VIET NAM ADOLESCENT MENTAL HEALTH SURVEY (V-NAMHS)

REPORT ON MAIN FINDINGS

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Viet Nam Adolescent Mental Health Survey (V-NAMHS)

Report on Main Findings

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Acronyms

ADHD	Attention-deficit/hyperactivity disorder
CBCL	Child Behaviour Checklist
DISC-5	Diagnostic Interview Schedule for Children, Version 5
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
EA	Enumeration Area
GBD	Global Burden of Disease Study
GEAS	Global Early Adolescent Study
GOPFP	General Office for Population and Family Planning, Viet Nam
GSHS	Global School-based Student Health Survey
GSO	General Statistical Office of Viet Nam
HSPI	Health Strategy and Policy Institute
HICs	High-income countries
HREC	Human Research Ethics Committee
I-NAMHS	Indonesia – National Adolescent Mental Health Survey
IOS	Institute of Sociology
JHSPH	Johns Hopkins Bloomberg School of Public Health
K-NAMHS	Kenya – National Adolescent Mental Health Survey
LMICs	Low- and middle-income countries
MOH	Ministry of Health
NAMHS	National Adolescent Mental Health Surveys
POPFP	Provincial Office of Population and Family Planning
PTSD	Posttraumatic stress disorder
SDQ	Strengths and Difficulties Questionnaire
SESD	Social-Environmental Statistics Department
TUQIA	The University of Queensland in America
UQ	The University of Queensland
VASS	Viet Nam Academy of Social Sciences
V-NAMHS	Viet Nam Adolescent Mental Health Survey
WHO	World Health Organization
YSR	Youth Self-Report

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Executive Summary

Overview

The prevalence of mental disorders among adolescents in Viet Nam is largely unknown. Accurate prevalence data is crucial for effective prevention, service planning, and prioritisation of mental health policy. Accurate estimates also enable evidence-based advocacy and public health campaigns that can increase awareness of, and reduce stigma related to, mental health. This report presents findings from the Viet Nam Adolescent Mental Health Survey (V-NAMHS), the first survey to measure the prevalence of mental disorders among a nationally representative sample of households across Viet Nam.

This report includes findings related to mental health, inclusive of mental health problems and mental disorders. In V-NAMHS, adolescents with mental health problems were those who met at least half of the symptoms required for a given mental disorder but who may not necessarily meet all diagnostic criteria required for a mental disorder diagnosis. Adolescents with mental disorder were those who met the full diagnostic criteria for a mental disorder. This report also includes findings related to use of services for emotional and behavioural problems. Rather than referring to mental health directly, the term 'emotional and behavioural problems' was used in questions related to service use to account for the myriad of ways that mental disorder symptoms can manifest and to avoid issues of stigma or poor mental health literacy. A chapter on findings related to COVID-19 in the context of mental health and wellbeing is also provided.

Key findings

- In the past 12 months, one in five Vietnamese adolescents (21.7%) had a mental health problem while one in thirty met criteria for a mental disorder (3.3%).
- Anxiety was the most prevalent mental health problem (18.6%), followed by depression (4.3%).
- Only 8.4% of adolescents with a mental health problem had accessed services that provide support or counselling for emotional and behavioural problems in the past 12 months
- Overall, only 6.5% of adolescents accessed such a service in the past 12 months and over half (50.8%) did so only once.
- Only 5.1% of parents identified that their adolescent needed help for emotional and behavioural problems in the past 12 months, despite 21.7% of adolescents having experienced a mental health problem in the same period.
- The COVID-19 pandemic impacted the wellbeing of adolescents, with 7.7% of adolescents reporting often experiencing at least one emotional or behavioural problem more than usual during the COVID-19 pandemic.

Implications

- This prevalence of mental health problems in adolescents in Viet Nam indicates that mental health is a public health issue that requires the attention of policymakers and planners. To address mental health problems in adolescents in Viet Nam, future National Mental Health Plans should consider the specific needs of adolescents in addition to broader plans for adults.
- Although one in five adolescents experienced a mental health problem and one in thirty met criteria for a mental disorder, these numbers are potentially feasible to address through appropriate action and investment from policymakers.
- Parents and families were the most likely source of support for adolescents with worries and concerns. Strategies designed to improve mental health literacy, reduce mental health-

related stigma, and increase awareness of available services among families may support adolescents with mental health problems.

- Only a minority of adolescents with mental health problems received services (8.4%). To assist adolescents, it is important that mental health screening is incorporated into existing general health services while also providing education and training on mental health and referral pathways for general health practitioners.
- The finding that 7.7% of adolescents often experienced emotional and behavioural problems more than usual during the COVID-19 pandemic highlights the importance of including mental health in planning for future population-level events such as pandemics, natural disasters, and conflict.

Introduction

Background

Adolescents make up approximately 14.5% of Viet Nam's population, equating to nearly 14 million people aged 10-19 years (General Statistical Office 2020). Although it is often thought of as a healthy stage of life, mental disorders are the leading cause of disability among adolescents across the globe (Erskine et al. 2015) and can have both short- and long-term health and social consequences (Erskine et al. 2016, Ormel 2017). Understanding the prevalence of mental disorders, as well as underlying risk and protective factors, is essential to inform mental health policies and effective resource planning for adolescent mental health.

To date, Viet Nam does not have a mental health policy defined by the World Health Organization (WHO) as providing "a vision, values, principles, objectives, and a broad model for action" (Trang Nguyen et al. 2019). As such, governance of mental health is fragmented and only partially covered by existing laws and individual decisions. For example, under the Law of People with Disability (Law No. 51/2010/QH12), individuals living with mental, psychiatric, and intellectual disabilities are identified as a subgroup under Article 3. In 2011, the Prime Minister's Decision 1215/QD-TTg approved community-based social supports for people with mental disorders (Thủ tướng Chính phủ 2011). A year later, a master plan was developed for the Network of Social Protection Facilities for Community-Based Care and Rehabilitation for People with Mental Disorders (MOLISA-issued Decision 1364/QD-LDTBXH) (MOLISA 2012). Recently, the Prime Minister issued Decision 155/QD-TTg (dated January 29, 2022) approving the "National Plan for the Prevention and Control of Non-Communicable Diseases and Mental Health Disorders for 2022-2025". In the Plan, mental disorders refer to "schizophrenia, epilepsy, depression, dementia and other mental health disorders" (Thủ tướng Chính phủ 2022). These existing decisions focus on adults with severe mental illness and do not specifically address young people. Historically, there has not been a separate policy, strategy, or plan focused on adolescent mental health in Viet Nam and adolescents are instead only included by default in any laws or decisions pertaining to mental health. The lack of specific policies for mental health among adolescents makes planning adolescent-specific mental health services and public health strategies difficult.

