REPORT OF
NATIONAL MENTAL HEALTH SURVEY NEPAL 2020

Government of Nepal
Nepal Health Research Council

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**Ramshahpath, Kathmandu
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Foreword

Ref.: ....

Date : ....

'The World Health Report 2001-Mental Health: New Understanding, New Hope' by WHO was one step towards renewing the emphasis to the long-neglected area of mental health globally. Inclusion of mental health promotion as one of the targets of goal 3 in Sustainable Development Goals (SDGs) in 2015 also indicated the growing recognition of importance of mental health. According to WHO, about a billion people including 14% of the adolescents worldwide were living with mental disorder in 2019. However, due to the lack of adequate evidence in mental health among the general population, health related policies and practices didn't have much opportunity to include mental health as a top priority agenda especially in a developing country like Nepal.

Nepal Health Research Council (NHRC) came up with this uphill task of undertaking a population-based survey of mental disorders in Nepal. The council coordinated with the WHO country office Nepal as well as the Ministry of Health and Population (MoHP), Nepal for their technical and financial support. The council also coordinated with the copyright holder of the MINI tool (the instrument used in the survey), Dr David Sheehan who provided guidance to the research team throughout the study period. I would like to congratulate the council for carrying out this task effectively.

The Nepal mental health survey report is the first of its kind to represent the whole country in terms of prevalence of major mental health disorders in the country. The report highlights the mental health disorders for both the adults (18 years and above) as well as adolescents (13-17 years). Thus, I believe that this report will be a milestone in designing the mental health related policies and programs in the country. Lastly, on behalf of MoHP, I would like to affirm that MoHP is committed to translating the available evidence into action.

Thank you.

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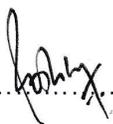
Dr Roshan Pokhrel

Secretary

Ministry of Health and Population

Foreword

No one remains beyond the fact that mental health is a global problem in present days. The term "Mental Health" refers to a person's cognitive, behavioral, and emotional well-being. Like others, it is also an important component of health, which influences how we think, feel, and act, how we deal with stress, interact with others, and make healthy choices.

Evidences on the common mental disorders would act as the guiding document for the planners, policy makers and researchers to take an important step to develop appropriate strategies for prevention and management of mental disorders which remained as 'Silent Epidemic' in our country. With this information, through the technical and financial supports of the Ministry of Health and Population and the World Health Organization, Nepal Health Research Council conducted a population-based survey of mental disorders in Nepal. Similarly, Prof. Dr. David Sheehan assisted us by providing his tool (The MINI tool) to use free of cost in our survey, as well as trained our trainers to use the tool and provided guidance throughout the survey.

The 'National Mental Health Survey of Nepal, 2020' is a first comprehensive survey of mental disorders in Nepal, that quantify the magnitude of common mental disorders along with neurological and substance use issues. The report focuses on mental health disorders among both adults (18 and older) and adolescents (13-17 years). Furthermore, the report highlights the pathways to seeking care as well as the barriers to accessing care for mental health disorders.

The results of this survey provides baseline information on the prevalence of common mental disorders in Nepal and the findings will be instrumental to design an appropriate evidence based public health intervention for the prevention and management of mental disorders. Finally, I would like to take an opportunity to express my sincere gratitude to all the team members and supporting partners for their significant contribution to the successful completion of this survey.

Prof Dr. Gehanath Baral
Chairperson
Nepal Health Research Council

Acknowledgement

Nepal Health Research Council (NHRC) has been committed to conduct research in the areas of health that are of utmost importance to public and community health. Therefore, understanding the need of a national level survey to determine the prevalence of mental disorders in Nepal, we had set ahead to conduct the National Mental Health Survey almost three years ago. Not only will the results of this survey be a basis to determine the prevalence of mental disorders in Nepal, it will also pave the way for much needed research in the area. In addition, it will also bring long overdue attention of health stakeholders and policy makers towards mental health and mental disorders in the country.

First and foremost, I would like to thank all the experts who were a part of the Steering Committee and the Technical Working Group for providing their invaluable input and suggestions, without which this survey would not have been possible. Similarly, I am thankful to study team for their hard work to finish this survey timely. My special thanks goes to Dr. Megnath Dhimal, Chief of Research Section, NHRC for his leadership and coordination from the inception to completion of this survey. I would like to thank Mr. Devendra Karanjit, Central Bureau of Statistics (CBS), for providing guidance with the statistical aspects of the survey. In addition, I would also like to thank all the other experts involved in the study in the form of trainer, tool translation team and everyone else who contributed directly or indirectly to the study.

The strength of any research lies on the quality of the tools and instruments that are used in it. Thus, I am grateful to Prof. Dr. David Sheehan for providing us his tool (The MINI tool) for use in our survey free of cost. Not just did Prof. Sheehan provide us with the tool, he visited Nepal himself and trained our trainers on the use of this instrument as well as provided guidance throughout the survey.

I am also thankful to the Ministry of Health and Population (MoHP) and the World Health Organization (WHO) for financial and technical support to the study. I am especially grateful to the then WHO representative to Nepal Dr. Jos Vandelear and Dr. Kedar Marhattha, National Professional Officer from the WHO for their constant support and assistance during the survey. At the last but not the least, I am thankful to Dr. Bihav Acharya for his review and edit of the report.

Dr. Pradip Gyanwali

Executive Chief (Member-Secretary)

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List of Abbreviations

ADHD	Attention Deficit Hyperactivity Disorder
AUD	Alcohol Use Disorder
BACE	Barriers to Access to Care Evaluation
BPAD	Bipolar Affective Disorder
CI	Confidence Interval
DSM	Diagnostic and Statistical Manual of Mental Disorders
FCHV	Female Community Health Worker
GAD	Generalized Anxiety Disorder
HH	Household
ICD	International Classification of Diseases
KMC	Kathmandu Medical College
MDD	Major Depressive Disorder
MINI	Mini International Neuropsychiatric Interview
MS	Microsoft
NCD	Non-Communicable Disease
NHRC	Nepal Health Research Council
NMHS	National Mental Health Survey
NPHC	National Population and Housing Census
NR	Non-Response
NRS	Nepali Rupees
OCD	Obsessive Compulsive Disorder
PPS	Probability Proportionate to Size
PSU	Primary Sampling Unit
PTSD	Post-Traumatic Stress Disorder
SI	Sampling Interval
SPSS	Statistical Packages for the Social Sciences
SSU	Secondary Sampling Unit
TPO	Transcultural Psychosocial Organization
TUTH	Tribhuvan University Teaching Hospital
TWG	Technical Working Group
USA	United States of America
WHO	World Health Organization

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FACTSHEET
National Mental Health Survey, Nepal-2020
FACTSHEET (Adults)

Overview

The planning of National Mental Health Survey, Nepal started from November 2017 and was carried out from January 2019 to January 2020 in all 7 provinces of Nepal. The total sample size of the survey was 15,088 among which 9200 were adults (aged 18 years and above) and 5888 were adolescents (aged 13-17 years). Multistage Probability Proportionate to Size was done to select the PSU and Systematic Random Sampling was done to select the individuals. Data collection instruments consisted of Socio-demographic questionnaire, Translated and adapted Nepalese version of MINI International Neuropsychiatric Interview (MINI) 7.0.2 for DSM-5, Pathways to Receiving Care / Help Seeking Behavior questionnaire and Barriers to Accessing Care Evaluation (BACE) questionnaire. The total response rate in adult participants was 96.8%.

Highlights

Mental Disorders

⮞ Among the adult participants, 10% had Any Mental Disorder in their lifetime, and 4.3% currently had any mental disorder.

⮞ Lifetime and Current Mood Disorders among adult participants were found to be 3% and 1.4% respectively.

⮞ Neurotic and Stress related Disorders (Current) among adult participants was 3% .

⮞ The prevalence of Suicidality (including Current Suicidal Thoughts, Lifetime Suicidal Attempt and future likelihood of Suicidal Thoughts) was found to be 7.2% .

⮞ Majority of the adult participants (6.3%) had low Suicidality.

⮞ Current Suicidal Thoughts and Lifetime Suicidal Attempt were found to be 6.5% and 1.1% respectively

⮞ The prevalence of Lifetime Mental Disorders was highest among adults in Province 1 (13.9%), among 40-49 years old (13.3%) and among males (12.4%).

⮞ The prevalence of Lifetime Mental Disorders was highest among adults in Bagmati Province (5.9%), among 40-49 years old (6.3%) and among females (5.1%).

Prevalence of Mental Disorders among Adult Participants aged 18 years and above

Disorders	Lifetime (95% CI)	Current (95% CI)
Any Mental Disorder	**10.0 (8.5-11.8)**	**4.3 (3.5-5.2)**
Mood Disorders	**3.0 (2.5 - 3.7)**	**1.4 (1.1 – 1.8)**
Bipolar Affective Disorder[1]	0.2 (0.1- 0.5)	0.1 (0.1- 0.3)
Major Depressive Disorder (MDD)[2]	2.9 (2.3- 3.7)	1.0 (0.8 -1.4)
Neurotic and Stress related Disorders *[3]	**3.0 (2.5 - 3.6)**	
Panic Disorder	0.7 (0.6- 0.9)	0.4 (0.3- 0.5)
Generalized Anxiety Disorder*	0.8 (0.6 - 1.1)	
Phobic Anxiety Disorder *[4]	0.2 (0.1 - 0.4)	
Obsessive Compulsive Disorder*	0.2 (0.1 - 0.4)	
Post-Traumatic Stress Disorder *	0.0 (0.0 - 0.2)	
Dissociative Disorder*	1.0 (0.7 - 1.4)	
Mental and Behavioral Problems due to Psychoactive Substance Use [6]		
Alcohol Use Disorder**	4.2 (3.6 - 4.8)	
Other Substance Use Disorder**	0.2 (0.1 - 0.3)	
Schizophrenia, Schizotypal and Delusional Disorders	0.2 (0.1-0.3)	0.1 (0.1-0.3)
Antisocial Personality Disorder **	0.1	
Somatic Symptom Disorder*	0.5 (0.3 - 0.8)	

Suicidality Severity and Suicide Behavior Disorder	Percent (95%CI)
Suicidality [7]	7.2 (5.9- 8.8)
Severity	
Low	6.3 (5.2-7.7)
Moderate	0.3 (0.2-0.6)
High	0.6 (0.4-0.8)
Suicide Behavior Disorder	0.9 (0.7-1.3)

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[1] Including Manic and Hypomanic episode. [2]Including MDD past, current and recurrent. [3] Neurotic and stress related disorder includes Panic Disorder, Generalized Anxiety Disorder, Phobic Anxiety Disorder, Obsessive Compulsive Disorder, Post-Traumatic Stress Disorder, and Dissociative disorder. [4] Phobic Anxiety disorder includes Agoraphobia and Social phobia. [5]Dissociative disorder includes Trans and Possession disorder and Conversion disorder. [6]Mental and behavioral problems due to psychoactive substance use includes alcohol, and other substance use disorder (excludes Tobacco use). * Current disorder, **Lifetime disorder. [7]Suicidality includes current suicidal thoughts, lifetime suicidal attempt and future likelihood of suicidal attempt

Suicidality

Prevalence chart showing:
- Current suicidal thoughts: 6.5%
- Lifetime suicide attempt: 1.1%
- Future likelihood of suicidal attempt: 0.3%
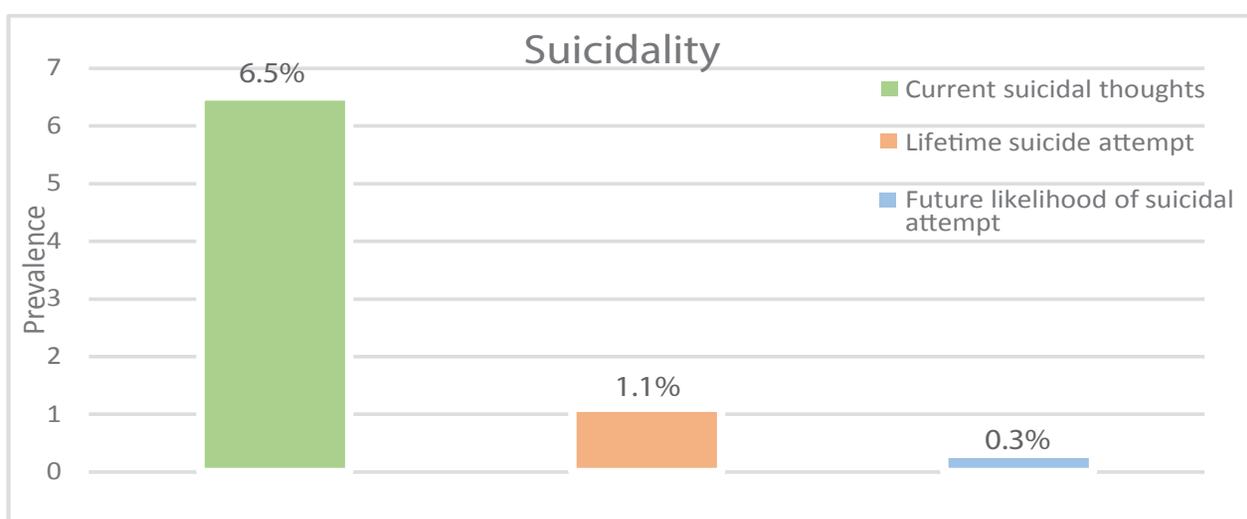
Prevalence of Any Mental Disorder as per Socio-demographic Characteristics among Adult Participants		
Characteristics	**Lifetime (95% CI)**	**Current (95% CI)**
Province		
Province 1	13.9 (11.-17.4)	5.3 (3.5-7.9)
Madhesh Province	2.1 (1.1-4.0)	1.5(0.8-2.7)
Bagmati Province	12.0 (8.7-16.4)	5.9 (4.0-8.6)
Gandaki Province	10.7 (8.0-14.3)	3.3 (2.20-4.9)

Characteristics	Lifetime (95% CI)	Current (95% CI)
Lumbini Province	13.00 (9.8-16.9)	5.4 (3.9-7.4)
Karnali Province	11.7 (9.1-15.)	4.6 (3.1-7.0)
Sudurpaschim Province	9.5 (7.2-12.3)	3.7 (2.7-5.1)
Age group		
18-29	7.4 (6.1-9.0)	3.4 (2.7-4.3)
30-39	9.6 (7.8-11.8)	3.8 (2.7-5.3)
40-49	13.3 (10.6-16.4)	6.3 (4.5-8.7)
50-59	13.0 (10.0-16.8)	4.6 (2.8-7.6)
60-69	11.5 (8.6-15.2)	4.9 (3.3-7.2)
70 and above	7.8 (4.9-12.1)	3.7 (1.9-7.1)
Gender		
Male	12.4 (10.4-14.7)	3.4 (2.6-4.3)
Female	8.0 (6.5-9.9)	5.1(4.1-6.3)

Highlights

Pathways to Receiving Care/ Help Seeking Behavior

⮞ About 40% of adults were found to have talked about their symptoms to someone, among whom 20.5% and 22.4% had spoken to their spouse and other family members respectively.

⮞ About 23% of individuals had sought treatment for their symptoms of mental disorders.

⮞ Non-specialist doctors (8.8%), faith healers (6.7%) and psychiatrists (6.5%) were the service providers most sought by adults for treatment of mental disorders.

⮞ The average expenditure on treatment of mental disorders in the past 12 months was found to be NRs 16,053; while expense on transport and other costs associated with seeking treatment was NRs 4,146 and NRs 3,460 respectively.

Pathways of Receiving Care	Percent among individuals with Mental Disorders (95%CI)
Adults who talked about their symptoms to anyone	40.1 (36.8 - 43.5)
Spouse	20.5 (17.5 - 23.7)
Other family members	22.4 (19.2 - 26.0)
Friend/ Neighbor	15.3 (12.7 - 18.5)
Colleagues	0.4 (0.1 - 1.1)
Health Service Providers (Doctor, Nurse, Specialists and Others)	3.5 (2.2 - 5.5)
Traditional Healers	1.9 (1.1 - 3.4)
Astrologer/Priest	0.2 (0.0 - 1.0)
Adults who sought treatment for their symptoms	22.7 (19.3 - 26.5)
Adults who adhered to treatment for their symptoms, prescribed by service providers	21.1 (17.6 - 25.2)
Adults who were admitted to the hospital for treatment	3.7 (2.5 -5.5)
Type of Health Service Provider sought by individuals for symptoms of Mental Disorders:	
Psychiatrist	6.5 (4.2 – 10.0)
Psychologist	0.2 (0.1 – 1.1)
Counsellor	0.3 (0.1 - 0.8)
Doctor (Non- specialist)	8.8 (6.6 – 11.6)
Paramedic	0.3 (0.3 – 0.5)
FCHV	0
Faith Healer	6.7 (4.9 – 9.0)
Others	0.1 (0.0 – 0.8)

Type of expense	5% Trimmed Mean (NRS)
Average treatment expenses in past 12 months	16052.9
Average transportation expenses while taking treatment in past 12 months	4146.3
Average of other expenses (food, accommodation etc.) while taking treatment in past 12 months	3460.0

Barriers to Access to Care Evaluation

- ❑ The non stigma related barriers were divided into Instrumental and Attitudinal barriers where 23.5% of the adult participants with mental disorder reported to have major barrier to care as 'Wanting to solve problem on their own' and 'Thinking that the problem would get solved on its own'.

- ❑ Among the stigma related barriers, 2.5% of the adult participants with mental disorder reported to have major barrier to care as 'Concern about what my family might think, say, do or feel'.

Barriers to Access to Care Evaluation (BACE)	Barrier to any degree[8] Percent (95% CI)	Major barrier[9] Percent (95% CI)
Non-Stigma related Barriers[10]		
Instrumental Barriers		
Being unsure where to go to get professional care	24.9 (22.0-28.1)	7.2 (4.8- 10.8)
Problems with transport or travelling to appointments	11.0 (8.7- 13.7)	1.8 (1.0-3.4)
Not being able to afford the financial costs involved	19.5 (16.10-23.4)	3.4 (2.3 -5.1)
Difficulty taking time off work	14.7 (11.3-19.0)	1.0 (0.5-2.2)
Having no one who could help me get professional care	10.5 (7.9-13.7)	2.0 (1.2 -3.5)
Attitudinal Barriers		
Wanting to solve the problem on my own	47.4 (42.9-51.9)	23.5 (19.8-27.8)
Fear of being put in hospital against my will	9.1 (7.20-11.40)	1.8 (1.00-3.10)
Thinking the problem would get better by itself	48.0 (43.90-52.30)	23.5 (19.40 -28.10)
Preferring to get alternative forms of care (e.g. traditional / religious healing or alternative / complementary therapies)	16.8 (13.8 -20.3)	3.6 (2.2-5.7)
Thinking that professional care probably would not help	16.7 (14.1-19.60)	2.0 (1.2 -3.3)
Thinking I did not have a problem	45.9 (41.7 -50.1)	21.6 (17.9 -25.9)
Concerns about the treatments available (e.g. medication side effects)	7.2 (5.3 -9.8)	0.6 (0.2 -1.6)

Attitudinal Barriers	Barrier to any degree Percent (95% CI)	Major barrier Percent (95% CI)
Dislike of talking about my feelings, emotions or thoughts	22.6 (18.9-26.8)	2.4 (1.5-3.8)
Preferring to get help from family or friends	18.5 (15.2 -22.3)	1.9 (1.1-3.4)
Stigma related Barriers		
Concern that I might be seen as weak for having a mental health problem	15.6 (12.5-19.5)	1.8 (1.1-2.9)
Concern that it might harm my chances when applying for jobs	5.2 (3.60-7.4)	0.7 (0.3-1.7)
Concern about what my family might think, say, do or feel	12.3 (9.4 -15.8)	2.5 (1.5-4.2)
Concern that I might be seen as 'crazy'	10.5 (8.0 -13.6)	1.6 (0.9 -2.8)
Feeling embarrassed or ashamed	11.7 (8.6-15.8)	1.6 (0.9-2.7)
Concern that people might not take me seriously if they found out I was having professional care	9.7 (7.1-12.9)	0.8 (0.3-1.7)

National Mental Health Survey, Nepal-2020

FACTSHEET (Adolescents)

Overview

The planning of National Mental Health Survey, Nepal started from November 2017 and was carried out from January 2019 to January 2020 in all 7 provinces of Nepal. The total sample size of the survey was 15,088 among which 9200 were adults (aged 18 years and above) and 5888 were Adolescents (aged 13-17 years). Multistage Probability Proportionate to size was done to select the PSU and Systematic Random Sampling was done to select the individuals. Data collection instruments consisted of Socio-demographic questionnaire and translated and adapted Nepalese version of MINI International Neuropsychiatric Interview (MINI) 7.0.2 for DSM-5. The response rate was 96.5% in adolescent participants.

Highlights

Mental Disorders

❏ The prevalence of mental disorder among adolescents was found to be 5.2%

❏ Neurotic and stress related disorders were the most prevalent, with a prevalence of 2.8%

❏ The prevalence of mental disorders was highest among adolescents in Province 1 (11.4%), among 16-year-olds (7.7%) and among females (5.3%).

❏ The prevalence of current suicidal thoughts among adolescents was 3.9% while that of lifetime suicidal attempt was 0.7%.

Prevalence of Mental Disorders among adolescents aged 13-17 years	
Mental Disorders	**Percent (95% CI)**
Any Mental Disorder	**5.2 (4.2 - 6.4)**
Mood Disorderr	0.8 (0.5 - 1.1)
Bipolar Affective Disorder[1]	0.2 (0.1 - 0.4)
Major Depressive Disorder	0.6 (0.4 - 1.0)
Neurotic and Stress related Disorder[2]	**2.8 (2.0 - 3.8)**
Phobic Anxiety Disorder	1.3 (0.8 - 2.1)
Dissociative Disorder[3]	0.5 (0.3 - 0.9)
Substance Use Disorder[4]	**0.6 (0.4 - 1.0)**
Any Psychotic Disorder	**0.3 (0.2 - 0.6)**
Behavioral and Emotional Disorders[5]	**1.0 (0.7 - 1.4)**
Eating Disorders[6]	**0.5 (0.3 - 1.0)**
Somatic Symptom Disorder	**0.0(0.0-0.2)**

Prevalence of Any Mental Disorder as perr Socio-demographic characteristics among adolescents	
Characteristics	**Percent (95% CI)**
Province	
Province 1	11.4 (7.40 -17.1)
Madhesh Province	1.7 (0.5 - 5.9)
Bagmati Province	4.4 (2.9 - 6.6)
Gandaki Province	5.1 (3.5 -7.3)
Lumbini Province	6.1 (4.7 -7.9)
Karnali Province	4.9 (3.4 -7.0)
Sudurpaschim Province	3.9 (2.4 - 6.2)
Gender	
Male	5.0 (3.6 - 6.9)
Female	5.3 (4.2 - 6.7)

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[1] Bipolar Affective Disorder also includes Manic and Hypomanic Episode.
[2] Neurotic and stress related disorder includes Panic Disorder, Agoraphobia, Social Anxiety, Specific Phobia, Obsessive Compulsive Disorder, Post-Traumatic Stress Disorder, Dissociative disorder,Generalized Anxiety Disorder and Adjustment disorder.
[3] Dissociative Disorder includes Trans and Possession and Conversion disorder.
[4] Substance Use Disorder includes alcohol, and other substances (but excludes Tobacco use).
[5] Behavioral and Emotional Disorders includes Separation anxiety, Attention Deficit Hyperactivity Disorder, Conduct disorder and Oppositional Defiant
[6] Eating Disorders includes Anorexia Nervosa and Bulimia Nervosa.

