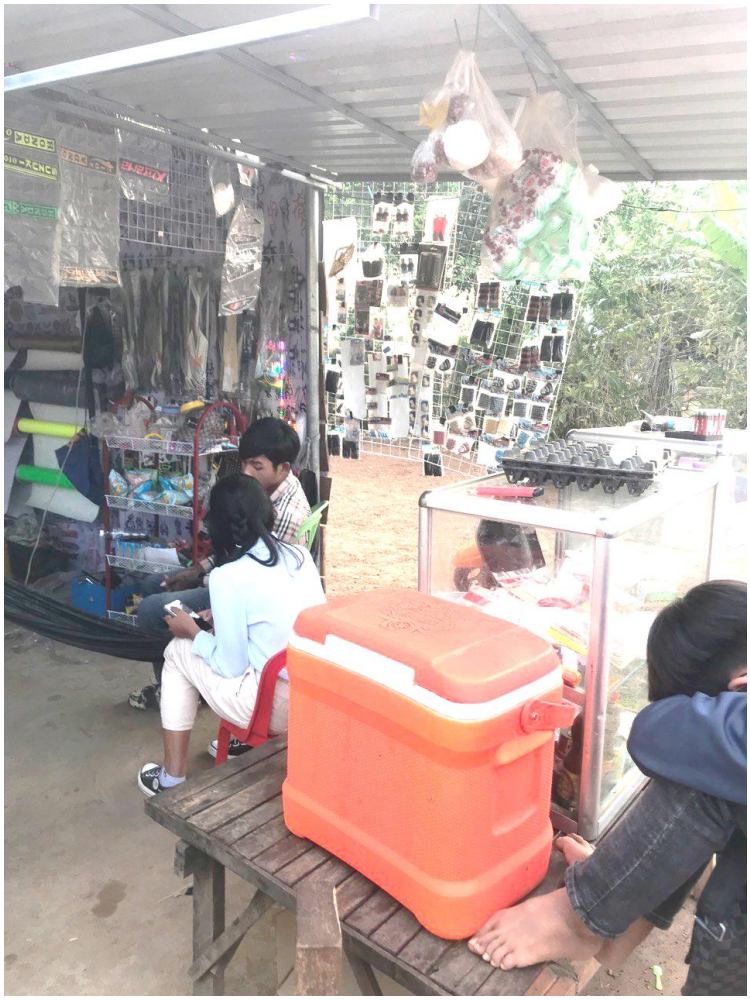
Knowledge, Attitude, and Practice (KAP) Survey
Mental Health & Non-Communicable Diseases
Oreang Ov and Chamkar Leu Operational Districts (ODs)

March 2023

Commissioned by Louvain Coopération au Développement (LC)

Partnership for Improvement and Prevention in Non-Communicable Diseases (PIP-NCDs)



Submitted By Phnom Penh Consulting Research Institute Co.Ltd (PPCRI)

Disclaimer:

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Suggested Citation:

Heak, S. 2023. KAP Survey on Mental Health and Non-Communicable Diseases in Oreang Ov and Chamkar Leu Operational Districts (ODs), Commissioned by Louvain Coopération au Développement, Phnom Penh, Cambodia

Acknowledgement:

The author wishes to extend special thanks to LC for providing financial, technical, and coordination support to make this study possible. The LC management team, in particular, deserves recognition for their support throughout the study. The author also expresses gratitude to all stakeholders who participated in this study. For more information, please contact PPCRI via sreang.heak@gmail.com.

Contents

I. List of Abbreviation

CCAMH	Centre for Child and Adolescent Mental Health
CCWC	Commune Committees for Women and Children
DMHSA	Department of Mental Health and Substance Abuse
DSF	Douleurs Sans Frontières
FGD	Focus Group Discussion
HI	Humanity and Inclusion
KAP	Knowledge, Attitude, and Practice
KII	Key Informant Interview
LC	Louvain Coopération au Développement (LC)
MH	Mental Health
MI	Mental Illness
NCDs	Non-Communicable Diseases
NGOs	Non-Governmental Organizations
OD	Operational District
PMD	Preventive Medicine Department
PIP-NCDs	Partnerships for Improvement and Prevention in Non-Communicable Diseases
PPCRI	Phnom Penh Consulting Research Institute Co.Ltd
SPI	Saint Paul Institute
SSC	Social Services Cambodia
TPO	Transcultural Psychosocial Organisation
UN-SDG	United Nations Sustainable Development Goal
UW	University of Washington

II. Abstract/Summary

Uni4Coop is launching the Programme "Partnerships for Improvement and Prevention in Non-Communicable Diseases (PIP-NCDs)" to improve the general prevention of Non-Communicable Diseases (NCDs) and the availability, accessibility and quality of mental health services, in two operational districts of Kampong Cham and Tboung Khmum Provinces. This programme also takes into account the differentiated impact on NCDs on men and women.

Under the PIP-NCDs programme, Louvain Cooperation commissioned PPCRI (a research consultancy firm based in Phnom Penh) to conduct the baseline survey in Knowledge, Attitude, and Practice (KAP) on NCDs & Mental Health.

This baseline survey is intended to obtain reliable and relevant data on the Knowledge, Attitude, and Practices of the population in the target areas of Chamkar Leu and Oreang Ov Operational Districts (ODs) in Kampong Cham and Tboung Khmum provinces, in NCDs and Mental Health with a view to develop intervention strategies that can improve the health promotion and generation of demand/increase access to mental health care.

The study aims at (but not limited to):

- ✓ Identify knowledge gaps, cultural beliefs or behavioral patterns and practices that create barriers to behavioral change related to nutritional food & healthy diets consumption.
- ✓ Measure the level of knowledge, attitudes and practices of the population in LC/Cambodia's intervention areas on NCDs, mental health and mental health care.
- ✓ Measure the level of knowledge, attitudes and practices of families of patients with mental health disorders on mental health and mental health care.
- ✓ Measure gender equality in the demand for and use of mental health services.
- ✓ Identify sources, networks and means of information for the population and families on mental health
- ✓ Identify barriers to access to and use of mental health services.
- ✓ Make recommendations and guidance to strengthen communication and intervention strategies for promotion/prevention, demand improvement, use of mental health services and treatment follow-up.

In Chamar Leu Operational District (OD), the PIP-NCDs programme operates in one district referral hospital and five health centers. In Oreang Ov, the PIP-NCDs programme operates in one district referral hospital and four health centers. The catchment area of these nine health centers covers a total of 112 villages.

The survey collected data from a sample of 602 respondents, of which 407 were female. These respondents were selected from 26 out of the 112 target villages in the project. The sample was designed to be representative of the entire population residing in the catchment areas of the target project areas, which consisted of 99,388 individuals, with 50,823 of them being female. The sample encompassed a diverse range of individuals, including 64 children and adolescents aged 13 to 18 years old, 25 healthcare staff members, 17 patient family members, 9 village volunteers, 35 vulnerable disabled and elderly individuals, 41 women with children under three years old, 4 pregnant women, and 407 general villagers.

Knowledge on Mental Health

32% of respondents believed that mental illness is caused by genetic inheritance. 70% of respondents believed that mental illness is caused by substance abuse. 83% of respondents believed that mental illness is caused by stressful life events. 70% of respondents believed that mental illness is caused by brain disease. 79% of respondents believed that poverty can be a cause of mental illness. 30% of respondents believed that mental illness can be identified through physical appearance.

Attitude on Mental Health

67% of respondents agreed that life has no value for people with mental illness. 46% of respondents agreed that people with mental illness should not get married. 47% of respondents agreed that people with mental illness should be prevented from having children. 40% of respondents agreed that people with mental illness should be prevented from walking freely in the public spaces. 37% of respondents agreed that one should avoid all contact with people with mental illness. 52% of respondents agreed that the people with mental illness should not be allowed to make decisions, even those concerning routine activities.

Despite people having some knowledge about mental health, negative attitudes towards mental health still prevail. The qualitative interviews with stakeholders also confirmed that discrimination against people with mental illness and their families continues in the community.

> "*People still have stigmatization against people with mental illness and their families because mental illness is imbedded in their family genes. The mental illness is like a paper. When the paper is soak up in water, the paper will never be the same anymore. If a woman is sick with a mental illness, no one will marry her.*" (KII with medical staff)

Perception on Mental Health

Only 8% of respondents agreed that people with mental illness are to blame for their own condition, while 42% believed that individuals with mental illness are unable to form genuine friendships. 76% agreed that people with mental illness can still work, but 45% believed that they can be dangerous. Additionally, 47% agreed that individuals with mental illness should be locked up but 87% agreed that anyone can suffer from mental illness. Moreover, 90% of respondents agreed that people with mental illness are insane.

Practice on Mental Health

Approximately one-third (34%) of respondents reported feeling afraid to have a conversation with someone who has a mental illness, while 24% said they would not want others to know about their own mental illness. Only 12% agreed that they would marry someone with a mental illness. Over one-fourth (28%) of respondents would feel ashamed if they or a family member had a mental illness. Additionally, 12% of respondents reported that they would not disclose their own mental illness to others.

Majority of people, particularly females, would not agree to marry someone with a mental illness. When asked why, respondents cited fear and concerns about their future. They expressed worry about the ability of a person with mental illness to fulfill their role as a partner and parent, and the potential for the illness to affect the marriage and family life.

"*We would not get married with people with mental illness because we are afraid that they might hurt us.*" FGD with children and adolescent group.

"No body wants to get married with sick and crazy people." FGD with vulnerable groups of people.

"We have to think about our future. We want to have a good future if we marry someone." FGD with pregnant and lactating group of women.

Knowledge on NCDs

Based on the data collected, it is clear that there is a significant lack of understanding among the community regarding Non-Communicable Diseases (NCDs). More than 90% of people within the target project areas have reported that they have little to no knowledge about NCDs. The qualitative interviews conducted further confirm this finding, indicating that there is a general lack of education and awareness about NCDs in the community.

"*My family members have hypertension but I know nothing about this disease. I only saw that they are taking medication on a regular basis.*" FGD with pregnant and lactating group of women.

Attitude on NCDs

The data reveals that people in the community have a very limited understanding of NCDs, with over 90% of individuals in the project's target areas having no knowledge about NCDs. However, almost all of the people in the target areas agree that drinking, eating unhealthy food, and not engaging in physical exercise have an impact on their health.

"*We agreed that drinking alcohol, eating unhealthy food, and not doing exercise all negatively affect our health.*" FGD with pregnant and lactating group of women.

Practice on NCDs

Although people are aware that drinking affects their health, 31% of all people still reported consuming alcohol within the last 7 days. In addition, almost 75% of all people reported not engaging in physical exercise, while only 24% reported engaging in vigorous-intensity physical activities. Furthermore, 86% of all people reported consuming energy or soft drinks.

"*A lot of people here have hypertension especially the poor rather than the rich. The poor drink a lot of energy drinks especially when they are tired.*" KII with medical staff.

Nutritional Food and Healthy Diets

70% of people in the target areas lack awareness about the nutrient information in their foods and meals.

> "*Even me as a medical staff working here in this community, I do not know if the food I consume has enough nutrients or not. I do not even know what kind of calories or how much calories in my food I eat every day. General villagers would not know about this at all. People over here generally have low education. They are poor and they do not have enough money to do what they want to do. They are able to eat only what is available at the market in their local areas. In overall, they do not know anything at all about their food consumption.*" (KII with medical staff)

Gender equity in mental health

37% of all respondents acknowledged that females require more mental health services than males, while 42% believed that both genders require such services equally. Even among male respondents, a majority agreed that females need more mental health services than males. Some of the reasons given were that women tend to worry and think excessively, making them more susceptible to mental health issues. However, it is important to note that gender should not be the sole determinant for accessing mental health services, as everyone, regardless of gender, deserves equal access to mental health resources and support.

> "*Women are in need of more mental health services than men because they think too much. They worried too much. They have to take care of the family members in the house. Sometimes, they are scared that their husbands may find other girls.*" FGD with pregnant and lactating group of women.

Sources and Information on Mental Health

69% of the respondents stated that they would prefer to go to a health center as their first choice for mental health services. This is consistent with qualitative data that suggests traditional healers are no longer the first choice for people seeking mental health treatment. The availability of mental health medications in the surveyed communities was reported as being high, which enables people to manage their symptoms and improve their overall well-being. Many reported experiencing better sleep and an overall improvement in their mental health when taking medications. These modern medicines are generally considered more effective than traditional healing methods, which may be why people have less trust in traditional healers for mental health treatment.

> "*Seeking traditional healing is also a choice, if the patients cannot find the right medical treatment.*" FGD with vulnerable groups of people

Barriers to Access and Use of Mental Health Services

52% of all people surveyed cited lack of financial resources as the primary barrier to accessing and using mental health services. The second most commonly mentioned barrier was lack of knowledge about mental illness, with 49% of respondents reporting this. Qualitative data also confirmed that the major barriers to accessing mental health services included lack of knowledge about mental health, financial constraints, limited availability of high-quality treatment services for mental health, and stigmatization and discrimination against those with mental illness within the community.

"*I do not have money to pay for transportation. Just to bring the patient to Phnom Penh and come back for both the patient and the accompanying person costs nearly $25 already for transportation. How about the other associated costs such as food, accommodation, and other medical expenses such as consultation fee and medication fee.*" KII with VHSG members

"*Even me as a medical staff providing services to people here, I do not know much about mental health. What about villagers in the community? People would not even know whether they are actually sick of mental illness or not.*" KII with medical staff

"*Some family still feel shameful about mental illness.* People still do not understand about mental illness. They hide their illness because they are shy." KII with VHSG members

"*We do not even have mental health specialist in our health center. Although we have medication to give to patients with mental illness, the quality of knowledge and understanding, especially the expertise to treat mental illness, is still limited.*" KII with medical staff

"*People still have low understanding and knowledge about the mental health issues.*" KII with CWCC members

Improve mental health services

As the level of knowledge and understanding on MI is still limited, 73% of respondents recommended that there should be more awareness campaigns on mental health issues in their communities. 33% mentioned that there should be more free treatment services for mental illness in the community, while 21% recommended that mental health services should be made available in the health centers. The results suggest that people in the communities are aware of the need for more accessible and affordable mental health services.