Efforts to improve adolescent mental health in Viet Nam are further impeded by the lack of evidence on the prevalence of adolescent mental disorders. While studies do exist, existing research on adolescent mental health in Viet Nam is limited by geographic coverage (e.g., Hanoi only), small sample sizes, limited age ranges, and the use of symptom measures rather than diagnostic instruments. The lack of such data for Viet Nam inhibits policymakers, practitioners, and researchers from appropriately targeting efforts, developing effective service planning, engaging country governments in action, and increasing attention and funding for adolescent mental health.

The Viet Nam Adolescent Mental Health Survey (V-NAMHS) was developed and conducted with the specific aim of producing nationally representative estimates of the prevalence of mental disorders in Vietnamese adolescents aged 10-17 years. Findings from V-NAMHS provide the Government and other stakeholders in Viet Nam with evidence needed to prioritise and plan services for adolescent mental health as well as to advocate for the development of adolescent mental health policies. Finally, these data also provide estimates of prevalence for international agencies and global research efforts, such as the Global Burden of Disease Study (GBD) which is used by policymakers to inform decision-making.

What is V-NAMHS?

V-NAMHS is a nationally representative household survey of adolescents and their primary caregiver. The core aims of V-NAMHS are to:

1. Determine the prevalence of mental disorders among adolescents aged 10-17 years in Viet Nam.
2. Measure risk and protective factors associated with mental disorders in adolescents.
3. Establish patterns of service use among adolescents, including utilisation, barriers to care, and perceived need.

Who conducted V-NAMHS?

The Institute of Sociology (IOS) within the Viet Nam Academy of Social Sciences (VASS) was responsible for the implementation of V-NAMHS. V-NAMHS is part of the National Adolescent Mental Health Surveys (NAMHS) implemented in three countries (Kenya, Indonesia, and Viet Nam) and led by The University of Queensland (UQ) in Australia with support from the Johns Hopkins University Bloomberg School of Public Health (JHSPH) in the United States. The project was developed and implemented collaboratively. Other collaborators on V-NAMHS include specialists from the Health Strategy and Policy Institute (HSPI) within the Ministry of Health (MOH), Social-Environmental Statistics Department (SESD) within the General Statistical Office of Viet Nam (GSO), and the General Office of Population and Family Planning (GOPFP) within the MOH.

Ethical approval for the study was obtained from the Institutional Ethical Review Board for Biomedical Research at Hanoi University of Public Health (approval no. 499/2019/YTCC-HD3) and the UQ Human Research Ethics Committee (HREC) (Approval no. 2019001268).

Who participated in V-NAMHS?

V-NAMHS is a nationally representative household survey administered to adolescents and their primary caregiver across 38 provinces in Viet Nam. Eligible adolescents were those aged 10-17 years living with their primary caregiver more than 50% of the time. Adolescents aged 18-19 years were not in scope because a high proportion of these adolescents are likely to be living away from the family and because the diagnostic measures were not designed to be administered to people aged 18 years and older (Erskine et al. 2021). In households with more than one eligible adolescent, an adolescent was randomly selected from the household roster by the programmed data collection instrument. This ensured no unintentional bias regarding selection of the reference adolescent.

A primary caregiver was defined as an adult member of the household (i.e., aged 18 years or older) who had responsibility and provided care for the adolescent, knew the most about them, and was best placed to answer questions about their health and wellbeing. For the purposes of this report, the primary caregiver will be referred to as the parent. Further information on the relationship between the adolescent and their primary caregiver is available in Sample Characteristics.

Households were excluded from the study if:

- There was not an adolescent aged 10-17 years living at the interviewed address
- The adolescent was not living at the interviewed address most of the time and/or was temporarily away from home
- The adolescent was married
- The adolescent OR parent did not speak Vietnamese
- There was no parent living at the address
- The household or parent did not provide consent to participate
- The adolescent was unable to participate due to severe physical or cognitive impairments (as assessed by a standard measure)

As shown in Table 1, a total of 7,599 households from 38 provinces across Viet Nam were randomly selected for approach as per the survey sampling frame (see Appendix 2: Methodology). Of these, 6,048 households were eligible and agreed to participate, giving a total response rate of 81.1% (calculated by dividing the total number of participating, eligible households [n = 6,048] by the total number of households after discounting ineligible households [n = 7,461]). Informed consent and assent were obtained from the parent and the adolescent, respectively. The parent and the adolescent interviews were conducted separately and in a private setting to avoid interference or influence by others. Fifty-two households had incomplete data and were not included in the final sample. The final V-NAMHS sample consisted of 5,996 parent-adolescent pairs.

Table 1. *Sample recruitment for V-NAMHS*

Total number of households in scope for approach	**7,599**
Total number of households that were not approached or unavailable	502
Total number of households that refused participation	911
Total number of ineligible households	138
Total number of participating, eligible households	6,048
Total number of households with incomplete data	52
Total number of households with complete data	5,996

What were participants asked?

Mental disorders were assessed using a diagnostic measure specifically designed for children and adolescents: the Diagnostic Interview Schedule for Children, Version 5 (DISC-5) (Bitsko et al. 2019, Shaffer et al. 2000). The mental disorders measured in V-NAMHS included social phobia, generalised anxiety disorder, major depressive disorder, posttraumatic stress disorder (PTSD), conduct disorder, and attention-deficit/hyperactivity disorder (ADHD). Social phobia and generalised anxiety disorder are reported collectively as 'anxiety disorders' in this report. V-NAMHS also measured risk and protective factors associated with adolescent mental health, including (but not limited to) bullying, school and education, peer and family relationships, sexual behaviour, substance use, adverse childhood experiences, parental mental illness, and self-esteem. Questions related to service use were asked in relation to utilisation, perceived need, and barriers to care. A module assessing relevant experiences during the COVID-19 pandemic was also developed and included. These measures were adapted and developed through a collaborative process involving the international NAMHS partners (Erskine et al. 2021). A complete list of the measures can be found in Appendix 1: Measures.

The instruments were originally developed in English, translated into Vietnamese, and back translated into English to check for conceptual consistency and accuracy i.e., ensuring that the meaning of questions remained consistent with the original English version. The translated version was also reviewed by Vietnamese clinicians, by training participants, and by the V-NAMHS team on an ongoing basis throughout the survey development phase prior to data collection.

When was V-NAMHS conducted?

