive the breast milk till 5 years. The community get the information or advice on health or nutrition or personal hygiene mostly from RHC, Sub-RHC and BHS (52.6%). They received such kind of information second from NGO (37.8%), thirdly from community volunteer, AMW (25.9%) and fourthly from station and township hospitals (11.9%). 11.1 per cent of the respondents answered they also received such kind of information from

newspapers/journals and social media such as Facebook which show the importance of the media sector.

From the key informant interviews, it is known that the basic health staff have to cover two to four villages and they conducted outreach visits at least two times per month and they provided antenatal care, under-five care, general health care to elder person and health education session to improve the knowledge of the community. There were 2 maternal deaths during last two years and the causes of the maternal deaths was pregnancy induced hypertensive related diseases.There were 6 under-five deaths during last 2 years and the main cause of under-five deaths were still births and pneumonia which are very common causes at the community level.

According to key informant interview, 75% of the informant said that human resource for health at RHC and Sub-RHC level is enough and all of the health facilities are functioning but the medicines supplies from government is not enough particularly to provide general health care services. There were functioning AMWs ranging from 1 to 3 in all key informant coverage area during last year (2018) and they are conducting regular supportive supervision and monitoring visits to those AMWs. There were functioning CHWs in half of the key informant coverage area during last year (2018) but they didn't conduct regular supervision visit to those CHWs.

The basic health staff have the annual pregnancy target and most have more than 15 pregnancies target annually and deliver about 10 pregnant women in their health facilities and the rest were referred to station or township hospitals. There is also under-five target annually and most have more than 20 per year and providing under-five treatment regularly such as management of pneumonia, diarrhea and seasonal flu. The average number of antenatal care to pregnant women was more than 4 times and the postnatal care visit was 4 to 5 times depend on the condition of the postnatal mother and newborns.

There were also implementation challenges during providing maternal, newborn and child health care services ,25% of key informant said that community only participated when the government staff initiate and led the activities.100% of key informant answered that the medicine supply from government is not enough to provide general health care services at the grass root level. In order to improve the primary health care services as well as maternal, newborn and child health care services at the community level, 75% of the key informants suggested to convince to community for more engagement and participation in providing maternal,newborn and child health

care services at the community level. 50% of the BHS suggested that to advocate to multi-stakeholders for more engagement and involvement in providing health care services at the grass root level. 100% of the key informant answered that more supply of medicines from government would be improved in providing maternal, newborn and child health care as well as general health care to community.

5.2 Suggestions

To improve the Maternal, Newborn and Child Health care in the rural areas, promoting awareness sessions on Maternal Health, Newborn Health and Under-five Health, feeding practices to New-born and Under-five Children and more engaging with community to participate in providing health care services should be considered as a priority area in the mechanisms of Ministry of Health and Sports in Myanmar. Advocacy to multi-stakeholders from different levels for more engagement in health care provision at the community level should also be prioritized.

To minimize financial burden in emergency obstetric cases and emergency child cases, supporting to transportation services by public health department as well as International Non-Government Organization, Local Organizations such as Community Based Organizations, Civil Society Organizations and Charity Organizations. Therefore, health insurance schemes should be strengthening by both public and private sector for minimizing financial catastrophe of households.

To increase more coverage for primary health care to elder person and to engage more community at the outreach visits and mobile clinic activities, the government should supply enough essential medicines and equipment. The human resource for health is also played in critical role and fulfillment of human resource for health (HRH) need to consider in the priority list of national health plan. The capacity building of the existing health care provider as well as developing the new strategy and capacity building plan to incoming health care providers should also be considered in the mechanism of Ministry of Health and Sports.

To apply the interactive or two ways communication tools in providing health education sessions to community should consider for more effectiveness because even though the health education attendant rate was high, the community who know dangers signs and symptoms during antenatal, intra-natal and postnatal period as well as in newborn period was very low.