Prevalence of mental disorders among adolescents based on age

Age (in Years)	Prevalence (%)
13	4
14	4.8
15	3.5
16	7.7
17	6.6

Suicidality and Suicide Behavior Disorder	Percent (95% CI)
Suicidality[7]	4.1 (3.3 - 5.2)
Current Suicidal Thoughts	3.9 (3.1 - 5.0)
Future Likelihood of Suicidal Attempt	0.5 (0.3 - 1.0)
Lifetime Suicide Attempt	0.7 (0.4 - 1.1)
Severity	
Low Suicidality	3.1 (2.4 - 4.0)
Moderate Suicidality	0.3 (0.2 - 0.6)
High Suicidality	0.7 (0.4 - 1.2)
Suicide Behavior Disorder	**0.5 (0.3 - 0.9)**

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[7]   Suicidality includes current suicidal thoughts, lifetime suicidal attempt and future likelihood of suicidal attempt

Mental
Health

Executive Summary

Mental health is an integral part of overall health and is a foundation for effective functioning of an individual. The consequences of mental health problems span across almost every aspect of an individual's life. In addition, they also affect the family directly and indirectly, with impacts being inter-generational. Mental disorders account for a large portion of Disability Adjusted Life Years (DALYs) and Years Lived with Disability (YLD). Increase in the burden of mental diseases ultimately increases the financial and logistic burden on the nation's health system. However, despite the rising prevalence and significant effects of mental disorders across different spheres, there is a large treatment gap for these disorders, particularly in the Low and Middle-Income Countries.

Nepal faces similar challenges in tackling the issue of mental disorders. While on the one hand, the prevalence has been steadily rising, on the other hand, the unmet needs for mental health services are striking. Although, some of this may be attributed to limited mental health care facilities, and mental health professionals, across the nation; another major contributor to the treatment gap is societal beliefs, traditions and stigma associated with mental disorders. An important fact to consider is that prior to the National Mental Health Survey (NMHS), there were no national level studies on mental disorders conducted in Nepal. Granted there were smaller studies, but they were based on limited population samples and thus were not generalizable at the national level. Thus, the objective of the survey was to assess the prevalence of mental disorders, pathway of receiving care and the barriers to accessing care among people with mental disorders in Nepal.

The NMHS is a quantitative, cross-sectional community-based survey, including adult (age 18 years and above) and adolescent (aged 13 to 17 years) participants. The planning of the survey began from November 2017, while data collection was done between January 2019 and January 2020. The survey used the Mini International Neuropsychiatric Interview (MINI) tool for the diagnosis of mental disorders, which is a validated tool that has been used extensively in various countries and contexts, including national surveys. Prior to initiating the survey, pilot study was done and field enumerators as well as supervisors were given extensive training. Throughout the process of the survey, ethical consideration has been upheld to the highest standards. During and after data collection, information related to mental health was distributed among all participants, and anyone identified as having severe mental problems were referred to the nearest healthcare facility as well as to psycho-social counsellor.

The analysis of 15088 data (9200 among adults and 5888 among adolescents) revealed that 10% of the adults had any mental disorder in their lifetime whereas, 4.3% currently (in the past month) had any mental disorder. Among the adolescents, 5.2% were found to have any mental disorder in their lifetime. Major depressive disorder was found to be prevalent among 2.9% of the adults and 0.6% of the adolescents. While 6.5% of the adults were observed to have current suicidal thoughts and 1.1% had attempted to commit suicide in their lifetime, 3.9% of the adolescents had current suicidal thoughts and 0.7% had attempted to commit suicide in their lifetime. Alcohol use disorder and other substance use disorder were found to be prevalent among 4.2% and 0.2 % of the adults respectively. Whereas in adolescents, substance use disorder (both alcohol use disorder and other substance use disorder) was found to be prevalent among 0.6%. The prevalence of current mental disorders was highest among adults

in Bagmati Province (5.9%), among 40-49-year-olds (6.3%), and among females (5.1%). In adolescents, the prevalence of mental disorders was highest in Province 1 (11.4%), among 16-year-olds (7.7%), and among females (5.3%). Analysis of pathways to receiving care (help seeking behavior) questionnaire showed that 40.1% of the adults had talked about their symptoms of mental disorder with anyone, and 21.1% adhered to the treatment. Non-specialist doctors (8.8%), faith healers (6.7%), and psychiatrists (6.5%) were the service providers most sought by adults for the treatment of mental disorders. The major barriers to access to care were related to attitudinal barriers. For example, 'Thinking they do not have a problem', 'Thinking the problem will get solved on its own', 'wanting to solve the problem on their own', and 'being unsure where to get professional care'. Whereas, 'might be seen as weak or 'crazy' and 'being ashamed'. were the major stigma related barriers.

Major limitation of this survey was language barrier in some parts of the country mainly in Madhesh Province. Since mental disorders are associated with stigma, there is a possibility of under -reporting of the disorders.

Based on the results of the survey, it is recommended to include and integrate mental health agenda in all policies and programs related to health and other sectors of welfare, education and employment. It is also recommended to integrate mental health with the routine health care system to increase accessibility and availability to basic mental health services and also to develop specific strategies to address economic barriers and stigma related barriers to help seeking by people.

It is recommended to integrate mental health training into professional education of non-specialist health workers to enhance their ability to manage common mental disorders since the study found that non-specialist doctors are more commonly sought out by participants.

Finally, it is also recommended to conduct more regional translation and cross-cultural adaptation of validated survey instruments to continue to improve the precision of mental health studies in the future.

Background

Mental health is an integral part of the definition of health given by the World Health Organization (WHO) and is a foundation for well-being and effective functioning for an individual and community (1). Poor mental health among young people is related to other development concerns e.g., poor academic achievement, violence, substance abuse, poor reproductive health etc. affecting them in the long run during their adulthood and later life (2). Despite the inter-generational impact of mental disorders, the prevalence of mental disorders remains incredibly high globally. According to the global burden of disease study 2010, mental, neurological and substance use disorders accounted for 10.4% of global Disability Adjusted Life Years (DALYs), 2.3% of global Years of Life Lost due to premature death (YLL), and 28.5% of global Years Lived with Disability (YLDs) (3). Among mental, neurological, and substance use disorders, mental disorders accounted for the largest proportion of DALYs (3). Projections had estimated that neuropsychiatric conditions will account for 15% of disability worldwide by the year 2020, including the unipolar depression alone, accounting for 5.7% of DALYs (3, 4).

The treatment gap for mental disorders is huge all over the world; for instance, between 76% and 85% of people with severe mental disorders receive no treatment for their mental health conditions in Low and Middle-Income Countries (LMICs)(5). It is estimated that four out of five people with mental illness in Low and Middle-Income Countries (LMICs) receive no effective treatment(6). Lack of mental health professional and access to mental health services is an important health system challenge in these settings. There is a huge gap in mental health workforce in many LMICs. According to the mental health atlas 2011, the median number of psychiatrists per 100,000 population in LMIC is 0.05 whereas this number is 8.59 in high-income countries (7). In some developing countries the rate of unmet need for mental health services is even 100% (8).

In Nepal, the burden of mental health problems in terms of morbidity, disability and costs to individuals, families and societies are overwhelmingly high. For example, the first epidemiological field survey conducted in the Kathmandu valley in 1984 showed a high prevalence of mental illness at around 14 percent (9). Similarly, a mental health prevalence survey conducted in two small towns of the western region of Nepal identified 35% psychiatric morbidity in the region(10). Multi-sectoral action plan for the prevention and control of non-communicable diseases (2014-2020) estimated the 18 percent of the NCD burden is due to mental illness (11). Similarly, suicide is a key public health concern in Nepal especially among women of reproductive age group (12). Different factors such as easy availability of toxic pesticides facilitate suicide attempts and the belief that suicide is illegal hinder those affected from seeking help (12).

Nepalese people are at increased risk of developing mental ill health conditions due to extremely stressful environment brought about by the impact of ten years of armed conflict, political unrest and high vulnerability to natural disasters. However, mental health is still a neglected issue in Nepal. People suffering from mental disorders are often seen as threats to Nepalese society leading to denial for seeking treatment and stigmatization. Then, there are cultural beliefs, myths, and religious convictions around causes and consequences of mental disorders that further discourage people to seek service from the health facilities. People suffering from mental disorders and their families in Nepal seek help from traditional healers. Though, Nepal is signatory of the International Convention on Mental Health and different periodic plans of Nepal have incorporated gradual implementation of hospital to community based mental health care service in the country, barriers in accessing mental health care is still huge in Nepal.

Rationale/Justification

Mental health problems are a major public health problem worldwide. According to the global burden of disease study 2010, overall mental and substance use disorders were the fifth leading disorder category in terms of DALYs (13). With this recognition, in the past few decades, national and international epidemiological studies have been conducted in relation to the prevalence, correlates, and impacts of mental disorders. Most of these studies have been done in developed countries (14-16). However, evidence from developing countries is also growing (17-19). In this context, we are aiming to conduct a national level survey of mental disorders in Nepal.

Nepal is a country with almost thirty million population with a high vulnerability to natural disasters such as earthquake, flood, landslide etc. and has faced ten years long armed conflict and political unrest. Nepal also faced a devastating earthquake of 7.8 magnitude and the subsequent aftershocks in 2015 that struck the western, central and eastern parts of Nepal. The earthquake lead to 8,702 the deaths, 22,303 injury and 605,254 completely destroyed houses rendering thousands of people homeless (20, 21). Data from previous studies done in different parts of Nepal indicate an increasing prevalence of mental disorders in Nepal (9-11). However, these studies are based on limited population samples limiting the generalizability of the produced estimates. There are no any national level studies on mental disorders conducted in Nepal to date. There is also difficulty in conceptualizing and measuring the mental disorders in the field of psychiatric epidemiology (22) which applies in case of Nepal as well. This uncertainty about diagnostic categories, criteria and measurement also limit the generalizability of the previous findings and make the findings difficult to understand. This also explains the need of a national level study in Nepal using a highly valid and reliable tool. Promoting mental health and well-being, and the prevention and treatment of substance abuse are integral parts of the Sustainable Development Goals (SDGs). However, many low and middle-income countries, including Nepal currently allocate less than 2 percent of the health budget to the treatment and prevention of mental disorders(23). Nepal is the signatory of an international convention on mental health to be included in urgent health service category and mental health care services are gradually implemented from community to hospitals. However, the area of mental health literacy has been neglected in comparison to physical health. The views of people regarding mental health are less known. Thus, it is important to know the concepts of Nepalese people about the mental health, the unmet need, the pathway of receiving care for mental illness and the major barriers in accessing and receiving mental health care services. So, this study aims to assess national and sub-national levels prevalence of the status of mental illness/disorder, the existing barriers to care and health service utilization in Nepal.

Objectives

The objectives of the national mental health survey are as follows:

General objective:

To assess the prevalence of mental disorders, pathway of receiving care and the barriers to accessing care among people with mental disorders in Nepal.

Specific objectives:

1. To estimate the prevalence of mental disorders in Nepal.

2. To find out the socio-demographic factors associated with mental disorders.

3. To identify the pathways to care for mental disorders.

4. To assess the treatment gap and possible barriers to initiation and continuation of mental health treatment.

Methodology

Research Setting

This is a nation-wide epidemiological survey on mental health. Nepal consists of 7 provinces, which comprise of 77 districts. The districts are further sub-divided into metropolitan cities, sub-metropolitan cities, municipalities (nagarpalika) and rural municipalities (gaaupalika). Each municipality and rural municipality are further divided into wards. The following table shows the numbers of various administrative divisions in the country *(Diagnostic Study of Local Governance in Federal Nepal, 2017):*

Table 1 Administrative divisions of Nepal

Administrative Division	Total Number
Province	7
District	77
Metropolitan Cities	6
Sub- Metropolitan Cities	11
Municipalities (Nagarpalika)	276
Rural Municipalities (Gaaupalika)	460

Research Design

The NMHS was a descriptive cross-sectional community-based prevalence study, employing the quantitative methods. The survey used the sampling frame from National Population and Housing Census (NPHC), 2011 which was further updated for the Primary Sampling Units (PSUs) that were eventually sampled. For the adult samples (both males and females), the survey is nationally representative as well as representative at the province level. Whereas for the adolescents, it is only representative at the national level. In addition to NPHC, the survey has also used prevalence estimates from the pilot study.

Research Duration

The survey had been envisioned and the planning started from November 2017. After completion of the preparatory phase, data collection was started from January 2019 to January 2020. The first phase of data collection was conducted in Province 1, Madhesh and Bagamati Province which was done from January 2019 to April 2019, followed by subsequent collection of data in other provinces. After completion of data collection and entry, the remaining tasks of the survey (e.g. analysis, report writing etc.) were concluded in September 2020. The report writing, review and dissemination was completed by 2021.

Research Population

The survey included adolescents (aged 13 to 17 years) and adults (aged 18 years and above).

Exclusion Criteria:

1. People living in non- private dwellings/ households.
2. Residents of institutions or hospitals.

3. Prison inmates.

4. People who are unable to provide informed consent (severely ill, not able to respond and not willing to be included).

5. People who were not currently living in the household.

Sampling Methodology

- **Sample Size Estimation**

To calculate the sample size for the survey, the prevalence estimates obtained from the pilot survey were used. From the pilot survey we found that the current prevalence of any form of mental disorder among adolescents was 11.2% and among adults (18 years and above) was 13.2%. So, using the prevalence value of 13.2% among adults, design effect of 2, coefficient of variation of 15%, adding the non-response value of 5% and adjusting for round up, the total sample for adults was calculated to be 9200 (with 4600 samples each for males and females), in all the 7 provinces. Sample size estimation for adults was done by stratifying genders (male and female) at the province level. For adolescents, the sample size was calculated using the same criteria as for adults (prevalence value of 11.2% was used according to pilot survey result) and a total of 5888 sample size was calculated for adolescents. However, unlike in adult sampling male-female strata were not separated at the province level. Hence, the total sample size (including both adults and adolescents) for the national mental health survey was 15,088.

Table 2 Number of sampled participants in each province

Province Number	Number of PSUs	Total number of Adult Male	Total number of Adult Female	Total number of Adults	Total number of Adolescent Male	Total number of Adolescent Female	Total number of Adolescents
1	27	775	775	1350	432	432	864
2	26	750	750	1300	416	416	832
3	27	775	775	1350	432	432	864
4	26	750	750	1300	416	416	832
5	26	750	750	1300	416	416	832
6	26	750	750	1300	416	416	832
7	26	750	750	1300	416	416	832

- **Sampling Technique**

Multistage Probability Proportionate to Size (PPS) sampling method was used to identify the Primary Sampling Units (PSU). In the survey, wards were considered as the PSUs and were selected from metropolitan area, sub-metropolitan area, urban and rural municipality. From each PSU, the household list was obtained and individuals from each household were listed. The Secondary Sampling Units (SSUs) were individual participants and not households. Listing of individuals was done and segregated as 4 groups, i.e. adult male, adult female, adolescent male and adolescent female. From each PSUs 25 adult male, 25 adult female and 32 adolescents were taken using systematic sampling.
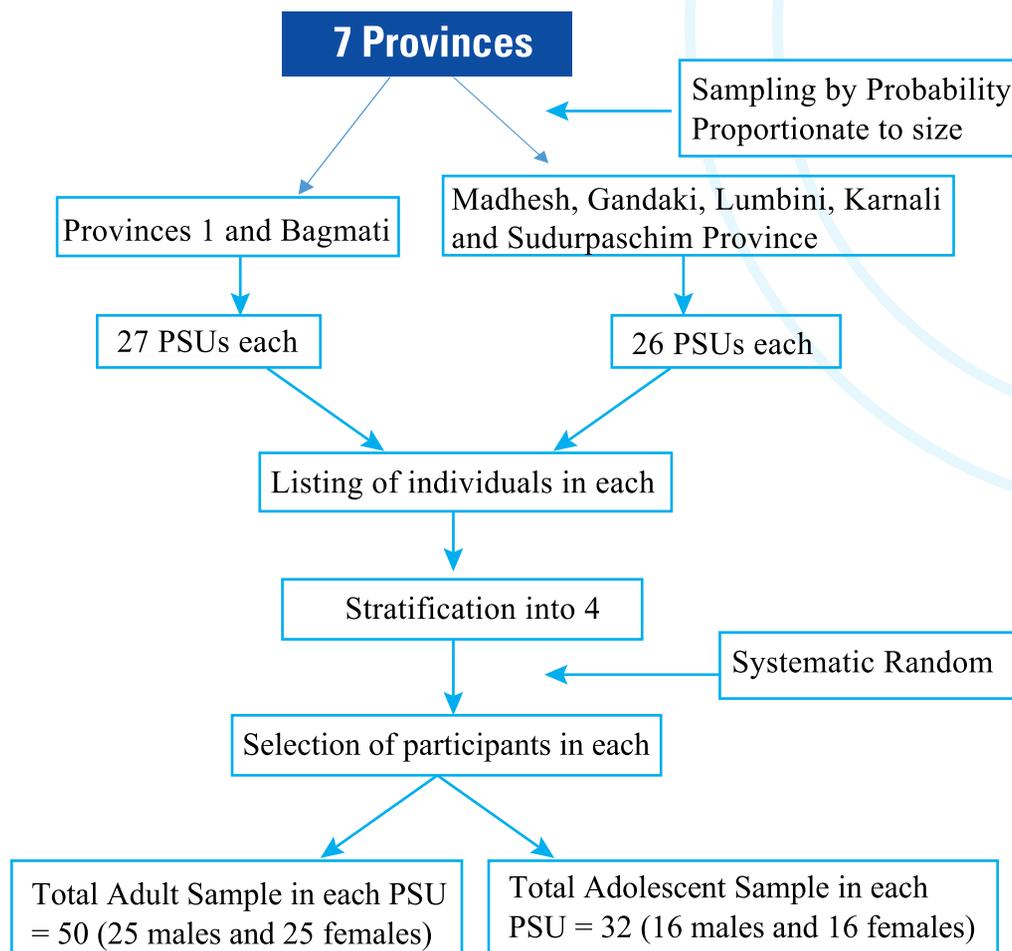
Figure 1 Sample Selection Flowchart

Two Stage Sampling

As mentioned earlier, wards were the Primary Sampling Unit (PSU) in the survey. In the first stage, wards were selected using Probability Proportional to Size (PPS) sampling technique where measure of size was number of households in the ward. Two types of PSUs were defined and identified where small PSUs contained around 300 or fewer households and big PSUs contained significantly greater than 300 households.

Segmentation of Big PSUs

- If the PSU was big, the field team first segmented the PSU such that the segment with approximately 300 households could be listed. The following steps were employed:

1. North-east corner boundary of the PSU was identified.

2. The field team got an approximate idea about households and individuals per house.

3. From the north-east corner, they moved west (anti-clockwise) counting houses until a physical or permanent boundary was identified. They stopped at that point and moved to the east or south counting houses.

4. They stopped counting houses when the number of houses matched with the approximate estimate of households (i.e. 300 households) and one of the boundaries was reached.

5. Following this, they drew an approximate map of the selected segment with boundary description.

6. Then, all households in this north-east segment were listed and smaller blocks were made.

- Segmenting PSU into Blocks

  By segmenting PSU into blocks, the households will be easily traceable in the main survey operation.

1. If the PSU had households fewer than 100, making blocks wasn't necessary.

2. For larger PSUs, blocks of around 100 households were made using permanent boundaries.

3. The blocks were numbers from the north-east corner in the serpentine order and the description of boundaries of the blocks were written on a separate map/paper.

4. Block information was filled in the listing form clearly.
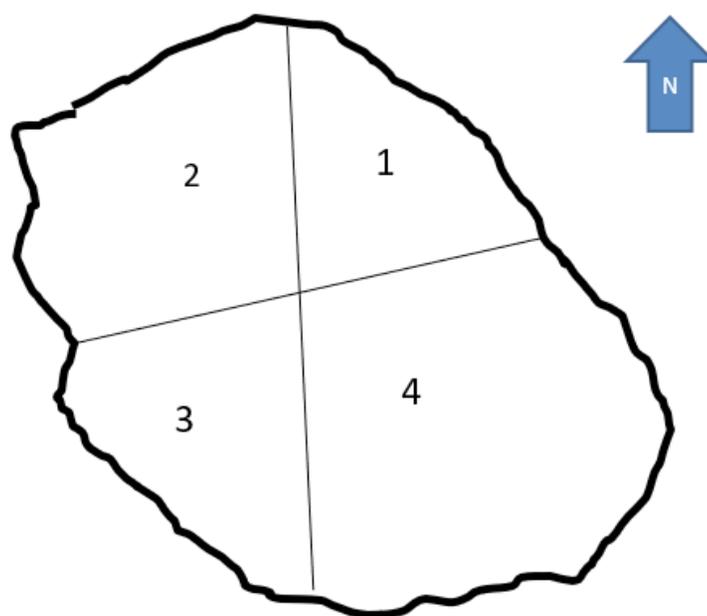
Figure 2 Separating PSU segments into blocks

In the second stage, the sampling interval is calculated to conduct the systematic random sampling. The Secondary Sampling Units (SSU) for the survey were individuals and not households. Hence, the individuals that fulfilled the criteria to be included in the survey were listed and systematic sampling was done from among the listed individuals. Details about listing and other field operations are given in the section of data collection process.

Participant selection based on Sampling Interval is given below:

For each stratum, the number of listed individuals were identified. It was divided by 25 (for adult male and female) or 16 (for adolescent male or female) to get Sampling Interval (SI).

$$\text{Sampling Interval} = \frac{\text{Total number of listed individuals in a PSU}}{\text{Number of individuals to be surveyed in the PSU}}$$

The integral part of SI was taken, and Random Number Table was used to get the first number. The first number was circled in the Random Number Table sheets provided to the team. If the same SI comes in

another PSU or in another category, another first number was selected that had not been circled. The first sampled unit for each of the PSU was the person whose identification number was the selected first number. For subsequent samples, the following formula was used:

Sample number i = first number + (i-1) x Sampling interval with decimal

This number was rounded to integer and the participant with this identification number was selected.

Data Collection Method

Data was collected by means of face-to-face interviews. Details about data collection are given in the section of data collection process.

Data Collection Instruments

The decision about the instruments to be used in the survey was made following extensive review and discussions among the Technical Working Group (TWG). Several mental health tools were reviewed separately and the one most appropriate for the survey was chosen. Likewise, questionnaire to enlist the socio-demographic information of the participants as well as pathways to receiving care/ help seeking behavior and barriers to access were selected by the TWG after careful and detailed review. In selecting the tools, different factors were considered, such as psychometric qualities of the instrument, degree of structure, breadth of diagnostic coverage as well as contextual appropriateness.

Instruments

Six instruments were used to collect the required data. These were as follows:

1. Socio-demographic Questionnaire

2. Mini International Neuropsychiatric Interview (MINI) for Psychotic Disorders Studies version 7.0.2

- MINI Adult Version
- MINI Kid Version

3. Epilepsy Questionnaire

4. Pathways to Receiving Care/ Help Seeking Behavior Questionnaire

5. Barriers to Accessing Care Evaluation (BACE) Questionnaire

6. Disability Assessment

Socio-demographic Questionnaire

The socio-demographic variables for the survey were based on the demographic profile used in the 2011 National Census. Variables that helped identify the characteristics of the survey population and were relevant to mental health morbidity were included. The advantage of using the National Census profile as a base to develop socio-demographic questions for the survey was that it would help in comparisons at the national level and would correspond to the standards recommended by the Ministry of Health and Population.