Data collection for V-NAMHS was conducted from 21st September 2021 to 16th December 2021, beginning in the North of Viet Nam and moving to the South. A total of 127 trained interviewers collected data in 38 selected provinces.

Did COVID-19 impact V-NAMHS?

COVID-19 impacted the planned timeline for V-NAMHS. Data collection was originally scheduled to commence in June 2020 but was postponed by one year to June 2021 due to COVID-19. However, the outbreak of COVID-19 in provinces in the South in mid-2021 meant that both preparation for data collection (i.e., training) and data collection itself was further delayed.

During the height of the COVID-19 pandemic, the movement of people between provinces was restricted. Interviewer training, monitoring, and technical support was provided online by the V-NAMHS team based at IOS. This increased reliance on the performance of each interviewer while the number of interviewers required was higher than originally planned due to movement restrictions and the need for interviewers to be local, i.e., rather than having interviewers travel between provinces. To address this, refresher trainings were conducted which covered the content of the instrument, methods to approach the selected households, and measures to ensure the safety of the interviewer and the participants. Further, every effort was taken to ensure the quality of data and a comprehensive data monitoring and quality checking procedure was implemented with assistance from JHSPH and UQ. The delay in data collection also afforded an opportunity to develop and include a COVID-19 module to assess the impact of the pandemic on adolescents and their families in the context of mental health. Data collection eventually commenced in September 2021 in the North, followed by the South in late 2021 once the COVID-19 situation allowed.

What is the scope of this report?

This report presents key findings from V-NAMHS that reflect the core aims of the study and are relevant for Vietnamese stakeholders. The report has three main chapters: mental health (including suicidal behaviours and self-harm), service use, and COVID-19. Sample characteristics (i.e.,

demographics) are included while other information related to methodology and conduct of the survey is included in Appendix 2. Except where stated, all findings (proportions and numbers) have been weighted to represent of the age-sex and urban-rural distribution of the Vietnamese population of adolescents aged 10-17 years. While tests of statistical significance are not included in this report, differences that are statistically significant have been highlighted in the relevant table or text. Only differences which are statistically significant are discussed in text.

Sample Characteristics

Tables 2 and 3 show the demographic characteristics of the adolescent sample while Table 4 shows the demographic characteristics of the parent sample. All findings reported in these tables are unweighted. All demographic information was reported by the parent and inputted into the adolescent data collection form prior to the adolescent interview. Where discrepancies occurred between the parent and adolescent data collection forms, these were resolved using pre-determined methods.

Adolescent

Table 2 shows the age and sex of adolescents who participated in the survey (n = 5,155). The average age of the adolescent participants was 13.3 years, with younger adolescents aged 10-13 years constituting more than half (54.6%) of the adolescent sample. In terms of sex distribution, the sample consisted of more females (53.1%) than males (46.9%).

Table 2. *Adolescent sample by sex and age group*

Age (years)	Male		Female		Total	
	%	n	%	n	%	n
10-13	28.5	1,709	25.7	1,539	52.4	3,248
14-17	24.1	1,442	21.8	1,306	45.8	2,748
10-17	52.6	3,151	47.5	2,845	100.0	5,996

Table 3 shows the education and employment status of the adolescent sample. Most adolescents were currently attending school (94.5%) and had never been employed (94.6%).

Table 3. *Adolescent sample by education and employment status*

Measure	%	n
Education status		
Currently attending school	94.5	5,666
Not currently attending but have attended in the past 12 months	1.0	62
Have attended but not in the past 12 months	4.4	263
Never attended school	0.1	5
Employment status		
Currently employed	3.0	179
Not currently employed but have been employed in the past 12 months	1.3	79
Have been employed but not in the past 12 months	1.1	64
Never been employed	94.6	5,674
Not currently attending school AND not currently employed	3.2	194

Parent

Table 4 shows the demographic characteristics of the parent sample. The average age of the parent participants was 44.2 years and the majority were the adolescent's mother or stepmother (63.6%). Nearly half (47%) had only completed primary education, while close to a quarter (24.1%) had only completed secondary education. In terms of employment, over half (54.1%) reported that they were employed full-time. Approximately half (53.7%) reported that they headed the household.

Table 4. *Primary caregiver sample by demographic information*

Measure	%	n
Age (mean, years) [a]	44.2	
Sex		
Male	28.3	1,695
Female	71.7	4,301
Relationship with adolescent		
Mother/stepmother	63.6	3,814
Father/stepfather	25.0	1,497
Grandparent	10.3	616
Other	1.1	66
Marital status		
Married	89.6	5,374
Never married	0.9	53
Other	9.2	554
Education level (highest level completed)		
None (did not complete primary school)	4.1	247
Primary school	47.0	2,817

Measure	%	n
High school	24.1	1,446
Trade/vocational school or equivalent (e.g., professional secondary school)	4.8	289
Tertiary education	19.2	1,152
Currently studying	1.7	101
Employment status		
Full-time	54.1	3,246
Part-time/casual	33.9	2,031
Not employed but seeking employment	1.1	68
Not employed and not seeking employment	10.2	613
Proportion who are also the head of the household [b]	53.7	3,220

[a] n = 5,987 (after excluding ages <18 years [n=5] and non-meaningful responses [n=4]); [b] Head of household not identified in all households

Mental Health

Overview

Adolescents aged 10-19 years make up 14.3% of Viet Nam's population (General Statistical Office 2020). However, relatively little is known about the prevalence of mental disorders among Vietnamese adolescents. This is a critical gap as international research has shown that mental disorders during adolescence, particularly those that remain untreated or under-treated, can have adverse outcomes throughout the life course (Erskine et al. 2016, Ormel 2017). A previous literature review found widely varying prevalence estimates for mental health problems in Viet Nam, ranging from 8% to 29% (Samuels et al. 2018).

However, the literature that is available for adolescent mental disorders in Viet Nam tends to be limited by small sample sizes, restricted locations or age ranges, single or limited numbers of mental disorders in scope, and a lack of studies utilising diagnostic measures (i.e., instruments designed to identify mental disorders meeting established criteria). This means that the generalisability of these studies and their ability to inform and influence policy is limited. For example, a nationally representative study of mental health among 6-16-year-olds administered the Strengths and Difficulties Questionnaire (SDQ) to 1,314 parents and 591 adolescents (those in the sample aged 12-16 years) (Weiss et al. 2014). Among the adolescent sample specifically, between 10.7% (adolescent-report) to 11.9% (parent-report) met the 'borderline' threshold for a mental health problem. Similar proportions of emotional and behavioural problems (12.4% and 11.3%) were found in the same study using the adolescent-report Youth Self-Report (YSR) and parent-report Child Behaviour Checklist (CBCL) measures, respectively (Weiss et al. 2014). However, despite this study being nationally representative, the measures used were symptom scales designed to screen for symptoms of poor mental health or broader emotional and behavioural problems, as opposed to diagnostic instruments designed to diagnose mental disorders according to established definitions and criteria.