"*The first thing we need to do is to educate people about mental health issues. The second thing we need to do is to do it regularly.*" KII with medical staff

"*We should raise awareness to people in the community so that they understand about mental health and they are not shy to seek help and ask people around for help. We should teach people more about mental health. So that people can help each other.*" KII with VHSG members

"*We need to make sure that medical staff have the right skill and are motivated to treat or refer patients. We should have different ways to teach and support them.*" KII with partner organization

"*The quality of mental health service provision at the health center level is still limited. People generally go to district hospital level in order to get better quality of mental health services. The mental health treatment services at the provincial level or national level are of much better quality than those in at the district level. In my entire health center, there is only one staff able to receive proper training in mental health services and treatment.*" KII with medical staff

"*We should have better medicine, have bigger room for treatment, have more skill and more understanding about this issue. There should be better way to improve service provision such as having home visit or regular meeting as well as incentives to help our staff to work on this issue*." KII with medical staff

To address the challenges and barriers identified in mental health and NCDs, the following recommendations are proposed for the entire project:

- The first recommendation is to prioritize raising awareness on mental health and NCDs in the communities. The aim is to ensure that people have a better understanding of their conditions and are empowered to take appropriate action to manage, treat, and heal themselves. This can be achieved through regular awareness-raising activities that utilize innovative approaches and involve local individuals who can effectively communicate and engage with community members.
- The second recommendation is to provide comprehensive training to medical staff on how to provide effective and appropriate mental health services to patients in the community. This includes training on counseling techniques for patients with mental illness, as well as appropriate prescribing of medications. By providing high-quality care and services, patients and their families are more likely to return to the same health centers for future treatment. Additionally, they may spread positive word-of-mouth to others in the community, increasing awareness and utilization of mental health services.

To ensure the provision of good quality mental health services, the project is confronted with a significant challenge of collaborating with health center staff who are government employees. Therefore, it is essential that the project coordinates effectively with the government counterpart to determine which financial, human, and technical resources can be shared and contributed by both parties. This will ensure a successful partnership and the optimal utilization of available resources to provide the best possible mental health services to the community.

The limited capacity of development partners and implementing agencies to meet the huge needs for mental health services and NCDs is a major challenge. For instance, medication provision is a crucial aspect that no NGO partner can fully cover due to financial constraints and limited resources. Therefore, the project needs to establish strong partnerships with the government, particularly the Ministry of Health (MoH), which has the mandate to distribute medicines to all health facilities. This collaboration can help ensure that patients have access to the necessary medications. Furthermore, the project should explore innovative financing mechanisms to leverage additional resources and expand its services to reach more people in need.

Therefore, it is crucial for the project to collaborate with government counterparts and other development partners to find the most effective ways to work together to address the mental health and NCDs challenges in the target communities.

- The third recommendation is to document the project's impacts and use them to advocate for broader policy changes, particularly with the government and other development partners, to replicate effective practices and lessons learned in other areas of the country. An external third party should conduct midterm or final evaluations to ensure impartiality and transparency, and the reports and documents should be widely shared. Publishing a scientific journal article would

be an effective way to disseminate the project's good experiences and evidence to academic and non-academic audiences alike.

- The fourth recommendation is to secure continuous financial support for mental health and NCDs, which are complex problems that require sustained efforts. The project should continue to actively seek funding support from various donors and development partners, while ensuring that there are no budget cuts to its ongoing activities. Instead of reducing staff or resources, the project should aim to expand its services. This requires a long-term strategic goal to effectively address the challenges of mental health and NCDs.
- The fifth recommendation is to foster collaboration and partnership with other organizations and stakeholders in order to pool resources, expertise, and knowledge to effectively address the mental health and NCD issues. The project should establish and maintain strong networks of collaboration both within and outside of the project areas to leverage existing human, financial, and technical resources. By working together towards a common goal, the project and its partners can maximize impact and sustainability of their efforts.

III. Introduction

Since 2016, four Belgian university NGOs that are ECLOSIO (the NGO of the University of Liège), Louvain Coopération (Louvain-la-Neuve), FUCID (Namur) and ULB-Coopération (Brussels), have decided to implement a common programme financed by the Directorate General of Belgian Development Cooperation (the DGD) for a period of 10 years, from 2017 to 2026, under the name of Uni4Coop. Uni4Coop's specificity is to contribute to development by mobilizing the human and scientific resources of the university community.

For the period 2022-2026, Uni4Coop proposed a fully integrated programme implemented by Louvain Coopération, Eclosio and their local partners in Cambodia. This programme enables the organizations to join forces, strengthen each other, promote exchanges, better capitalize on best practices and generate new expertise at the crossroads of research and development.

The areas of intervention are food and economic sovereignty (support to family farming, income-generating activities, rural entrepreneurship, farmer organization) and health (with a focus on non-communicable diseases and a special emphasis on mental health).

In the thematic area of health, Uni4Coop is launching the Programme *Partnerships for Improvement and Prevention in Non-Communicable Diseases (PIP-NCDs)* which aims at improving the general prevention of Non- Communicable Diseases and the availability, accessibility and quality of mental health services in two operational districts of Kampong Cham and Tboung Khmum Provinces. Field activities are carried out by key non-governmental and government partners including: (i) the Transcultural Psychosocial Organisation (TPO), (ii) Caritas – CCAMH, (iii) Douleur sans Frontières (DSF), Saint Paul Institute (SPI), Humanity and Inclusion (HI), the Department of Mental Health and Substance Abuse (DMHSA), the Preventive Medicine Department (PMD), the University of Washington (UW) and Social Services Cambodia (SSC). Other organizations and networks may also be involved in the implementation of the activities.

Under the PIP-NCDs programme, Louvain Cooperation commissioned PPCRI (a research consultancy firm based in Phnom Penh) to conduct the baseline survey in Knowledge, Attitude, and Practice (KAP) on NCDs & Mental Health.

In Chamar Leu Operational District (OD), the PIP-NCDs programme works in 1 district referral hospital and 5 health centers. In Oreang Ov, the PIP-NCDs programme works in 1 district referral hospital and 4 health centers. There are 112 villages in total under the catchment areas of these 9 health centers. Below are related information about the target groups: vulnerable persons including women, children, adolescents and their families; pregnant and lactating mothers; parents/caretakers; people with disabilities; migrant families; elderly and victims of domestic violence; health staff; social workers and volunteers, will benefit from the project. More specifically:

- 4,725 adults (60% women) and 2,125 children and adolescent with mental health problems will benefit from treatment and psychosocial support.
- 500 pregnant & lactating mothers will benefit from awareness raising activities on preventing disabilities, balanced diet during pregnancy and early childhood, positive parenting and non-violent communication.

- 2,600 parents/caretakers will benefit from knowledge and experiences exchange about positive parenting, the care of children with disabilities, palliative care, impact of stigma, discrimination and domestic violence.
- 33 PHC medical staff, 230 volunteers, 20 Commune Committees for Women and Children (CCWC), 5 commune social workers, 4 public social workers and 12 outreach staff benefits from technical training and coaching support.

In addition, 20,972 families living in 112 villages around the target areas and representing 99,388 persons (50,823 women) will indirectly benefit from the project activities including campaigns and other awareness raising activities.

Objectives of the Baseline Survey

This baseline survey is intended to obtain reliable and relevant data on the Knowledge, Attitude, and Practices of the population in the target areas of Chamkar Leu and Oreang Ov Operational Districts (OD) in the province of Kampong Cham and Tboung Khmum provinces, in NCDs and Mental Health with a view to developing intervention strategies that can improve the health promotion and generation of demand/increase access to mental health care.

The findings of the survey are intended to be used as baseline and it will be used to measure the change of Knowledge, Attitude, and Practice over time. The evaluation will be carried out to measure these changes.

The study will aim to (but not limited to the following):

- ✓ Identify knowledge gaps, cultural beliefs or behavioral patterns and practices that create barriers to behavioral change related to nutritional food & healthy diets consumption.
- ✓ Measure the level of knowledge, attitudes and practices of the population in LC/Cambodia's intervention areas on NCDs, mental health and mental health care.
- ✓ Measure the level of knowledge, attitudes and practices of families of patients with mental health disorders on mental health and mental health care.
- ✓ Measure gender equality in the demand for and use of mental health services.
- ✓ Identify sources, networks and means of information for the population and families on mental health
- ✓ Identify barriers to access to and use of mental health services.
- ✓ Make recommendations and guidance to strengthen communication and intervention strategies for promotion/prevention, demand improvement, use of mental health services and treatment follow-up.

Duration and Scope of Assignment

The baseline survey is expected to be completed within a period of 1.5 months to 3 months in both catchment areas of the two target operational districts.

IV. Methodology

The baseline survey employed a mixed-methods approach, utilizing both quantitative and qualitative data collection methods and tools. The survey employed four techniques to collect data: desk review, questionnaires, key informant interviews, and focus group discussions. The data was collected from a wide range of sites, including communities, government officials, and partners. The survey ensured

diversity in its respondents by interviewing individuals from various backgrounds such as young/old, male/female, poor/not poor, disabled/non-disabled, pregnant and lactating women, parents/caretakers, medical staff, volunteers, CCWC, commune social workers, public social workers, and outreach staff.

A total of 602 respondents were selected from 26 sample villages out of the 112 target villages of the project, with 407 of them being females. This sample was chosen to represent the entire population of 99,388 people, of which 50,823 were female, in both catchments of the target project areas. Among the 602 respondents, there were 64 children and adolescents aged 13 to 18 years old, 25 healthcare staff members, 17 patient family members, 9 village volunteers, 35 vulnerable disabled and elderly individuals, 41 women with children less than 3 years old, 4 pregnant women, and 407 general villagers.

Quantitative Data Collection

Sample Size

The study utilized the following scientific sample size formula to calculate the required sample size based on a 95% confidence interval and a margin of error of 4%. The calculated sample size for this study was 597.

$$n = \frac{z^2 \times \mathrm{p}(1-\mathrm{p})}{e^2}$$

Where, n=sample size, z= z-score, e=margin of error, p=population proportion

Sample Selection

Systematic Random Selection

The study utilized a 2-stage cluster sampling design, in which the primary sampling unit was the target project village, and sample villages were systematically and randomly selected from each of the nine target health centers. Respondents were randomly selected from within each of the selected villages.

To access the selected villages, the data collection team directly contacted village chiefs or local authorities. Their first priority was to identify and select target groups for the project to include in the survey. The target groups were diverse and included individuals of different ages, genders, socioeconomic backgrounds, and health conditions such as disabilities. Additionally, the team aimed to include pregnant and lactating women, parents and caregivers, medical staff, volunteers, CCWC, commune social workers, public social workers, and outreach staff.

Proportional Probability to Population Size

All 112 target villages were used as the population frame, and samples were drawn proportionately to the actual population size from each of the nine target health centers. Out of the 112 target villages, 26 were surveyed, and a total of 602 respondents (407 females) were selected from these villages to represent the entire population of 99,388 people (50,823 female) in both catchments of the target areas. The sample size was proportionately selected according to the stratification criteria such as age, gender, socioeconomic status, disability, and occupation.

Sample size of the project target locations

Health Centers	*# of village*	*# of sample*	*# of female*	*# of male*
Bos Khnor	2	76	58	18
Chamkar Andoung	1	39	26	13
ChamkarKaosou Chamkar Andoung	3	44	29	15
Chey You	2	89	73	16
Damril	5	61	27	34
Preah Theat	3	74	48	26
Speu	3	89	62	27
Thnal Keng	5	78	60	18
Toul Sophy	2	52	24	28
Total	26	602	407	195

Detailed demographic data of the sample respondents, including gender, age, education, employment status, and marital status, is included in annex 5 (result tables).

Sample Weight

To ensure the representativeness of the sample to the target population, the sampling weights were calculated using actual data for each of the target villages obtained from the general population census conducted in 2019. Since this study used a two-stage stratified sample, the sampling weights were calculated based on the sampling probability for each sampling stage. The weights were applied to the analysis to adjust for the unequal probability of selection and to ensure that the results accurately reflected the characteristics of the target population. The following formula was used to calculate the sampling weight:

P_{1ij} is the sampling probability of ith village in the j OD

P_{2hij} is the sampling probability of household for ith village in the j OD

P_{hij} is the overall sampling probability

Let A_j be the number of each selected village, M_{ij} be the total number of households, and $\sum M_{ij}$ the total number of structures in district j. Therefore, the probability of selecting i village would be

$$P_{1ij} = \frac{A_j \times M_{ij}}{\sum M_{ij}}$$

Let L_{hij} be the number of households in i village and G_{hij} be the number of households selected in i village of the j district. The probability of selecting a household would be calculated as

$$P_{2hij} = \frac{G_{hij}}{L_{hij}}$$

Therefore, the overall selection probability for each household would be

$$P_{hij} = P_{1ij} \times P_{2hij} = \frac{A_j \times M_{ij} \times L_{hij}}{\sum M_{ij} \times G_{hij}}$$

The design weight for each household within each village of each district would be the inverse of its overall selection probability:

$$W_{hij} = \frac{1}{P_{hij}}$$

KOBO application

The data for this study were collected using a tablet-survey app called KOBO application, which can be used in both online and offline areas. The use of this app proved to be more effective and efficient than using a traditional paper-based survey method, resulting in better data accuracy and quality.

Qualitative Data Collection

Literature Review

To supplement the quantitative data collected from surveys and interviews, secondary sources such as reports and documents were reviewed. A comprehensive list of literature, documents, and reports was created to gather additional information about the issues and to aid in the development of data collection tools, including the survey questionnaire, guide questions for interviews, and group discussions. The list of literature consulted is available in the Annex 2 section of the report, which details the literature review conducted for this study.

Key Informant Interview (KII)

Qualitative data was obtained from various relevant stakeholders of the project through one-on-one interviews. The purpose was to gather insights and opinions from these stakeholders about the issues at hand. During the key informant interview, the term "mental illness" was mentioned. In the Khmer language, the term used for mental illness is "Chum Ngeu Phlouv Choet," as derived from the mental health first aid booklet. This booklet defines mental illness as encompassing conditions such as depression, general anxiety disorder, psychosis, and problems related to drug use. The list of participants for the key informant interviews is included in Annex 1, which also contains the data collection tools used for the interviews.