The socio-demographic questions included details such as name, age, gender, marital status, details about obstetric history (in case of females), age of the last child, number of alive children, religion, ethnicity, family type, number of family members living in the household, educational qualification, occupation, family income, facilities available in the house and recent death in family.

MINI International Neuropsychiatric Interview (MINI)

The MINI questionnaire (version 7.0.2) for adults used in the NMHS consisted of a total of 16 modules, including 15 for mental disorders and 1 to rule out organic/drug/medical causes of the symptoms. Whereas, the kid version of the tool consisted of 23 modules, out of which one was to rule out organic/drug/medical causes of the symptoms and the remaining 22 included mental disorders.

At the beginning of each diagnostic module, screening questions corresponding to the main criteria of the disorder were asked. The remaining questions of each module were asked only if the screener question was positive. In case of a negative screener the module was skipped and the interview moved on to the next module. Considering the sensitive nature of the questions, enumerators conducted interviews in a tactful manner. They were also considerate of the local cultural, traditional and social norms and conducted themselves accordingly. The questions were read out without any modifications, following the guidelines of the MINI tool.

Table 3 Adult and Adolescent Disorders included in the MINI Tool along with their Diagnostic Module

Module	Disorder (Adult)	Module	Disorder (Kid)
A	Major Depressive Episode/Major Depressive Disorder***	A	Major Depressive Episode/ Major Depressive Disorder***
B	Suicidality Suicide Behavior Disorder**	B	Suicidality/Suicide Behaviour Disorder**
C	Manic/Hypomanic Episode; Bipolar Disorders**	C	Manic/Hypomanic Episode; Bipolar Disorders**
D	Panic Disorder**	D	Panic Disorder**
E	Agoraphobia*	E	Agoraphobia*
F	Social Anxiety Disorder/Social Phobia*	F	Separation Anxiety Disorder *
G	Obsessive Compulsive Disorder*	G	Social Anxiety Disorder/ Social Phobia*
H	Post-Traumatic Stress Disorder*	H	Specific Phobia*
I	Alcohol Use Disorder*	I	Obsessive Compulsive Disorder*
J	Substance Use Disorder (Non-Alcohol)*	J	Post-Traumatic Stress Disorder*
K	Psychotic Disorders**	K	Alcohol Use Disorder*
L	Anorexia Nervosa*	L	Substance Use Disorder (Non-Alcohol)*
M	Bulimia Nervosa*	N	Attention Deficit Hyperactivity Disorder*
N	Generalized Anxiety Disorder*	O	Conduct Disorder *
O	Medical/Organic/Drug cause rule out	P	Oppositional Defiant Disorder*

P	Antisocial Personality Disorder****	Q	Psychotic Disorders**
		R	Anorexia Nervosa*
		S	Bulimia Nervosa*
		U	Generalized Anxiety Disorder*
		V	Adjustment Disorder*
		W	Medical/Organic/Drug cause rule out

Diagnostic Timeframe
* Current
** Current/ Lifetime
*** Current/ Lifetime/ Recurrent
**** Lifetime

Pathways to Care / Help Seeking Behavior

Pathways to care/ help seeking behavior and Barriers to Access to Care Evaluation (BACE) questionnaires were present only in the adult version of the tool. The former was assessed through 9 questions which included details such as whether they shared their symptoms with anyone, whether they sought treatment or services, which type of treatment they sought, who they sought treatment from, history of hospital admission for their symptoms and the cost of treatment for mental disorder.

Barriers to Access to Care Evaluation (BACE)

The BACE questionnaire evaluated the barriers to access to care through 20 questions. These questions aimed to identify the care seeking pattern of the individuals as well as the factors that acted as barriers to seeking care.

Disability Assessment

Disability Assessment questionnaires was used to measure the extent of impairment in in 10 different areas of life such as work, social life, family life, income generating ability etc. The score from the disability assessment scale was expressed in a 10-point visual analog scale.

Pilot Study

Overview

The TWG decided to conduct a pilot study in 3 purposely selected districts of Nepal (namely, Bhaktapur, Dhanusa and Dolakha), representing Terai, Hilly Region and Himalayan Region. The main objective of the pilot study was to assess the feasibility to undertake the full-scale national survey.

Objectives

The specific aims of the pilot study were as follows:

- To test survey tools and techniques.
- To assess participant response rate.
- To identify practical problems in the field.
- To determine the human resource need, time and cost for the national survey.
- To estimate the prevalence of mental disorders in the selected pilot survey areas.

Sample size taken for the pilot study was proportionate to the total number of households in selected districts as per the census report of 2011. Total of 1647 participants including 276 children aged 13-17 years and 1371 adults aged 18 years and above were included. Data collection was done from June 20, 2018 to July 20, 2018.

Findings

The pilot study had a response rate of 99%. Among adults, 13% participants were found to have any mental disorder. Alcohol use disorder was found among 3.4% of the participants and 7.3% had non-alcohol substance use disorder, with tobacco being the most commonly used substance. The prevalence of current Major Depressive Disorder (MDD) was 3.4% and that of current suicidality was 10.9%. Dissociative disorder was found among 6.1% of adult participants. The prevalence of panic disorder, anxiety disorder, Post Traumatic Stress Disorder (PTSD), Obsessive Compulsive Disorder (OCD) and anti-social personality disorder was found to be less than 1%. The study did not find any cases of anorexia nervosa, bulimia nervosa and hypomanic episode among the adult participants.

Among children, the prevalence of any current mental disorders was 11%. The prevalence of current MDD was only 0.7% and that of current suicidality was 8.7%. The study found that 0.7% had substance use disorder and the prevalence was less than 1% for MDD, Panic disorder and Anxiety disorder. Among children, cases of manic and hypomanic episode, PTSD, Alcohol use disorder, Attention Deficit Hyperactivity Disorder (ADHD), Conduct disorder and Bulimia nervosa were not found.

Lessons Learnt

The study helped to identify practical problems in the field and weaknesses of the pilot survey. Based on these, certain modifications were made to the methodology and instruments. Likewise, the pilot study helped to determine the human resource need/ time and cost for the national survey.

- The pilot study identified a gap in enumerator training. It was found that the duration of the training of field enumerators should be extended and that the training should focus on clearing basic concepts of different mental disorders included in the survey, in addition to developing interview skills using MINI tool.
- The pilot study identified different items/ modules in the questionnaire that reduced the reliability score and that needed to be covered in a more comprehensive way during the training.

Training of Trainers (ToT)

A three-day training of trainers was organized by Nepal Health Research Council (NHRC), in co-ordination with Ministry of Health and Population (MOHP) of Nepal and WHO. It was conducted within the premises of NHRC, from 20th Nov 2018 to 22nd Nov 2018 and was facilitated by Prof. Dr. David Vincent Sheehan. Prof. Sheehan is a distinguished University Health Professor Emeritus at the University of South Florida, College of Medicine, USA and the copyright holder of the MINI tool.

The ToT helped the facilitators in gaining skills to effectively administer the MINI tool (both the English and Nepali versions), as well as enabled them to train the enumerators and supervisors. They were also able to discuss about other practical problems that may arise in the field and that should be taken care of. The ToT helped in developing a pool of experts who later successfully conducted training of Field Enumerators and Supervisors.

Overview of Field Enumerator/ Supervisor Training

A twenty-one-day training of field enumerators and field supervisors was organized by Nepal Health Research Council and conducted within its premises from 16th Dec 2018 to 7th Jan 2019. The training was facilitated by psychiatrists, psychologists and researchers from various organizations. The training included a total of 36 people from the field team (30 enumerators and 6 supervisors). The minimum qualifications of the enumerators and supervisors was bachelor's degree (Public Health and Nursing) and master's degree (Public Health) respectively.

The purpose of the training was to upgrade the knowledge and enhance the skills of the enumerators and supervisors so that they could successfully administer the MINI tool during data collection phase of the survey.

Specific Objectives

- To acquaint the trainees with the MINI tool and enable them to effectively administer it in the field.

- To identify the potential problems that may arise while using the tool and modify the tool accordingly.

- To provide the enumerators and supervisors with basic concepts of disorders included in the survey.

Training Process

Following methods were used during the training:

- **Presentations and Discussions:** Facilitators gave lectures using MS Power Point. The training included overview of the survey methodology and components of the tool, i.e. mental disorders, BACE and pathways of receiving care, as well as adverse event management protocol and ethical aspects in Mental Health Survey. After each lecture session, trainees were given time to discuss and ask relevant questions.

- **Demonstration**: Facilitators demonstrated the practical method of administering the tool and making diagnoses by interviewing one of the trainees as well as psychiatric patients.

- **Review Sessions:** During the entire course of the training, trainees were asked to review each class at the end of the training day as well as before the start of the next day.

- **Group work:** Lectures and demonstrations were followed by group work. The trainees were divided into groups where they practiced conducting the interviews with each other.

- **Practice in Clinical setting:** Following completion of the lectures and in-house group work, the enumerators were then divided into groups each of which was supervised by one field Supervisor and were sent to four different hospitals; Tribhuvan University Teaching Hospital (TUTH), Rhythm, Patan, and Kathmandu Medical College (KMC). There, they practiced the MINI tool by interviewing patients admitted in psychiatry wards, under supervision of the facilitators.

- **Pretesting**

  After 16 completed days of the training, enumerators and supervisors were sent to Kirtipur Municipality for pretesting from 3rd Jan 2019 to 6th Jan 2019 to practice the MINI tool administration in community setting. They were divided into 6 groups with 5 enumerators and 1 supervisor in each of the groups. The pretesting was done independently by the enumerators, under the supervision of the respective supervisors.

  - **Findings**

    - A total of 268 participants (167 adults and 101 adolescents) were interviewed and the collected data was analyzed.

    - Among the adults, 5.4% had any form of mental disorder. MDD was found among 1.2%, current suicidality among 7.8% and alcohol use disorder among 4.2% of the adults. Disorders such as panic disorder, agoraphobia and Generalized Anxiety Disorder (GAD) was found in less than 1%. No cases of substance use disorder, psychotic disorder, PTSD, anti-social personality disorder and social anxiety disorder were found in the pretesting.

    - Out of the total adolescents interviewed, 7.5% had any form of mental disorders. Current suicidality was found among 6.5%, Alcohol Use Disorder (AUD) among 2.8%, specific phobia and substance use disorder among 1.9%. Disorders such as agoraphobia, ADHD, oppositional defiant disorder and anorexia nervosa was found in less than 1% of adolescents. Cases of MDD, separation anxiety disorder, social anxiety disorder, specific phobia, OCD, PTSD, any psychotic disorder, GAD and adjustment disorders were not found during pretesting.

  - **Experience sharing:** After coming back from practice in clinical setting and pretesting, the trainees shared their experiences regarding difficulties they faced during the interviews. The interviews were reviewed in-house and necessary feedback was provided.

Ethical Considerations

Research involving human subjects require a strict adherence to ethical standards, in order to maintain the rights of the people as well as to respect and promote their dignity, autonomy and confidentiality.

Ethical Approval

The ethical approval for this study was taken from Ethical Review Board (ERB) at the Nepal Health Research council, Government of Nepal (Reg, Nr. 1932/2019).

Research Ethics Certificate to Field Enumerators and Supervisors

The field enumerators and supervisors were required to take the online test regarding research ethics and obtain the research ethics certificate by FHI 360, which they then submitted to the central team. This was done to ensure that all the enumerators and supervisors were well versed with ethical considerations during data collection.

During Data Collection

- The enumerators and supervisors, on their first visit to the assigned ward, informed the respective administrative authority (District Administrative Office, Municipality Office and Ward Office), the district police, the district public health office and local health post/ district hospital about the study. They submitted official letters to each office and received permission for data collection.

- Following this, the listed individual respondents were approached. Prior to starting the interview, participants were provided with an information sheet, informed consent form and assent form. Considering the low literacy level across the country, participant information sheet and consent/assent form were read out by the interviewers in a language with which the participants were familiar. This was done to ensure that each participant understood the contents of the information and Informed Consent sheet. The information sheet contained details of the study including introduction of the interviewer, background and objectives of the study, potential benefits and harm to the participant, confidentiality, time taken for the interview and any questions that the participant may have regarding the interview and/or the study. Participants were informed that:

  - The study would help in policy development in the future.

  - In case an adverse event was identified during the interview, the participant would be provided with referral information.

  - The study will not cause any harm to the participant.

  - Anonymity of the participant will be maintained throughout the study.

  - The participants would have voluntary participation and they could withdraw from the study at any time, if they so wanted, without any negative repercussions.

  - Information they provide would be treated and maintained in a strictly confidential manner.

- Informed consent/assent was taken from the participant or the guardian (in case of adolescents). They were asked to put their name, date, signature and/or thumb print in the consent/assent form.

- For participants between 13-17 years of age, the information was provided to and assent was taken from the guardian.

- Considering the sensitive nature of the questionnaire, efforts were made to ensure that no other person was present during the interview and that the interview was conducted in private as much as possible.

Mental Health Information, Adverse Event Management and Referral:

- All the study participants were provided with fliers containing details about mental health, symptoms of mental disorders, suggestions to people suffering from symptoms of mental disorders and role of family.

- A protocol was developed for adverse event (any severe form of mental disorder and suicidality) reporting, which was filled by the supervisors and reported to the central team.

- Contact information of psychiatrists/ psychosocial counselors available in the district and a Toll-Free number of Transcultural Psychosocial Organization (TPO) Nepal were provided to the participants. Participants who required counseling were referred to a psycho-social counselor.

Psychosocial Counselling at Central Level

A full-time certified psycho-social counselor was recruited at the central level to provide psychosocial support to individuals reported to have severe form of mental disorder and or moderate to severe suicidality. Whenever a severe disorder or moderate to severe suicidality was encountered, the individual was connected with a psychosocial counsellor through a phone call. The counselor was responsible to make additional follow up calls to the individual.

Data Confidentiality

The acquired data was stored in the field as well as the central level maintaining strict adherence to confidentiality and was transferred in a secured manner.

Data Collection Process

Overview

Data collection process lies at the core of any research. While conducting the NMHS, maintaining rigorous standards of practice for data collection, monitoring and management were considered a top priority. The field enumerators and supervisors underwent an extensive training, which gave them the skills to administer the tool effectively. In addition, the training (and research ethics certification) enabled them to adhere to the ethical standards of data collection. During each step of the data collection process, proper monitoring was done to ensure quality of the data. Following is a brief description of the various stages of data collection process in the NMHS.

Field Data Collection Process

- **Co-ordination**

  ➢ *Contacting Local Authorities*

  The enumerators and supervisors, on their first visit to the assigned ward, informed the respective administrative authority (District Administrative office, Municipality Office and Ward Office), the district police, the district public health office and local health post/ district hospital about the study. They submitted official letters to each office and received permission for data collection.

  ➢ *Contacting Local Health Worker*

  After receiving permission from the concerned authorities, the field team contacted the local Female Community Health Volunteers (FCHVs), in order to locate the households and to get acquainted with community individuals selected for the survey.

  ➢ *Household Mapping*

  The Secondary Sampling Unit (SSU) for our study was individuals. However, mapping of houses and households was done prior to selecting the individuals. Boundaries of selected PSU were confirmed with the help of the FCHV, after which listing of households was started.

- **Listing**

  Listing refers to gathering information on variables of interest of all households in the selected PSU. Listing was undertaken in the survey because first stage sampling was done using the latest (2011) census frame. Since this data is old, it may sometimes be obsolete. Hence, listing households helped to get a fresh frame for selecting individuals in the second stage. Furthermore, it also helped in weight adjustments for estimation and analysis.

  Upon reaching a PSU, household mapping was done to plan the listing operation. The physical/permanent boundaries that could be helpful for making blocks were identified. If the selected PSU was big, it was segmented from north-east boundary and listing was done until the count of 300 was reached. If the selected PSU was small, blocks were made, and the listing was started from block 1. Each block was listed by a single enumerator.

  If separate households were present in a single house, each household was considered separately, and the household number increased (even though the house number remained the same). Listing was always started from landlord/eldest brother, and then moved on to the tenants/younger brothers.

- **Sampling of Listed Individuals**

The following steps were employed to select the sample:

Step 1: Data Entry of Household Members

After all the individuals in the PSU were listed, the data was entered into MS Excel spreadsheet. Then, the individuals were categorized into 4 groups, i.e. Adult Male, Adult Female, Male Kid and Female Kid.

(The following figure shows the data after being entered into MS Excel and categorized into groups)

enumerato	House_No	HH_no	family member ID	sex	age	category	new_serial
8	18	66	3	1	13	1	1
6	14	70	3	1	17	1	2
7	12	76	5	1	19	1	3
6	18	74	4	1	19	1	4
6	9	44	5	1	21	1	5
6	16	72	3	1	21	1	6
9	18	90	1	1	21	1	7
10	9	55	2	1	22	1	8
8	15	63	5	1	22	1	9
9	20	92	4	1	22	1	10
6	7	42	3	1	23	1	11
10	7	53	3	1	23	1	12
7	14	78	7	1	23	1	13
9	15	87	3	1	23	1	14
8	3	3	2	1	24	1	15
7	3	15	5	1	24	1	16
7	7	20	3	1	24	1	17
9	8	32	2	1	24	1	18
6	18	74	3	1	24	1	19
9	6	30	3	1	25	1	20
7	10	23	3	1	25	1	21
10	12	58	3	1	25	1	22
7	12	76	3	1	25	1	23
8	15	63	3	1	25	1	24
8	17	65	3	1	25	1	25
9	20	92	3	1	25	1	26
7	3	15	3	1	26	1	27
7	4	17	1	1	26	1	28
10	11	57	3	1	26	1	29

Figure 3 Example of data entry for systematic random sampling to select individual participants

Step 2: Making Frames for Selection

Sampling was done for each of the 4 categories separately. Four lists were created and sorted according to Age, House Number and Household number. Systematic random sampling was done using these lists.

Step 3: Calculating Sampling Interval and obtaining First Number

Sampling Interval was calculated, and Random Number Table was used to get the first number. The first sampled unit for each of the PSU was this person whose identification number was the selected first number.

Step 4: Obtaining the Subsequent Samples

The first number and sampling interval were used to get subsequent samples.

Step 5: Identifying the Selected Individual

On the listing book, the selected individuals were identified, and their sample number was written on the last column.

- **Approaching the Sampled Individuals**

  The field team spent the first 2 days in the PSU for co-ordination, listing and sampling. On the 3rd day, they initiated interviews by first approaching the selected individuals. They introduced themselves, showed identification cards and gave information regarding the survey to the individual. During this, they tried to build a rapport with the individual. Then, they read out information present in the information sheet and obtained a written informed consent prior to starting the interview.

- **Conducting the Interview**

  The interview was taken following the format of the questionnaire. It consisted of 5 parts, i.e. Socio-demographic profile, MINI questionnaire, Pathway to care/Help seeking behavior (only in adult version), BACE questionnaire (only in adult version) and Disability assessment. Details of each part of the instrument has already been mentioned in the previous chapter.

  - Sampled individuals who were not available at the first visit, were visited second time for the interview at a different day and time. If he/she was not available during the second visit, a third visit was made. However, if the individual was not available after 3 visits, he/she was considered to be a non-responder. Likewise, if an individual had to leave in the middle of an interview, another convenient time was scheduled to complete the interview. If an individual withdrew at any time during the interview, it was recorded as partial/incomplete interview.
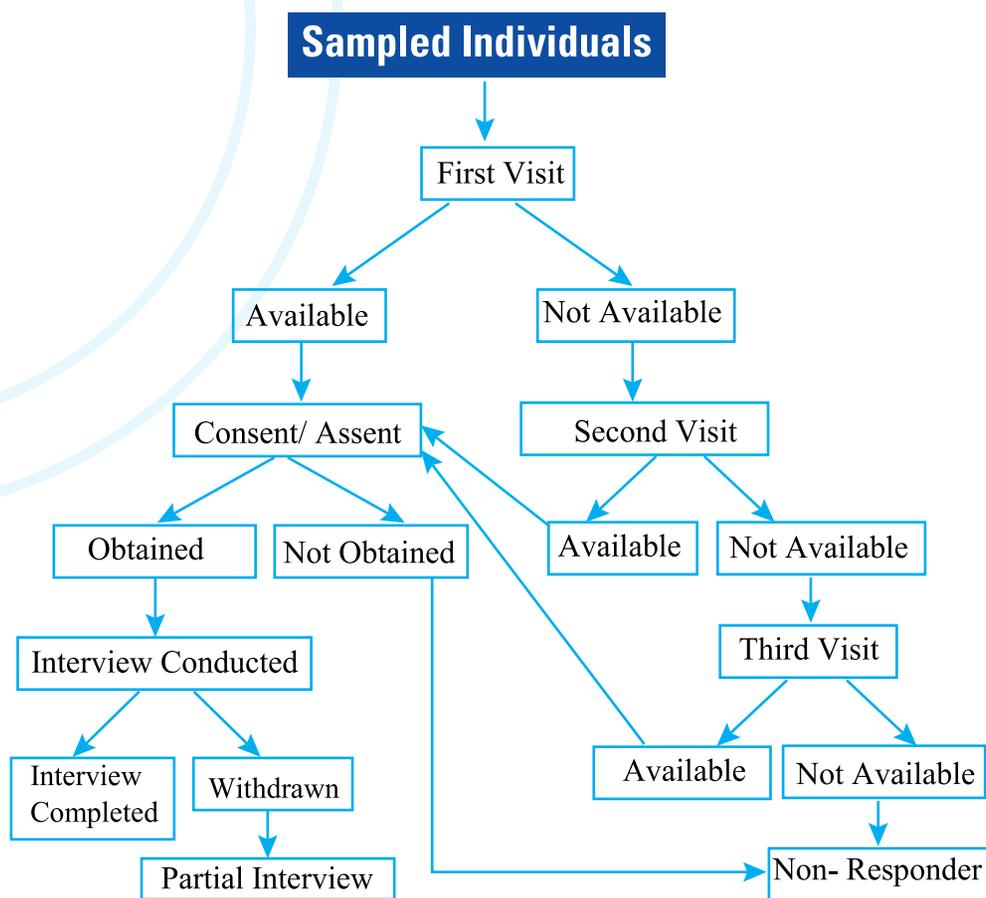
Figure 4 Interview Process

- **Leaflet Distribution on Mental Health Related Information**

After completion of interviews, each individual was handed a leaflet containing information about mental health. It contained materials like symptoms of mental disorders, suggestions to people suffering from symptoms of mental disorders and role of family in managing mental disorders. It also contained the contact information of local psychiatrists/psychosocial counsellors whom the individuals could contact and seek medical help. The leaflets were also distributed among non-sampled individuals on request basis.

Another leaflet containing information specific to suicidality/suicidal ideation were distributed among participants/family members of participants who had a high suicidality score, which detailed the ways in which the person and family can handle the situation. It also contained helpline numbers of TUTH and Patan Hospitals as well as a toll free number of TPO Nepal.

- **Adverse Event Reporting**

In was decided in the TWG meeting that during the survey, if a severe form of mental disorder was recognized, it would require referral to the nearest health facility/psychiatrist. These severe forms of mental disorders, when encountered, were reported to the central office as an adverse event. In the case of suicidality (moderate and severe suicidality), a protocol was developed for suicidality adverse event reporting. An adverse event reporting form was also developed, which was required to be filled by the supervisors every time they identified any severe form of mental disorder and suicidality. After this, they informed the individual about the psychiatrist available in their district (as mentioned in the leaflet) and also sent the adverse event reporting form to the central team. The adverse event reporting form consisted of name and contact details of the individual with the adverse event, type of adverse event, description of the event and action taken. *(Appendix 4)*

At the central level, the identified individuals were also put in touch with a psychosocial counselor.