This limitation is true of most existing studies of adolescent mental disorder prevalence in Viet Nam. For example, one study utilised the SDQ to measure mental health problems in adolescents aged 12-17 years living in urban (Hanoi, Ho Chi Minh City, Dien Bien Phu city, Long Xuyen city) and rural

(Keo Lom and Phu My town) areas (Samuels et al. 2018). Of the 402 adolescents sampled, 13.4% scored in the 'abnormal' band of the SDQ. Further, the sample was relatively small (n = 402) which makes it difficult to generalise these findings to the Vietnamese adolescent population. While these studies make an important contribution to our understanding of adolescent mental health within Viet Nam, they cannot be generalised to inform mental disorder prevalence at the national level. As such, the evidence to inform adolescent mental health policy in Viet Nam and the subsequent ability to act effectively and positively for adolescent mental health is extremely limited.

The core aim of V-NAMHS was to generate nationally representative prevalence estimates for mental disorders in Vietnamese adolescents. This chapter outlines the measurement of mental disorders in V-NAMHS and presents the findings. Findings for mental health problems and mental disorders are presented and, in addition, the prevalence of suicidal behaviours and self-harm is also presented in the context of mental health. All proportions and numbers presented in this chapter are weighted. While tests of statistical significance are not included in this chapter or the report more broadly, differences that are statistically significant have been highlighted in the relevant table and only differences which are statistically significant are discussed in text. Finally, considerations related to the interpretation of these findings are briefly discussed while the implications for policymakers are outlined.

Measurement

Measures

Diagnostic modules from the DISC-5 were used to assess the prevalence of selected mental disorders in the past 12 months. The DISC-5 is a standardised diagnostic instrument (Bitsko et al. 2019, Shaffer et al. 2000) first developed by Columbia University through support from the United States National Institute of Mental Health. The DISC-5 is designed to be administered by trained 'lay' interviewers, i.e., individuals who do not have any clinical training but who are trained on the DISC-5. The DISC-5 was used to assess six mental disorders in V-NAMHS: social phobia, generalised anxiety disorder, major depressive disorder, PTSD, conduct disorder, and ADHD. These disorders were chosen as they are prevalent in adolescence and are responsible for a significant proportion of burden of mental disorders in this age group (Erskine et al. 2015).Social phobia and generalised anxiety disorder are reported collectively as 'anxiety disorders' in this report. Except for ADHD (which was asked of the parent), all DISC-5 modules (i.e., measures of individual disorders) were administered to the adolescent.

Measures of suicidal behaviours and self-harm were also included. Suicidal behaviours refer to: 1) suicidal ideation (serious thoughts about taking your life); 2) suicide planning (making a plan to end your life); and 3) suicide attempts (where the self-injury or action is intended to end your life). Self-harm means deliberately hurting or injuring yourself without trying to end your life (i.e., non-suicidal self-injury). All adolescents were asked questions related to suicidal behaviours and self-harm regardless of their mental disorder status. For suicidal behaviours in the past 12 months specifically, adolescents were only asked about suicide planning if they reported suicidal ideation, and only asked about suicide attempts if they reported suicide planning.

Mental health problems and mental disorders

The content and structure of the DISC-5 was designed to follow established diagnostic criteria for mental disorders and was recently updated to meet the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (American Psychiatric Association 2013). A diagnosis of a mental disorder according to DSM-5 requires an individual to endorse the core symptoms of a certain mental disorder and meet specific thresholds regarding the duration, frequency, severity, and expression of these symptoms, while further reporting a minimum level of impairment caused by these symptoms. The questions in the DISC-5 reflect this by first asking about a given symptom and then asking further detailed questions about the specific characteristics of this symptom as required

for diagnosis. This differentiates a diagnostic instrument, such as the DISC-5, from 'symptom scales' which only ask about the general presence of a symptom. As such, symptom scales tend to report much higher prevalence than diagnostic instruments (COVID-19 Mental Disorders Collaborators 2021, Ferrari et al. 2013, GBD 2019 Mental Disorders Collaborators 2022) as they are assessing symptoms, not disorders.

However, individuals can still experience distress and associated impairments without necessarily meeting DSM-5 criteria for diagnosis of a specific mental disorder. These individuals may be an important group for intervention prior to progressing on to a fully-developed mental disorder (Pagliaro et al. 2021). In parallel, questions have also been raised regarding the applicability of DSM-5 diagnostic criteria to non-Western cultures as well as the impact of cultural factors when administering a standardised instrument such as the DISC-5 (Canino and Alegria 2008).

In recognition of these potential challenges, two sets of findings are presented. First, the prevalence of 'mental health problems' is reported which, for the purposes of this report, includes individuals who meet at least half of the symptoms for a given mental disorder as measured by the DISC-5 but who may not necessarily meet all diagnostic criteria required for a diagnosis as specified in DSM-5. Second, the prevalence of mental disorders is reported. This includes individuals who meet the diagnostic criteria for a mental disorder as specified by DSM-5 (American Psychiatric Association 2013). Table 5 below gives the general definition for mental health problems and mental disorders, as well as the operational definition applied in V-NAMHS. The terminology used for the different types of mental health problems versus mental disorders is also shown.

Table 5. *Definitions of mental health problems and mental disorders*

	Mental health problem	Mental disorder
General definition	Interferes with how a person thinks, feels, and behaves, but to a lesser extent than a mental disorder. They can be experienced temporarily, or as an acute reaction to the stresses of life.	Clinically significant behavioural or psychological syndrome or pattern that occurs in an individual and is associated with present distress (e.g., a painful symptom), disability (i.e., impairment in one or more important areas of functioning), and/or a significantly increased risk of suffering death, pain, disability, or an important loss of freedom.
Applied definition within V-NAMHS	An adolescent was considered to have a mental health problem if at least half of the symptoms required for diagnosis of a given mental disorder were endorsed (i.e., 'subthreshold symptoms). Adolescents with mental health problems therefore included those with subthreshold or full threshold symptoms, with or without impairment. As such, this group also includes adolescents who meet criteria for a mental disorder.	An adolescent was considered to have met DSM-5 criteria for a mental disorder if all required symptoms (i.e., 'full threshold symptoms') and a level of impairment due to these symptoms were endorsed. This diagnosis followed standard scoring algorithms which were provided by the DISC-5 authors.
Terminology for different types	Depression	Major depressive disorder
	Anxiety	Anxiety disorders
	Posttraumatic stress	PTSD
	Conduct problems	Conduct disorder
	Problems with inattention and/or hyperactivity	ADHD

Findings

Mental health problems

One-fifth of adolescents (21.7%) reported a mental health problem in the past 12 months (Table 6). No difference in prevalence was seen between males and females, or younger (10-13 years) and older (14-17 years) adolescents.