Focus Group Discussion (FGD)

The data collection team conducted 3 FGDs in the field with the following groups of the project. The aim of the FGDs was to gather qualitative data and insights from participants regarding the issues and to encourage group discussion and interaction among participants. The list of participants in each FGD is attached in Annex 1 (data collection tools).

- vulnerable people, parent/caretaker group, especially the family members of the persons living with mental illness
- children and adolescent groups, especially amongst children from age 13 to under 18 years old.
- pregnant/lactating women

Data analyses

A concurrent approach to data analysis was employed by analyzing both quantitative and qualitative data simultaneously. The R-Studio application was utilized for analyzing quantitative data, while the qualitative data was analyzed through identifying emerging themes from the interviews and discussions. The report presents consistent findings from both types of data. Any conflicting findings are discussed in the report to explore further understanding and meaning.

Limitation

One major limitation of the study is the challenge of extrapolating the survey results to the entire target population. The survey only included 602 respondents, which is relatively small compared to the actual target population of 99,388. Additionally, the number of respondents within each target group was also limited. As a result, there is a possibility of errors in the population projections due to the smaller sample size. To address this limitation, data from Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were utilized to complement the survey findings. By incorporating information from these additional sources, the study aimed to compensate for the sample size limitation and provide a more comprehensive understanding of the issues at hand.

V. Findings

KAP on Mental Health

Knowledge on Mental Health

Knowledge on MH by all respondents

Knowledge on MH (N/%)	Agree	Disagree	Don't know	Agree	Disagree	Don't know
Mental illness is caused by genetic inheritance	32072	40760	26556	32%	41%	27%
Mental illness is caused by substance abuse	69926	12419	17043	70%	12%	17%
Mental illness is caused by bad things happening to people.	82686	2616	14086	83%	3%	14%
Mental illness is caused by brain disease.	69854	10352	19182	70%	10%	19%
Poverty can be the cause of mental illness.	78467	8717	12204	79%	9%	12%
One can always tell about people with mental illness by his or her physical appearance	29924	49734	19730	30%	50%	20%

Respondents were presented with several statements and asked to indicate whether they agree or disagree with each statement. These statements aimed to assess the level of knowledge about mental health among the participants in the target areas. The results of the survey indicated that 32% of the respondents agreed that mental illness is caused by genetic inheritance, while 70% agreed that mental illness is caused by substance abuse. Additionally, 83% of the respondents agreed that mental illness is caused by bad things happening to people, and 70% agreed that mental illness is caused by brain disease.

Moreover, 79% of the respondents agreed that poverty can be a cause of mental illness. Finally, only 30% of the respondents agreed that mental illness can be identified by physical appearance.

Overall, the survey results highlight both accurate and some misconceptions about the causes and identification of mental illness among the respondents in the target areas. It emphasizes the need for comprehensive mental health education and awareness campaigns to address and correct any misconceptions while promoting accurate knowledge and understanding.

Knowledge on MH by patient families

	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
Mental illness is caused by genetic inheritance	707	3644	1268	13%	65%	23%
Mental illness is caused by substance abuse	4285	254	1080	76%	5%	19%
Mental illness is caused by bad things happening to people.	4941	0	678	88%	0%	12%
Mental illness is caused by brain disease.	3947	994	678	70%	18%	12%
Poverty can be the cause of mental illness.	4433	508	678	79%	9%	12%
One can always tell about people with mental illness by his or her physical appearance	2503	3116	0	45%	55%	0%

The data collected from patient families showed that only 13% of respondents agreed that mental illness is caused by genetic inheritance. However, majority agreed that mental illness is caused by substance abuse, bad things happening to people, brain disease, and poverty. Additionally, up to 45% of respondents agreed that mental illness can be seen by physical appearance.

Knowledge on MH by medical staff (N=25)

	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
Mental illness is caused by genetic inheritance	7	15	3	28%	60%	12%
Mental illness is caused by substance abuse	25	0	0	100%	0%	0%
Mental illness is caused by bad things happening to people.	25	0	0	100%	0%	0%
Mental illness is caused by brain disease.	24	0	1	96%	0%	4%
Poverty can be the cause of mental illness.	24	1	0	96%	4%	0%
One can always tell about people with mental illness by his or her physical appearance	11	14	0	44%	56%	0%

For medical staff, only 28% of respondents agreed that mental illness is caused by genetic inheritance,

while the majority agreed that mental illness is caused by substance abuse, bad life experiences, brain disease, and poverty. Additionally, 44% of medical staff respondents agreed that mental illness can be recognized by physical appearance.

Knowledge on MH by volunteer group (N=9)

	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
Mental illness is caused by genetic inheritance	4	4	1	44%	44%	11%
Mental illness is caused by substance abuse	6	2	1	67%	22%	11%
Mental illness is caused by bad things happening to people.	9	0	0	100%	0%	0%
Mental illness is caused by brain disease.	8	0	1	89%	0%	11%
Poverty can be the cause of mental illness.	9	0	0	100%	0%	0%
One can always tell about people with mental illness by his or her physical appearance	1	7	1	11%	78%	11%

Among the volunteer group, 44% of respondents agreed that mental illness is caused by genetic inheritance, while the majority agreed that mental illness is caused by substance abuse, bad things happening to people, brain disease, and poverty. Only 11% of respondents agreed that mental illness can be seen by physical appearance.

The data were re-coded to enable comparison of the differences between different target groups. A one-way ANOVA was conducted to analyze the differences among the groups.

Questionnaire Items	Re-code
Mental illness is caused by genetic inheritance	Agree=2, Disagree=0, Don't know/Neutral=1
Mental illness is caused by substance abuse	Agree=2, Disagree=0, Don't know/Neutral=1
Mental illness is caused by bad things happening to people.	Agree=2, Disagree=0, Don't know/Neutral=1
Mental illness is caused by brain disease.	Agree=2, Disagree=0, Don't know/Neutral=1
Poverty can be the cause of mental illness.	Agree=2, Disagree=0, Don't know/Neutral=1
One can always tell about people with mental illness by his or her physical appearance	Agree=0, Disagree=2, Don't know/Neutral=1

The table below presents the results of the analysis of knowledge questions asked to the respondents. The questions were recoded into three categories: 0 for incorrect answers, 1 for neutral or don't know, and 2 for correct answers. Each respondent could score between 0 and 12, with a higher score indicating a higher level of knowledge. The total score represents the sum of all scores obtained by respondents in each target group. The average score represents the mean score obtained by each respondent, while the variance indicates the level of spread of data from the mean.

Groups	*Count*	*Sum*	*Average*	*Variance*

General villager	407	3556	8.7	4.3
Child and adolescence	64	529	8.3	4.7
Health care staff	25	242	9.7	1.6
Patient family	17	141	8.3	4.8
Pregnant woman	4	35	8.8	8.9
Volunteer	9	90	10.0	1.8
Vulnerable	35	332	9.5	2.7
Women with younger children	41	375	9.1	1.5

The analysis of variance (ANOVA) is a statistical method used to determine significant differences between three or more groups of data. The ANOVA table provides information on the sources of variation, including differences between groups and differences within groups, as well as the sum of squares (SS), degrees of freedom (df), mean sum of squares (MS), F-statistics (F), probability value (p-value), and F critical value (F crit). A p-value less than 0.05 indicates that the mean scores for each of the target groups are significantly different from each other.

ANOVA						
Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	77.93206	7	11.13315	2.80818	0.006968	2.02498
Within Groups	2354.938	594	3.964543			
Total	2432.87	601				

The results indicate significant differences in the responses among the various target groups (P-value<0.05). On average, healthcare staff and volunteer group had the highest level of knowledge about mental health (MH) compared to general villager group, adolescent group, and patient family group, which all had the lowest scores for MH knowledge. The analysis suggests that targeted efforts to improve knowledge on mental health may be necessary for these groups with lower scores.

The following tables depict the percentage of good and poor knowledge about mental illness among different groups: villagers, patient families, and health staff.

Level of knowledge for general villager group

Knowledge score	N			%			Level of Knowledge
	Female	Male	All	Female	Male	All	
3		1	1	0%	1%	0%	Poor
4	9	1	10	3%	1%	2%	
5	7	7	14	3%	5%	3%	
6	45	10	55	17%	7%	14%	
7	24	8	32	9%	6%	8%	Good
8	37	24	61	14%	18%	15%	
9	27	16	43	10%	12%	11%	
10	75	53	128	28%	39%	31%	
11	17	5	22	6%	4%	5%	

12	31	10	41	11%	7%	10%	
Total score	272	135	407	100%	100%	100%	

Level of knowledge for patient families

knowledge score	N			%			Level of Knowledge
	Female	Male	All	Female	Male	All	
4	1		1	8%	0%	6%	Poor
5	1	1	2	8%	20%	12%	
6	2		2	17%	0%	12%	
8	2		2	17%	0%	12%	Good
9	1		1	8%	0%	6%	
10	5	4	9	42%	80%	53%	
Total score	12	5	17	100%	100%	100%	

Level of knowledge for health staff

Knowledge score	N			%			Level of Knowledge
	Female	Male	All	Female	Male	All	
7	0	1	1	0%	7%	4%	Good
8	1	4	5	9%	29%	20%	
9	0	1	1	0%	7%	4%	
10	7	7	14	64%	50%	56%	
11	1	1	2	9%	7%	8%	
12	2	0	2	18%	0%	8%	
Total score	11	14	25	100%	100%	100%	

Attitude towards Mental Health

Attitude towards MH by all respondents

Attitude towards MH (N/%)	**Agree**	**Disagree**	**Don't know**	**Agree**	**Disagree**	**Don't know**
Life has no value for the people with mental illness	67041	7816	24531	67%	8%	25%
The people with mental illness should not get married.	45812	28530	25046	46%	29%	25%
The people with mental illness should be prevented from having children.	46553	27853	24982	47%	28%	25%

The people with Mental illness should be prevented from walking freely in public places	40200	42473	16716	40%	43%	17%
One should avoid all contact with the people with mental illness	36432	48025	14930	37%	48%	15%
The mentally ill should not be allowed to make decisions, even those concerning routine activities	51662	25561	22165	52%	26%	22%

According to the data, a concerning number of respondents hold stigmatizing attitudes towards people with mental illness. Specifically, 67% of respondents agreed that people with mental illness have no value in life, 46% believed that they should not be allowed to marry, and 47% thought they should not have children. Additionally, 40% agreed that people with mental illness should be restricted from freely walking in public spaces, 37% recommended avoiding all contact with them, and 52% felt that they should not be allowed to make decisions, even those related to routine activities. These attitudes contribute to the ongoing stigma against mental illness and can lead to social isolation, discrimination, and negative health outcomes for people with mental illness.

These attitudes contribute to the ongoing stigma surrounding mental illness, which can result in social exclusion, discrimination, and adverse health outcomes for those affected. The qualitative interviews with stakeholders also confirmed the presence of discrimination against individuals with mental illness and their families within the community.

Addressing these stigmatizing attitudes and promoting mental health inclusion necessitates comprehensive education and awareness campaigns. It is essential to foster empathy, dispel misconceptions, and emphasize the value and rights of individuals living with mental illness. Additionally, community-based initiatives and supportive policies can play a crucial role in challenging stigma and creating an environment of acceptance and understanding.

> "*People still have stigmatization against people with mental illness and their families because mental illness is imbedded in their family genes. The mental illness is like a paper. When the paper is soak up in water, the paper will never be the same anymore. If females are sick of mental illness, no one will marry her.*" (KII with medical staff)

Attitude towards MH by patient families

	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
Life has no value for the people with mental illness	3166	484	1969	56%	9%	35%
The people with mental illness should not get married.	4260	1359	0	76%	24%	0%
The people with mental illness should be prevented from having children.	4260	1359	0	76%	24%	0%
The people with Mental illness should be prevented from walking freely in public places?	2281	3338	0	41%	59%	0%

One should avoid all contact with the people with mental illness?	616	4856	146	11%	86%	3%
The mentally ill should not be allowed to make decisions, even those concerning routine activities	4249	1224	146	76%	22%	3%

The results regarding patient families' attitudes towards mental illness are concerning. Over half (56%) believed that life has no value for people with mental illness, and a majority (76%) thought that those with mental illness should not get married or have children. Furthermore, a significant portion (41%) believed that people with mental illness should be prevented from walking freely in public spaces, and a small proportion (11%) agreed to avoid all contact with people with mental illness. Most notably, a majority (76%) of patient families agreed that individuals with mental illness should not be allowed to make decisions, even those concerning routine activities. These findings indicate a pressing need for education and advocacy efforts to combat stigmatization and discrimination towards those with mental illness.

Attitude towards MH by medical staff (N=25)

	Agree	Disagree	Don't Know
Life has no value for the people with mental illness	64%	24%	12%
The people with mental illness should not get married.	28%	60%	12%
The people with mental illness should be prevented from having children.	28%	60%	12%
The people with Mental illness should be prevented from walking freely in public places?	16%	72%	12%
One should avoid all contact with the people with mental illness?	4%	88%	8%
The mentally ill should not be allowed to make decisions, even those concerning routine activities	12%	76%	12%

According to the survey results, a concerning number of medical staff hold negative attitudes towards people with mental illness. Specifically, 64% of respondents agreed that life has no value for people with mental illness. 28% agreed that people with mental illness should not get married, and the same percentage agreed that they should be prevented from having children. Additionally, 16% agreed that people with mental illness should be prevented from walking freely in public spaces, and 4% agreed that one should avoid all contact with people with mental illness. Finally, 12% agreed that people with mental illness should not be allowed to make decisions, even those concerning routine activities.

Attitude towards MH by volunteer group (N=9)

	Agree	Disagree	Don't Know
Life has no value for the people with mental illness	56%	11%	33%
The people with mental illness should not get married.	56%	44%	0%
The people with mental illness should be prevented from having children.	56%	44%	0%
The people with Mental illness should be prevented from walking freely in public places?	56%	44%	0%

One should avoid all contact with the people with mental illness?	11%	89%	0%
The mentally ill should not be allowed to make decisions, even those concerning routine activities	89%	11%	0%

According to the data, the volunteer group has some concerning attitudes towards mental illness. 56% of them agreed that life has no value for people with mental illness, and the same percentage agreed that people with mental illness should not get married or have children. Additionally, 56% agreed that people with mental illness should be prevented from walking freely in public spaces. However, it's positive to see that only 11% agreed to avoid all contact with people with mental illness. On the other hand, 89% of the volunteer group agreed that people with mental illness should not be allowed to make decisions, even those concerning routine activities, which is a worrying attitude towards their autonomy and rights.