Questions

Q1. Has the person felt that life is not worth living?

Q2. Has the person thought about harming himself/herself? (For example, cutting yourself, taking poison, jumping, banging head against walls etc.)

Q3. Has the person ever hurt himself/herself (in this way) before and if yes how many times?

Q4. Do you feel that the person wants to harm himself/herself (in this way), right now?
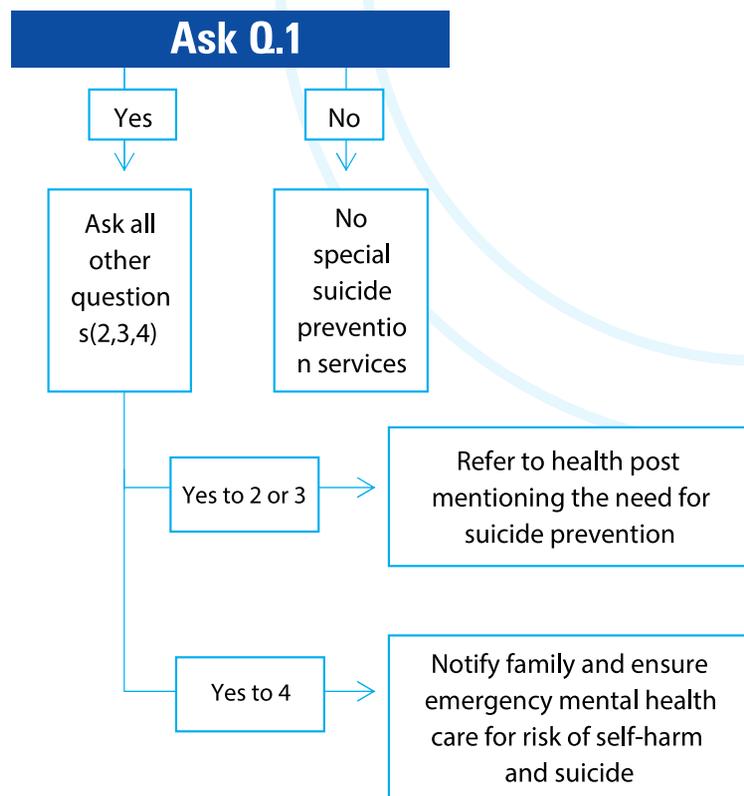
Figure 5 Suicidality Adverse Event Reporting Protocol

Record Keeping

Records were maintained throughout the survey both at the field level as well as the central level. At the field, the supervisors maintained weekly records of data collection and adverse events. At the central level, records of all details related to the survey were recorded.

Record Keeping in the Field

- Recording and reporting forms: Field supervisors kept a weekly record of number of data collected in the week, target number of data, names and details of province, district and wards visited. These forms were sent to the central level on a weekly basis.

- Adverse event management forms: As mentioned above, recording of adverse event were done and reported to the central level.

Record Keeping at the Central Level

➢ At the central level, all official documents related to the survey (including official letters, ethical approval letter, copies of letters to the local administrative bodies of each PSU, records of financial transactions, filled questionnaires, listing/sampling records, recording reporting forms, adverse event reporting forms etc.) were recorded and maintained in a systematic way.

➢ Bi-weekly updates were taken by the central team of the field activities, which was recorded and reported to the survey coordinator.

➢ As individuals requiring psychosocial counseling were referred to a counselor (at the central level), records related to these counseling sessions were also kept at the central office. These included socio-demographic profile of the individual and details of the counseling session.

Monitoring and Evaluation

Monitoring and evaluation helps with identifying the most valuable and efficient use of resources. It is quite a challenging task to obtain good quality data from a large community based survey. Hence, monitoring should be of prime importance and should be done at every level so that problems can be addressed while it is in progress and high quality data can be ensured. Under NMHS, monitoring and evaluation of the survey was guided by members of technical working group from different sectors. In order to ensure collection of good quality data, monitoring was done at field and central level

Field Level Monitoring

Monitoring was done at the field level by the field supervisors. Each group had been assigned with one supervisor, whose main task was to manage and monitor the data collection process. Supervisors monitored data collection in three main ways:

- o Interview observation: Supervisors observed the enumerators while conducting interviews, and assessed their style of questioning, appropriateness of response entry and and observed whether proper instructions were followed during interview. In addition, if the enumerators had confusion regarding some response (e.g. symptoms similar to different disorders, unclear responses etc.) supervisors had tried to addressed those issues.

- o Checking of filled questionnaires: Supervisors checked each filled questionnaire for correctness, completeness and coverage of information gathered, at the end of each day. In case of any problem areas identified, they discussed it with the enumerators.

- o Spot checks: Supervisors conducted random spot checks to verify household composition and other information collected during interviews.

- o Conveying problem areas to central level: Critical issues identified in the collected data/ collection process were communicated regularly to the central office for discussion and corrections.

Central Level Monitoring

The central team monitored data collection process both by visiting study sites as well as from the central office. Regular field visits were conducted by the survey coordinator and other members of the central team. During these visits, they observed interviews, did spot-checks and verified recording/ reporting sheets, sampling, listing and the questionnaires. In addition, the visiting team also provided support to the field team and addressed any problem areas that they might be facing.

From the central level, monitoring was done on a bi-weekly basis by asking for updates from the field team. The questionnaires that had been returned from the field were checked again by a member of the central team for correctness, completeness and coverage of information. Based on this, feedback was given to the field team about any problem areas. Additionally, the central team also conducted a weekly follow up of the listing, sampling, recording/reporting and adverse event management forms.

Evaluation

All the information obtained from the monitoring at the field level and the central level were evaluated and problem areas were identified. These were discussed among the survey team as well as the TWG and corrective actions to be taken. Feedback was provided to the field supervisors and enumerators.

After the completion of each phase of data collection, a meeting was held at NHRC which included all the supervisors and enumerators. At this meeting, they shared their experiences and mentioned about all the challenges they faced during data collection. There was mutual sharing of issues that had arisen and how they were resolved in each of the clusters that the teams had visited. This meeting acted as a review and feedback session for the field team, at the end of each phase.

Quality Assurance

Each step of the monitoring process as well as evaluation contributed to maintaining the quality of obtained data and consequently, the calculated results. The entire survey team had tried their best to maintain optimum standards and quality of data during the entire survey.

Data Management and Analysis

The NMHS, being a nationwide study, included study sites that were distant from each other as well as from the central office. Hence, a strict system of data management (with authorized access only) was put in place to ensure proper storage and transfer of data. It was also ensured that data management in the field was uniform among all groups and study sites. Likewise, management of the data at the central level was done in a systematic manner.

Field Data Checking and Storage

Questionnaires that had been completed each day, were handed over by the enumerators to the field supervisor at the end of the day. The supervisor checked each questionnaire for correctness, completeness and coverage of information. Provided that the questionnaire fulfilled these criteria, the supervisor signed it, sealed it and stored it in a secure place where only the field team could access it. At the completion of each PSU, the supervisor counted and compiled all the questionnaires, after which they were put in a secure bag. The bag was labeled with details about the province, district and PSU, and the number of questionnaires contained in it.

Data Transfer

During transfer, the questionnaires were carried in water-proof bags which were sealed. The bags were transferred to the central office by road and was attended by a member of the survey team.

Data Management at Central Level

Once the questionnaires reached the central office, the labels on the bags were first checked and tallied with the list of pre-determined PSUs. Following this, each bag was separately opened and the total number of questionnaires from each district/PSU was counted. These were then stored in a secure room for subsequent checking and data entering.

Data Checking

Data checking was an important step which ensured the collection of good quality data. It was undertaken on a continuous basis throughout the survey. Data checking not only helped in identifying errors in the collected data, but also in providing feedback to individual enumerators regarding problem areas and suggesting corrective actions.

The data underwent double-checking at the central level. In the first step, a member of the central team checked each questionnaire for correctness, completeness and coverage of all information. Any apparent errors (e.g. district code/name/ward etc.) were cleaned and corrected. In the second step, another member of the team checked the questionnaire again to ensure minimum errors in the data. After completion of the double-checking, each questionnaire was provided a unique serial number and was proceeded to data entry.

Data Entry

Few enumerators who had attended the 21-day training and returned from the field after first phase of data collection, were recruited for data entry. Prior to beginning data entry, they were given an additional 3 days of orientation/ training on data entry. Supervised trial entries were done to acquaint them further on the data entry process.

Data was entered into two softwares, CSPro v7.2 and Nview Health. CSPro is a software package designed for Microsoft Windows that provides a visual approach to the creation and manipulation of data. For the NMHS, assistance for the software was provided by Central Bureau of Statistics, Government of Nepal. All information present in the questionnaire was entered into the CSPro software.

For certain disorders that required a diagnostic algorithm (Major depressive disorder, Bipolar disorder and psychotic disorders), another software, i.e. Nview Health, was employed. This is an online software which uses an algorithm to derive a diagnosis, based on data related to the disorder.

Data Cleaning

After data was entered into the software, it was collected on a master hard drive and merged to create a single file (one each for adult and kid). This file was then copied onto and stored in the password-protected master computer, which could only be accessed by the survey coordinator. This file then underwent intensive checking and cleaning by the survey coordinator. Each and every item on the entered data was checked rigorously and any errors was corrected on the data entry software. This was an on-going process, and with each subsequent entered set of data, the entire data was checked again (not just the newly entered data). This ensured repeated checking and minimal chance of mistakes and errors.

Plan for Data Analysis

After checking for errors in data entry and cleaning the data set, the disorders were regrouped and classified according to the International Classification of Disease, 10th revision (ICD-10 DCR) and The Diagnostic and Statistical Manual of Mental disorders (DSM -5) consulting the experts for suggestion.

The definitions/categories used for analysis is as follows:

Mental Disorders

Any mental disorder included disorders that was captured by MINI tool and regrouped as per ICD-10 DCR and DSM-5. In adults, any mental disorder consisted of Mood disorders, neurotic and stress related disorders, mental and behavioral problems due to psychoactive substance use, schizophrenia, schizotypal and delusional disorders, antisocial personality disorder and somatic symptom disorder. Whereas in adolescents, in addition to disorders in adults (except anti-social personality disorder), any mental disorder consisted of behavioural and emotional disorders and eating disorders. Suicidality as identified by MINI (in both adults and adolescents), but no co-occurring with any diagnosable mental disorder, have not been included in any mental disorder and have been reported separately.

The disorders have been further regrouped according to ICD-10 DCR and DSM -5 as follows:

1. Mood disorders include bipolar affective disorder and major depressive disorder.

2. Neurotic and stress related disorders include panic disorder, generalized anxiety disorder, phobic anxiety disorder, obsessive compulsive disorder, post traumatic stress disorder and dissociative disorder.

3. Mental and behavioral problems due to psychoactive substance use include alcohol use disorder and other substance use disorder.

4. Behavioral and emotional disorders include separation anxiety disorder, attention deficit hyper activity disorder, conduct disorder and oppositional defiant disorder.

5. Eating disorders include anorexia nervosa and bulimia nervosa.

After regrouping, individual frequencies and descriptive statistics were obtained for socio-demographic characteristics of the sampled individuals (inclusive of all 7 provinces). Additionally, in adults, data related to Pathways of receiving care and Barriers to Access to Care evaluation was analyzed and reported.

The weighted estimates of mental disorders were calculated as shown below:

Sampling Weight Estimation

The PSU were selected using systematic PPS method from seven provinces. Each province was stratified into Metro, Sub-Metro, Municipality and rural municipality. The number of PSU selected in each stratum of each province is shown below.

Table 4 Number of PSU selected in each stratum of each province

Province	Sample PSUs				
	Metro	Sub-metro	Municipality	Rural Municipality	Total
1	5	6	8	8	27
2	5	6	8	7	26
3	7	5	8	7	27
4	8	0	9	9	26
5	0	8	9	9	26
6	0	0	13	13	26
7	0	7	10	9	26
Total PSUs	25	32	65	62	184

After the listing operation, respondents from four groups (adult males, adult female, male adolescent, and female adolescents) were selected using systematic sampling after arranging the listed persons according to their age.

Then the design weights (dw) for each group were obtained using following formula

$$dw_i = \frac{1}{P_1 \times P_2 \times P_3}$$

Where, in each province

$P_1 = probability\ of\ selecting\ PSU\ j\ of\ stratum\ i$

$$= \frac{n_i \times hh_{ij}}{\sum_j hh_{ij}}$$

$n_i = number\ of\ PSU\ selected\ from\ stratum\ i$

$hh_{ij} = number\ of\ households\ in\ PSU\ j\ of\ stratum\ i$

$$\sum_j hh_{ij} = total\ households\ in\ stratum\ i$$

In each selected PSU, if the PSU were big, the PSU was segmented and around 300 households were selected for listing operation of individuals of above four categories. P_2 are calculated as,

$$P_2 = \frac{Listed\ housholds\ in\ PSU}{Households\ in\ that\ PSU\ in\ frame}$$

In small PSU where the number of households has been increased from Population Census 2011, this value is 1.

Finally the probability of selecting the individual is calculated as,

$$P_3 = \frac{number\ of\ individuals\ selected\ from\ the\ group}{number\ of\ listed\ individuals\ in\ the\ group}$$

The values of the numerator of P_3 for the 4 groups are respectively 25,25,16,16.

Finally, the design weights are normalized to projected total population in each province and projected number of persons in each group for 2019.

Data Analysis

The National estimates were calculated creating a separate variable as design weights in Statistical Package for the Social Sciences (SPSS) and applying the calculated design weights to the variables. Complex sample analysis was done to estimate the prevalence of the disorders using SPSS version 22.

While the prevalence estimate for adult male and female is representative at National as well as Provincial level, the prevalence of adolescent male and female is representative at National level only.

The NMHS was carried out in 7 provinces of Nepal representing different regions of the country. Out of 77 districts of Nepal, 68 districts and 184 PSUs were included in the survey. The total sample size of the survey was 15088 individuals among which 9200 were adults and 5888 were adolescents.

Adult Population Aged 18 Years and Above

Current and Lifetime prevalence of mental disorders was calculated for adults. Current prevalence included current disorders whereas lifetime prevalence included current, past and lifetime prevalence of disorders as captured by MINI tool.

Interview Response Rate

The complete interview response rate among adult participants was 96.8% with 0.4% partial interview and 2.8% no interview.
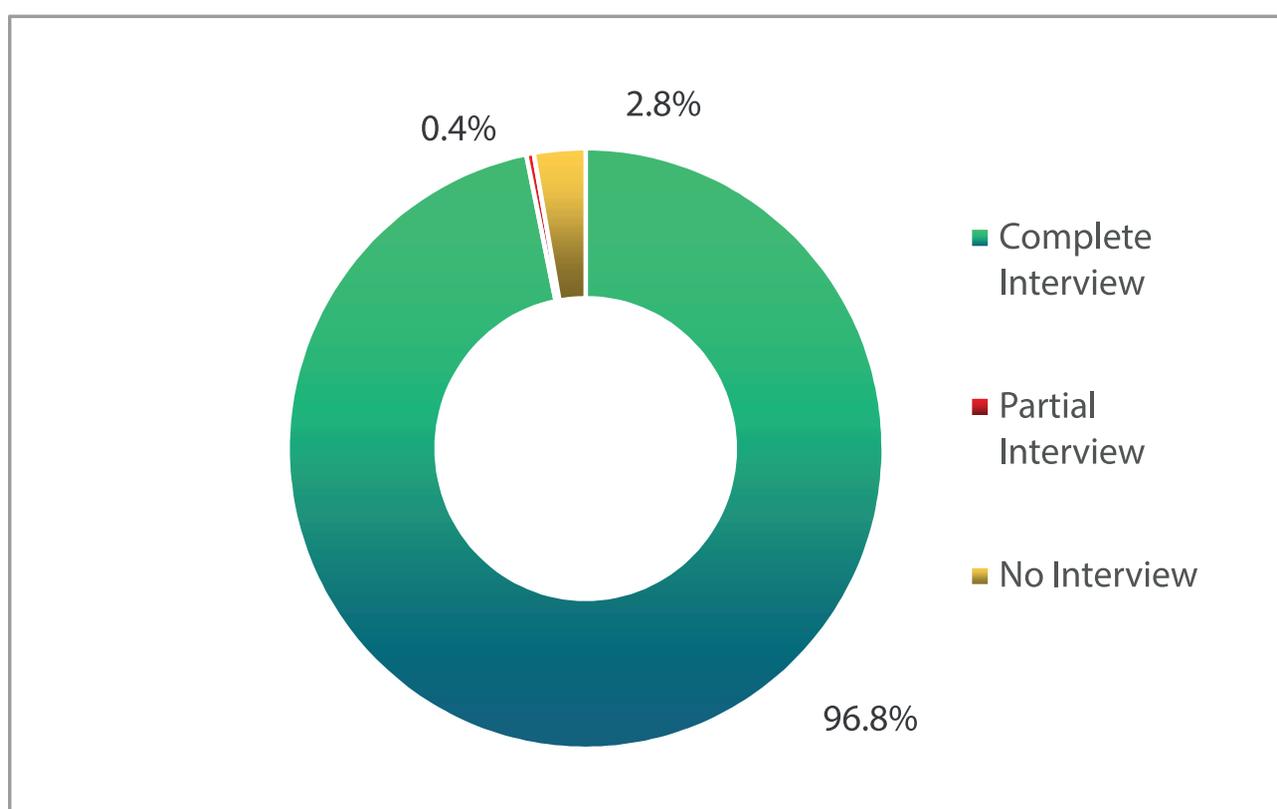
Figure 6 Response Rate among Adult Participants

Socio-demographic Characteristics

The socio-demographic characteristics of eligible adults in National Mental Health Survey is presented in Table 5. The total sample size among the adult participants was 9200 and the total response rate was 96.8%. Individuals aged 18-29 formed the predominant age group in the study sample. Bagmati province had the highest percentage of respondents among all other provinces. Female comprised of 49.1% whereas males comprised of 48.1% of the total population. Of the total respondents, 22.2% reported that they were illiterate, 5.1% had less than primary education, 17% had secondary education and 4.5% had more than higher secondary education.

Majority (29.6%) of the participants reported their occupation as housewife followed by 28.7% who reported their occupation as an agriculturist, 11.7% in business, 9.9% as daily wage worker and 6% as student. Nearly 81% of the total participants were married, 12.8% were unmarried whereas 3.4% of them were either divorced/separated or widowed.

Table 5 Socio-demographic Characteristics of Selected Adult Participants Aged 18 Years and Above

Characteristics	Frequency	Percent
Age		
18-29	2874	31.2
30-39	2109	22.9
40-49	1555	16.9
50-59	1135	12.3
60-69	777	8.4
70 and above	490	5.3
NR*	260	2.8
Province		
Province 1	1306	14.6
Madhesh Province	1292	14.5
Bagmati Province	1309	14.6
Gandaki Province	1236	13.8
Lumbini Province	1268	14.2
Karnali Province	1264	14.1
Sudurpaschim Province	1265	14.1
Gender		
Male	4424	48.1
Female	4516	49.1
NR*	260	2.8
Education		
Illiterate	2045	22.2

Informal Education	1211	13.2
Less than primary	472	5.1
Primary	892	9.7
Middle School	1081	11.8
Secondary	1561	17.0
Higher Secondary	1247	13.0
More than higher secondary	417	4.5
NR*	274	3.0
Occupation		
Housewife	2725	29.6
Agriculture	2639	28.7
Service	705	7.7
Business	1073	11.7
Daily wage	914	9.9
Student	548	6.0
Foreign Employment	54	0.6
Others	265	2.9
NR*	277	3.0
Marital status		
Unmarried	1174	12.8
Married	7440	80.9
Widowed/Divorced/Separated	315	3.4
NR*	271	2.9

Mental Disorders

The mental disorders in MINI were classified and regrouped according to ICD-10 and DSM-5. Lifetime and current prevalence of mental disorders were calculated at 95% CI. Among the total response rate of 96.8% participants in all the 7 provinces of Nepal, the overall weighted lifetime prevalence of any mental disorder was found to be 10% with current prevalence of 4.3% (Table 6).

A lifetime prevalence of 3% was observed for mood disorders, 0.2% for schizophrenia, schizotypal and other delusional disorders and 0.1% for anti-social personality disorder. The current prevalence of mood disorder was nearly half of that of lifetime mood disorder (1.4%). In mental and behavioral problems due to psychoactive substance use, alcohol use disorder was found to be 4.2% whereas other substance use disorder (excluding tobacco) was found to be 0.2%. The prevalence of current neurotic and stress related disorders were observed to be 3%. Among the neurotic and stress related disorders, the highest prevalence was seen for dissociative disorder (1%), followed by generalized anxiety disorder (0.8%), panic disorder (0.7%) and phobic anxiety disorder and obsessive-compulsive disorder (0.2%).

Table 6 Prevalence of Mental Disorders among Adult Participants Aged 18 Years and Above

Disorders	Prevalence	
	Lifetime (95% CI)	Current (95% CI)
Any Mental disorder	10.0 (8.5-11.8)	4.3 (3.5-5.2)
Mood Disorders	3.0 (2.5 - 3.7)	1.4 (1.1 − 1.8)
Bipolar Affective (Including Manic, Hypomanic, BPAD)	0.2 (0.1-0.5)	0.1 (0.1 − 0.3)
Major Depressive Disorder	2.9 (2.3- 3.7)	1.0 (0.8 -1.4)
Neurotic and Stress related Disorders (Current)	3.0 (2.5 - 3.6)	
Anxiety Disorders		
Panic Disorder (Current and Lifetime)	0.7 (0.6 - 0.9)	0.4 (0.3 − 0.5)
Generalized Anxiety Disorder (Current)	0.8 (0.6 - 1.1)	
Phobic Anxiety Disorder	0.2 (0.1 - 0.4)	
-Agoraphobia (Current)	0.2 (0.1 - 0.4)	
-Social Anxiety Disorder (Current)	0.1 (0.0 - 0.3)	
Obsessive Compulsive Disorder (Current)	0.2 (0.1 - 0.4)	
Post-Traumatic Stress Disorder (Current)	0.0 (0.0 - 0.2)	
Dissociative Disorder (Including current Trans and Possession Disorder and Conversion Disorder)	1.0 (0.7 - 1.4)	
Somatic Symptom Disorder (Current)	0.5 (0.3 - 0.8)	
Mental and Behavioral Problems due to Psychoactive Substance Use		
Alcohol Use Disorder (Past 12 months)	4.2 (3.6 - 4.8)	
Other Substance Use Disorder (Past 12 months)	0.2 (0.1 − 0.3)	
Schizophrenia, Schizotypal and Delusional Disorders	0.2 (0.1-0.3)	0.1 (0.1-0.3)
Antisocial Personality Disorder (Lifetime)	0.1	

Mental Disorders and Socio-demographic Characteristics

The prevalence of lifetime mental disorder was found to be highest in Province 1 (13.9%) as compared to other provinces, whereas highest percentage of current mental disorder was found to be in Bagmati province (5.9%). The age group of 40-49 years had the highest lifetime (13.3%) and current prevalence (6.3%). While the prevalence of lifetime mental disorders was found to be higher in males (12.4%), the prevalence of current mental disorders were however found to be higher in females (5.1%) as compared to their male counterpart (Table 7).