Table 6. *12-month prevalence of mental health problems among 10-17-year-olds by sex and age group*

Mental health problems	10-13 years		14-17 years		10-17 years	
	%	n	%	n	%	n
Males	21.4	357	20.2	292	20.8	649
Females	20.2	302	25.3	350	22.6	651
Total	20.8	659	22.7	462	21.7	1,301

Weighted N: males = 3,119; females = 2,877; 10-13 years = 3,167; 14-17 years = 2,829

As shown in Figure 1, anxiety had the highest prevalence (18.6%) of any mental health problem.

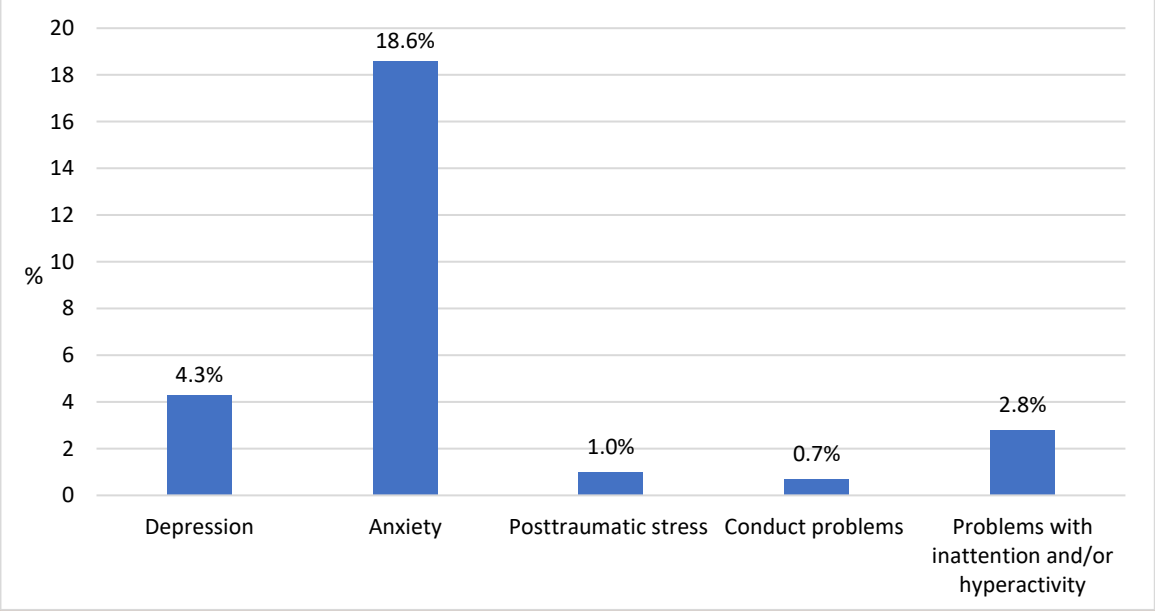


Figure 1. *12-month prevalence of mental health problems among 10-17-year-olds by type*

Adolescents with a mental health problem were then further analysed to determine the proportion reporting impairment due to their symptoms in combination with the proportion reporting full threshold versus subthreshold symptoms. Symptom thresholds were based on DSM-5 criteria whereby subthreshold symptoms indicate at least half of the required symptoms were met while full threshold symptoms indicate that all required symptoms were met. This meant that adolescents with a mental health problem were categorised into one of the four groups shown in Figure 2 below (noting that full threshold symptoms with impairment equate to those meeting criteria for a mental disorder). As shown in Figure 2, most adolescents with a mental health problem reported some level of impairment due to their respective symptoms, whether endorsing all symptoms required for a diagnosis according to DSM-5 (3.3%) or at least half of required symptoms (10.3%).

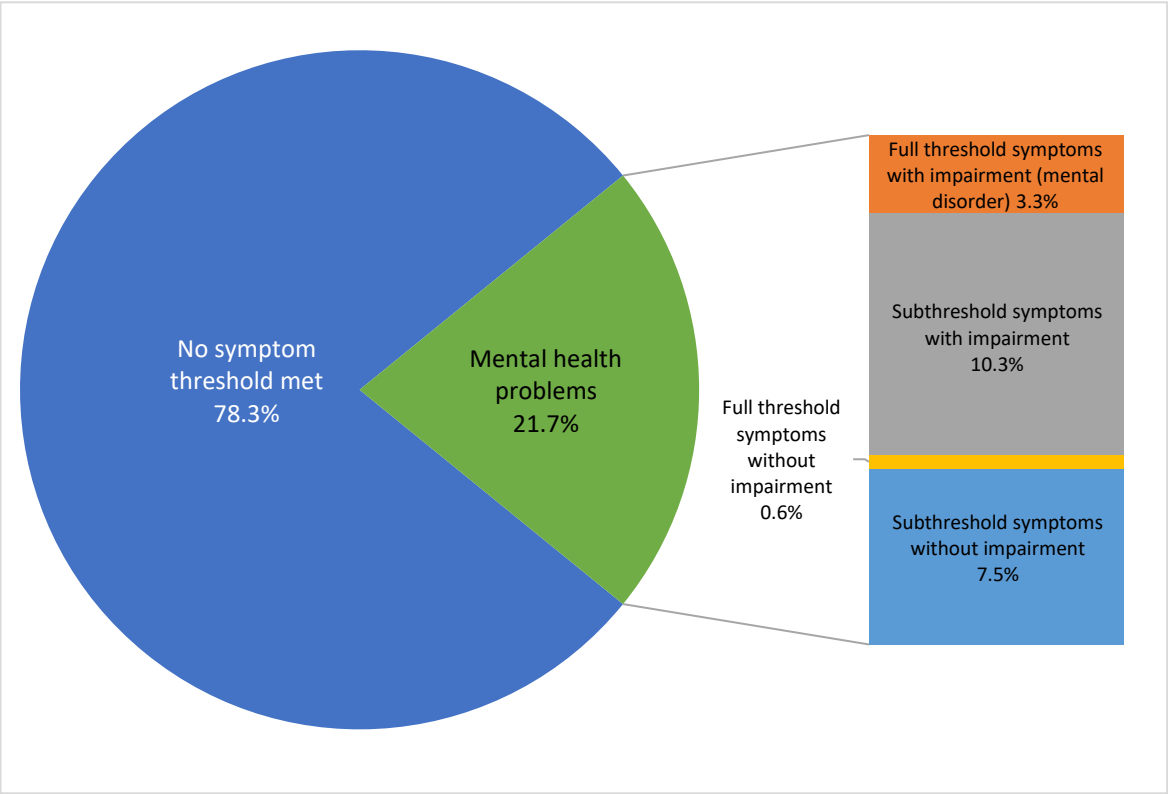


Figure 2. *12-month prevalence of mental health problems by symptom threshold and impairment endorsement among 10-17-year-olds*