The data were recoded to compare the differences in attitude towards mental illness across target groups. The higher score represents a more positive attitude towards mental illness, while a lower score represents a more negative attitude. The total score for this variable ranges from 0 (minimum score) up to 12 (maximum score) for each respondent. The sum represents the total number of scores for all the respondents in each different target group, ranging from 0 to the maximum of 7,224.

Questionnaire Items	Re-code
Life has no value for the people with mental illness	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**
The people with mental illness should not get married.	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**
The people with mental illness should be prevented from having children.	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**
The people with Mental illness should be prevented from walking freely in public places?	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**
One should avoid all contact with the people with mental illness?	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**
The mentally ill should not be allowed to make decisions, even those concerning routine activities	**Agree = 0, Disagree = 2, Don't know/Neutral = 1**

The results show that the health care group has the highest positive attitude towards MI than any other groups, with an average score of 8.3 out of 12. In contrast, the general population group has the most negative attitude towards MI, with an average score of only 4.2 out of 12.

Groups	*Count*	*Sum*	*Average*	*Variance*
General villager	407	1710	4.2	8.5
Child and adolescence	64	510	8.0	12.9
Health care staff	25	207	8.3	8.0
Patient family	17	80	4.7	7.0
Pregnant woman	4	25	6.3	7.6
Volunteer	9	47	5.2	12.2
Vulnerable	35	150	4.3	6.2
Women with younger children	41	196	4.8	6.9

According to the interview with medical staff, it was confirmed that health care staff do not discriminate against individuals with mental illness. However, they do face a challenge in terms of lacking the necessary skills and expertise to effectively help and treat individuals with mental illness.

> *"We do not discriminate against patients with mental illness. We just do not know how to help them because we lack of expertise to treat the patients well. We do not know how to motivate them to get proper treatment."* (KII with health staff)

> *"We welcome people all around here to come to get services from us. We have sleeping medicine to help them to sleep better. If they could not sleep well, they can come to take the medicine from our health center."* (KII with health staff)

> *"Health center welcome and give him sleeping medicine to drink. With the medicine, he can sleep longer. Without medicine, he speaks too much. With medicine, he can sleep and speak less."* (FGD with patient family members)

The ANOVA table indicates statistically significant differences among all the various target groups in the project.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1108.54	7	158.3628	18.24973	4.76E-22	2.02498
Within Groups	5154.459	594	8.67754			
Total	6262.998	601				

The following tables show the percentage of positive and negative attitude about mental illness among different groups: villagers, patient families, and health staff.

Level of attitude for general villager group

Attitude score	N			%			Level
	Female	Male	All	Female	Male	All	
0	35	23	58	13%	17%	14%	
1	18	3	21	7%	2%	5%	
2	41	13	54	15%	10%	13%	
3	27	8	35	10%	6%	9%	
4	50	17	67	18%	13%	16%	
5	17	8	25	6%	6%	6%	
6	46	29	75	17%	21%	18%	Negative
7	8	2	10	3%	1%	2%	
8	12	15	27	4%	11%	7%	
9	3	3	6	1%	2%	1%	
10	15	12	27	6%	9%	7%	
11	0	1	1	0%	1%	0%	Positive

12	0	1	1	0%	1%	0%	
Total score	272	135	407	100%	100%	100%	

Level of attitude for patient families

Attitude score	N			%			Level
	Female	Male	All	Female	Male	All	
2	3	1	4	25%	20%	24%	
3	0	1	1	0%	20%	6%	
4	4	1	5	33%	20%	29%	
5	3	0	3	25%	0%	18%	
6	1	0	1	8%	0%	6%	Negative
8	1	1	2	8%	20%	12%	
12	0	1	1	0%	20%	6%	Positive
Total	12	5	17	100%	100%	100%	

Level of attitude for health staff

Attitude score	N			%			Level
	Female	Male	All	Female	Male	All	
3	0	1	1	0%	7%	4%	
4	3	1	4	27%	7%	16%	
6	0	1	1	0%	7%	4%	Negative
7	1	2	3	9%	14%	12%	
8	2	2	4	18%	14%	16%	
10	0	6	6	0%	43%	24%	
11	2	1	3	18%	7%	12%	
12	3	0	3	27%	0%	12%	Positive
Total	11	14	25	100%	100%	100%	

Perception towards mental health

Perception towards MH by all respondents

Perception towards MH (N/%)	Agree	Disagree	Don't know	Agree	Disagree	Don't know
People with mental health problems are largely to blame for their own condition.	7916	77236	14236	8%	78%	14%
People with Mental illness are not capable of true friendships.	41761	20803	36823	42%	21%	37%
People with mental illness can work.	75097	10593	13698	76%	11%	14%
People with mental illness are usually dangerous.	44794	41129	13465	45%	41%	14%

People at risk of harming themselves or others should be isolated in a locked room	46803	20063	32522	47%	20%	33%
Anyone can suffer from a mental illness	86359	4934	8095	87%	5%	8%
People with mental illness are insane	89499	800	9089	90%	1%	9%

The data reveals that 8% of respondents agreed to assign blame to individuals with MI for their own condition. Additionally, 42% agreed that people with MI cannot form genuine friendships, while 76% agreed that individuals with MI can be employed. Furthermore, 45% agreed that people with MI are dangerous, and 47% agreed with the notion of confining individuals with MI. On a more positive note, 87% agreed that anyone can experience MI. However, 90% agreed that individuals with MI are insane. Addressing these stigmatizing attitudes requires comprehensive education and awareness campaigns that challenge misconceptions and promote empathy, understanding, and inclusivity. It is crucial to emphasize that mental illness is not a character flaw or a sign of weakness, but rather a health condition that can be managed with appropriate support and treatment. By fostering a more compassionate and informed society, we can create an environment that promotes mental health well-being and reduces the stigma faced by individuals with mental illness.

Perception towards MH by patient families

Perception towards MH (N/%)	Agree	Disagree	Don't know	Agree	Disagree	Don't know
People with mental health problems are largely to blame for their own condition.	608	5011	0	11%	89%	0%
People with Mental illness are not capable of true friendships.	1939	2163	1517	35%	38%	27%
People with mental illness can work.	4780	0	0	85%	0%	0%
People with mental illness are usually dangerous.	1180	4101	338	21%	73%	6%
People at risk of harming themselves or others should be isolated in a locked room	1573	3235	811	28%	58%	14%
Anyone can suffer from a mental illness	5619	0	0	100%	0%	0%
People with mental illness are insane	5619	0	0	100%	0%	0%

Among patient families, 11% of respondents agreed to assign blame to individuals with MI for their own condition. Moreover, 35% agreed that people with MI cannot establish genuine friendships, while 85% agreed that individuals with MI can engage in employment. Additionally, 21% agreed that people with MI are dangerous, and 28% agreed with the idea of confining individuals with MI. It is worth noting that 100% of respondents agreed that anyone can experience MI, and 100% agreed that individuals with MI are insane.

Perception towards MH by medical staff (N=25)

Perception towards MH (N/%)	Agree	Disagree	Don't know
People with mental health problems are largely to blame for their own condition.	12%	88%	0%

People with Mental illness are not capable of true friendships.	44%	24%	32%
People with mental illness can work.	80%	4%	16%
People with mental illness are usually dangerous.	56%	32%	12%
People at risk of harming themselves or others should be isolated in a locked room	68%	32%	0%
Anyone can suffer from a mental illness	100%	0%	0%
People with mental illness are insane	76%	0%	24%

Among medical staff, 12% of respondents agreed to attribute blame to individuals with MI for their own condition. Additionally, 44% agreed that people with MI face difficulties in forming genuine friendships, while 80% agreed that individuals with MI are capable of engaging in employment. Furthermore, 56% agreed with the notion that people with MI are perceived as dangerous, and 68% agreed with the idea of confining individuals with MI. It is noteworthy that 100% of respondents agreed that anyone can experience MI, and 76% agreed that individuals with MI are insane.

Perception towards MH by volunteer group (N=9)

Perception towards MH (N/%)	**Agree**	**Disagree**	**Don't know**
People with mental health problems are largely to blame for their own condition.	0%	100%	0%
People with Mental illness are not capable of true friendships.	22%	33%	44%
People with mental illness can work.	100%	0%	0%
People with mental illness are usually dangerous.	11%	89%	0%
People at risk of harming themselves or others should be isolated in a locked room	100%	0%	22%
Anyone can suffer from a mental illness	100%	0%	0%
People with mental illness are insane	100%	0%	0%

Among the volunteer group, none of the respondents (0%) agreed to attribute blame to individuals with MI for their own condition. However, 22% agreed that people with MI face challenges in forming genuine friendships. On the positive side, 100% of respondents agreed that individuals with MI are capable of working. Only 11% agreed with the perception that people with MI are dangerous. Surprisingly, 100% of respondents agreed with the idea of confining individuals with MI, which may warrant further exploration. Additionally, all respondents (100%) acknowledged that anyone can experience MI, and all respondents agreed that people with MI may be labeled as having diminished mental stability.

The perception data were recoded as shown in the following table to facilitate the comparison of significant differences among the target groups. The score range for perception varies from 0 (minimum) to 14 (maximum).

Questionnaire Items	**Re-code**
People with mental health problems are largely to blame for their own condition.	**Agree=0, Disagree=2, Don't know/Neutral=1**

People with Mental illness are not capable of true friendships.	**Agree=0, Disagree=2, Don't know/Neutral=1**
People with mental illness can work.	**Agree=2, Disagree=0, Don't know/Neutral=1**
People with mental illness are usually dangerous.	**Agree=0, Disagree=2, Don't know/Neutral=1**
People at risk of harming themselves or others should be isolated in a locked room	**Agree=0, Disagree=2, Don't know/Neutral=1**
Anyone can suffer from a mental illness	**Agree=2, Disagree=0, Don't know/Neutral=1**
People with mental illness are insane	**Agree=0, Disagree=2, Don't know/Neutral=1**

The following table highlights that the general villager group holds the most negative perception of mental illness compared to the other groups.

Groups	*Count*	*Sum*	*Average*	*Variance*
General villager	407	3021	7.4	5.1
Child and adolescence	64	534	8.3	5.6
Health care staff	25	199	8.0	2.7
Patient family	17	151	8.9	9.4
Pregnant woman	4	30	7.5	1.0
Volunteer	9	94	10.4	1.8
Vulnerable	35	285	8.1	2.0
Women with younger children	41	325	7.9	5.8

The ANOVA table reveals that there are significant differences among the results from each of the target groups.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	160.1958	7	22.88511	4.622528	4.74E-05	2.02498
Within Groups	2940.763	594	4.950779			
Total	3100.958	601				

Practice on Mental Health

Practice on MH by all respondents

	Agree	**Disagree**	**Don't know**	**Agree**	**Disagree**	**Don't know**
I would be afraid to have a conversation with a mentally ill person.	34176	56462	8750	34%	57%	9%
If I was suffering from a mental health illness, I would not want people to know about it.	23732	64180	11476	24%	65%	12%
I could marry someone with a mental illness.	11697	72601	15090	12%	73%	15%

I would be ashamed if people knew that someone in my family had been diagnosed with a mental illness.	27743	65086	6558	28%	65%	7%
One should hide his/her mental illness from his/her family.	12280	80029	7079	12%	81%	7%

According to the data, 34% of individuals are afraid to engage in conversations with persons who have mental illness. Additionally, 24% of individuals would prefer to keep their own mental illness hidden from others. Only 12% of respondents agreed to marry someone with mental illness. Furthermore, 28% of individuals would feel ashamed if they had mental illness, and 12% would choose not to disclose their mental illness to others.

Majority of people, particularly females, expressed strong reluctance to marry someone with a mental illness. When asked for their reasons, many respondents cited fear and concerns about their own future as primary factors influencing their decision.

It is important to address these stigmatizing attitudes and perceptions. Education, awareness campaigns, and promoting open dialogue about mental health can help dispel misconceptions, reduce fear, and encourage empathy and understanding. By fostering a supportive and inclusive environment, we can work towards breaking down the barriers of stigma and discrimination associated with mental illness.

> "*We would not get married with people with mental illness because we are afraid that they might hurt us.*" FGD with children and adolescent group.
>
> *"No body wants to get married with sick and crazy people."* FGD with vulnerable groups of people.
>
> *"We have to think about our future. We want to have a good future if we marry someone."* FGD with pregnant and lactating group of women.

Practice on MH by patient families

	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
I would be afraid to have a conversation with a mentally ill person.	825	4511	283	15%	80%	5%
If I was suffering from a mental health illness, I would not want people to know about it.	561	5058	0	10%	90%	0%
I could marry someone with a mental illness.	484	5135	0	9%	91%	0%
I would be ashamed if people knew that someone in my family had been diagnosed with a mental illness.	1455	4164	0	26%	74%	0%
One should hide his/her mental illness from his/her family.	283	5336	0	5%	95%	0%

Among patient families, 15% expressed fear when engaging in conversations with individuals with mental

illness. A smaller percentage, 10%, admitted that they would prefer to keep their own mental illness hidden from others. Only 9% agreed to consider marrying someone with a mental illness. Additionally, 26% admitted that they would feel a sense of shame associated with mental illness, while 5% stated that they would choose not to disclose their own mental illness to others.

Practice on MH by medical staff (N=25)

	Agree	Disagree	Don't know
I would be afraid to have a conversation with a mentally ill person.	16%	84%	0%
If I was suffering from a mental health illness, I would not want people to know about it.	4%	96%	0%
I could marry someone with a mental illness.	16%	48%	36%
I would be ashamed if people knew that someone in my family had been diagnosed with a mental illness.	12%	88%	0%
One should hide his/her mental illness from his/her family.	8%	92%	0%

Among medical staff, 16% expressed fear when engaging in conversations with individuals with mental illness. A smaller percentage, 4%, stated that they would prefer to keep their own mental illness hidden from others. Only 16% agreed to marry someone with a mental illness. Additionally, 12% admitted that they would feel a sense of shame associated with mental illness, while 8% stated that they would choose not to disclose their own mental illness to others.