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APPENDICES

QUESTIONNAIREs FOR KNOWLEDGE, ATTITUDE AND PRACTICES ON MATERNAL, NEWBORN AND CHILD HEALTH IN SAW TOWNSHIP

(**Questionnaires for community member (Pregnant women, fathers and mothers of under-five children)**

Township Name _ _ _ _ _ _ _ _ _ _ _ _ _ _

Rural Health Centre Name _ _ _ _ _ _ _ _ _ _ _ _ _ _

Sub-Rural Health Centre Name _ _ _ _ _ _ _ _ _ _ _ _ _ _

Village Name _ _ _ _ _ _ _ _ _ _ _ _ _ _

Household Head Name _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name of data collector: _ _ _ _ _ _ _ _ _ _ _ _ _ _

Date of data collection: _ _ _ _ _ _ _ _ _ _ _ _ _ _

No	Questions and Filters	Coding Categories	Remark
	PART I RESPONDENT'S SOCIO-DEMOGRAPHIC CHARACTERISTICS		
Q1_1	Respondent's Age (Completed year)	_____	
Q1_2	Sex	1.Male 2.Female	
Q1_3	Education	1.Read and Write 2.Primary school (up to 4th Standard) 3.Secondary school (up to 8th Standard) 4.High school (up to 10th Standard) 5.University/ College 6.Graduate 7.Other 88.Specify _____	
Q1_4	Marital status	1.Single 2.Married 3.Divorced 4.Widowed	

Q1_5	Number of pregnancies For female respondents	1.one 2.Two 3.Three 4.Four 5.More than 4	
Q1_6	History of Abortion/miscarriage	1.Yes 2.No If Yes, How many times?	
Q1_7	Years of Marriage	----------	
Q1_8	Age at Marriage	----------	
Q1_9	Ethnicity	1.Burmese 2.Chin 3.Other 88.Specify _____	
Q1_10	Religious	1.Buddhist 2.Christian 3.Islam 4.Hinduism 5.Other 88.Specify_____	
Q1_11	What type of job?	1.Farmer 2.Skilled Labour 3. Casual Labour 4.Shopkeeper 5.Own Business 6.Other 88.Specify _____	
	PART II KNOWLEDGE, ATTITUDE AND PRACTICES ON MATERNAL,NEWBORN AND CHILD HEALTH CARE		
Q2_1	Do you know where you/your family can	1.Yes 2.No	If no, skip to Q2_3

	get the maternal and newborn care?		
Q2_2	If yes, please tell us the available health services place? Don't read the answer. MULTIPLE ANSWER	Township Hospital Station Hospital RHC Sub-RHC Private Clinic/Hospital CHW AMW TBA Traditional Healer Other (Specify):_____ Don't Know	
Q2_3	Have you ever attended the health education session on maternal health?	1.Yes 2.No	
Q2_4	Do you know what the danger signs during pregnancy indicating the need to seek health care are? **RECORD ALL MENTIONED. (Do not read answers, just probe to be more specific. Encourage what else until nothing further is mentioned and**	Fever Shortness of breath/fast difficult breathing Vaginal Bleeding Swelling of face/body/hands Severe headache/blurred vision Severe abdominal pain Fits/loss of consciousness Baby stop moving Other: (Specify)_____	

	check all that apply) **More than one selection is possible.**	Don't know	
Q2_5	Do you know of any danger signs in labour (during delivery and immediate after delivery) that would indicate the need to seek health care? **PROBE FOR THE TYPE OF PERSON. RECORD ALL MENTIONED. (Do not read answers, just probe to be more specific. Encourage what else until nothing further is mentioned and check all that apply).** **More than one selection is possible.**	High Fever Heavy Bleeding Convulsions Labour lasting more than 12 hours Placenta not delivered within 30 minutes Headache/Blurred Vision Fast/Difficult Breathing Others Specify):_____ Don't know	
Q2-6	Have you ever attended the HE session on newborn and Child health?	1.Yes 2.No	
Q2_7	Sometimes newborns, within the first month of life, have severe illnesses that indicate they should be taken immediately to a health facility.	Fast or difficult breathing Noisy breathing/ stridor Fits Flaccid/stiffness High fever	