Table 7 Prevalence of Any Mental Disorder as per Province, Age and Gender

Variables	Total Number (N)	Prevalence	
		Lifetime	Current (95% CI)
		Weighted Percent (95% CI)	Weighted Percent (95% CI)
Province			
Province 1	1306	13.9 (11.0-17.4)	5.3 (3.5-7.9)
Madhesh Province	1292	2.1 (1.1-4.0)	1.5 (0.8-2.7)
Bagmati Province	1309	12.0 (8.7-16.4)	5.9 (4.0-8.6)
Gandaki Province	1236	10.7 (8.0-14.3)	3.3 (2.2-4.9)
Lumbini Province	1268	13.0 (9.8-16.9)	5.4 (3.9-7.4)
Karnali Province	1264	11.7 (9.0-15.0)	4.6 (3.1-7.0)
Sudurpaschim Province	1265	9.5 (7.2-12.3)	3.7 (2.7-5.1)
Age Group			
18-29	2874	7.4 (6.1-9.0)	3.4 (2.7-4.3)
30-39	2109	9.6 (7.8-11.8)	3.8 (2.7-5.3)
40-49	1555	13.3 (10.6-16.4)	6.3 (4.5-8.7)
50-59	1135	13.0 (10.0-16.8)	4.6 (2.8-7.6)
60-69	777	11.5 (8.6-15.2)	4.9 (3.3-7.2)
70 and above	490	7.8 (4.9-12.1)	3.7 (1.9-7.1)
Gender			
Male	4422	12.4 (10.4-14.7)	3.4 (2.6-4.3)
Female	4515	8.0 (6.5-9.9)	5.1 (4.1-6.3)

Mood Disorders

Mood disorders include major depressive disorder and bipolar affective disorder. The current prevalence of mood disorder was found to be higher in Province 1 (2.4%), among 40-49 and 50-59 age group (1.9%) and among females (1.6%) when compared to their respective counterparts as shown in table 8 below.

The lifetime prevalence of mood disorder was observed to be highest in Province 1 (4.8%). The prevalence among 40-49 age group (4.6%) and among females (3.6%) were higher than their respective counterparts (Table 8)

Table 8 Prevalence of Current and Lifetime Mood disorder (Major Depressive Disorder and Bipolar Affective Disorder) by Province, Age and Gender

Variables	Total Number (N)	Current Weighted Percent (CI)	Lifetime Weighted Percent (CI)
Province			
Province 1	1304	2.4 1.9 - 3.1	4.8 3.3 - 7.0
Madhesh Province	1292	0.6 0.3 - 1.3	0.5 0.2 - 1.5
Bagmati Province	1306	2.0 1.10 - 3.60	3.6 2.80 - 4.60
Gandaki Province	1233	0.60 0.30 - 1.10	3.20 2.30 - 4.40
Lumbini Province	1263	1.00 0.50 - 1.90	3.50 1.80 - 6.70
Karnali Pradesh	1262	1.60 1.00 - 2.40	3.10 2.30 - 4.20
Sudurpaschim Province	1264	1.20 0.80 - 1.60	2.80 1.40 - 5.40
Age Group			
18- 29	2871	1.00 0.70 - 1.60	2.40 1.80 - 3.10
30-39	2106	1.30 0.80 - 2.20	2.20 1.50 - 3.30
40-49	1552	1.90 1.30 - 2.90	4.60 3.50 - 6.00
50-59	1134	1.90 1.10 - 3.50	4.50 3.30 - 6.10
60-69	776	1.10 0.50 - 2.60	2.60 1.70 - 4.00
70 and above	485	1.20 0.50 - 2.80	2.30 0.80 - 6.30
Gender			
Male	4416	1.10 0.70 - 1.60	2.30 1.80 - 2.90
Female	4507	1.60 1.20 - 2.20	3.60 2.80 - 4.50

Major Depressive Disorder (MDD)

Major depressive disorder was assessed by a set of questions in MINI tool which was diagnosed using an algorithm. For current prevalence of major depressive disorder, the percentage for females were higher compared to that for males (3.5%). The prevalence among age group of 40-49 years (4.4%) and in Province 1 (4.4%) was highest as compared to others. (Table 9)

Table 9 Prevalence of Current and Lifetime Major Depressive Disorder (MDD) by Province, Age and Gender

Variables	Total Number (N)	Current MDD Weighted Percent (CI)	Lifetime MDD Weighted Percent (CI)
Province			
Province 1	1306	2.3 (1.8 - 2.9)	4.4 (3.0 - 6.2)
Madhesh Province	1292	0.6 (0.3 - 1.3)	0.5 (0.2 - 1.5)
Bagmati Province	1308	1.6 (1.0 - 2.7)	3.4 (2.6 - 4.3)
Gandaki Province	1235	0.5 (0.3 - 1.0)	3.1 (2.3 - 4.3)
Lumbini Province	1267	1.0 (0.5 - 1.9)	3.50 (1.8 - 6.6)
Karnali Pradesh	1264	1.6 (1.0 - 2.4)	3.1 (2.3 - 4.2)
Sudurpaschim Province	1265	1.0 (0.7 - 1.4)	2.7 (1.4 - 5.0)
Age Group			
18- 29	2874	1.0 (0.7 - 1.5)	2.3 (1.8 - 3.1)
30-39	2108	1.0 (0.6 - 1.7)	2.1 (1.4 - 3.0)
40-49	1555	1.9 (1.2 - 2.9)	4.4 (3.4 - 5.8)
50-59	1135	1.7 (1.1 - 2.8)	4.2 (3.0 - 5.8)
60-69	776	0.9 (0.3 - 2.2)	2.4 (1.5 - 3.7)
70 and above	489	1.2 (0.5 - 2.8)	2.2 (0.8 - 6.3)
Gender			
Male	4421	1.0 (0.7 - 1.4)	2.2 (1.7- 2.7)
Female	4515	1.5 (1.1 - 1.9)	3.5 (2.7 - 4.4)

Bipolar Affective Disorder

There was not much difference in current and lifetime prevalence of bipolar affective disorder. The current prevalence of bipolar affective disorder was observed to be highest in Bagmati province (0.4%) and among 30-39 and 50-59 age group (0.3%) as shown in table 10. Prevalence in females was slightly higher as compared to their male counterpart (0.2%). On the other hand, the lifetime prevalence of bipolar affective disorder was found to be highest in Province 1 (0.6%) and among the age group of 40-49 and 50-59 (0.3%) years respectively. Whereas, the prevalence for both male and female population was found to be same (0.2%)

Table 10 Prevalence of Current and Lifetime Bipolar Affective Disorder by Province, Age and Gender

Variables	Total Number (N)	Current Weighted percent (95% CI)	Lifetime* Weighted percent (95% CI)
Province			
Province 1	1304	0.1 (0.0 - 0.9)	0.6 (0.2 - 1.3)
Madhesh Province	1292	0.0	0.0
Bagmati Province	1306	0.4 (0.1 - 1.3)	0.2 (0.1- 0.5)
Gandaki Province	1233	0.2 (0.1 - 0.3)	0.1 (0.0 - 0.8)
Lumbini Province	1263	0.0	0.0
Karnali Pradesh	1262	0.0	0.1 (0.0 - 0.6)
Sudurpaschim Province	1264	0.2 (0.0 - 0.6)	0.2 (0.0- 0.6)
Age Group			
18- 29	2871	0.0 (0.0 - 0.2)	0.0 (0.0 - 0.2)
30-39	2106	0.3 (0.1 - 0.7)	0.2 (0.1 - 0.5)
40-49	1552	0.0	0.3 (0.2 - 0.6)
50-59	1134	0.3 (0.1 - 1.3)	0.3 (0.1 - 0.7)
60-69	776	0.2 (0.0 - 1.7)	0.2 (0.0 - 1.7)
70 and above	485	0.0	0.0
Gender			
Male	4416	0.1 (0.0 - 0.3)	0.2 (0.1 - 0.3)
Female	4507	0.2 (0.1 - 0.4)	0.2 (0.1 - 0.3)

Neurotic and Stress related Disorder

The various disorders that were studied in our survey and later grouped as neurotic and stress related disorders (according to ICD- 10) include panic disorder, generalized anxiety disorder, phobic anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder, and dissociative disorder. Phobic anxiety disorder further includes agoraphobia and social phobia. Dissociative disorder, which also had been grouped in the same category, includes trans and possession disorder as well as conversion disorder.

The socio-demographic characteristics of these disorders have only been analyzed for current disorder because Out of the different components in this category, the lifetime prevalence of only panic disorder was available for analysis. The prevalence (about 3.5%) of these disorders remains fairly constant among the different provinces with low prevalence in Madhesh province (1.2%) and Sudurpaschim province (2.4%). Regarding the age group and gender, it was found to be most common among the age group 40-49 years and among females (3.7%)(Table 11).

Table 11 Prevalence of Current Neurotic and Stress related Disorder by Province, Age and Gender

Variables	Total Number (N)	Current
		Weighted Percent (95% CI)
Province		
Province 1	1304	3.4 (1.9 - 6.1)
Madhesh Province	1292	1.2 (0.7 - 2.1)
Bagmati Province	1304	3.7 (2.5 - 5.3)
Gandaki Province	1233	3.4 (2.9 - 4.1)
Lumbini Province	1263	3.7 (2.9 - 4.7)
Karnali Province	1260	3.6 (2.6 - 5.1)
Sudurpaschim Province	1264	2.4 (1.5 - 3.7)
Age Group		
18- 29	2870	0.6 (0.4 - 0.9)
30-39	2105	0.5 (0.3 - 1.0)
40-49	1552	1.5 (1.0 - 2.3)
50-59	1132	0.5 (0.2 - 1.3)
60-69	776	1.0 (0.5 - 1.9)
70 and above	485	0.5 (0.1 - 1.7)
Gender		
Male	4414	2.1 (1.6 - 2.7)
Female	4505	3.7 (3.0 - 4.6)

Mental and Behavioral Problems due to Psychoactive Substance use

Psychoactive substance use disorders include alcohol, opiates, cannabinoids, cocaine, stimulants, hallucinogens, dissociative drugs, inhalants, sedatives and hypnotics. Alcohol and other substance use disorder of past 12 months with their severity have been captured by MINI.

The prevalence of alcohol use disorder was reported to be highest in Province 1(6.5%) and among the age group, it was observed to be the highest in the 40- 49 and 50-59 age group (5.5%). Male population had higher prevalence (8.2%) as compared to female population (Table 12).

The prevalence of other substance use disorder was observed to be highest in Province 1 and Karnali province (0.4%) with higher rate in 30-39 year age group (0.4%) and among males (0.4%) (Table 12).

Table 12 Prevalence of Mental and Behavioral Problems due to Psychoactive Substance Use (Alcohol Use Disorder and Other Substance Use Disorder) by Province, Age and Gender

Variables	Alcohol Use Disorder (Past 12 months)		Other Substance Use Disorder (Past 12 months)	
	Total Number (N)	Weighted Percent (95% CI)	Total Number (N)	Weighted Percent (95% CI)
Province				
Province 1	1304	6.5 (5.1 - 8.1)	1304	0.4 (0.1 - 1.0)
Madhesh Province	1292	0.5 (0.1 - 2.1)	1292	0.0
Bagmati Province	1297	4.4 (3.1 - 6.3)	1297	0.3 (0.2 - 0.5)
Gandaki Province	1233	5.1 (3.7 - 7.1)	1232	0.1 (0.0 - 0.3)
Lumbini Province	1255	5.5 (4.7 - 6.4)	1255	0.1 (0.0 - 0.3)
Karnali Province	1257	5.4 (4.5 - 6.5)	1257	0.4 (0.2 - 0.9)
Sudurpaschim Province	1264	3.9 (3.3 - 4.6)	1264	0.1 (0.0 - 0.6)
Age Group				
18- 29	2865	2.6 (1.9 - 3.5)	2865	0.2 (0.1 - 0.6)
30-39	2099	4.7 (3.7 - 5.9)	2099	0.4 (0.2 - 0.6)
40-49	1549	5.5 (4.4 - 6.9)	1549	0.1 (0.0 - 0.4)
50-59	1131	5.5 (4.4 - 6.9)	1131	0.0 (0.0 - 0.1)
60-69	775	4.9 (3.5 - 6.8)	775	0.0
70 and above	483	2.7 (1.5 - 4.9)	482	0.0
Gender				
Male	4404	8.2 (7.1 - 9.4)	4404	0.4 (0.3 - 0.6)
Female	4497	0.8 (0.6 - 1.1)	4496	0.0

Severity of Alcohol Use and Other Substance Use Disorder

The proportion of participants with low alcohol use disorder was found to be 1.9% whereas moderate and high alcohol use disorder was found to be 1.1%. Similarly, the percentage of low other substance use disorder was found to be 0.1% (Table 13).

Table 13 Severity of Alcohol Use and Other Substance Use Disorder (Past 12 months)

Severity Frequency	Severity of Alcohol Use Disorder		Severity of other Substance Use Disorder	
	Frequency	Weighted Percent (95% CI)	Frequency	Weighted Percent (95% CI)
Low	187	1.9 (1.6 - 2.3)	(95% CI)	0.1 (0.1 - 0.0)
Moderate	118	1.1 (0.9 - 1.4)	7	0.0 (0.0 - 0.1)
High	108	1.1 (0.9 - 1.3)	6	0.0 (0.0 0.1)

Schizophrenia, Schizotypal and Delusional Disorder

There was not much difference observed between lifetime and current prevalence of schizophrenia, schizotypal and delusional disorder across all 7 provinces (Table 14). Compared to other age groups, the prevalence of lifetime and current schizophrenia, schizotypal and delusional disorders were higher among 40-49 years old (0.4%). Upon examining across gender, it was found that females had higher prevalence as compared to males (0.2% for females and 0.1% for males).

Table 14 Prevalence of Schizophrenia, Schizotypal and Delusional Disorder by Province, Age and Gender

Variables	Frequency	Lifetime* Weighted Percent (95% CI)	Current (95% CI) Weighted Percent (95% CI)
Province			
Province 1	1299	0.2 (0.0-0.8)	0.0 (0.0-0.2)
Madhesh Province	1291	0.1 (0.0-0.8)	0.1 (0.0-0.8)
Bagmati Province	1281	0.2 (0.0-0.6)	0.2 (0.0-0.6)
Gandaki Province	1231	0.1 (0.0-0.9)	0.1 (0.0-0.9)
Lumbini Province	1255	0.2 (0.1-0.8)	0.2 (0.1-0.7)
Karnali Province	1254	0.1 (0.1-0.6)	0.1 (0.0-0.6)

Sudurpaschim Province	1264	0.1 (0.0-0.8)	0.1 (0.0-0.8)
Age Group			
18- 29	2856	0.0 (0.0-0.1)	0.0 (0.0-0.1)
30-39	2094	0.1 (0.0-0.3)	0.1 (0.00-0.20)
40-49	1545	0.4 (0.1-1.2)	0.4 (0.1-1.2)
50-59	1128	0.4 (0.1-1.2)	0.2 (0.1-0.7)
60-69	771	0.2 (0.0-1.4)	0.2 (0.0-1.4)
70 and above	481	0.0	0.0
Gender			
Male	4393	0.1 (0.1-0.4)	0.1 (0.0-0.3)
Female	4482	0.2 (0.1-0.4)	0.2 (0.1-0.4)

Antisocial Personality Disorder

The prevalence of antisocial personality disorder was found to be highest in Province 1 as compared to other provinces. Males were observed to have higher prevalence (3%) than that of females. Similarly, the prevalence for 18-29 (0.2%) age group and 40-49 age group (0.2%) were higher than other age groups (Table 15).

Table 15 Prevalence of Antisocial Personality Disorder by Province, Age and Gender

Variables	Prevalence	
	Frequency	**Weighted Percent (95% CI)**
Province		
Province 1	1303	0.3 (0.1-0.9)
Madhesh Province	1292	0.0
Bagmati Province	1295	0.2 (0.1-0.7)
Gandaki Province	1232	0.0
Lumbini Province	1254	0.0
Karnali Province	1256	0.2 (0.0-0.6)

Sudurpaschim Province	1264	0.1 (0.0-0.5)
Age Group		
18- 29	2865	0.2 (0.1-0.6)
30-39	2098	0.1 (0.0-0.5)
40-49	1547	0.2 (0.0-0.7)
50-59	1131	0.0 (0.0-0.2)
60-69	774	0.0
70 and above	481	0.0
Gender		
Male	4405	3.0 (0.1-0.5)
Female	4491	0.0 (0.0-0.1)

Suicidality

Suicidality of an individual was assessed by a set of questions in MINI tool. It included current suicidal thoughts, Lifetime suicidal attempt and future likelihood of suicidal attempt. The severity of suicidality with these symptoms were classified as low, moderate and high.

The percentage of respondents with suicidality was found to be 7.2% (Table 16) and among them current suicidal thoughts and lifetime attempt was found to be 6.5% and 1.1% respectively. Suicidality was observed to be highest among the respondents residing in Province 1 and Lumbini province (10.6%). The age group of 50-59 had the highest percentage (9.1%) as compared to other groups and among gender, females were two times more likely to have suicidality than males (9.2% for females and 4.8 % for males).

Current suicidal thoughts were found to be highest in Province 1 and Lumbini province (9.9%), among 50-59 years age group (8.7%) and among females (8.5%). On the other hand, lifetime suicidal attempt was found to be highest in Bagmati province (1.7%) among 40-49 age group (1.7%) and among females (1.2%).

The prevalence of suicide behavior disorder was found to be 0.9% among adults. Bagmati province was observed to have the highest prevalence (1.4%). Among all age groups, the age group of 40-49 years had the highest prevalence (1.6%) and among gender, females were found to have higher prevalence as compared to males (1% for females and 0.8% for males).

Table 16 Prevalence of Suicidality and Suicide Behavior Disorder by Province, Age and Gender

Variables	Suicidality		Current Suicidal Thought	Suicidality Lifetime Attempt	Suicide Behavior Disorder
	Total Number (N)	Weighted Percent (95% CI)	Weighted Percent (95% CI)	Weighted Percent (95% CI)	Weighted Percent (95% CI)
Total	8929	7.2 (5.9-8.8)	6.5 (5.3-7.9)	1.1 (0.8-1.4)	0.9 (0.7-1.3)
Province					
Province 1	1304	10.6 (8.3-13.3)	9.9 (7.1-13.5)	1.1 (0.4-0.6)	0.9 (0.5 -1.8)
Madhesh Province	1292	2.0 (1.0-4.1)	1.8 (0.8-3.7)	0.4 (0.1-1.1)	0.4 (0.1 -1.1)
Bagmati Province	1307	7.7 (6.10-9.60)	6.6 (4.7-9.2)	1.7 (1.0-2.6)	1.4 (0.9 -2.2)
Gandaki Province	1234	5.9 (4.70-7.30)	5.1 (3.8-7.0)	1.0 (0.6-1.6)	0.8 (0.4- 1.4)
Lumbini Province	1264	10.6 (7.30-15.10)	9.6 (6.5-14.0)	1.3 (0.8-2.0)	1.1 (0.7 -1.7)
Karnali Province	1263	10.4 (8.50-12.60)	9.9 (7.4-13.1)	0.8 (0.4-1.4)	0.8 (0.5 -1.3)
Sudurpaschim Province	1265	5.4 (4.3-6.6)	4.9 (3.7-6.4)	1.0 (0.6-1.6)	0.9 (0.6 -1.4)
Age Group					
18- 29	2873	7.5 (6.0-9.4)	6.7 (4.8-9.2)	1.1 (0.7-1.7)	1.0 (0.7 - 1.5)
30-39	2106	6.5 (5.2-8.2)	6.0 (4.7-7.8)	0.9 (0.5-1.6)	0.6 (0.4 - 1.1)
40-49	1552	7.50 (6.2-9.1)	6.1 (4.6-8.2)	1.70 (1.00-3.10)	1.6 (0.9 - 2.7)
50-59	1135	9.1 (6.9-12.0)	8.7 (6.3-11.8)	1.1 (0.5-2.5)	1.1 (0.5 - 2.5)
60-69	776	6.1 (4.60-8.00)	6.0 (4.3-8.1)	0.6 (0.2-2.1)	0.5 (0.1 - 2.1)
70 and above	487	5.3 (3.8- 7.4)	4.8 (3.0-7.6)	0.1 (0.0-1.0)	0.1 (0.1 - 0.2)
Gender					
Male	4419	4.8 (3.8 - 6.1)	4.1 (3.1 -5.4)	0.9 (0.6-1.5)	0.8 (0.6 - 1.2)
Female	4510	9.2 (7.9 - 10.8)	8.5 (6.9-10.4)	1.2 (0.8- 1.7)	1.0 (0.7 - 1.4)

Suicidality Severity

The percentage of adult participants with low severity of suicidality was 6.3%, whereas the percentage of participants with moderate and high suicidality was 0.3 % and 0.6% respectively (Figure 7).
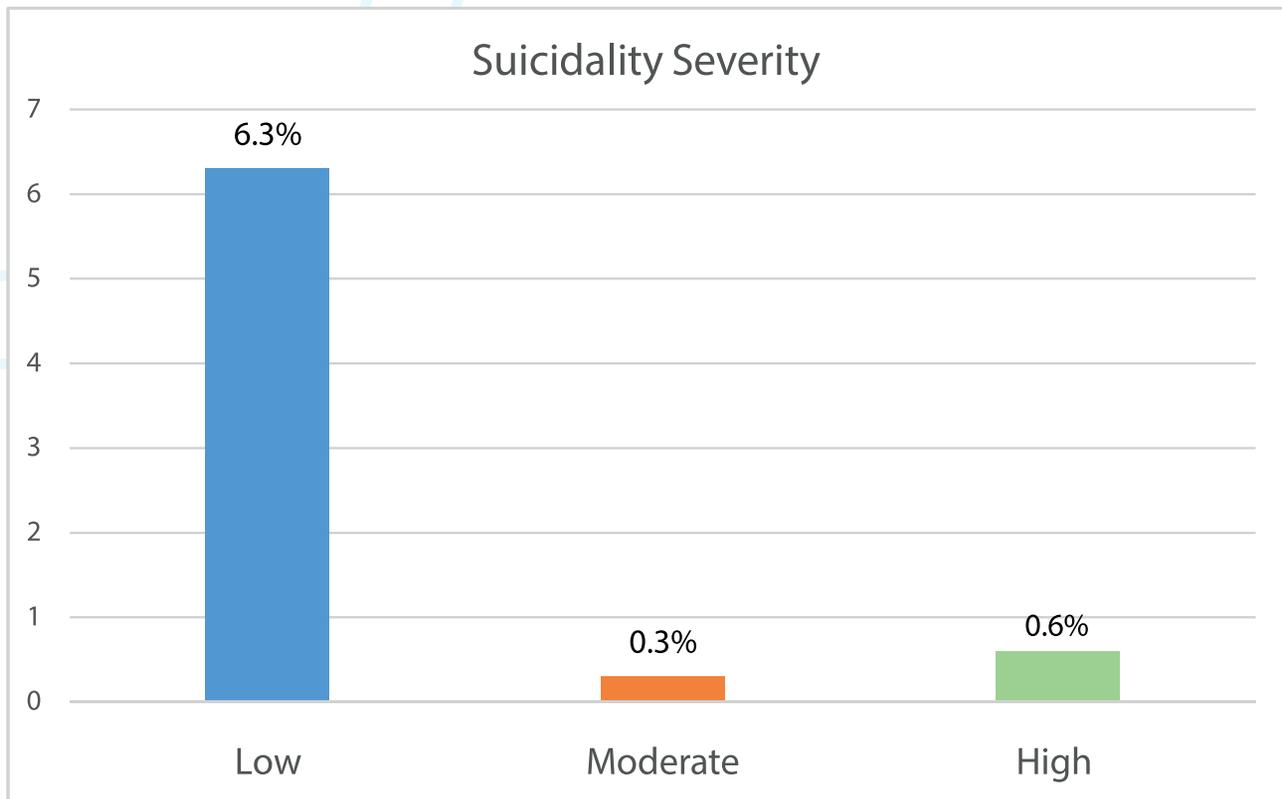
Figure 7 Severity of Suicidality among Adult Participants

Epilepsy

A set of questions were developed by technical working group for clinical diagnosis of epilepsy. The overall prevalence of epilepsy was found to be 0.5% among adults and 1.4% among adolescents.