Practice on MH by volunteer group (N=9)

	Agree	Disagree	Don't know
I would be afraid to have a conversation with a mentally ill person.	11%	89%	0%
If I was suffering from a mental health illness, I would not want people to know about it.	0%	100%	0%
I could marry someone with a mental illness.	33%	67%	0%
I would be ashamed if people knew that someone in my family had been diagnosed with a mental illness.	0%	100%	0%
One should hide his/her mental illness from his/her family.	0%	100%	0%

Within the volunteer group, 11% expressed fear when engaging in conversations with individuals with mental illness. None of the respondents indicated a desire to keep their own mental illness hidden from others. A significant portion, 33%, agreed to consider marrying someone with a mental illness. None of the participants reported feeling any sense of shame associated with mental illness, and none indicated a need to withhold information about their own mental illness from others.

The practice data were recoded as shown in the following table. The scores range from 0 (minimum) to 10 (maximum). These scores reflect the range of practices observed within each target group, with higher scores indicating more favorable and supportive practices related to mental illness.

Questionnaire Items	Re-code
I would be afraid to have a conversation with a mentally ill person.	Agree=0, Disagree=2, Don't know/Neutral=1
If I was suffering from a mental health illness, I would not want people to know about it.	Agree=0, Disagree=2, Don't know/Neutral=1
I could marry someone with a mental illness.	Agree=2, Disagree=0, Don't know/Neutral=1
I would be ashamed if people knew that someone in my family had been diagnosed with a mental illness.	Agree=0, Disagree=2, Don't know/Neutral=1
One should hide his/her mental illness from his/her family.	Agree=0, Disagree=2, Don't know/Neutral=1

The results indicate that the general villager group exhibits the most negative practices towards mental illness compared to the other groups.

Groups	*Count*	*Sum*	*Average*	*Variance*
General villager	407	2852	7.0	5.1
Child and adolescence	64	447	7.0	5.4
Health care staff	25	213	8.5	2.8
Patient family	17	145	8.5	4.0
Pregnant woman	4	32	8.0	5.3
Volunteer	9	82	9.1	2.1
Vulnerable	35	288	8.2	3.4
Women with younger children	41	323	7.9	5.0

The ANOVA table demonstrates significant differences in the results across all the different target groups.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	179.2282	7	25.60402	5.259121	7.68E-06	2.02498
Within Groups	2891.888	594	4.868499			
Total	3071.116	601				

The following tables show the percentage of positive and negative practice about mental illness among different groups: villagers, patient families, and health staff.

Level of practice for general villager group

Practice score	N			%			Level
	Female	Male	All	Female	Male	All	
0	2	0	2	1%	0%	0%	
1	0	1	1	0%	1%	0%	
2	9	4	13	3%	3%	3%	
3	5	4	9	2%	3%	2%	
4	31	13	44	11%	10%	11%	
5	24	9	33	9%	7%	8%	Negative
6	45	16	61	17%	12%	15%	
7	22	9	31	8%	7%	8%	
8	72	50	122	26%	37%	30%	
9	9	3	12	3%	2%	3%	
10	53	26	79	19%	19%	19%	Positive
Total	272	135	407	100%	100%	100%	

Level of practice for patient families

Practice score	N			%			Level
	Female	Male	All	Female	Male	All	
3	0	1	1	0%	20%	6%	Negative
6	1	1	2	8%	20%	12%	
8	3	2	5	25%	40%	29%	
10	8	1	9	67%	20%	53%	Positive
Total	12	5	17	100%	100%	100%	

Level of practice for health staff

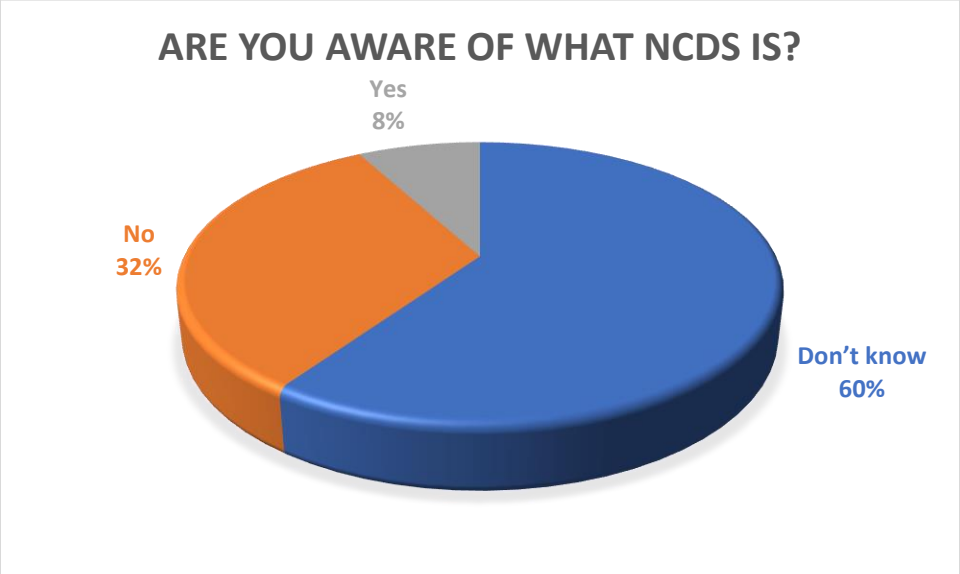
Practice score	N			%			Level
	Female	Male	All	Female	Male	All	
4	1	0	1	9%	0%	4%	
5	1	1	2	9%	7%	8%	Negative
8	2	5	7	18%	36%	28%	
9	2	5	7	18%	36%	28%	
10	5	3	8	45%	21%	32%	Positive
Total	11	14	25	100%	100%	100%	

KAP on NCDs

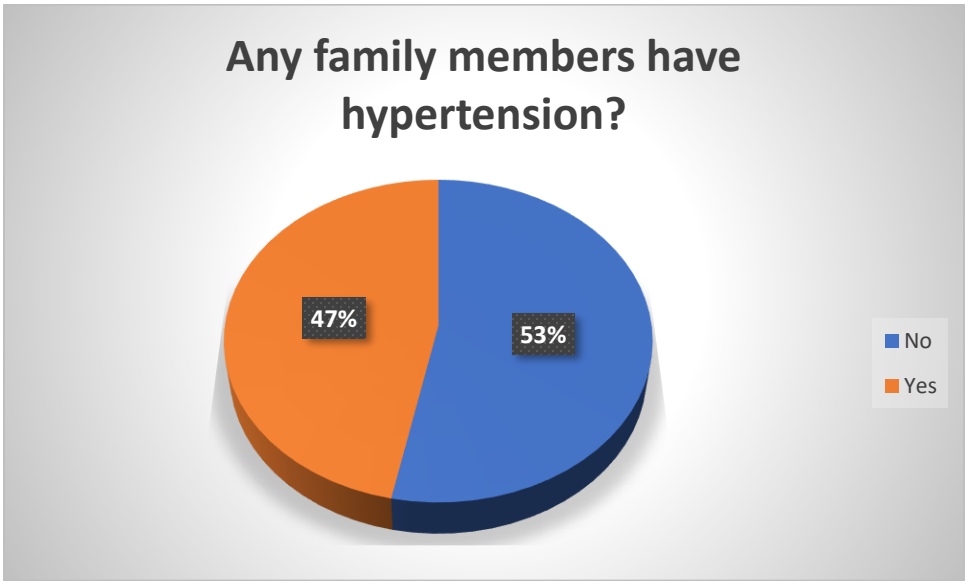
Knowledge on NCDs

Respondents were asked if they are aware of what non-communicable diseases (NCDs) are. The data

reveals a very limited understanding of NCDs among people, as more than 90% of individuals across the entire target areas of the project reported not being aware of NCDs.



However, when asked if they have any family members who have experienced high blood pressure or hypertension, 47% of respondents confirmed that they have family members living with hypertension. However, they expressed uncertainty about the causes of the disease and how to prevent it.



Qualitative data further confirmed that people in the communities generally lack knowledge and education about NCDs, even when their family members are affected by such conditions.

> "*My family members have hypertension but I know nothing about this disease. I only saw that they are taking medication on a regular basis.*" FGD with pregnant and lactating group of women.

Attitude on NCDs

Respondents were asked to indicate their agreement or disagreement with the following statements. Majority of people in the target areas agree that factors such as drinking, consuming unhealthy food, and lack of physical exercise have an impact on their health.

FGD sessions conducted with community members further confirmed unanimous agreement regarding the negative impact of alcohol consumption, unhealthy eating habits, and lack of exercise on their overall health.

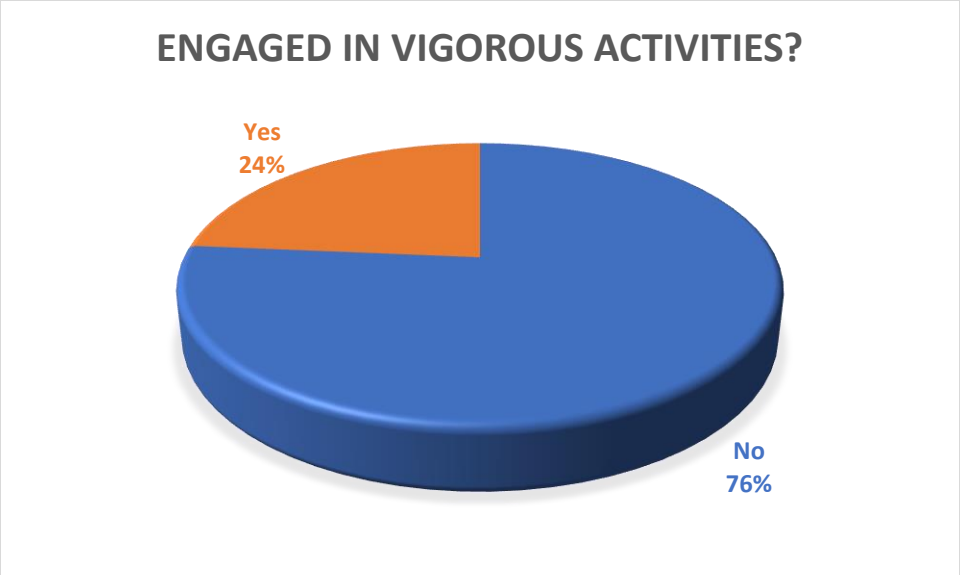
> "*We agreed that drinking alcohol, eating unhealthy food, and not doing exercise all negatively affect our health.*" FGD with pregnant and lactating group of women.

	Agree	Don't know	Agree	Don't know
Drinking alcohol affects our health?	99105	283	100%	0%
Eating unhealthy food affects our health?	99219	169	100%	0%
Not doing physical activity/exercise affects our health?	99219	169	100%	0%

Practice on NCDs

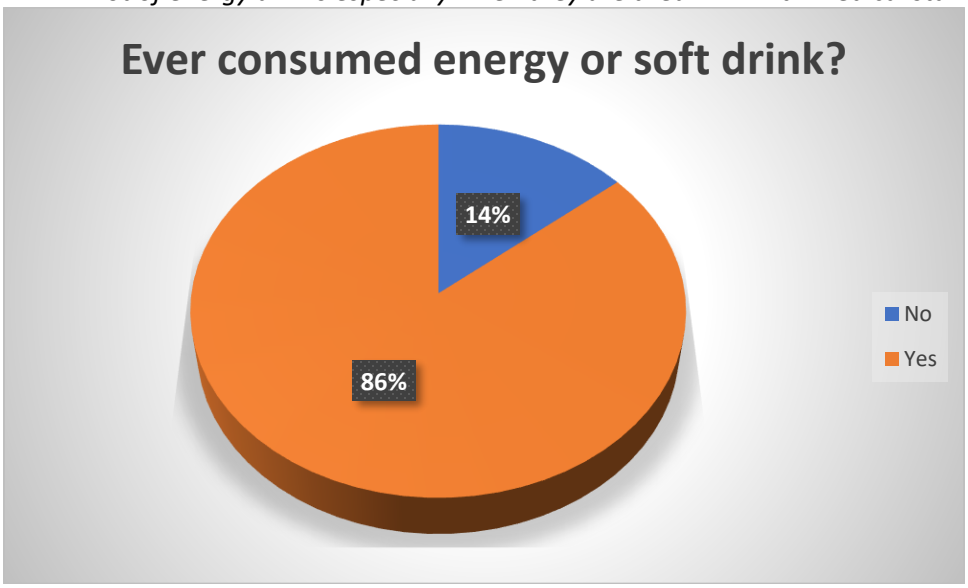
Despite the general understanding that alcohol consumption has negative health effects, the data reveals that 31% of respondents admitted to consuming alcohol within the past 7 days. Among this group, 75% were males and 25% were females. For more detailed information on alcohol consumption, refer to Annex 5, which contains the result tables.

Respondents were surveyed about their participation in vigorous-intensive physical activities. The data indicates that 24% of all individuals reported engaging in such activities. Among this group, a higher percentage of males (73%) participated in vigorous physical activities compared to females (27%).



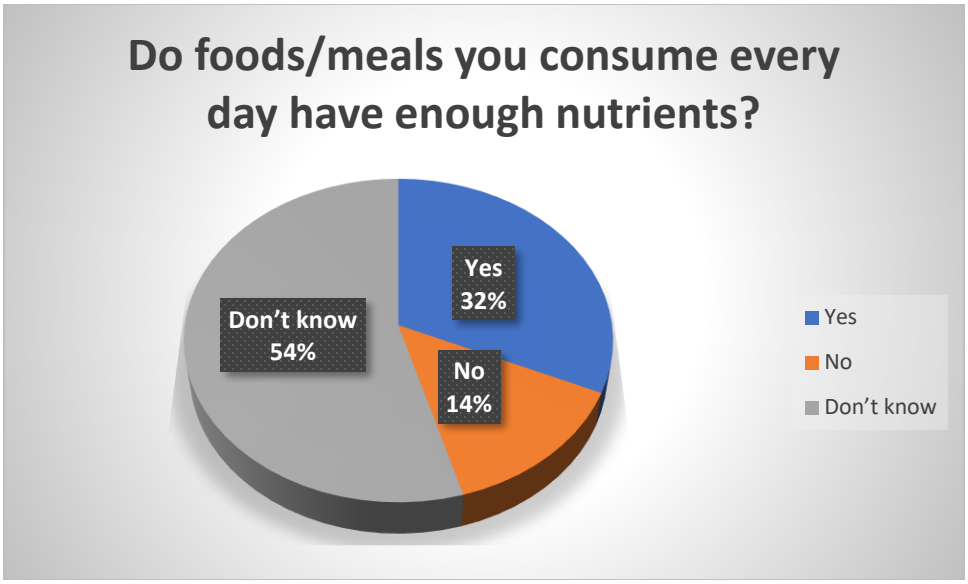
Respondents were surveyed about their consumption of energy or soft drinks. The data reveals that a significant majority, 86% of all individuals, reported consuming such beverages. Furthermore, KII with medical staff confirmed that people in the communities have a preference for energy or soft drinks, particularly when they feel tired.