The DISC-5 assessed impairment caused by symptoms (as required for DSM-5 diagnosis) across four domains: family (problems with relationships with caregivers, difficulties spending time with family), peer (difficulties spending time with peers), school or work (difficulties with school or work), and personal distress. Impairment in more than one domain could be endorsed. Of those reporting impairment (n = 819), two-thirds (67.0%) reported impairment in the family domain, while nearly half reported impairment in relation to peers (47.0%) and school/work (45.4%) (Table 7).

Table 7. *12-month prevalence of mental health problems among 10-17-year-olds endorsing impairment by impairment domain*

Impairment domain	%	n
Family	67.0	549
Peers	47.0	384
School or work	45.4	371
Personal distress	34.6	284

Weighted N = 819

Mental disorders

DSM-5 diagnostic criteria for any mental disorder were met by 3.3% of adolescents (n = 200), with less than 1% (0.6%; n = 38) having two or more mental disorders in the past 12 months. No difference in prevalence was seen between males (3.3%) and females (3.4%), or younger (2.9%) and older (3.9%) adolescents. As shown in Table 8, anxiety disorders had the highest prevalence (2.3%).

Table 8. *12-month prevalence of mental disorders among 10-17-year-olds by type*

Mental disorders	%	n
Anxiety disorders*	2.3	135
Major depressive disorder	0.9	51
ADHD	0.5	29
PTSD	0.3	19
Conduct disorder	0.2	12

** Prevalence of anxiety disorders was significantly higher than all other mental disorders*

Of those with any mental disorder, impairment in the family domain was again the highest with close to three-quarters reporting impairment in this domain (Table 9).

Table 9. *12-month prevalence of mental disorders among 10-17-year-olds by impairment domain*

Impairment domain	%	n
Family	74.2	149
Peers	63.3	127
School or work	64.1	128
Personal distress	51.8	104

Weighted N = 200

Suicidal behaviours and self-harm

Few adolescents reported suicidal behaviours in the past 12 months. Among the whole sample, in the past 12 months, 1.4% reported suicidal ideation, 0.4% reported making a suicide plan, and 0.2% reported attempting suicide. Only 1.6% reported ever attempting suicide. However, as shown in Table 10, over 70% of those who reported a suicidal behaviour (ideation, planning, and/or attempt) in the past 12 months had a mental health problem.

Table 10. *Suicidal behaviours among 10-17-year-olds*

	Suicidal ideation in past 12 months		Suicide planning in past 12 months		Suicide attempt in past 12 months		Suicide attempt ever	
	%	n	%	n	%	n	%	n
Mental health problem	73.5	61	83.7	19	77.4	8	73.5	70
Mental disorder	30.8	26	46.6	11	61.3	7	28.1	27

Weighted N: suicidal ideation (12m) =83; suicide planning (12m) =23; suicide attempt (12m) =11; suicide attempt (ever) =96

Similarly, only a relatively small proportion (4.7%) reported having ever self-harmed, with just over 1% reporting having self-harmed in the past 12 months (Table 11). However, more than three-quarters (76.3%) of those adolescents who self-harmed in the past 12 months had a mental health problem.

Table 11. *Self-harm among 10-17-year-olds*

	Self-harmed in past 12 months		Ever self-harmed	
	%	n	%	n
Mental health problem	76.3	50	64.5	182
Mental disorder	29.0	19	20.9	59

Weighted N: self-harm (12m) = 66; self-harm (ever) = 283

Considerations

Interpretation

V-NAMHS found that poor mental health is a common health issue among adolescents. One in five adolescents (21.7%) had a mental health problem in the past 12 months, with one in thirty (3.3%) meeting criteria for a mental disorder. In terms of comparison, there are few studies that have utilised diagnostic measures to measure the prevalence of mental disorders among the general adolescent population in Viet Nam. Overcoming such methodological limitations is a core feature of V-NAMHS and, as such, direct comparison to existing studies is challenging given fundamental differences in methodology. For example, the finding that 21.7% adolescents participating in V-NAMHS had a mental health problem in the past 12 months (i.e., those endorsing at least half of the symptoms required for a mental disorder diagnosis) falls within the range of a previous literature review which found prevalence of mental health problems ranging from 8% to 29% (Samuels et al. 2018). However, meaningful comparison between different measures is limited and no comparable study was found with which to compare the finding of 3.3% prevalence of mental disorders. The lack of existing comparable studies demonstrates the significant evidence gap addressed by V-NAMHS, as well as the importance of utilising comprehensive measures across a nationally representative sample to better understand the prevalence of mental disorders in the adolescent population.

Adolescents who reported suicidal behaviour or self-harm in the past 12 months were more likely to be those with a mental health problem. However, the overall prevalence of suicidal behaviours and self-harm found in V-NAMHS were somewhat lower than what has been reported in previous studies. For example, the 2019 Global School-based Student Health Survey (GSHS) in Viet Nam found 15.6% of adolescents aged 13-17 years reported suicidal ideation in the past 12 months, with a further 3.1% reporting having attempted suicide in the past 12 months (World Health Organization, Ministry of Health and Ministry of Education and Training 2022). However, the GSHS utilises a self-administered questionnaire within a school-setting. It is therefore possible that stigma around these suicidal behaviours may partly account for the lower prevalence seen in V-NAMHS where suicidal behaviour questions were administered by an interviewer. Further, the findings of the GSHS are substantially higher than other related findings in Viet Nam. For example, a large study of 6,191 15-24 year-olds in Hanoi reported 12-month prevalence of suicidal ideation of 2.3%, with less than 1% endorsing having attempted suicide in the past 12 months (Blum, Sudhinaraset and Emerson 2012). Again, the authors reported that sensitive questions were self-administered by participants. Also, the question regarding suicidal ideation conflated thoughts of suicide with self-harm, and suicidal planning was not included as a separate category. This may further explain the comparatively higher prevalence than what was seen in V-NAMHS.