	What types of symptoms would cause you to take your newborn to a health facility right away? **ASK: Anything else?** **DO NOT READ RESPONSES. RECORD ALL THAT ARE MENTIONED.**	Poor suckling or feeding Baby feels cold Baby too small/too early Swollen abdomen Unconscious Pus, redness, bleeding from umbilicus Yellow skin/eye Other (specify)_____ Don't know	
Q2_8	Where is the place you would go or send your wife/ child to seek emergency health care if they had danger signs? SINGLE ANSWER	Township Hospital Station Hospital RHC Sub-RHC Private Clinic/Hospital Other (Specify):_____ Don't know	
Q2_9	Are you willing to go and seek maternal newborn and emergency health care from health facilities?	1.Yes 2.No	If Yes, go to Q3_1
Q2_10	If NO, why don't you want to go to health facilities?	Too far Financial constraint Time constraint Difficult communication with staff	

		Staff are not available all time Others (Specify): _____	
	PART III KNOWLEDGE AND PRACTICES ON NUTRITION AND INFANT AND YOUNG CHILD FEEDING		
Q3_1	When should you initiate breastfeeding for the first time after birth? **DO NOT READ POSSIBLE ANSWERS** **CIRCLE ONE RESPONSE**	As soon as possible Within 30 minutes Within 1 hour Other (Specify):_____ No Answer / Don't Know	
Q3_2	Have you ever heard of the term exclusive breastfeeding'?	Yes No No answer/don't know	If No or don't know, go to Q3_4
Q18 Q3_3	What does the term 'exclusive breastfeeding' mean? **DO NOT READ POSSIBLE ANSWERS** **CIRCLE-ONE RESPONSE**	Breast milk only Breast milk + water Breast milk + medicine prescribed by a health care provider + ORS Breast milk + traditional medicine Other (specify):_____ No Answer / Don't Know	
Q3_4	According to recommendations, how long should a baby receive any breast milk (not just exclusive)?	Up to 6 months Up to 18 months Up to 2 years Up to 2 years and beyond As long as mother and baby want	

		Other (specify):_____ No Answer / Don't Know	
Q3_5	Do you know, at what age should you introduce food to your child for the first time?	----------month No Answer / Don't Know	
Q3_6	Where do you get general information or advice on health or nutrition or personal hygiene? **RECORD ALL MENTIONED.**	Township/Station Hospital RHC/Sub Center Private clinic/hospital CHW AMW Traditional healers Pharmacy/shopkeeper Religious leader Friend/neighbor Relatives TV/Radio Newspapers/Journals Mothers/youth groups CBO NGO Other (Specify):_____ Don't know / No answer	

(Questionnaires for Health Care Services Providers)

Health Facility Name-

Level of Health Facility-

- Rural Health Center
- Sub-rural Health Center

Part I: Sociodemographic Status of Basic Health Staff (Government Staff,Service provider at the community level)

1. Age of Basic Health Staff

   ----

2. Gender of Basic Health Staff

   ☐ Male ☐ Female

3. Education of Basic Health Staff
   - High school
   - University
   - Graduated
   - Other-Specify

4. Position of Basic Health Staff
   - Health Assistant
   - Lady Health Visitor
   - Midwife
   - Public Health Supervisor(I)
   - Public Health Supervisor(2)
5. Assigned Duty Station
   - Rural Health Center
   - Sub-Rural Health Center

6. Years of Service in Government Sector
   - <3 years
   - >3 years

7. Number of villages cover by concern health facility
   - 1
   - 2
   - 3
   - 4
   - >4

8. Number of outreach visits to villages per month
   - 1
   -
   - time per month
   - 2 times per month
   - >2 times per month
9. Services provided during the visits to villages
   - Antenatal Care
   - Postnatal Care
   - Under five Care
   - Newborn Care
   - Health Education
   - Immunization
   - Others-Specify----------
10. Maternal Deaths during last 2 years under concern health facility
    - 1
    - 2
    - 3
    - >3
11. Under five deaths during last 2 years under concern health facility
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - >9
12. Causes of Maternal Deaths during last 2 years in concern health facilities (if there was maternal death)
    - Antepartum Hemorrhage
    - Postpartum Hemorrhage
    - Hypertensive disease of pregnancy Eclampsia/Pre-Eclampsia
    - Abortion related causes
    - Prolong/obstructed labour
    - Puerperal Sepsis
    - Others-Specify----------