Analysis of prevalence of epilepsy among adult participants by socio-demographic characteristics (Province, Age and Gender) revealed that Province 1 and Sudurpaschim Province had the highest percentage of epilepsy. Among age group, highest percentage was found to be among 40-49 years. Whereas, the prevalence of epilepsy was 0.5% among both male and female participants (Table 17).

Table 17 Prevalence of Epilepsy by Province, Age and Gender

Variables	Prevalence	
	Total Number (N)	Weighted Percent (95% CI)
Total	8893	0.5 (0.3-0.7)
Province		
Province 1	1303	0.6 (0.3-1.3)

Madhesh Province	1292	0.4 (0.1-1.1)
Bagmati Province	1294	0.5 (0.2-1.4)
Gandaki Province	1231	1.0 (0.6-1.8)
Lumbini Province	1253	0.3 (0.1-0.8)
Karnali Province	1256	0.4 (0.2-1.0)
Sudurpaschim Province	1264	0.6 (0.3-1.3)
Age Group		
18- 29	2865	0.4 (0.2-0.9)
30-39	2097	0.3 (0.1-0.9)
40-49	1546	0.7 (0.3-1.7)
50-59	1130	0.5 (0.2-1.1)
60-69	774	1.0 (0.4-2.8)
70 and above	481	0.1 (0.0-1.1)
Gender		
Male	4403	0.5 (0.3-0.8)
Female	4489	0.5 (0.3-0.8)

Disability due to Mental Disorders and its Severity

Individuals who were found to have any form of mental disorder were assessed for disability that was caused by the mental disorder. The assessment was done to include various life activities as well as aspects of life of the individual. This ranged from effect on work or education, social life, family life, understanding others, taking care of oneself, ability to manage one's finances, ability to walk or move around, religious or social life, effect of the disability of other family members and violence or aggression due to the disability. The responses were on a scale and ranged from 0 to 10; where 0 indicated impact, 1-3 indicated mild impact, 4-6 indicated moderate impact and 7-10 indicated severe impact.

It was found that about 72% of the people reported no difficulty in taking care of themselves. Likewise, almost 67% people reported no disability associated with walking around. Almost two third of the people reported as having no aggression due to the disability. It was found that the mental disorder caused most difficultly in work of school for the people, with almost 68% of the individuals stating that they had some form of disability and 12% having severe disability (both of which are the highest among all the different aspects of life activities) (Table 18).

Table 18 Level of Impact on Different Life Activities Driven by Disability from Mental Disorders

Life activities affected by the disability	Percent (%)			
None	None	Mild	Moderate	Severe
At work or at school	33.5	36.1	18.4	12
Social life or leisure activities	45.5	32	14.9	7.6
Family life or household responsibilities	37.7	32.1	19.7	10.4
Understanding or talking to others	58.3	30.6	6.6	4.5
Taking care of oneself	72.1	19.1	6	2.7
Financial management	53.7	26.6	12.8	6.9
Ability to walk or move around	66.8	22.5	5.9	4.7
Religious or spiritual life	72.9	20.3	4.6	2.1
Effect of disability on family members	43.1	28.2	18.3	10.4
Violence or aggression due to disability	64.3	22.1	7.9	5.8

Pathways to Receiving Care/ Help Seeking Behavior

Pathways to receiving care/help seeking behavior was calculated among the adult participants who had symptoms of mental disorder or were diagnosed with a mental disorder. About 40% of adults were found to have talked about their symptoms to someone, among whom 20.5% and 22.4% had spoken to their spouse and other family members respectively. Only 3.5% of the individuals had spoken to a health-care professional about their symptoms and this is a concerning figure. About 23% among the ones who had spoken about their symptoms had sought treatment for their symptoms of mental disorders. Among those who sought treatment, only about 21% individuals had adhered to their treatment (Table 19).

Table 19 Pathways to Receiving Care/Help Seeking Behavior among Adult Participants

Pathways of Receiving Care	Percent among Individuals with Mental Disorders (95%CI)
Adults who talked about their symptoms to anyone	40.1 (36.8 - 43.5)
Spouse	20.5 (17.5 - 23.7)
Other family members	22.4 (19.2 - 26.0)
Friend/Neighbor	15.3 (12.7 - 18.5)
Colleagues	0.4 (0.1 - 1.1)
Health Service Providers (Doctor, Nurse, Specialists and Others)	3.5 (2.2 - 5.5)
Traditional Healers	1.9 (1.1 - 3.4)
Astrologer/Priest	0.2 (0.0 - 1.0)
Adults who sought treatment for their symptoms	22.7 (19.3 - 26.5)
Adults who adhered to treatment for their symptoms, prescribed by service providers	21.1 (17.6 - 25.2)
Adults who were admitted to the hospital for treatment	3.7 (2.5 -5.5)

Type of Health Service Provider sought for Symptoms of Mental Disorders

Among the ones who had sought for treatment, it was found that non-specialist doctors (8.8%), faith healers (6.7%) and psychiatrists (6.5%) were the service providers most sought by adults for treatment of mental disorders. The higher number of non-specialist doctors being sought when compared to specialist doctor could be because of lack of availability of specialist in all the areas of the country. The high percent of people seeking care from faith healers shows the traditional beliefs rooted in the communities regarding the origin of mental illnesses (Figure 8).
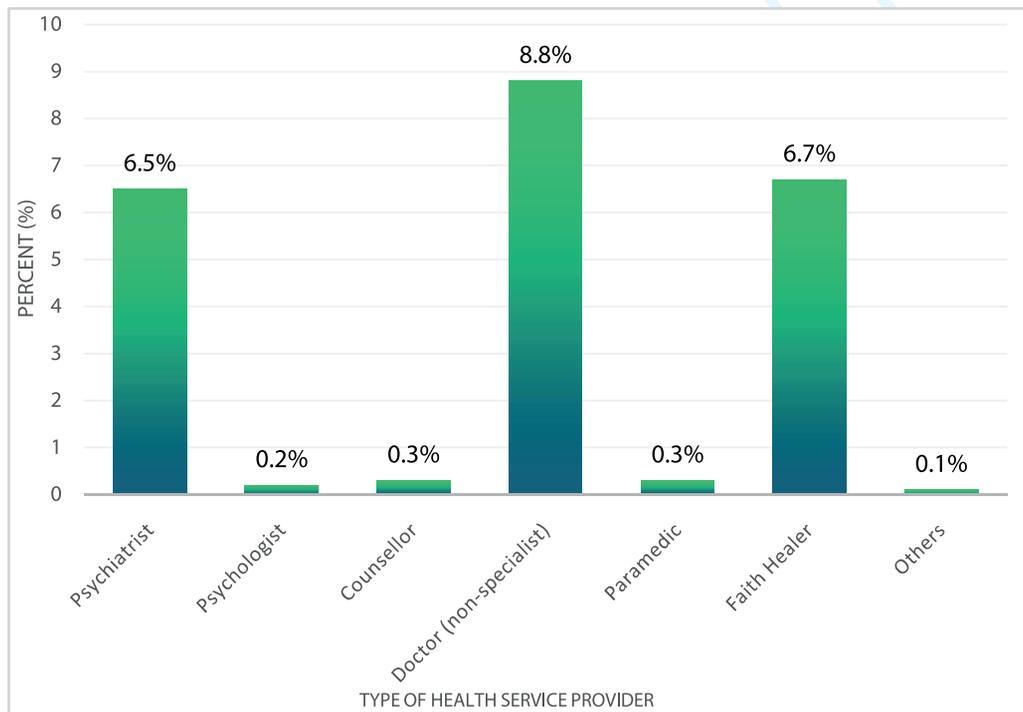
Figure 8 Type of Health Service Provider sought by Adult Participants for Symptoms of Mental Disorders

Expenses during Treatment for Symptoms of Mental Disorder

With regard to the financial burden of seeking mental healthcare, the expenses during treatment was calculated using 5% trimmed mean in order to reduce the effect of the outliers that affected the mean. It was found that the average expenditure on treatment of mental disorders in the past 12 months was NRS 16,053; while expense on transport and other costs associated with seeking treatment was NRs 4,146 and NRs 3,460 respectively (Table 20). These are significant numbers considering the low per capita of the country. If mental health care lead to financial hardships, this is bound to affect the health seeking behavior of people and policy changes to make the services more affordable and accessible is required.

Table 20 Expenses incurred by Adult Participants who Suffered from a Mental Lllness, while receiving treatment in the past 12 months

Type of expense	5% trimmed Mean (NRs)
Average treatment expenses in past 12 months	16052.9
Average transportation expenses while taking treatment in past 12 months	4146.3
Average of other expenses (food, accommodation etc.) while taking treatment in past 12 months	3460.0

Barriers to Access to Care (BACE)

It is an undeniable fact that individuals with symptoms of mental disorders face various barriers while seeking healthcare when compared to individuals who have symptoms of physical disorders. This can be attributed to various factors like accessibility and availability of services, stigma associated with the disorder, personal attitude towards the disorder, healthcare service-related factors as well as financial factors. There have been numerous studies conducted globally regarding the factors that prove to be barriers to help seeking behavior of people with mental disorders.

The effects of social, self and structural stigma and how it can affect care seeking and treatment engagement was evaluated in a recent study. Stigma related to the diseases have shown to be one of the biggest barriers in accessing care and can be moderated by knowledge of mental illness, cultural relevance, mental health literacy, cultural competence, family engagement as well as policy change (24). According to another study, an important factor associated with low rates of help-seeking among individuals with mental illness was found to be negative attitudes among mental health staff about their prognosis, including 'Physician Bias' and 'Diagnostic Overshadowing' (the misattribution of physical illness signs and symptoms to concurrent mental disorders, leading to under diagnosis and mistreatment of the physical conditions) (25). Yet, another study showed that availability of health services locally ensured higher treatment seeking and adherence as people with mental illness can then be treated and rehabilitated within their own community as a result of which they can live with dignity and their rights are respected. This indicates that lack of local availability and accessibility of services can prove to be important barriers for accessing care for mental illness.

The BACE questionnaire was used in our survey. The questionnaire was adapted in our cultural and national context by a team of experts, with the prior permission from the authors, and was translated to Nepali language. The questionnaire was then back translated to English for linguistic validity. The questions were divided as stigma related and non-stigma related barriers. The non-stigma related barriers were further divided into instrumental and attitudinal barriers. The institutional barriers were lack of knowledge about where, to seek help (24.9%), inability to bear financial cost of healthcare (19.5%) and difficulty in taking time off work (14%). Among the attitudinal barriers, which indicated personal attitudes of the respondent, 23.5% of the adult reported that they preferred to deal with their symptoms of mental disorders on their own indicated by the statement 'Wanting to solve problem on my own' and 'Thinking that the problem would get solved on its own'. Other attitudinal barriers were preference of traditional/alternative forms of remedy for the mental illness and the belief that professional medical help will not help them feel better (Table 21).

 Stigma related barriers were found to be present to certain extent in a significant number of individuals with mental disorders. However, they posed as a major barrier mainly in regards to concerns about what their family might think, say, do or feel about them seeking care for a mental disorder. Other issues that were major barriers to accessing care were concerns that they might be seen as weak for having a mental health problem or that they might be seen as "crazy".

Table 21 Barriers to Access to Care Evaluation

Barriers to Access to Care Evaluation (BACE)	Barrier to any Degree[7] Percent (95% CI)	Major Barrier[8] Percent (95% CI)
Non-Stigma related Barriers[9]		
Instrumental Barriers		
Being unsure where to go to get professional care	24.9 (22.0-28.1)	7.2 (4.8- 10.8)
Problems with transport or travelling to appointments	11.0 (8.7- 13.7)	1.8 (1.0-3.4)
Not being able to afford the financial costs involved	19.5 (16.10-23.4)	3.4 (2.3 -5.1)
Difficulty taking time off work	14.7 (11.3-19.0)	1.0 (0.5-2.2)
Having no one who could help me get professional care	10.5 (7.9-13.7)	2.0 (1.2 -3.5)
Attitudinal Barriers		
Wanting to solve the problem on my own	47.4 (42.9-51.9)	23.5 (19.8-27.8)
Fear of being put in hospital against my will	9.1 (7.20-11.40)	1.8 (1.00-3.10)
Thinking the problem would get better by itself	48.0 (43.90-52.30)	23.5 (19.40 -28.10)
Preferring to get alternative forms of care (e.g. traditional/religious healing or alternative/ complementary therapies)	16.8 (13.8 -20.3)	3.6 (2.2-5.7)
Thinking that professional care probably would not help	16.7 (14.1-19.60)	2.0 (1.2 -3.3)
Thinking I did not have a problem	45.9 (41.7 -50.1)	21.6 (17.9 -25.9)
Concerns about the treatments available (e.g. medication side effects)	7.2 (5.3 -9.8)	0.6 (0.2 -1.6)
Dislike of talking about my feelings, emotions or thoughts	22.6 (18.9-26.8)	2.4 (1.5-3.8)
Preferring to get help from family or friends	18.5 (15.2 -22.3)	1.9 (1.1-3.4)
Stigma related Barriers		
Concern that I might be seen as weak for having a mental health problem	15.6 (12.5-19.5)	1.8 (1.1-2.9)
Concern that it might harm my chances when applying for jobs	5.2 (3.60-7.4)	0.7 (0.3-1.7)
Concern about what my family might think, say, do or feel	12.3 (9.4 -15.8)	2.5 (1.5-4.2)
Concern that I might be seen as 'crazy'	10.5 (8.0 -13.6)	1.6 (0.9 -2.8)
Feeling embarrassed or ashamed	11.7 (8.6-15.8)	1.6 (0.9-2.7)
Concern that people might not take me seriously if they found out I was having professional care	9.7 (7.1-12.9)	0.8 (0.3-1.7)

Mental Disorders among Adolescents (13-17 years)

Mental disorders among adolescents have become an important concern in the recent years. While the increasing prevalence may, in part, be attributed to higher rate of diagnosis; the growing risk factors are a concern that cannot be overlooked. Globally, the rising prevalence of mental disorders among adolescents has raised alarms among health professionals and policy makers. However, in high-income countries, there have also been concerns about overdiagnosis of these conditions (26). On the contrary, in LMICs the alarm bells being raised are of concerns of under-diagnosis and lack of policies to tackle mental disorders among this population.

Recent reviews of findings from the South-Asian countries have shown prevalence of mental disorders among adolescents ranging between less than 1% to as high as 31% in different studies across the region (27-30). There are limited studies in Nepal that deal with the prevalence of these disorders in this age group and the ones that are, have limitations of sample size and study area, to be generalized to the entire population. Below we discuss the findings of the prevalence of mental disorders among adolescents in our survey.

The prevalence of any mental disorder among adolescents was found to be 5.2%. This included all the disorders that were measured in the study and have been listed in Table 3. Among the various disorders, neurotic and stress related disorders were found to be the most prevalent in this age group, with a prevalence of 2.8%. Neurotic and stress related disorder includes panic disorder, agoraphobia, social anxiety, specific phobia, obsessive compulsive disorder, post-traumatic stress disorder, dissociative disorder, generalized anxiety disorder and adjustment disorder. The prevalence of major depressive disorder was found to be less than 1% in this age group.

Table 22 Prevalence of Mental Disorders among Adolescents aged 13-17 Years

Mental Disorders	**Percent (95% CI)**
Any Mental Disorder	5.2 (4.2 - 6.4)
Mood Disorder	0.8 (0.5 - 1.1)
Bipolar Affective Disorder[1]	0.2 (0.1 - 0.4)
Major Depressive Disorder	0.6 (0.4 - 1.0)
Neurotic and Stress related Disorder[2]	2.8 (2.0 - 3.8)
Phobic Anxiety Disorder	1.3 (0.8 - 2.1)
Dissociative Disorder[3]	0.5 (0.3 - 0.9)
Substance Use Disorder[4]	0.6 (0.4 - 1.0)
Any Psychotic Disorder	0.3 (0.2 - 0.6)
Behavioral and Emotional Disorders[5]	1.0 (0.7 - 1.4)
Eating Disorders[6]	0.5 (0.3 - 1.0)
Somatic Symptom Disorder	0.0(0.0-0.2)

Mental Disorder and Socio-demographic Characteristics among Adolescents

Regarding the socio-demographic characteristics, it was found that the prevalence of mental disorders was highest among adolescents in Province 1 (11.4%), among 16-year-olds (7.7%) and among females (5.3%) (Table 23). This finding has an important policy indication, which identifies the key target groups that need to be focused when devising policies to tackle mental health issues among the adolescent age group.

Table 23 Prevalence of Any Mental Disorder as per Socio-demographic Characteristics among Adolescents

Variables	Percent (95% CI)
Province	
Province 1	11.4 (7.40 -17.1)
Madhesh Province	1.7 (0.5 - 5.9)
Bagmati Province	4.4 (2.9 - 6.6)
Gandaki Province	5.1 (3.5 -7.3)
Lumbini Province	6.1 (4.7 -7.9)
Karnali Province	4.9 (3.4 -7.0)
Sudurpaschim Province	3.9 (2.4 - 6.2)
Gender	
Male	5.0 (3.6 - 6.9)
Female	5.3 (4.2 - 6.7)

Suicidality

There have been studies that show that the prevalence of suicidal behavior among adolescents has risen significantly. Suicidality and suicide behavior disorder among adolescents was also estimated in our survey. It was found that 3.9% adolescents had current suicidal thoughts while 0.7% of them had attempted suicide in their lifetime. In addition, the findings of the survey also showed that 0.5% adolescents had a future likelihood of committing suicide (Table 24). While these numbers may not seem large at first glance, but when considered in the entire population and added to the actual number of suicide deaths, this indicates a significant number of preventable deaths with proper management.
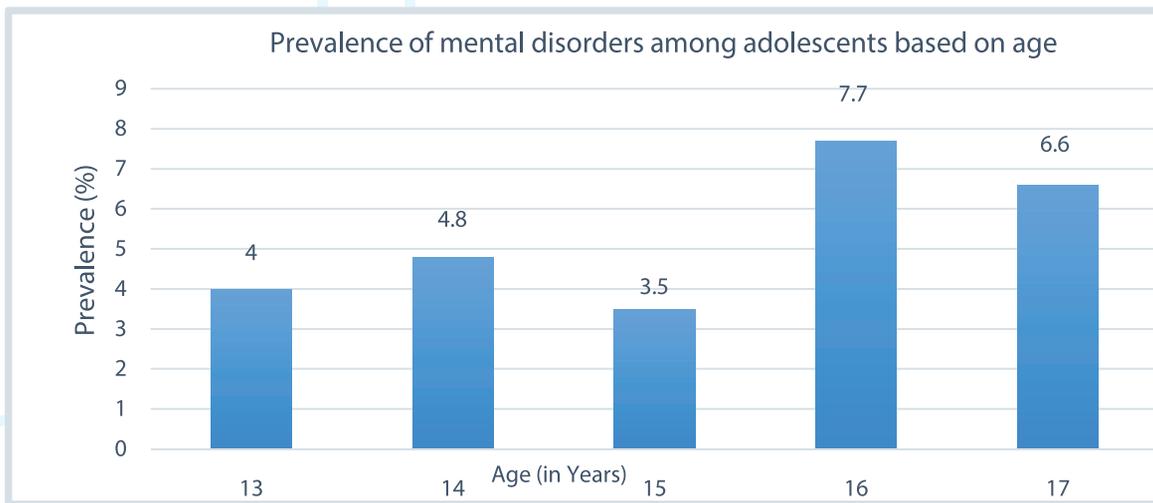
Figure 9 Prevalence of Mental Disorders among Adolescents based on Age

Table 24 Prevalence of Suicidality and Suicide Behavior Disorder among Adolescents

Suicidality and Suicide Behavior Disorder	Percent (95% CI)
Suicidality	**4.1 (3.3 - 5.2)**
Current Suicidal Thoughts	3.9 (3.1 - 5.0)
Future Likelihood of Suicidal Attempt	0.5 (0.3 - 1.0)
Lifetime Suicide Attempt	0.7 (0.4 - 1.1)
Severity	
Low Suicidality	3.1 (2.4 - 4.0)
Moderate Suicidality	0.3 (0.2 - 0.6)
High Suicidality	0.7 (0.4 - 1.2)
Suicide Behavior Disorder	0.5 (0.3 - 0.9)

During the process of data collection, if any individual with suicidal tendency and or severe form of mental disorder was found and needed a referral for health facility/service, adverse event management protocol was used to take appropriate action followed by adverse event reporting to the central level.

Among the individuals with mental morbidity, adverse event was reported in 21.4%, majority (81.3%) of whom had only one condition while 18.2% had more than one conditions. Highest rate of adverse events was seen among participants who had severe form of major depressive episode and among participants with moderate and severe suicidality (30.8%) (Figure 10).

Whenever an adverse event was encountered, appropriate actions were taken such as providing detailed information about symptoms of mental disorder along with available health facilities and health care service providers in their area. In case of an adverse event which required immediate action, family members of the individual were informed and were advised to visit the nearest health care facility.
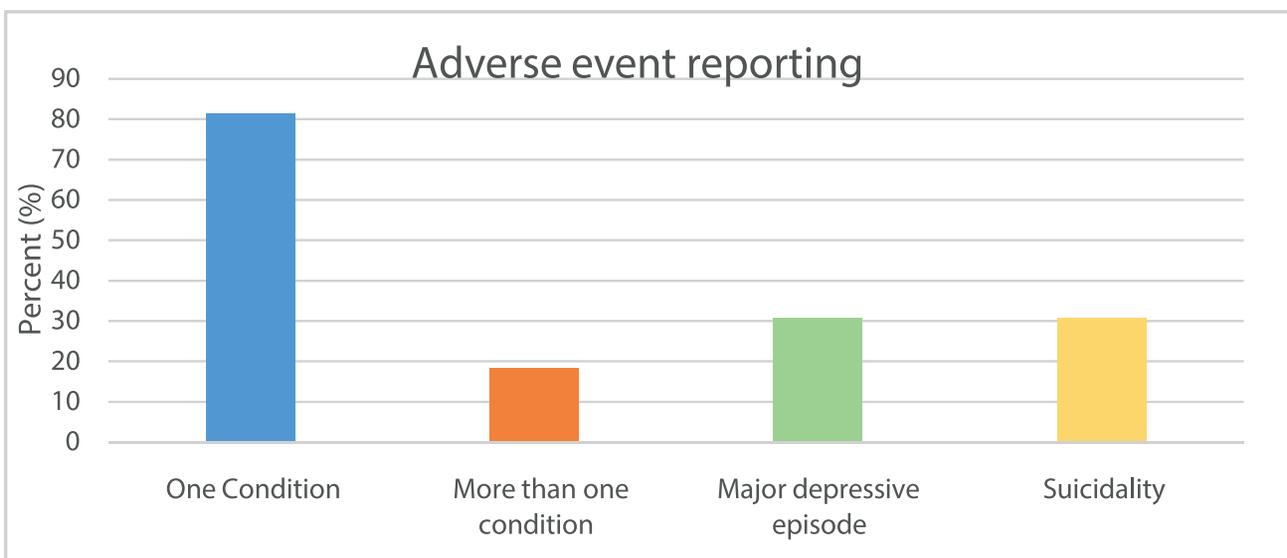
Figure 10 Adverse Event Reporting of Severe Mental Disorders and Suicidality

Psychosocial Counselling

After individuals were referred to the psychosocial counsellor by field enumerators, they were contacted by telephone and counseled about their problems.