Limitations

While V-NAMHS was intentionally designed to address the methodological limitations of existing studies, some aspects of the V-NAMHS methodology may have impacted the reported prevalence. For example, interviews were administered face-to-face by a trained interviewer. It is possible that the stigma associated with mental health problems and general lack of awareness about mental health in the community impacted participant willingness to disclose information despite comprehensive interviewer training, privacy being a requirement of the interview, and all participants being advised that collected data would be anonymous. A similar issue may have been present with the reporting of suicidal behaviour and self-harm, given that these behaviours are often stigmatised as undesirable and adolescents may be reluctant to report it to an interviewer, resulting in lower prevalence than studies using self-administered questionnaires (Blum, Sudhinaraset and Emerson 2012, Hoàng Thế Hải and Bùi Thị Thanh Diệu 2021, United Nations Children's Funds (UNICEF) and Overseas Development Institute (ODI) 2018, World Health Organization, Ministry of Health and Ministry of Education and Training 2022).

A further challenge may relate to the definitions of mental disorders according to the DSM-5, which is what the DISC-5 is based on. The DSM-5 was developed by the American Psychiatric Association and largely includes Western-based diagnostic criteria (American Psychiatric Association 2013) which

may not account for cultural differences in how mental health is described, experienced, or expressed in a Vietnamese population. For example, Kim et al. (2019) found that somatic symptoms predicted anxiety and depressive symptoms in both Vietnamese and Vietnamese-American adolescents but not for European-American adolescents (Kim et al. 2019). It is therefore possible that the symptoms examined by the DISC-5 (as based on DSM-5 diagnostic criteria) do not sufficiently account for mental health-related somatic symptoms within a Vietnamese context.

To address these challenges, substantial efforts were made to adapt the DISC-5 for use in the Vietnamese setting within the confines of the diagnostic requirements of DSM-5. This included careful translation of the entire V-NAMHS instrument (including the DISC-5), back-translation, and review of back-translations by the NAMHS teams. Revisions were also made based on feedback from participants in initial trainings and based on a review of translations by in-country clinicians. The aim was to ensure that the language of the instrument (including grammar, idioms, and examples of behaviours) was adequately adapted to the Vietnamese context while still measuring the same concepts as originally intended. Changes were also made in response to the pilot study (further described under Methodology in Appendix 2) and revision continued throughout 2019 and 2020. Finally, to better understand the potential interplay between cultural differences in mental health and the diagnostic requirements of the DSM-5, both 'mental health problems' and 'mental disorders' have been included in this report. This allows a more comprehensive understanding of the mental health of the Vietnamese adolescent population beyond the requirements for diagnosis established by the DSM-5.

Implications

The prevalence of poor mental health uncovered by V-NAMHS indicates that mental health is a public health issue that requires that attention of policymakers and planners in Viet Nam. The data from V-NAMHS provides a foundational evidence base for such policy and health initiatives. For example, most adolescents were currently attending school meaning that implementation of specific screening and management strategies, integrated with mental health promotion activities, within the school setting could be one vehicle to reduce the prevalence and potential impact of these symptoms on the health and wellbeing of Vietnamese adolescents. Furthermore, anxiety had the highest prevalence of any mental health problem. Targeted health promotion campaigns focusing on improving understanding of anxiety, identifying symptoms, and how to seek help may provide a pathway to improving mental health for a large portion of the Vietnamese adolescent population who experience mental health problems. In addition, while the reported prevalence of suicidal behaviours among adolescents was low, it nevertheless calls for policy attention and actions to minimise the risk when the question is of life and death. Suicidal ideation often occurs over a period of time before a plan is made or a suicide attempt occurs (Wasserman et al. 2008). Therefore, early detection and support services for those experiencing suicidal ideation, including through identification of mental health problems, may help to avoid eventual suicidal attempts.

More broadly, the findings of V-NAMHS highlight the need for a national mental health policy which considers adolescents and includes specific strategies for their mental health within schools and the community more broadly. Recently, the Ministry of Education and Training issued Decision 1442/QD-BGDDT on June 1, 2022 (Promulgating the Mental Health Education Program for Children and Students in the period 2022-2025) and Decision No. 2138/QD-BGDDT on August 3, 2022 (Promulgating the Mental Health Education Plan for Children and Students for the Period 2022-2025) (Bộ Giáo dục và Đào tạo 2022a, Bộ Giáo dục và Đào tạo 2022b). While these decisions demonstrate a broad recognition of adolescent mental health within the education sector, a national comprehensive policy framework is needed to address mental health needs of adolescents including those who are in school as well as those who are not in school, and including participation the health sector and other relevant sectors as well as the education sector. Positive action for adolescent mental health has the potential to offer current benefits (i.e., benefits experienced now by offering alleviation of symptoms and improved ability to function optimally in everyday life), long-term benefits (i.e., benefits in adulthood through potentially avoiding or minimising adverse outcomes associated with mental health), as well as potential benefits for the next generation by having mentally well parents and growing up in a society with established mental health policies (Patton et al. 2016).

Service Use

Overview

The onset of mental disorder symptoms tends to occur during adolescence (World Health Organization 2014), offering a unique opportunity to provide early intervention and adolescent-tailored mental health services (Colizzi, Lasalvia and Ruggeri 2020). Effective treatment and support can decrease or resolve symptoms and improve functioning, while early positive experiences accessing mental health care is likely to promote future help-seeking behaviours, reducing burden on the individual and the health system into adulthood (Schnyder et al. 2019). Collecting information on service use patterns can help identify gaps in service delivery, inform whether existing mental health services are appropriate and accessible, and address barriers to care. This is especially important for adolescents who face unique challenges in accessing care due to family pressure, peer influence, and difficulties in paying for services (Person, Hagquist and Michelson 2017, World Health Organization 2014) . An understanding of what challenges are most pertinent to adolescents allows direct action to be taken to reduce barriers to improve service utilisation and care outcomes for those with mental health problems or mental disorders.