> *"A lot of people here have hypertension especially the poor rather than the rich. The poor drink a lot of energy drinks especially when they are tired."* KII with medical staff.



Nutritional Food and Healthy Diets

Respondents were surveyed regarding the nutrient content of their daily meals and whether they believed their food provided sufficient nutrients. The data revealed that approximately 70% of individuals in the target areas either responded with "Do not know" or answered "No" when asked about the adequacy of nutrients in their meals. This suggests that people in the target areas generally lack awareness about the nutritional value of the foods they consume.



The demographic data obtained from the survey align with the typical characteristics of individuals residing in rural areas. The survey indicated that approximately 85% of people in the target areas have either not received any formal education or have only completed primary schooling. These findings are consistent with the figures obtained from the general population census conducted in 2019 by the National Institute of Statistics of the Ministry of Planning. The census data revealed that 72.5% of the population had completed primary education, 21.8% had completed lower secondary education, and only a small percentage, approximately 2.8% or 2.9%, had completed secondary education or attained education beyond the secondary level.

Consequently, the survey revealed that nearly 95% of all respondents in the target areas do not have regular employment. Instead, they are predominantly engaged in activities such as farming or providing unpaid care to family members within their households. The census data indicate that over 90% of the population is classified as employed since individuals involved in agricultural work are also counted as employed. However, for the purpose of this survey, employment is specifically defined as having a regular salary, such as government officials or staff working for private companies or banks, with consistent income. Therefore, those involved in agricultural work without a regular income are categorized as unemployed in this study.

Due to their limited educational background, the respondents face challenges in understanding the nutrient composition of their daily foods and meals. This lack of knowledge is primarily attributed to their educational limitations. For further details on the demographic data, refer to Annex 5 in the attached result tables.

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The findings from key informant interviews with health center staff and village leaders corroborate the survey results, indicating that people in the target areas possess a low level of knowledge regarding

nutritional food and healthy diets. These interviews provide further confirmation that the community members lack awareness and understanding of proper nutrition and the importance of maintaining a healthy diet.

> "*Even me as a medical staff working here in this community, I do not know if the food I consume has enough nutrients or not. I do not even know what kind of calories or how much calories in my food I eat every day. General villagers would not know about this at all. People over here generally have low education. They are poor and they do not have enough money to do what they want to do. They are able to eat only what is available at the market in their local areas. In overall, they do not know anything at all about their food consumption.*" (KII with medical staff)

> "*It is their culture. The way they live since their parents and ancestors. People eat what they used to eat before. As they only eat certain types of food, the sellers can also sell certain types of foods. They just eat fish paste and rice and one or two cucumbers or eggplants.*" (KII with village chief)

Gender Equality in Mental Health

Respondents were asked to express their perspectives on the need for mental health services between females and males. The data reveals the following insights:

- Females requiring more mental health services: 37% of all people believe that females need more mental health services than males. This viewpoint suggests a recognition of potential gender-specific mental health needs or challenges faced by females.

- No difference in need: 42% of respondents indicated that there is no difference between females and males in terms of the need for mental health services. This perspective highlights the belief that mental health needs can be equally prevalent and significant across genders.

Understanding the varying perceptions on the need for mental health services is essential for designing appropriate interventions and support systems. It is crucial to consider both gender-specific factors and the universal aspects of mental health when developing strategies to address the mental well-being of all individuals, regardless of their gender.

Need of MH service		N	% of grand total
Female	Both are the same	18849	19%
	Don't know	5992	6%
	Female more	21117	21%
	Male more	4864	5%
Male	Both are the same	23175	23%
	Don't know	6481	7%
	Female more	16030	16%
	Male more	2879	3%
All	Both are the same	42025	42%
	Don't know	12474	13%
	Female more	37147	37%
	Male more	7742	8%

Interestingly, even among male respondents, a majority agreed that females are in greater need of mental health services compared to males. This perception within the community is rooted in the belief that women are relatively weaker than men and tend to worry and think excessively. As a result, the community holds the view that women require more mental health support and services to address their specific needs.

Qualitative data collected from individuals in the communities further supports the notion that females are in greater need of mental health services compared to males. These insights obtained through in-depth discussions and interviews reveal a consensus among community members that women face specific mental health challenges that necessitate targeted support and interventions. By acknowledging and addressing these gender-specific mental health needs, it becomes possible to develop tailored interventions and support systems that effectively cater to the mental well-being of women in the community.

> "*Women are in need of more mental health services than men because they think too much. They worried too much. They have to take care of the family members in the house. Sometimes, they are scared that their husbands may find other girls.*" FGD with pregnant and lactating group of women.

According to the survey data, it was found that females are more likely to utilize mental health services compared to males. This finding suggests that there may be a greater recognition and willingness among females to seek help for their mental health concerns.

Use MH services		**N**	**%**
All	Both are the same	43747	44%
	Don't know	15848	16%
	Female more	36042	36%
	Male more	3751	4%
Make decision			
All	Both are the same	61328	62%
	Don't know	17153	17%
	Female more	18673	19%
	Male more	2234	2%

However, when it comes to the decision-making process of seeking mental health help, both females and males are reported to make decisions together. This suggests that there is a collaborative approach in determining the need for mental health services within the community. The data indicates that individuals, regardless of gender, are actively involved in the decision-making process, emphasizing the importance of shared decision-making and support from both genders when it comes to seeking mental health assistance.

This finding highlights the significance of promoting a supportive and inclusive environment where individuals, irrespective of their gender, are encouraged to engage in open discussions about mental health and jointly make decisions regarding seeking appropriate support and treatment.

Sources and Information on Mental Health

According to the survey data, the majority of respondents indicated that they would seek help from medical facilities when in need of mental health services. Specifically, 69% of the respondents mentioned that they would prefer to go to the local health center as their first choice. Approximately 20% stated that they would opt for the district or provincial hospital, while a smaller percentage (11%) expressed their willingness to seek assistance from the national hospital. Additionally, around 6% mentioned that they would consider private clinics for mental health services.

In terms of traditional healing practices, only a small proportion (4%) of respondents indicated a preference for traditional healers. This can be attributed to the belief that medical treatments offered by healthcare centers are more effective and can provide relief from symptoms such as improved sleep quality.

Overall, the data suggests a preference for seeking mental health services from medical facilities, primarily due to perceived effectiveness and access to medication. However, the financial burden remains a considerable challenge for individuals seeking mental health support in these settings.

Qualitative data from the survey participants further supported the notion that traditional healers are not the primary choice for seeking mental health services. The data indicated that traditional healing practices are typically considered as a last resort when medical treatments, particularly those provided by professional healthcare staff, fail to produce desired results.

This shift in preference can be attributed to several factors, including changing beliefs, increased access to medical facilities, and a growing awareness of the effectiveness of modern medical treatments for mental health conditions. People have come to recognize that seeking assistance from healthcare professionals, such as doctors and mental health specialists, offers more comprehensive approaches to addressing mental health concerns.

The qualitative data, therefore, reinforce the trend observed in the quantitative data, indicating a diminished reliance on traditional healers as the primary choice for mental health services. Instead, individuals are more inclined to seek help from medical facilities and healthcare professionals, emphasizing their trust in modern medical practices and the potential for more effective interventions.

> "*Seeking traditional healing is also a choice, if the patients cannot find the right medical treatment.*" FGD with vulnerable groups of people

> "*There are still some people going to receive blessing water from the monk in the pagoda to heal their mental health. Scientifically, this water could not help heal person with mental illness. However, culturally, it motivates their feeling. But to me, I think it is just a waste of their time.*" KII with medical staff

	N	%
Go to health center	68406	69%
Go to district referral hospital	21240	21%
Go to provincial hospital	21440	22%
Go to national hospital	10489	11%

Go to private clinics	6425	6%
Go to traditional healers	3506	4%

Barriers to Accesses and Uses of Mental Health Services

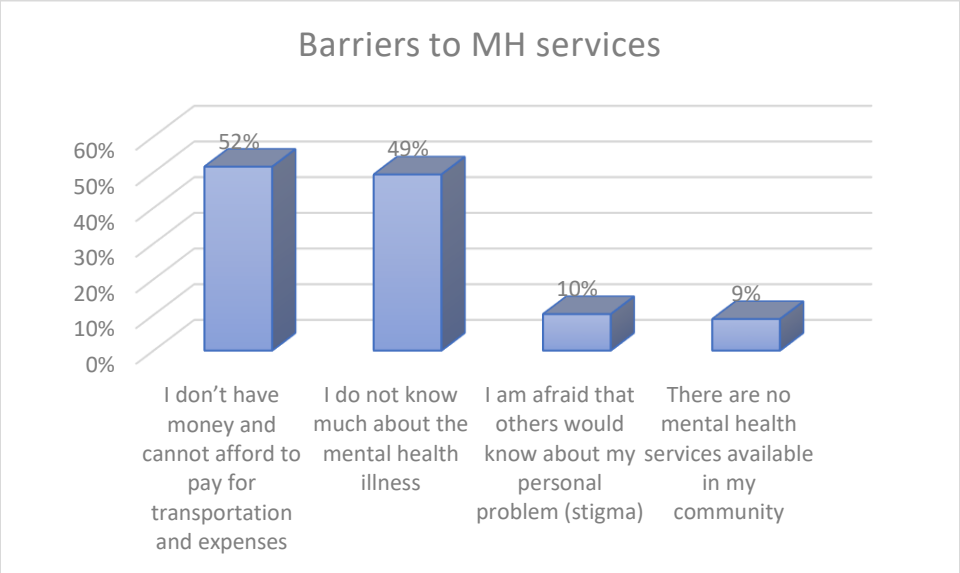
Respondents in the survey were asked to identify the barriers they face when accessing and utilizing mental health services. The data revealed several significant barriers that hinder individuals and their families from seeking help.

The foremost barrier mentioned by 52% of the respondents is the lack of financial means to cover transportation costs associated with seeking mental health services. This financial constraint poses a significant challenge for individuals and their families, particularly in rural areas where access to mental health facilities may be limited.

The second major barrier identified by 49% of the respondents is the lack of understanding about mental illness. Many individuals expressed limited knowledge and awareness about mental health conditions, making it difficult for them to recognize their own symptoms or understand the need for seeking professional help.

Stigma and discrimination also emerged as an important barrier, with some individuals expressing concerns about being judged or mistreated if their mental health issues were known. Fear of stigma and discrimination can prevent individuals from openly discussing their mental health concerns or seeking appropriate support.

Furthermore, the lack of access to high-quality mental health treatment services within the community was highlighted as a significant barrier. The data suggests that if effective treatment services were readily available, more individuals would be inclined to seek help for their mental health issues.



Qualitative data from the survey participants further confirmed these barriers. The lack of knowledge about mental health, financial constraints, limited availability of quality mental health treatment services,

and the presence of stigma and discrimination were consistently identified as major obstacles to accessing and utilizing mental health services.

These findings underscore the importance of addressing these barriers to improve access to mental health services. Efforts should focus on raising awareness, providing affordable transportation options, improving the availability and quality of treatment services, and implementing measures to reduce stigma and discrimination associated with mental health.

> "*I do not have money to pay for transportation. Just to bring the patient to Phnom Penh and come back for both the patient and the accompanying person costs nearly $25 already for transportation. How about the other associated costs such as food, accommodation, and other medical expenses such as consultation fee and medication fee.*" KII with VHSG members

> "*Even me as a medical staff providing services to people here, I do not know much about mental health. What about villagers in the community? People would not even know whether they are actually sick of mental illness or not.*" KII with medical staff

> "*Some family still feel shameful about mental illness.* People still do not understand about mental illness. They hide their illness because they are shy." KII with VHSG members

> "*We do not even have mental health specialist in our health center. Although we have medication to give to patients with mental illness, the quality of knowledge and understanding, especially the expertise to treat mental illness, is still limited.*" KII with medical staff

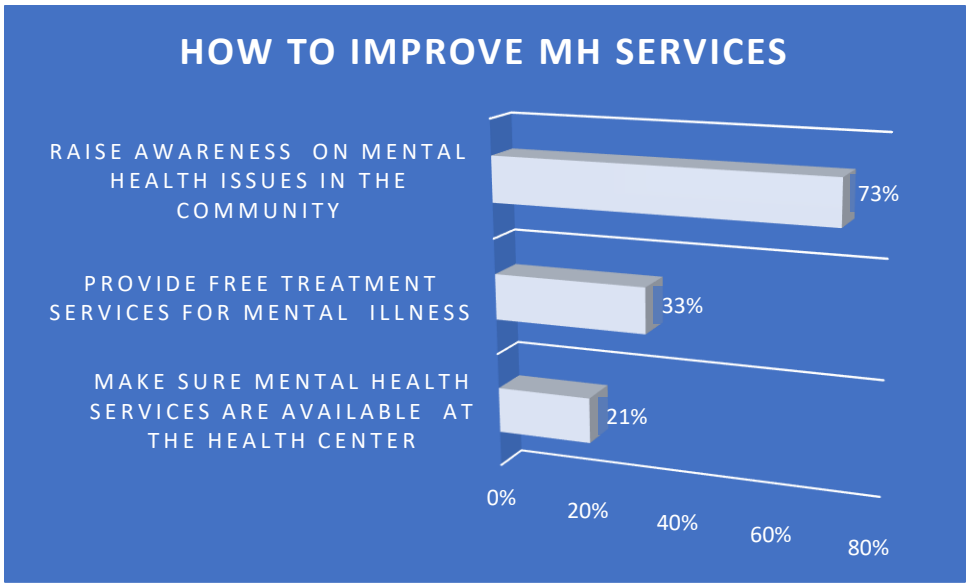
> "*People still have low understanding and knowledge about the mental health issues.*" KII with CWCC members

Improve mental health services

Respondents in the survey were asked for their recommendations on how to improve mental health services in their communities. The data revealed several key suggestions:

1. Awareness raising: A significant majority of 73% of the respondents recommended the need for more awareness campaigns and educational initiatives on mental health issues within their communities. This indicates a recognized need for increasing knowledge and understanding of mental illness to reduce stigma and promote early identification and help-seeking.
2. Free treatment services: Approximately 33% of the respondents emphasized the importance of making mental health treatment services more accessible and affordable. They recommended the implementation of free or low-cost services to ensure that individuals with mental health concerns can receive the necessary treatment without financial barriers.
3. Availability of services in health centers: Around 21% of the respondents expressed the need for mental health services to be available within local health centers. This suggests a desire for integrating mental health care into primary healthcare settings, making it easier for individuals to access services in their own communities.