Process and methodology of counselling

- Rapport build-up

- Emotional support

- Discussion about self-care

- Encouragement about positive behaviour

- Family counselling

- Deep breathing exercise

- Discussion about counting exercise

- Motivation about positive coping skill

- Psycho education about stress

- Diary writing

- Discussion about anger management

- Psycho education about psychosocial problem

- Suicidal assessment

- Referral to nearest health care facility

Various techniques like observation skills and other essential communication skills were used for assessment and counselling.

Findings of individual counselling (as assessed by psychosocial counselor)

The most common psychosocial symptoms identified among the individual clients were: aggressive behavior, anxiety, low concentration, possession and trance-like symptoms, crying, dizziness, fainting, fear, feeling of guilt, headache, hopelessness, irritation, physical or body pain, problem in decision making, restlessness, sadness, insomnia, stress, worry, suicidal thought, excessive thought, less appetite, loss of interest, low self-esteem, mistrust, murmuring, negative thought, nervousness and psychosomatic complaint etc. All cases with suicidal behaviors were referred and follow up.

Findings of counseled cases

➢ Individual counseling was done for 53 cases and among them 19 were males and 34 were females. Referral to health care professionals were done following counseling for further intervention as per need.

➢ Majority of the individuals reported that their condition gradually improved after being counseled

(34 cases). Their family members became more aware about their problems and were motivated for continuous support.

➢ During counselling, a total of 32 cases were referred to the hospital for treatment and among them 22 of them adhered to treatment.

➢ For cases where counselling the individual was difficult (e.g. inability to engage in counseling because of a severe disorder), their family members were contacted and referred for treatment.

➢ Family counseling was provided for 30 family members explaining them about the disorder and referral for treatment. Majority of the family members showed positive response and were ready to take the suffering individual to the hospital.

➢ A total of 12 cases could not be contacted and were lost to followed up.

Table 24 Details of Counseled Cases based on District and the Disorder identified

S.N	District	No.of Cases	Problem identified
1.	Kalikot	1	Depression
2.	Jajarkot	1	Depression, Suicidality, Anxiety,
3.	Myagdi	6	Depression-3,GAD-1, Manic-1, Psychosis-1
4.	Baglung	11	Depression-4, AUD-1, ADHD-1, Dissociative-1, GAD-1, Epilepsy-1, Suicidality,1 Suicidal Behavior,1
5.	Baitadi	1	Suicidal Behavior-1
4.	Tanahu	1	Epilepsy
5.	Dang	1	Suicidal Behavior -1
6.	Gorkha	2	Depression-2
7.	Kailali	4	Depression- 2, GAD, 2
8.	Kanchanpur	1	Suicidality
9.	Kapilbastu	1	GAD
10.	Kaski	5	Depression- 3, Suicidality-1, Psychosis-1
11.	Pyuthan	3	Psychosis-1, Depression-1, GAD-1
12.	Rukum	1	Depression
13.	Syangja	2	Depression-1, GAD-1
14.	Dailekh	7	Depression-5, GAD-1,Psychosis,-1
15.	Nawalparasi	5	Suicidal Behavior -1, Depression-2,Panic-1,GAD-1
Total		53	

Conclusion

This is a first national level comprehensive study to assess the Mental Disorders in Nepal in which mental health survey of both adults (aged 18 years and above) and adolescent's population (aged 13-17 years) were captured. The prevalence of mental disorders was found to be higher among the adult population in comparison to adolescent. The prevalence of lifetime mental disorders among adults was highest in Province 1, among males and in 40-49 year old aged population while in case of adolescents, the prevalence was higher in Province 1, among females and in 16 years old aged population. Mood disorder and alcohol use disorder were the most prevalent mental disorder among adults. Analysis of pathways to receiving care (help seeking behavior) questionnaire revealed that most adults shared their symptoms of mental disorder with anyone, and adhered to the treatment. Majority of the adult population preferred and sought non-specialist doctors and faith healers for treatment of mental disorders. The major barriers to access to care were related to attitudinal barriers. This study provided evidence on high prevalence of suicidality among adult population. The survey clearly indicated that mental health problems are the major public health problem that remained as the "Submerged Portion" of the iceberg disclosing the essence of public health interventions aimed at reducing the prevalence of mental disorders. This baseline data would be extremely useful in developing multisectoral suicide prevention strategies and mental health reforms in the country. It is very essential to integrate mental health agenda in all policies and programs related to health and other sectors of welfare, education and employment. It is also important to integrate mental health with the routine health care system to increase accessibility and availability to basic mental health services and to develop specific strategies to address economic barriers and stigma related barriers of help seeking people.

Limitations and Recommendations

Limitations

➢ Since the survey was conducted in community setting by non-specialists, they might not have been able to diagnose or identify the disorders leading to varied results.

➢ Cultural context and language barrier in some parts of the country might have led to under representation of the findings especially in Madhesh Province.

➢ Since mental disorders are associated with stigma, there is a possibility of under reporting of disorders affecting our results.

➢ Due to the length of the survey questionnaire, there was difficulty in engaging majority of adolescents for a long period of time which was also in case of some adult participants.

➢ The survey included non-institutionalized Nepali population only. Other groups residing in some institutional settings (for example, hospitalized population; imprisoned population etc.) were not included.

➢ Since the survey only included adolescent participants of age 13-17 years the findings cannot be generalized to children below 13 years of age.

➢ Because the survey used MINI as an assessment tool, this does not include all the mental disorders listed in ICD 10 DCR or DSM-5 (e.g., borderline personality disorder). Our interest was in balancing the resources and participant time against a comprehensive assessment of all mental disorders.

Recommendations

The burden of mental health disorders in Nepal calls for an immediate action and attention of higher authorities, health care professionals, policy makers and general population at large.

➢ All policies and programs in health and all related sectors of welfare education, employment and other programs need to include and integrate mental health agenda in their respective policies, plans and programs.

➢ Capacity building of all policy makers in health and related sectors with systematic planning of human resource development for mental health and all related sectors at national as well as provincial level.

➢ Strengthen existing platforms of educational institutions and workplaces to include mental health agendas

➢ Integrate mental health with the routine health care system to increase accessibility and availability to basic mental health services.

➢ Given that participants with mental disorder have high rates of utilization of non-specialist healthcare workers, professional schools (e.g., medical school, HA school and nursing school) should expand mental health training so that non-specialists are better prepared to tackle mental disorders under supervision from a psychiatrist.

➢ As prevalence of suicidality is found high, it is recommended to formulate National Suicide Prevention Strategy.

➢ Advocacy for mental health with the active engagement of the media is critical to develop programs for the advancement of mental health.

➢ Integrate mental health with programs of NCD prevention and control, child and adolescent health and other national disease control programs where, screening for mental disorders, health promotion and continuity of care/ referral should be an integral component.

➢ In addition mental health programs should be incorporated in educational institutions and work places.

➢ A package of mental interventions should be directed and implemented at district and sub- district level hospitals and medical institutions.

➢ Specific strategies should be developed to reduce economic barriers and stigma related barriers to health seeking by people.

➢ There is a need to strengthen research base in mental health focusing on burden and impact of mental health and substance use disorders, treatment gap and risk and protective factors responsible for different mental disorders. Future studies can utilize local validation of survey instruments given the diverse languages and cultures within the country.

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Appendices

Appendix 1

**National Mental Health Survey List of Sampled PSUs with district list
Province 1**

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Bhojpur	106	10604	Bhojpur Municipality	1	Helauchha	7	359	35	36	103
Ilam	110	11002	Sandakpur Gaunpalika	2	Maimajhuwa	8	416	26	17	107
Ilam	110	11004	Deumai Municipality	5	Dhuseni	7	450	44	36	124
Jhapa	111	11106	Kamal Gaunpalika	3	Topgachhi	7	4424	296	278	1357
Jhapa	111	11104	Kankai Municipality	7	Ghailadubba	2	695	63	47	204
Jhapa	111	11112	Birtamod Municipality	6	Anarmani	1	4167	293	263	1218
Khotang	105	10509	Jante Dhunga Gaunpalika	4	Damarkhushivalaya	4	229	33	24	69
Morang	112	11201	Miklajung Gaunpalika	9	Madhumalla	1	2024	146	116	626
Morang	112	11216	Dhanapalthan Gaunpalika	7	Kadmaha	5	890	97	99	240
Morang	112	11205	Belbari Municipality	11	Dangihat	5	4903	331	351	1432
Morang	112	11211	Rangeli Municipality	8	Drabesh	3	1072	97	82	329
Morang	112	11214	Biratnagar Metropolitian City	1	Biratnagar Sub-Metropolitan City	1	9619	624	623	2838
Morang	112	11214	Biratnagar Metropolitian City	4	Biratnagar Sub-Metropolitan City	5	12297	817	763	3455
Morang	112	11214	Biratnagar Metropolitian City	6	Biratnagar Sub-Metropolitan City	7	13826	1039	1022	3445
Morang	112	11214	Biratnagar Metropolitian City	10	Biratnagar Sub-Metropolitan City	13	10335	633	528	2964
Morang	112	11214	Biratnagar Metropolitian City	14	Biratnagar Sub-Metropolitan City	18	8158	657	674	2094
Solukhumbu	103	10306	Necha Salyan Gaunpalika	5	Necha Batase	8	287	19	23	72

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Sunsari	113	11312	Barju Gaunpalika	5	Amahibelaha	9	861	84	58	217
Sunsari	113	11301	Dharan Sub-Metropolitian City	1	Dharan Municipality	4	2471	144	138	716
Sunsari	113	11301	Dharan Sub-Metropolitian City	10	Dharan Municipality	10	4554	243	206	1384
Sunsari	113	11301	Dharan Sub-Metropolitian City	15	Dharan Municipality	15	16766	1013	961	4726
Sunsari	113	11306	Itahari Sub-Metropolitian City	2	Itahari Municipality	2	9345	620	574	2661
Sunsari	113	11306	Itahari Sub-Metropolitian City	5	Itahari Municipality	5	11324	815	756	3667
Sunsari	113	11306	Itahari Sub-Metropolitian City	13	Khanar	6	2251	145	138	696
Taplejung	101	10106	Phungling Municipality	10	Phurumbu	1	339	21	16	79
Terhathum	108	10801	Aatharai Gaunpalika	2	Khamlalung	2	271	20	25	78
Udayapur	114	11403	Triyuga Municipality	14	Saune	3	458	42	58	115

Madhesh Province

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Bara	207	20716	Subarna Gaunpalika	7	Badaki Fulbariya	7	1011	149	102	191
Bara	207	20702	Kolhabi Municipality	9	Amab	5	472	43	33	106
Bara	207	20703	Jitpur Simara Sub-Metropolitian City	2	Pipara Simara	3	4880	326	338	1331
Bara	207	20703	Jitpur Simara Sub-Metropolitian City	15	Dumarwana	6	1827	135	133	494
Bara	207	20708	Kalaiya Sub-Metropolitian City	5	Kalaiya Municipality	7	4179	292	318	799
Bara	207	20708	Kalaiya Sub-Metropolitian City	22	Bhodaha	7	517	62	63	128
Dhanusa	203	20318	Mukhiyapatti Musaharmiya Gaunpalika	5	Baheda Bela	1	482	79	51	103
Dhanusa	203	20303	Mithila Municipality	2	Nakatajhijh	1	1627	202	112	388

Dhanusa	203	20315	Janakpur Sub-Metropolitian City	8	8	Janakpur Municipality	8	7750	658	495	2032
Dhanusa	203	20315	Janakpur Sub-Metropolitian City	17	7	Andupatti	7	312	41	36	81
Mahottari	204	20401	Bardibas Municipality	5	8	Maisthan	8	1285	104	107	334
Mahottari	204	20415	Jaleshwor Municipality	4	5	Suga Vawani	5	390	31	30	73
Parsa	208	20813	Pakaha Mainpur Gaunpalika	5	1	Sabaithawa	1	293	31	25	58
Parsa	208	20807	Birgunj Metropolitian City	2	2	Birgunj Sub-Metropolitan City	2	6516	726	655	1377
Parsa	208	20807	Birgunj Metropolitian City	10	13	Birgunj Sub-Metropolitan City	13	11649	957	720	2934
Parsa	208	20807	Birgunj Metropolitian City	14	17	Birgunj Sub-Metropolitan City	17	6319	633	617	1206
Parsa	208	20807	Birgunj Metropolitian City	18	4	Bhawanipur	4	561	60	63	109
Parsa	208	20807	Birgunj Metropolitian City	27	6	Udayapur Ghurmi	6	580	86	70	139
Rautahat	206	20615	Durga Bhagawati Gaunpalika	1	9	Gangapipara	9	188	22	19	52
Rautahat	206	20606	Gadhimai Municipality	4	5	Sangrampur	5	480	48	51	92
Saptari	201	20115	Tirahut Gaunpalika	3	9	Trikaula	9	331	13	21	76
Saptari	201	20107	Surunga Municipality	4	2	Madhupati	2	422	29	29	103
Sarlahi	205	20509	Brahmapuri Gaunpalika	5	4	Noukailawa	4	608	65	74	152
Sarlahi	205	20511	Kabilashi Municipality	1	3	Pipariya	3	1029	118	103	266
Siraha	202	20213	Bhagawanpur Gaunpalika	5	2	Inarwa	2	897	86	89	213
Siraha	202	20203	Golbazar Municipality	3	6	Jamadaha	6	641	55	65	163

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Bhaktapur	307	30701	Changunarayan Municipality	4	Changunarayan	7	608	27	23	164
Chitawan	313	31304	Bharatpur Metropolitian City	1	Bharatpur Municipality	1	5579	334	287	1500
Chitawan	313	31304	Bharatpur Metropolitian City	21	Parbatipur	7	487	31	25	141
Dhading	304	30410	Gajuri Gaunpalika	4	Pida	9	671	63	71	169
Dolakha	301	30108	Shailung Gaunpalika	4	Magapauwa	2	559	45	33	172
Dolakha	301	30109	Bhimeshwor Municipality	1	Suspa Kshyamawati	3	263	14	17	83
Kathmandu	306	30604	Budhanilkhantha Municipality	7	Khadka Bhadrakali	6	2838	166	135	792
Kathmandu	306	30607	Nagarjun Municipality	1	Ichang Narayan	9	4514	198	167	1140
Kathmandu	306	30608	Kathmandu Metropolitian City	6	Kathmandu Metropolitan City	6	52053	3263	2723	15434
Kathmandu	306	30608	Kathmandu Metropolitian City	13	Kathmandu Metropolitan City	13	35151	1703	1433	10207
Kathmandu	306	30608	Kathmandu Metropolitian City	17	Kathmandu Metropolitan City	17	21883	1084	959	6394

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Kathmandu	306	30608	Kathmandu Metropolitian City	30	Kathmandu Metropolitan City	33	23350	958	848	6876
Kavrepalanchok	309	30908	Namobuddha Municipality	1	Simalchour Syampati	3	179	5	5	50
Lalitpur	308	30801	Mahalaxmi Municipality	2	Imadol	4	1773	101	94	581
Lalitpur	308	30802	Lalitpur Metropolitian City	4	Lalitpur Sub-metropolitan city	4	14085	706	674	3913
Makwanpur	312	31209	Bakaiya Gaunpalika	5	Shreepur Chhatiwan	8	1471	141	116	385
Makwanpur	312	31202	Thaha Municipality	7	Agara	6	656	74	56	162
Makwanpur	312	31206	Hetauda Sub-Metropolitian City	3	Basamadi	5	3069	220	196	866
Makwanpur	312	31206	Hetauda Sub-Metropolitian City	5	Hetauda Municipality	5	9614	566	487	2762
Makwanpur	312	31206	Hetauda Sub-Metropolitian City	10	Hetauda Municipality	10	6034	356	335	1725
Makwanpur	312	31206	Hetauda Sub-Metropolitian City	14	Churiyamai	1	2176	159	157	553
Makwanpur	312	31206	Hetauda Sub-Metropolitian City	18	Hurnamadi	9	613	60	44	186
Nuwakot	305	30511	Shivapuri Gaunpalika	2	Chhap	3	168	11	12	43
Nuwakot	305	30504	Bidur Municipality	10	Gerkhu	7	640	45	48	177
Ramechhap	310	31001	Umakunda Gaunpalika	2	Bamti Bhandar	1	193	14	24	53
Rasuwa	303	30302	Aamachodingmo Gaunpalika	3	Gatlang	1	116	12	8	33
Sindhuli	311	31106	Sunkoshi Gaunpalika	7	Majhuwa	4	348	21	21	94

District name	District code	Village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Baglung	411	41109	Bareng Gaunpalika	1	Dhullubaskot	7	136	8	14	33
Baglung	411	41101	Baglung Municipality	1	Baglung Municipality	1	3196	296	226	1082
Baglung	411	41110	Jaimuni Municipality	2	Damek	1	487	35	50	144
Gorkha	401	40106	Bhimsen Thapa Gaunpalika	4	Dhawa	6	279	36	24	87
Gorkha	401	40108	Palungtar Municipality	2	Khoplang	2	691	41	46	257
Kaski	405	40502	Machhapuchchhre Gaunpalika	7	Dhampus	1	187	17	15	67
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	1	Pokhara Sub-Metropolitan City	1	13321	735	671	4541
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	5	Pokhara Sub-Metropolitan City	5	12150	914	755	3973
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	8	Pokhara Sub-Metropolitan City	8	21689	1374	1177	7138
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	11	Pokhara Sub-Metropolitan City	11	11598	759	609	3449
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	15	Pokhara Sub-Metropolitan City	15	14327	965	936	4328
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	17	Pokhara Sub-Metropolitan City	17	22050	1527	1373	6944
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	23	Bhadaure Tamagi	3	135	11	8	45
Kaski	405	40504	Pokhara Lekhnath Metropolitian City	29	Lekhnath Municipality	1	7293	529	492	2261
Lamjung	406	40608	Dudhapokhari Gaunpalika	4	Ilampokhari	6	280	13	18	80
Lamjung	406	40607	Rainas Municipality	7	Dhamilikuwa	2	611	59	73	221

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	No. of HH
Mustang	403	40303	Waragung Muktikshetra Gaunpalika	5	Kagbeni	5	107	0	1	27
Myagdi	404	40401	Annapurna Gaunpalika	8	Ramche	2	251	13	14	88
Myagdi	404	40406	Beni Municipality	8	Arthunge	1	4783	422	326	1515
Nawalparasi	408	40805	Devchuli Municipality	17	Rajahar	3	678	34	43	163
Parbat	410	41007	Paiyu Gaunpalika	5	Huwas	5	278	20	20	75
Syangja	409	40907	Harinas Gaunpalika	6	Kyakmi	8	444	33	30	134
Syangja	409	40901	Putalibazar Municipality	5	Pauwegaude	1	688	50	53	236
Syangja	409	40909	Walling Municipality	12	Sirsekot	4	260	16	15	73
Tanahu	407	40709	Bandipur Gaunpalika	6	Dharampani	4	501	33	28	150
Tanahu	407	40702	Byas Municipality	11	Byas Municipality	3	1802	122	127	587

Lumbini Province

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	No. of HH
Banke	511	51105	Janaki Gaunpalika	5	Belahari	3	266	24	27	64
Banke	511	51106	Nepalganj Sub-Metropolitian City	13	Udayapur	4	275	30	31	78
Bardiya	512	51202	Barbardiya Municipality	5	Magaragadi	3	1440	85	93	302
Bardiya	512	51207	Gulariya Municipality	2	Gulariya Municipality	2	3381	342	339	1027
Dang	510	51009	Gadhawa Gaunpalika	4	Gangapraspur	5	968	95	85	275
Dang	510	51007	Lamahi Municipality	3	Sonpur	5	2441	169	196	624

District	Code	Municipality	Code	No.	Ward					
Dang	510	Ghorahi Sub-Metropolitian City	51002	1	Rampur	9	1046	114	149	336
Dang	510	Ghorahi Sub-Metropolitian City	51002	12	Hapur	2	1132	83	97	356
Dang	510	Ghorahi Sub-Metropolitian City	51002	18	Ghorahi Municipality	6	5323	474	429	1668
Dang	510	Tulsipur Sub-Metropolitian City	51003	7	Tulsipur Municipality	4	3834	308	293	1116
Dang	510	Tulsipur Sub-Metropolitian City	51003	19	Bijauri	2	1263	63	49	249
Gulmi	504	Madane Gaunpalika	50407	2	Banjhakateri	3	307	31	27	108
Gulmi	504	Musikot Municipality	50404	5	Anpchaur	7	493	37	32	148
Kapilbastu	509	Mayadevi Gaunpalika	50909	1	Pakadi	2	633	50	61	153
Kapilbastu	509	Shivaraj Municipality	50903	3	Chanai	9	1186	121	103	305
Nawalparasi	507	Sarawal Gaunpalika	50705	3	Sarawal	6	783	49	64	173
Nawalparasi	507	Sunawal Municipality	50702	5	Swathi	5	2406	145	144	667
Palpa	506	Purbakhola Gaunpalika	50602	2	Jalpa	2	332	31	28	100
Palpa	506	Rampur Municipality	50601	1	Gadakot	6	362	39	34	134

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Pyuthan	503	50303	Jhimaruk Gaunpalika		Badikot	2	439	63	54	145
Rolpa	502	50202	Thawang Gaunpalika		Thabang	1	317	27	28	93
Rupandehi	508	50809	Om Satiya Gaunpalika		Padsari	1	2060	119	117	561
Rupandehi	508	50803	Sainamaina Municipality		Dudharaksha	9	1097	79	93	309
Rupandehi	508	50813	Lumbini Sanskritik Municipality		Lumbini Aadarsha	3	825	84	64	178
Rupandehi	508	50802	Butwal Sub-Metropolitian City		Butwal Municipality	3	9126	554	478	3039
Rupandehi	508	50802	Butwal Sub-Metropolitian City		Butwal Municipality	10	5004	232	185	1114

Karnali Province

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	Number of HH
Dailekh	606	60601	Naumule Gaunpalika	8	Chauratha	3	293	30	34	65
Dailekh	606	60604	Thantikandh Gaunpalika	6	Tolijaisi	8	1093	116	134	281
Dailekh	606	60605	Aathbis Municipality	3	Sigaudi	8	702	84	83	203
Dailekh	606	60607	Dullu Municipality	7	Padukasthan	7	330	45	38	111
Humla	603	60307	Tanjakot Gaunpalika	4	Maila	6	358	48	29	88