13. Causes of Under five deaths during last 2 years in concern health facility (If under five deaths occurred)

- Pneumonia
- Diarrhoea
- Malaria
- Low birth weight
- Prematurity
- Neonatal Jaundice
- Neonatal Sepsis
- Congenital Anomalies
- Other-Specify---------

14. Staff manpower in concern health facility

- 1
- 2
- 3
- 4
- 5
- 6
- >6

15. Condition of health facility

- Not functioning
- Functioning

16. Medicines and equipment supply from government

- Not enough
- Fair enough
- Well enough

17. Trainings related to MNCH during last 2 years (As part of Capacity building)

- Essential Newborn Care
- Emergency Obstetric Care
- Community based Newborn Care
- Infant and Young Child Feeding
- Other-Specify

18. Does Manpower in concern health facility enough or not to provide MNCH services at the community level

- Yes
- No

19. Number of functioning Auxiliary Midwife under concern health facility (in the last year)

- 1
- 2
- 3
- 4
- 5

20. Number of functioning Community Health Worker under concern health facility (in the last year)
    - 1
    - 2
    - 3
    - 4
    - 5

21. Number of Pregnancy target annually under concern health facility
    ---
22. Number of Delivery annually under concern health facility

    ---

23. Average number of AN care services attended for each pregnancy
    - 1 time
    - 2 times
    - 3 times
    - 4 times
    - 4 times and above

24. Number of under-five children target annually under concern health facility

    ---

25. Number of under-five children treated/visited annually under concern health facility

    ---

26. Other health problems of mothers during their antenatal period
    - Minor illness
    - Eclampsia, Pre-Eclampsia
    - Anemia
    - APH
    - PROM
    - Other (Specific)
27. Other health problems of under-five children
    - Minor illness

- Pneumonia
- Malaria
- Diarrhea
- Fits and fever
- Other-Specify

28. Nearest health facility to be referred for tertiary care/treatment
    - RHC
    - Station Hospital
    - Township Hospital

29. Number of Emergency Obstetric Cases annually under concern health facility (referred for tertiary center care)

    ---

30. Number of Emergency under-five children cases annually under concern health facility (referred to tertiary center care)

    ---

31. Supportive supervision visits to AMWs annually under concern health facility by BHS
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - > 6

32. Supportive supervision visits to CHWs annually under concern health facility by BHS
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - >6

33. Average number/percentage of PN care services to mother under concern health facility

    ---

34. Supportive supervision visits received from station hospital/township health department team annually to RHC and SRHC
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - >6

35. Other health problems of mothers during their PN period of last pregnancy
    - Minor illness
    - Bleeding
    - Sepsis
    - Mastitis
    - Other (Specific)
    - No

36. Health problems of Neonatal period (last child, < 1month)
    - ARI, Pneumonia
    - Diarrhea
    - Neonatal Jaundice
    - Neonatal Sepsis
    - Congenital Abnormalities
    - Other (Specific)
    - No

37. Health providers who provided Neonatal care under concern health facility
    - Quack
    - AMW
    - MW
    - LHV, HA
    - Doctor, Child Specialist
    - Other (Specific)

38. Challenges during implementation of MNCH activities at the community level

39. Suggestions to improve/smooth the implementation of MNCH activities at the community level

Interview Questionnaires for Key Informants

The interview questionnaires were developed based on the following factors,

- To assess Maternal, Newborn and Child Health Care services provided by the basic health staff at the community level
- How the basic health staff are conducting monthly outreach visits which provide immunization to children, under-five health care, antenatal and postnatal care to the pregnant women.
- To assess the number of maternal deaths and child deaths and causes of maternal deaths during last two years.
- To assess the functioning status of the health facilities and the drugs supplies from government health system.
- To know the human resource status of the health facilities in providing health care services at the community level.
- To assess the number functioning AMWs and CHWs who are providing health care services under the supervision of BHS and how many supportive supervisions were received.
- To examine the health problems of mothers and infants and children during last pregnancy and childhood life.
- To assess the number of supportive supervision visits from township level to community level.

THANKS