These recommendations highlight the significance of increasing awareness, improving access to affordable treatment options, and integrating mental health services into primary healthcare settings. By addressing these recommendations, communities can work towards reducing the barriers to mental health services and promoting better mental well-being for their residents.



Based on the qualitative data, it is evident that two key interventions stand out as important for improving mental health in the community:

- Raising awareness: The qualitative data strongly supports the need for raising awareness about mental health issues in the community. This intervention involves disseminating information, conducting educational campaigns, and engaging in community dialogues to promote understanding, reduce stigma, and encourage help-seeking behavior. By increasing awareness, community members can gain knowledge about mental health, recognize symptoms, and understand the importance of seeking appropriate support and treatment.
- Improving the quality of mental health services: The qualitative data also highlights the significance of enhancing the quality of mental health services available in the community. This intervention involves ensuring that mental health services are comprehensive, accessible, and delivered by qualified professionals. It may include training healthcare providers in evidence-based practices, strengthening the infrastructure and resources of mental health facilities, and implementing quality assurance mechanisms. By improving the quality of services, individuals in need of mental health support can receive effective and appropriate care within their community.

These interventions, raising awareness and improving the quality of mental health services, can work in tandem to address the challenges related to mental health in the community. By increasing awareness and knowledge while simultaneously enhancing the availability and quality of services, communities can create an environment that supports mental well-being and encourages individuals to seek and receive the help they need.

"*The first thing we need to do is to educate people about mental health issues. The second thing we need to do is to do it regularly.*" KII with medical staff

"*We should raise awareness to people in the community so that they understand about mental health and they are not shy to seek help and ask people around for help. We should teach people more about mental health. So that people can help each other.*" KII with VHSG members

"*We need to make sure that medical staff have the right skill and are motivated to treat or refer patients. We should have different ways to teach and support them.*" KII with partner organization

"*The quality of mental health service provision at the health center level is still limited. People generally go to district hospital level in order to get better quality of mental health services. The mental health treatment services at the provincial level or national level are of much better quality than those in at the district level. In my entire health center, there is only one staff able to receive proper training in mental health services and treatment.*" KII with medical staff

"*We should have better medicine, have bigger room for treatment, have more skill and more understanding about this issue. There should be better way to improve service provision such as having home visit or regular meeting as well as incentives to help our staff to work on this issue.*" KII with medical staff

Pregnancy, Lactating Women and Disability

According to the survey results, it is encouraging to note that all pregnant women interviewed responded positively to the questions regarding their engagement with health centers for various aspects of their pregnancy. Specifically:

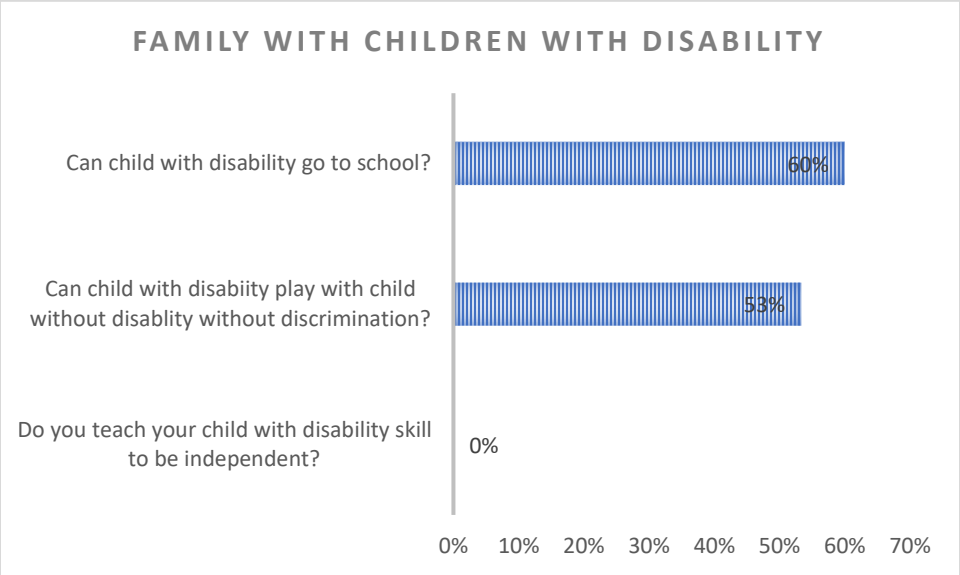
- Medical check-ups: All pregnant women (100%) reported visiting health centers for regular medical check-ups during their pregnancy. This demonstrates a strong uptake of antenatal care services, which are vital for monitoring the health of both the mother and the developing baby. Regular check-ups allow healthcare providers to detect and address any potential complications or risks early on.
- Iron tablet intake: The survey found that all pregnant women reported taking regular iron tablets as prescribed. Iron supplementation is crucial during pregnancy to prevent and address iron deficiency anemia, which is common among expectant mothers. Adequate iron levels support the healthy development of the baby and can help prevent complications during pregnancy and childbirth.
- Delivery at health centers: Additionally, all pregnant women expressed their intention to deliver their babies at health centers. This is an important indicator of the community's trust in and utilization of professional healthcare services for safe delivery. Delivering at health centers ensures access to skilled birth attendants and appropriate medical facilities, which significantly reduce the risks associated with childbirth.

The high rates of engagement with health centers for medical check-ups, iron tablet intake, and planned deliveries reflect the positive attitudes and behaviors of pregnant women in seeking and utilizing essential maternal healthcare services. These findings highlight the importance of ongoing efforts to promote antenatal care, iron supplementation, and safe deliveries in the community.

When asked about the inclusion of children with disabilities in education and social activities, the survey revealed the following findings among respondents with children with disabilities:

- School attendance: 60% of respondents agreed that a child with a disability can go to school. This indicates a positive attitude towards inclusive education, recognizing the right of children with disabilities to access formal education alongside their peers. It suggests a willingness to support and promote inclusive practices within the community.
- Inclusive play: 53% of respondents agreed that a child with a disability can play with other children without discrimination. This finding demonstrates an acknowledgment of the importance of social inclusion and equal opportunities for children with disabilities to participate in recreational activities with their peers. It reflects a positive perspective on promoting inclusive play environments that foster acceptance and reduce discrimination.
- Lack of knowledge in teaching independent skills: Interestingly, the data revealed that all respondents with children with disabilities expressed a lack of knowledge on how to teach their children the necessary skills to become independent. This highlights a gap in knowledge and resources regarding appropriate strategies and support systems for fostering independence in children with disabilities.

These findings underscore the need for further education and support for families with children with disabilities, particularly in the areas of inclusive education, inclusive play, and skill development for independence. Efforts should focus on providing parents and caregivers with information, resources, and training to better support their children's educational and social development. By addressing these gaps in knowledge and understanding, the community can work towards creating an inclusive and supportive environment for children with disabilities.



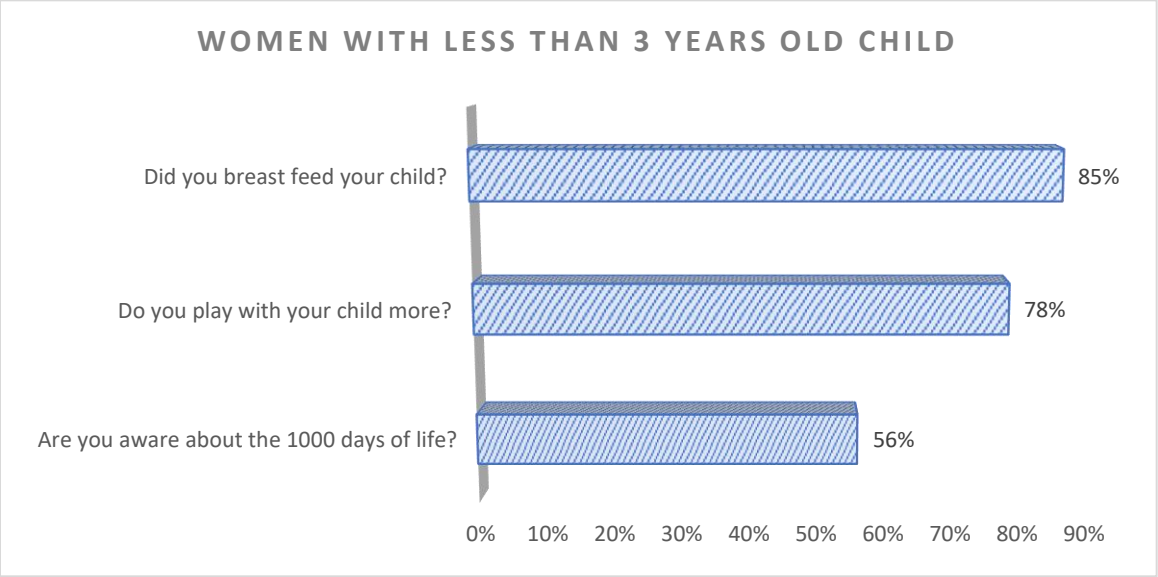
When asked about their breastfeeding practices and awareness of the importance of the first 1000 days of life, the survey revealed the following findings among women with children under three years old:

- Breastfeeding: 85% of respondents reported that they breastfed their child. This indicates a high prevalence of breastfeeding among the surveyed women, suggesting a recognition of the

numerous benefits associated with breastfeeding for both the child's health and bonding between the mother and the child.

- Increased playtime: 78% of respondents mentioned that they engaged in more playtime with their child. This finding suggests a positive trend towards increased interaction and engagement between mothers and their young children, which is crucial for the child's cognitive, social, and emotional development.
- Awareness of the first 1000 days: 56% of respondents expressed awareness of the importance of the first 1000 days of life. This period, spanning from pregnancy to a child's second birthday, is critical for their long-term health and development. The relatively moderate percentage suggests that there is room for improvement in raising awareness among women regarding the significance of this crucial period.

These findings highlight positive practices such as breastfeeding and increased playtime, indicating a general understanding of the importance of early childhood development among the surveyed women. However, there is a need for further efforts to raise awareness about the first 1000 days of life, emphasizing its impact on a child's lifelong well-being. By promoting education and support programs focused on breastfeeding, early childhood stimulation, and nutrition during this critical period, communities can further enhance the health and development outcomes for children under three years old.



VI. Discussion

According to the second national strategy for food security and nutrition (2019-2023), the prevalence of inadequate nutrition and unhealthy diets remains high in Cambodia, as evidenced by the Cambodia Demographic Health and Survey (CDSH, 2021/2022). This strategy continues to be relevant for Cambodian development and aligns with the UN Sustainable Development Goals. The findings from the survey further support these observations, revealing that a significant proportion of people, particularly in the project target areas, lack knowledge and awareness regarding the nutritional value and healthiness of their daily food intake.

Numerous studies have been conducted on mental health in Cambodia, consistently indicating high rates of anxiety, depression, and post-traumatic stress disorder (PTSD). It is imperative to integrate and improve mental health care, especially in terms of medication and treatment for mental health disorders. The current study aligns with previous research, highlighting the substantial demand for mental health support and care. The general population still possesses limited knowledge and understanding of mental illness, and negative attitudes and stigmatization towards mental health persist. Additionally, individuals report fear when interacting with people with mental illness.

A cross-sectional study conducted in Lvea Em District, Kandal Province, shed light on the mental health situation in the area, revealing limited access to mental health care, both in the district and across the country. Major barriers to accessing mental health services include insufficient financial and human resources among medical staff in the region. However, the current survey data demonstrates that medical staff are more likely to request further training in the field, despite limited budgetary support from the government. Financial constraints, lack of time, and inadequate education and knowledge about mental health were identified as significant barriers in both the past and present surveys. The study conducted in Lvea Em District also highlighted the importance of training and knowledge for medical staff to improve the quality of mental health services. Different training approaches should be considered, and addressing the issue of overburdened medical staff is crucial. Support from international communities is essential for scaling up mental health services. Improving the availability of medication, tools, competent staff, and financial resources, including adequate salaries for government employees, are all crucial areas that need improvement. Enhancing human resource capacities for all medical staff and ensuring the availability of high-quality medication and drugs at local health centers are two critical aspects the government should focus on.

A mental health survey conducted by the Royal University of Phnom Penh in 2012, with a sample of 2,690 respondents, indicated a high prevalence of mental disorders, particularly among the female population. The current study's survey findings align with this observation, indicating that the female population in the target areas requires more mental health services than their male counterparts. Interestingly, a contrasting finding emerged regarding seeking traditional healing and Buddhist ceremonies. Over the past decade, a significant percentage of respondents expressed a preference for seeking help from traditional healers. However, in the present survey, a small proportion of people in the project target areas reported seeking assistance from traditional healers for their mental illnesses, with the majority expressing a preference for professional medical staff.

Regarding non-communicable diseases (NCDs), a prevalence survey on NCDs risk factors conducted by the University of Health Sciences in 2016, with a total of 2,869 respondents, revealed that 24% were current smokers and 62% were current alcohol drinkers. Over the past 10 years, these proportions have steadily decreased. The current survey's results support these previous findings, with only 13% reported as smokers and 31% as drinkers. Respondents were also queried about their engagement in vigorous-intensity physical activities, with the data indicating that 24% of the population participated in such activities. Among this group, males engaged in more vigorous physical activities than females (73% versus 27%). The survey findings are consistent with the 2016 University of Health Sciences survey. Furthermore, for physical activities, only 8% of the population met the World Health Organization's recommended guidelines, with males engaging in more physical activities than females.