Jajarkot	607	60701	Barekot Gaunpalika	1	Ramidanda	5	135	13	14	42
Jajarkot	607	60705	Shivalaya Gaunpalika	3	Sima	1	497	55	52	130
Jajarkot	607	60704	Chhedagad Municipality	4	Dasera	5	748	113	96	211
Jajarkot	607	60707	Nalagad Municipality	3	Dandagaun	9	611	76	71	156
Jumla	604	60406	Tatopani Gaunpalika	7	Tamti	2	357	46	45	95
Jumla	604	60404	Chandannath Municipality	8	Talium	5	616	73	58	152
Kalikot	605	60504	Sanni Tribeni Gaunpalika	9	Mumrakot	4	313	41	25	74
Mugu	602	60204	Khatyad Gaunpalika	5	Khamale	2	194	33	16	52
Rukum	608	60805	Tribeni Gaunpalika	3	Khara	3	174	15	23	50
Rukum	608	60804	Musikot Municipality	2	Khalanga	8	748	60	59	216
Salyan	609	60904	Siddha Kumakh Gaunpalika	1	Bajh Kanda	6	224	17	19	60
Salyan	609	60909	Tribeni Gaunpalika	1	Kavra	2	319	37	31	86
Salyan	609	60903	Banagad Kupinde Municipality	2	Bame	3	423	53	54	128
Salyan	609	60907	Sharada Municipality	1	Khalanga	2	1103	72	100	330
Surkhet	610	61001	Simta Gaunpalika	8	Dandakhali	3	171	13	12	37
Surkhet	610	61009	Chaukune Gaunpalika	4	Bijaura	7	733	80	77	224

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	No. of HH
Surkhet	610	61003	Lekabeshi Municipality		Satakhani	9	753	73	68	240
Surkhet	610	61005	Bheriganga Municipality		Lekhparajul	2	934	109	98	250
Surkhet	610	61006	Birendranagar Municipality		Uttarganga	3	5536	607	488	1824
Surkhet	610	61006	Birendranagar Municipality		Latikoili	10	559	48	40	165
Surkhet	610	61008	Panchapuri Municipality		Bidyapur	9	591	59	67	162

Sudurpashchim Province

District name	district code	village municipality code	Local level name	Local level new ward	Village name	Village Ward (old)	Total adult	Kid male	Kid female	No. of HH
Achham	606	60601	Mellekh Gaunpalika	5	Bindhyawasini	7	259	27	28	74
Achham	606	60604	Sanphebagar Municipality	2	Jalapadevi	5	251	32	28	74
Baitadi	606	60605	Surnaya Gaunpalika	5	Rauleswor	6	357	38	30	107
Baitadi	606	60607	Puchaundi Municipality	5	Kuwakot	5	281	35	29	69
Bajhang	603	60307	Durgathali Gaunpalika	2	Chaudhari	6	272	16	21	81
Bajura	607	60701	Budhiganga Municipality	7	Barhabis	9	331	47	47	111
Dadeldhura	607	60705	Bhageshwor Gaunpalika	4	Bagarkot	4	545	55	53	136

District		Code	Municipality		Ward						
Dadeldhura	607	60704	Parashuram Municipality	1	Sirsha	1	867	109	84	221	
Darchula	607	60707	Naugad Gaunpalika	5	Sipti	9	218	23	36	56	
Doti	604	60406	K.I. Singh Gaunpalika	1	Tikhatar	2	345	33	51	110	
Kailali	604	60404	Mohanyal Gaunpalika	4	Mohanyal	8	334	32	40	83	
Kailali	605	60504	Joshipur Gaunpalika	1	Joshipur	7	2770	220	197	674	
Kailali	602	60204	Godawari Municipality	6	Sreepur	4	2302	283	252	666	
Kailali	608	60805	Ghodaghodi Municipality	8	Sadepani	7	3351	348	322	859	
Kailali	608	60804	Tikapur Municipality	1	Tikapur Municipality	9	27514	2558	2072	7706	
Kailali	609	60904	Dhangadhi Sub-Metropolitian City	1	Dhangadhi Municipality	1	12039	997	752	3105	
Kailali	609	60909	Dhangadhi Sub-Metropolitian City	2	Dhangadhi Municipality	2	9723	807	671	2758	
Kailali	609	60903	Dhangadhi Sub-Metropolitian City	4	Dhangadhi Municipality	4	7300	577	504	2142	
Kailali	609	60907	Dhangadhi Sub-Metropolitian City	5	Dhangadhi Municipality	5	9725	748	546	2675	
Kailali	610	61001	Dhangadhi Sub-Metropolitian City	8	Dhangadhi Municipality	8	4918	420	304	1152	

Kailali	610	61009	Dhangadhi Sub-Metropolitian City	13	Geta	7	1554	138	130	402
Kailali	610	61003	Dhangadhi Sub-Metropolitian City	16	Urma	5	837	62	67	169+
Kanchanpur	610	61005	Beldandi Gaunpalika	5	Rauteli Bichawa	7	956	111	126	176
Kanchanpur	610	61006	Krishnapur Municipality	7	Raikawar Bichawa	4	2032	207	207	474
Kanchanpur	610	61006	Bhimdatta Municipality	6	Bhimdatta Municipality	6	7191	553	447	1936
Kanchanpur	610	61008	Punarbas Municipality	4	Tribhuwanbasti	4	1278	115	121	357

Appendix 2

Household listing form

घर नं	घर परिवार को नं	परिवारको सदस्यको परिचय नं (Id)	नाम/घर (बोलाउने नाम)	उमेर	लिङ्ग	परिवारको मूलिसंगको नाता	घर मूलिको फोन नं	छानिएको सदस्य	नयाँ स्यामपल न.	घर पहिचानको लागि विवरण

मनसंग सम्बन्धित समस्याहरुको राष्ट्रिय सर्वेक्षण

नेपाल स्वास्थ्य अनुसन्धान परिषद्

गणना गर्नेको नाम :	
कोड :	
PSU नं :	
साविकको	
गा. वि.स./नगरपालिको नाम :	
वडा नं :	
हालको	
गा.पा/न.पा/ उप.महा.न.पा को नाम:	
वडा नं :	
गाँउ/नगरपालिका कोड :	
जिल्ला कोड :	
प्रदेश :	

फिल्ड सुपरभाइजरको नाम :

हस्ताक्षर :

Appendix 3

Systematic sampling and Random number table

PSU number	101

Category of Individuals	Adult Male	Adult Female	Male Kid	Female Kid
Number of Individuals listed	129	125	16	19
Required sample	25	25	16	16
Sampling Interval	5.16	5	1	1.1875
Integer Part of SI	5	5	1	1
First Number (See Random Number Table)	3	4	1	1

sample number	sampled units with new_serial			
	Adult Male	Adult Female	Male Kid	Female Kid
1	3	4	1	1
2	8	9	2	2
3	13	14	3	3
4	18	19	4	5
5	24	24	5	6
6	29	29	6	7
7	34	34	7	8
8	39	39	8	9
9	44	44	9	11
10	49	49	10	12
11	55	54	11	13
12	60	59	12	14
13	65	64	13	15
14	70	69	14	16
15	75	74	15	18
16	80	79	16	19
17	86	84		
18	91	89		
19	96	94		
20	101	99		
21	106	104		
22	111	109		
23	117	114		
24	122	119		
25	127	124		

Sampling Interval																														
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	2	1	1	2	1	2	2	2	2	2	1	2	2	2	2	2	1	2	1	2	1	2	2	2	1	2	2	2	1
3	2	3	1	3	2	3	3	2	2	3	3	2	2	2	2	3	1	3	2	2	2	3	2	2	2	3	3	2	2	3
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43	39	19	22	43	1	27	36	6	27	24	17	36	41	17	23	13	31	23	8	31	26	19	9	9	9	22	31	38	29	17

Appendix 4

Adverse event management and Reporting recording form

National Mental Health Survey, Nepal

Nepal Health Research Council

S.N	Date	Location	Name of enumerator	Name and contact details of person to whom adverse event happened	Type of adverse event 1. Suicide (severe) 2. Psychosis 3. Other (specify)…..............	Description of the event	Action taken	Signature of the reporting field enumerat or

Recording and Reporting form

S.No.	Date	Name	Number of data collected	Target number of data to be collected	Remarks
S.No.	Date	Name	Number of data collected	Target number of data to be collected	Remarks

Appendix 5

LIST OF COMMON SUBSTANCES/DRUGS:

Here are some of the street names and categories of drugs

Cocaine = crack , coke

Opiates = smack, heroin, brown sugar, morphine, codotab/ codophos, tramadol, pethidine

Inhalants = laughing gas

Cannabis= bhang , ganja, weed , pot , grass , ghotta

Sedatives / hypnotics/ anxiolytics = clonazepam, lorazepam , alprazolam , diazepam , nitrazepam, phenargan

Stimulants = caffeine , tipex , boot polish , methamphetamines

Dextromethorphan = cough syrup in kathmandu and in big cities use of methamphetamines is increasing which they call it " crystal meth " , " Ice"

Booze = alcohol

Patients can use combinations of many drugs In different proportions which they commonly call it

" Formula" esp found near borders

Nicotine seems to provide both a **stimulant** and a depressant effect, and it is likely that the effect it has at any time is determined by the mood of the user, the environment and the circumstances of use. Studies have suggested that low doses have a depressant effect, whilst higher doses have **stimulant** effect.

Nicotine acts as both a stimulant and a **sedative**. Immediately after exposure to nicotine, there is a "kick" caused in part by the drug's stimulation of the adrenal glands and resulting discharge of **epinephrine** (**adrenaline**).

How Does Nicotine Deliver Its Effect?

Nicotine acts as both a stimulant and a sedative. Immediately after exposure to nicotine, there is a "kick" caused in part by the drug's stimulation of the adrenal glands and resulting discharge of epinephrine (adrenaline). The rush of adrenaline stimulates the body, causing a sudden release of glucose as well as an increase in blood pressure, heart rate, and respiration. Nicotine also suppresses insulin output from the pancreas, causing smokers to be slightly hyperglycemic. In addition, nicotine indirectly causes a release of dopamine in the brain regions that control pleasure and motivation. This reaction is similar to that seen with other abused drugs—such as cocaine and heroin—and is thought to underlie the pleasurable sensations many smokers experience. In contrast, nicotine can also exert a sedative effect, depending on the level of the smoker's nervous system arousal and the dose of nicotine taken.

COMMONLY USED ILLEGAL DRUGS

1.   CANNABINOIDS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
MARIJUANA	Blunt, dope, ganja, grass, herb, joint, bud, Mary Jane, pot, reefer, green, trees, smoke, sinsemilla, skunk, weed	I/smoked, swallowed
HASHISH	Boom, gangster, hash, hash oil, hemp	I/smoked, swallowed

Acute Effects: Euphoria; relaxation; slowed reaction time; distorted sensory perception; impaired balance and coordination; increased heart rate and appetite; impaired learning, memory; anxiety; panic attacks; psychosis

Health Risks: Cough; frequent respiratory infections; possible mental health decline; addiction

2.   OPIOIDS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
HEROIN	Diacetylmorphine: smack, horse, brown sugar, dope, H, junk, skag, skunk, white horse, China white; cheese (with OTC cold medicine and antihistamine)	II/injected, smoked, snorted
OPIUM	Laudanum, paregoric: big O, black stuff, block, gum, hop	II, III, V/swallowed, smoked

Acute Effects: Euphoria; drowsiness; impaired coordination; dizziness; confusion; nausea; sedation; feeling of heaviness in the body; slowed or arrested breathing

Health Risks: Constipation; endocarditis; hepatitis; HIV; addiction; fatal overdose

3.   STIMULANTS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
COCAINE	Cocaine hydrochloride: blow, bump, C, candy, Charlie, coke, crack, flake, rock, snow, toot	IIII/snorted, smoked, injected
AMPHETAMINE	Biphetamine, Dexedrine: bennies, black beauties, crosses, hearts, LA turnaround, speed, truck drivers, uppers	II/swallowed, snorted, smoked, injected
METHAMPHETAMINE	Desoxyn: meth, ice, crank, chalk, crystal, fire, glass, go fast, speed	II/swallowed, snorted, smoked, injected

Acute Effects: Increased heart rate, blood pressure, body temperature, metabolism; feelings of exhilaration; increased energy, mental alertness; tremors; reduced appetite; irritability; anxiety; panic; paranoia; violent behavior; psychosis

Health Risks: Weight loss; insomnia; cardiac or cardiovascular complications; stroke; seizures; addiction
Also, for **cocaine** - nasal damage from snorting
Also, for **methamphetamine** - severe dental problems

4.   CLUB DRUGS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
MDMA (METHYLENEDIOXYMETHAMPHETAMINE)	Ecstasy, Adam, clarity, Eve, lovers' speed, Molly, peace, uppers	I/swallowed, snorted, injected
FLUNITRAZEPAM***	Rohypnol (date rape drug): forget-me pill, Mexican Valium, R2, roach, Roche, roofies, roofinol, rope, rophies	IV/swallowed, snorted
GHB***	Gamma hydroxybutyrate: G, Georgia home boy, grievous bodily harm, liquid ecstasy, soap, scoop, goop, liquid X	III/swallowed

Acute Effects:

MDMA - mild hallucinogenic effects; increased tactile sensitivity, empathic feelings; lowered inhibition; anxiety; chills; sweating; teeth clenching; muscle cramping

Flunitrazepam - sedation; muscle relaxation; confusion; memory loss; dizziness; impaired coordination

GHB - drowsiness; nausea; headache; disorientation; loss of coordination; memory loss

Health Risks:

MDMA - sleep disturbances; depression; impaired memory; hyperthermia; addiction

Flunitrazepam - addiction

GHB - unconsciousness; seizures; coma

5.   DISSOCIATIVE DRUGS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
KETAMINE	Ketalar SV: cat Valium, K, Special K, vitamin K	III/injected, snorted, smoked
PCP AND ANALOGS	Phencyclidine: angel dust, boat, hog, love boat, peace pill	I, II/swallowed, smoked, injected
SALVIA DIVINORUM	Salvia, Shepherdess's Herb, Maria Pastora, magic mint, Sally-D	Not scheduled/chewed, swallowed, smoked
DEXTROMETHORPHAN (DXM)	Found in some cough and cold medications: Ro-botripping, Robo, Triple C	Not scheduled/swallowed

Acute Effects: Feelings of being separate from one's body and environment; impaired motor function

Also, for **ketamine** - analgesia; impaired memory; delirium; respiratory depression and arrest; death
Also, for **PCP** and **analogs** - analgesia; psychosis; aggression; violence; slurred speech; loss of coordination; hallucinations
Also, for **DXM** - euphoria; slurred speech; confusion; dizziness; distorted visual perceptions

Health Risks: Anxiety; tremors; numbness; memory loss; nausea

6.   HALLUCINOGENS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
LSD	Lysergic acid diethylamide: acid, blotter, cubes, microdot, yellow sunshine, blue heaven	I/swallowed, absorbed through mouth tissues
MESCALINE	Buttons, cactus, mesc, peyote	I/swallowed, smoked
PSILOCYBIN	Magic mushrooms, purple passion, shrooms, little smoke	I/swallowed

Acute Effects: Altered states of perception and feeling; hallucinations; nausea

Also, for **LSD** and **mescaline** - increased body temperature, heart rate, blood pressure; loss of appetite; sweating; sleeplessness; numbness; dizziness; weakness; tremors; impulsive behavior; rapid shifts in emotion

Also, for **psilocybin** - nervousness; paranoia; panic

Health Risks: Also, for **LSD** - Flashbacks, Hallucinogen Persisting Perception Disorder

7.   OTHER COMPOUNDS

Substances: Category & Name	Examples of Commercial & Street Names	DEA Schedule*/ How Administered**
ANABOLIC STEROIDS	Anadrol, Oxandrin, Durabolin, Depo-Testosterone, Equipoise: roids, juice, gym candy, pumpers	I/swallowed, absorbed through mouth tissues
INHALANTS	Solvents (paint thinners, gasoline, glues); gases (butane, propane, aerosol propellants, nitrous oxide); nitrites (isoamyl, isobutyl, cyclohexyl): laughing gas, poppers, snappers, whippets	Not scheduled/inhaled through nose or mouth

Acute Effects

Steroids - no intoxication effects high blood pressure; blood clotting and cholesterol changes; liver cysts; hostility and aggression; acne; in adolescents—premature stoppage of growth; in males—prostate cancer, reduced sperm production, shrunken testicles, breast enlargement; in females—menstrual irregularities, development of beard and other masculine characteristics
Inhalants - (varies by chemical) stimulation; loss of inhibition; headache; nausea or vomiting; slurred speech; loss of motor coordination; wheezing

Health Risks:

Steroids - high blood pressure; blood clotting and cholesterol changes; liver cysts; hostility and aggression; acne;—in adolescents premature stoppage of growth; in males—prostate cancer, reduced sperm production, shrunken testicles, breast enlargement; in females—menstrual irregularities, development of beard and other masculine characteristics
Inhalants - cramps; muscle weakness; depression; memory impairment; damage to cardiovascular and nervous systems; unconsciousness; sudden death

* Schedule I and II drugs have a high potential for misuse. They require greater storage security and have a quota on manufacturing, among other restrictions. Schedule I drugs are available for research only and have no approved medical use; Schedule II drugs are available only by prescription (unrefillable) and require a form for ordering. Schedule III and IV drugs are available by prescription, may have five refills in 6 months, and may be ordered orally. Some Schedule V drugs are available over the counter.

** Some of the health risks are directly related to the route of drug administration. For example, injection drug use can increase the risk of infection through needle contamination with staphylococci, HIV, hepatitis and other organisms.

*** Associated with sexual assaults.

मनसंग सम्बन्धित समस्याहरू

मानसिक स्वास्थ्य भन्नाले प्रत्येक व्यक्तिले आफ्नो क्षमता थाहा पाउने, सामान्य तनावको सामना गर्नसक्ने, सफलता र लाभकारी पूर्वक काम गर्नसक्ने, र आफ्नो समुदायमा योगदान दिन सक्षम हुने अवस्थालाई बुभिन्छ। जीवनको विभिन्न चरणहरु, बाल्यकाल र किशोरावस्था देखि प्रौढ अवस्थामा कुनै मानसिक स्वास्थ्य समस्या भएमा त्यसले हाम्रो सोचाई, भावना वा व्यवहारमा पनि असर पार्दछ। त्यसैले समयमा नै यस्ता समस्यालाई पहिचान गर्नु र आवश्यक स्वास्थ्य सेवा लिनुपर्दछ।

मनसंग सम्बन्धित समस्याका लक्षणहरू

तल दिइएका मध्ये एक वा एक भन्दा बढी लक्षण महसुस हुनु मानसिक समस्याको प्रारम्भिक चेतावनी हुनसक्छ :

- आत्मग्लानी हुने वा नैराश्यताको भावना आउने
- पहिले खुशी हुने क्रियाकलापमा अहिले खुशी हुन वा रमाउन नसक्ने
- आत्महत्याको सोच आउने
- आत्मविश्वास घट्ने
- ध्यान केन्द्रित गर्न नसक्ने
- निन्द्रा तथा खानामा गडबडी हुने
- समाजबाट अलग्गिने र दैनिक क्रियाकलाप प्रति बेवास्ता हुने
- एक्लै बस्न रुचाउने
- मन परिवर्तन भइराख्ने
- एकोहोरो अनावश्यक कुराहरु बोलेको बोल्यै गर्ने
- अरुले नसुनेका वा नदेखेका कुराहरु आफुले मात्र सुन्ने वा देख्ने
- सानो सानो कुरामा रिस उठिराख्ने
- अचानक धेरै डराएको वा आत्तिएको महसुस हुने

मनसंग सम्बन्धित समस्या भएकाहरुका लागि सुझाव

- आफूलाई मनमा लागेको कुराहरु मनमिल्ने मान्छेसंग खुलेर व्यक्त गर्ने
- नकारात्मक कुराहरु बढी नसोच्ने
- कुनै कुराको निर्णय गर्न गाह्रो भए अरुसंग सल्लाह लिने

परिवारको भूमिका

- यस्ता समस्या भएका सदस्यलाई उनीहरुको अवस्थाको बारेमा दोष नलगाउने
- माया ममता तथा सम्मान दिने
- घरमा एक्लै नछोड्ने, र उनिहरुको स-साना उपलब्धिका लागि पनि प्रशंसा गर्ने
- मनसंग सम्बन्धित समस्या भूतप्रेत, बोक्सीका कारणले लाग्ने हैन र यसका लक्षणहरु देखापर्ने वित्तिकै नजिकैको स्वास्थ्य संस्थामा लगी जाँच गराउनु पर्दछ।

तपाईंको घर नजिकको स्वास्थ्य संस्थामा वा जिल्लाका विभिन्न संघ संस्थाहरुले मनसंग सम्बन्धित समस्याको लागि सेवा दिइरहेका हुन सक्दछन्। तपाईंले यसको बारेमा विस्तृत जानकारी लिनुपरेमा
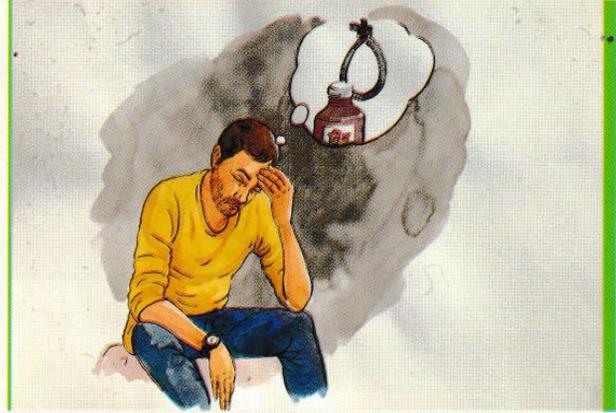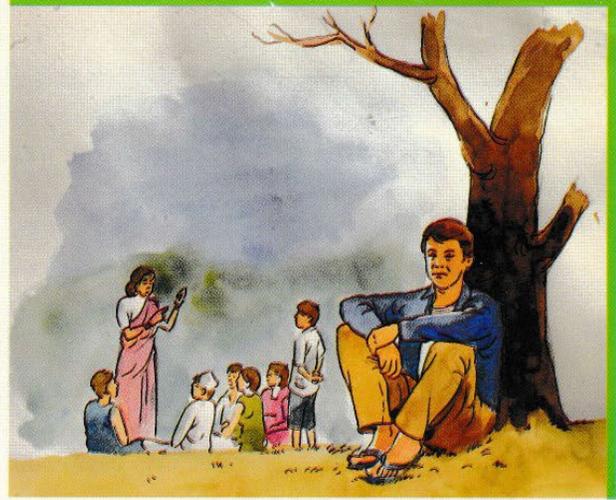
Information Leaflet

(Footnotes)

1   Bipolar Affective Disorder also includes Manic and Hypomanic Episode.

2   Neurotic and stress related disorder includes Panic Disorder, Agoraphobia, Social Anxiety, Specific Phobia, Obsessive Compulsive Disorder, Post-Traumatic Stress Disorder, Dissociative disorder,Generalized Anxiety Disorder and Adjustment disorder.

3   Dissociative Disorder includes Trans and Possession and Conversion disorder.

4   Substance Use Disorder includes alcohol, and other substances (but excludes Tobacco use).

5   Behavioral and Emotional Disorders includes Separation anxiety, Attention Deficit Hyperactivity Disorder, Conduct disorder and Oppositional Defiant

6   Eating Disorders includes Anorexia Nervosa and Bulimia Nervosa.

7   Suicidality includes current suicidal thoughts, lifetime suicidal attempt and future likelihood of suicidal attempt.