Overall, the survey findings reinforce the importance of addressing nutrition and healthy diets, improving mental health care, and tackling the risk factors associated with non-communicable diseases in Cambodia. These areas require comprehensive strategies, targeted interventions, and collaborative efforts from various stakeholders to bring about positive and sustainable changes in the population's health and well-being.

VII. Conclusions and Recommendations

In conclusion, the survey results align with previous studies on mental health and non-communicable diseases (NCDs) in Cambodia. Individuals residing in the target areas generally have limited education, resulting in a restricted understanding. Consequently, their knowledge about mental health and NCDs remains minimal, and their attitudes, perceptions, and practices regarding mental illness (MI) tend to be predominantly negative.

Similarly, the situation holds true for non-communicable diseases (NCDs). Individuals in the target areas have limited knowledge about nutrition and healthy diets. They continue to engage in harmful behaviors such as alcohol consumption, smoking, excessive energy drink consumption, and a lack of regular exercise. These practices contribute to an elevated risk of premature deaths. However, it's important to note that these NCDs are preventable by addressing common risk factors across all age groups and genders.

The survey findings highlight the need for increased efforts to raise awareness about these issues among the target population. Education and training play a crucial role in shaping attitudes and behaviors. Given that the majority of individuals are economically disadvantaged with limited education, they are primarily farmers working in rice fields without regular income sources or salaries. Therefore, it is essential to develop training programs or awareness-raising events that are easily comprehensible for them.

While social media has proven effective in raising awareness about mental health, it is worth noting that individuals in the target areas tend to rely more on trusted local resources such as health center staff, village health support groups, or other local individuals. Therefore, involving these trusted figures in providing training and raising awareness about mental health and NCDs can have a greater impact on the community.

The survey findings indicate the presence of gender disparities in mental health. It is evident that females are more susceptible to mental illnesses compared to males. Consequently, there is a greater demand for mental health services among females.

In the community, the primary source of information and assistance for mental health services and treatment is the local health centers and medical staff. People in the community prefer seeking help from medical professionals rather than relying on traditional healers as their first choice.

A major barrier to accessing mental health services is the lack of financial resources. People residing in the target areas face poverty, and even covering the transportation expenses to seek mental health services at a hospital becomes a significant burden for them. As a result, most individuals rely on health centers for their medical treatment, with the district-level hospital being the farthest they can generally reach. A few individuals might be able to access hospitals at the provincial level, but the majority of the community members are unable to do so due to their impoverished living conditions. Consequently, it is

crucial to enhance the quality of mental health services and treatment, making them more readily available within or near their communities.

However, numerous challenges need to be addressed in order to achieve this goal. The majority of health center staff members are government employees who receive low salaries and often lack motivation to provide high-quality services to the community. Some medical staff members are preoccupied with their personal businesses to earn additional income and support their families. Furthermore, the level of knowledge and expertise among health center staff in these areas is still limited, particularly in the field of mental health. This limited knowledge and experience pose even greater challenges for the general population to access quality mental health care and services.

To address the challenges and barriers identified in mental health and NCDs, the following recommendations are proposed for the entire project:

- The first recommendation is to prioritize raising awareness on mental health and NCDs in the communities. The aim is to ensure that people have a better understanding of their conditions and are empowered to take appropriate action to manage, treat, and heal themselves. This can be achieved through regular awareness-raising activities that utilize innovative approaches and involve local individuals who can effectively communicate and engage with community members.
- The second recommendation is to provide comprehensive training to medical staff on how to provide effective and appropriate mental health services to patients in the community. This includes training on counseling techniques for patients with mental illness, as well as appropriate prescribing of medications. By providing high-quality care and services, patients and their families are more likely to return to the same health centers for future treatment. Additionally, they may spread positive word-of-mouth to others in the community, increasing awareness and utilization of mental health services.

To ensure the provision of good quality mental health services, the project is confronted with a significant challenge of collaborating with health center staff who are government employees. Therefore, it is essential that the project coordinates effectively with the government counterpart to determine which financial, human, and technical resources can be shared and contributed by both parties. This will ensure a successful partnership and the optimal utilization of available resources to provide the best possible mental health services to the community.

The limited capacity of development partners and implementing agencies to meet the huge needs for mental health services and NCDs is a major challenge. For instance, medication provision is a crucial aspect that no NGO partner can fully cover due to financial constraints and limited resources. Therefore, the project needs to establish strong partnerships with the government, particularly the Ministry of Health (MoH), which has the mandate to distribute medicines to all health facilities. This collaboration can help ensure that patients have access to the necessary medications. Furthermore, the project should explore innovative financing mechanisms to leverage additional resources and expand its services to reach more people in need.

Therefore, it is crucial for the project to collaborate with government counterparts and other development partners to find the most effective ways to work together to address the mental health and NCDs challenges in the target communities.

- The third recommendation is to document the project's impacts and use them to advocate for broader policy changes, particularly with the government and other development partners, to replicate effective practices and lessons learned in other areas of the country. An external third party should conduct midterm or final evaluations to ensure impartiality and transparency, and the reports and documents should be widely shared. Publishing a scientific journal article would be an effective way to disseminate the project's good experiences and evidence to academic and non-academic audiences alike.
- The fourth recommendation is to secure continuous financial support for mental health and NCDs, which are complex problems that require sustained efforts. The project should continue to actively seek funding support from various donors and development partners, while ensuring that there are no budget cuts to its ongoing activities. Instead of reducing staff or resources, the project should aim to expand its services. This requires a long-term strategic goal to effectively address the challenges of mental health and NCDs.
- The fifth recommendation is to foster collaboration and partnership with other organizations and stakeholders in order to pool resources, expertise, and knowledge to effectively address the mental health and NCD issues. The project should establish and maintain strong networks of collaboration both within and outside of the project areas to leverage existing human, financial, and technical resources. By working together towards a common goal, the project and its partners can maximize impact and sustainability of their efforts.

VIII. Annexes

1. Data Collection Tools

The following data collection tools were developed:

- Questionnaire Main for everyone (attached separately)
- Questionnaire for service provider (health enter staff) (attached separately)
- Questionnaire for parent/caretaker of mental health patients or persons (attached separately)
- Guide questions for KIIs

KII guide questions

- What are services you are working on, NCDs and mental health? What are the challenges you face? What are the needs for NCDs and mental health in the community? What are the barriers to access to NCDs and mental health services? What is the current knowledge, practice and attitude of the people in the community on NCDs and mental health? Can you give us the reasons why you say so? Are services for NCDs and mental health illness enough in the community? What can we do to improve mental health services?
- How much you are aware of NCDs? What are its risk factors and complications? What to do take to care of your health from NCDs? How your lifestyle on food consumption have changed? What about the market availability of food and social norms on food choice? Why you think your food is not healthy or enough nutrient? What do you know about what you are eating? Food you consume every day, do you think your meals are healthy? Yes why? If not, why? Do you think your meals are nutritious? Why yes, why not? If we know the food is not healthy? What you would do? What prevent you from picking up healthy choice of food to consume? Have you ever wanted to have healthy and nutritious food for your family? What are the difficulties or barriers that prevent you and your family from consuming healthy and nutritious food?
- How much you are aware of mental health illness in your community? What are its risk factors and complications for mental health? What should you do in order to improve mental health services to patients to learn and improve their behavior?. Do you think mental health services are available in your community? Who can get access to this service? Do you think females and males have the same need and uses of mental health services? Why? What are the barriers preventing people accessing the mental health services? Do you think women and men have the same demand for health services? Why? How do you think of the demand for mental health services in the community? Where do you get more information about mental health? If you are in need of mental health services, where would you go? Who can help you? Why you think so? What are the major barriers that prevent people in the community from accessing mental health services? What are the recommendations to improve mental health services in your community?
    - Guide questions for FGDs

FGD Guide Questions for vulnerable group of people, pregnant women, and children and adolescent

- What is the attitude of people in the community towards children with disability? How are children with disability treated in the community? How about their families? Do you think people still perceive negatively towards children with disabilities and their families? Why?

- Are there any rehabilitation and referral services available for children with disabilities and their families in the community? If yes, do you think do they have good quality of referral services? Why good and why not good?
- For children and adolescent with mental health, how do we know if the children are suffering from mental illness? Are there any discriminations against children and adolescent with mental illness? How to prevent this from happening? How is the interaction and communication going on between adolescents and their parents? How about the uses of electronic devises amongst children and adolescent? What to do in order to improve better parent-children relationship?
- How about the attitude of mothers towards new born babies? Are mothers aware of the importance of breast feeding for infants? Do parents know what to expect in terms of children growth? Are there any mechanisms you know about to monitor children growth? If there are newborn or children underweight or lack of nutritious food to eat, what should we do to help these target groups of people?
- How much you are aware of NCDs? What are its risk factors and complications? What to do to take to care of your health from NCDs? How your lifestyle on food consumption have changed? What about the market availability of food and social norms on food choice? Why you think your food is not healthy or not enough nutrients?
- How much you are aware of mental health illness in your community? What are its risk factors and complications for mental health? What you should do in order to improve mental health services to patients to learn and improve their behavior. Do you think mental health services are available in your community? Who can get access to this service? Do you think females and males have the same need and uses of mental health services? Why? What are the barriers preventing people getting the mental health services? Where do you get more information about mental health? What are the recommendations you have to improve mental health services in your community?

2. Literature Review

The following list of literature and documents were reviewed.

- Abolfotouch Mostafa, (2019), Attitudes toward mental illness, mentally ill persons, and help-seeking among the Saudi public and sociodemographic correlates, Psychology Research and Behavior Management, 12, 45-54
- Gabra Romany H., et al, (2020), Knowledge, attitude and health-seeking behavior among family caregivers of mentally ill patients at Assiut University Hospitals: a cross-sectional study
- Ith Nin, et al, (2020), Knowledge, attitudes and practices on risk factors of non-communicable diseases (NCDs): a cross-sectional survey among urban and rural adults in Negeri Sembilan, Malaysia
- Kantha, (2019), A toolbox for measuring the effectiveness of programme working on behavioral change
- Kim Thida & Peeters Amaury, (2016), Belief about Mental Problem and Treatment Seeking in Rural Communities in Cambodia
- Louvain Cooperation, (2022), PIP NCDs project document including its log frame and theory of change
- Mahajan Manoj, et al, (2019), Study of Knowledge, Attitudes, and Practices Toward Risk Factors and Early Detection of Noncommunicable Diseases Among Rural Women in India, Journal of Global Ancology
- Maria Alfredsson, Miguel San Sebastian & Bhoomikumar Jeghannathan (2017), Attitudes towards mental health and the integration of mental health services into primary health care: a cross-sectional survey among health-care workers in Lvea Em District, Cambodia, Global Health Action, 10:1, 1331579
- Ministry of Health, University of Health Science, (2016), Prevalence of non-communicable disease risk factors in Cambodia (Step survey 2016)
- Ministry of Health, (2014), Fast track road map for improving nutrition, 2014-2020, Cambodia
- Olofsson Sofia, Sebastian, Miguel San, & Jegannathan Bhoomikumar, (2018), Mental health in primary health care in a rural district of Cambodia: a situational analysis
- Puspitasari Irma M, (2020), Perceptions, Knowledge, and Attitude Toward Mental Health Disorders and Their Treatment Among Students in an Indonesian University, Psychology Research and Behavior Management, 12, 845-854
- Quality Rights, (2022), Evaluation of Quality Rights training on mental health, human rights and recovery: PRE-POST-training questionnaire
- Royal Government of Cambodia, (2022), National strategic plan for the prevention and control of non-communicable disease 2022-2030,
- Royal Government of Cambodia, (2019), The second national strategy for food security and nutrition 2019-2023, Cambodia
- Schunert Tanja, et al, (2012), Cambodian mental health survey, RUPP
- Tabitha Ojo Temitope et al., (2017), Exploring knowledge and attitudes toward non-communicable diseases among Village Health Teams in Eastern Uganda: a cross-sectional mixed methods study
- WHO, (2021), Guidance on community mental health services, promoting person-centered and right-based approaches
-

3. List of People Met for KIIs and FGDs

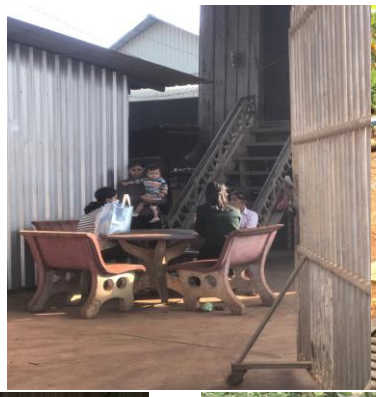
KIIs were conducted with

- Mr. Seang Leap, staff from TPO
- Ms. Sok Dearozet, staff from CCAMH
- Mr. Yoeung Rithy, staff from HI
- Ms. Mon Chhorvorn, staff from DSF
- Mr. Heng Dane, staff from RH
- Ms. Chea Seammeng, staff from OD
- Mr. Hor Senghak, service provider from HC
- Mr. Khon Sophat, village chief
- Ms. Nhek Marat, CCWC
- Mr. Prak Saman, out-reach staff
- Ms. Heng Chantha, VHSG

The data collection team also conducted 3 FGDs in the field with the following group people of the target of the project.

- Vulnerable people, parent/caretaker group, especially the family members of the persons living mental illness
    - FGD with patient families, preah theat HC
        - Ms. Eng Loun, 70
        - Ms. Heng Chantha, 50
        - Ms. Leang Uon, 55
        - Ms. Eng Ly, 76
- Children and adolescent groups, especially amongst children from age 13 to under 18 years old.
    - Toul Sophy HC
        - Vai Yu, M
        - So Nika, F
        - Srey Keth, F
        - Ro Za, F
        - Srey Nit, F
- Pregnant/lactating women
    - Chamkar Andong HC
        - Ms. Chin Vanna, 39
        - Ms. Phorn Sros, 29
        - Mr. Meas Chanthorn, 36 (husband)
        - Ms. Sim Nita, 25
        - Ms. Sim Sokhea, 24

4. Pictures











5. Result Tables