In Viet Nam, there have been recent attempts to increase access to mental health services by the Government. For example, the Prime Minister issued Decision 1929/QD-TTg dated November 25, 2020 (Thủ tướng Chính phủ 2020) which approved community-based social assistance and rehabilitation programs for people with mental disorders for the period 2021-2030. However, adolescents are only mentioned as one of many subpopulations and the only focus on young people specifically mainly relating to children with autism. More recently, the Prime Minister issued Decision 155/QĐ-TTg dated 29 January 2022 (Thủ tướng Chính phủ 2022) which approved the "National Plan for the Prevention and Control of Non-Communicable Diseases and Mental Health Disorders for 2022-2025". While one of the goals of the Plan is to manage treatment at the population level to limit any increase mental disorders, the focus remains on schizophrenia and depression without attention to adolescent-specific strategies or other disorders prevalent during adolescence (Thủ tướng Chính phủ 2022). Despite increasing recognition of mental health within Viet Nam more broadly, there is still a significant lack of services, particularly in rural areas as compared to urban areas, with access further impacted by an individual's socioeconomic status (Samuels et al. 2018).

Among adolescents, these challenges are further exacerbated with most available mental health services largely functioning to accommodate adults with severe mental illness and complex requirements, such as schizophrenia (Cao Tiến Đức 2020). As a result, there is a significant lack of mental health services for adolescents, especially for those who experience impairment and distress from mental disorder symptoms but do not require intense intervention.

One of the main aims of V-NAMHS was to determine mental health service utilisation among Vietnamese adolescents, as well as levels of perceived need and barriers to care. This chapter outlines the measurement of service use and its related factors in V-NAMHS and presents the findings. All proportions and numbers presented in this chapter are weighted. While tests of statistical significance are not included in this chapter or the report more broadly, differences that are statistically significant have been highlighted in the relevant table and only differences which are statistically significant are discussed in text. Finally, considerations related to the interpretation of these findings and implications for policymakers are briefly discussed.

Measurement

Service use questions were asked to all participants, regardless of whether any mental disorder symptoms had been endorsed. To understand whether services had been accessed to support the adolescent's mental health, the term 'emotional and behavioural problems' was used to frame each service use question. This term was chosen to reduce any stigma or potential impact from a limited understanding of mental health terms. Additionally, 'emotional and behavioural problems' accounts for the broad range of ways that mental disorder symptoms can manifest, which can differ across age groups and cultural settings. This approach is consistent with similar studies of mental health and service use (Hafekost et al. 2016). Further, V-NAMHS recognised that the services used may include providers beyond formal healthcare services. For this reason, a broad range of service providers were included in the measures across health, education, religious/traditional, and other sectors. All questions related to the past 12 months, and all were asked to the parent, except for informal support and self-help strategies which were asked of the adolescent.

Findings

Service use frequency and type

Of those adolescents with a mental health problem (n = 1,301), only 8.4% had used any service that provides support or counselling for emotional and behavioural problems in the past 12 months. Overall, only 6.5% (n = 389) of adolescents had used services in the past 12 months, with no difference seen between males (7.4%; n = 231) and females (5.5%; n = 158). Of those adolescents who used services, most parents reported that these were helpful or very helpful (80.0%).

Regarding how often services were used in the past 12 months, Table 12 shows half (50.8%) of these adolescents had only used services once, while a quarter (26.2%) had used services two to four times. Very few (3.4%) adolescents had accessed services five or more times.

Table 12. *Frequency of accessing services providing support or counselling for emotional and behavioural problems in the past 12 months among 10-17-year-olds by sex*

Sex	Once		2-4 times		5 or more times	
	%	n	%	n	%	n
Male	47.2	109	26.3	61	4.5	10
Female	56.0	89	26.2	41	1.7	3
Total	50.8	198	26.2	102	3.4	13

Weighted N: males = 231; females = 158; total = 389

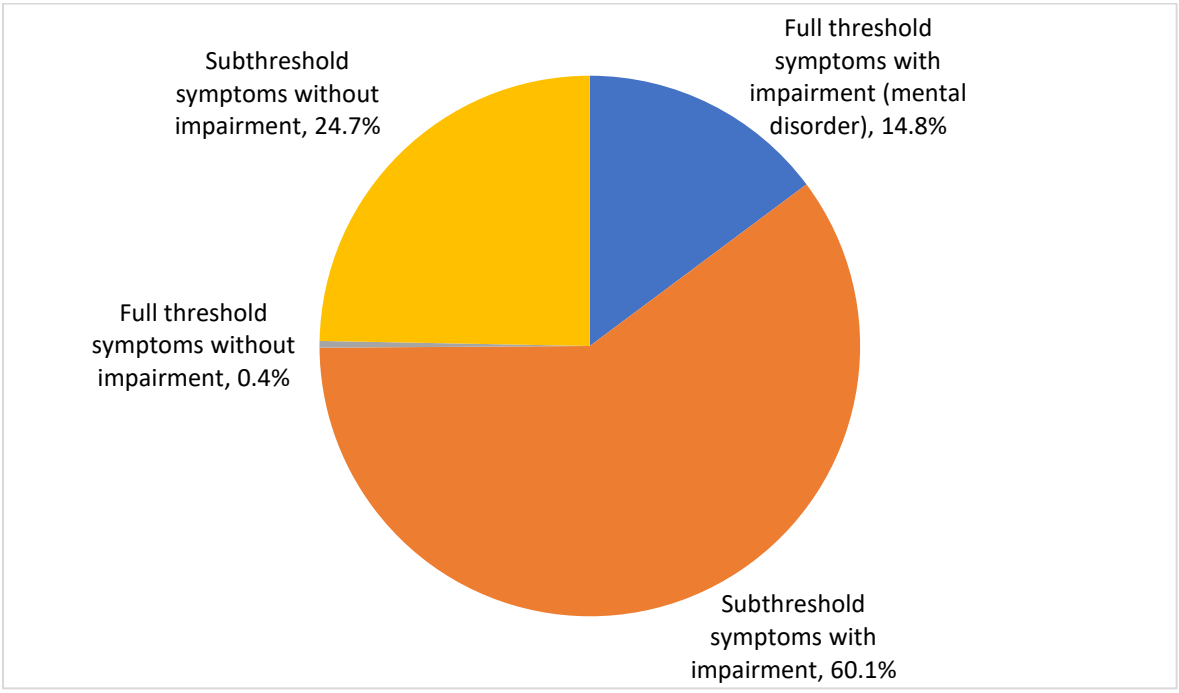
When asked which service provider was used most in the past 12 months, over half of parents (56.2%) whose adolescent accessed services in the past 12 months reported that this was from a doctor or nurse (Table 13).

Table 13. *Service provider used most for emotional and behavioural problems in the past 12 months among 10-17-year-olds*

Type of service provider	%	n
Doctor or nurse	56.2	219
Community health worker	10.7	42
School staff	5.5	22
Religious/faith leader	4.5	17
Specialist e.g., psychiatrist	1.4	5
Other	0.3	1
Traditional healer	0.1	0

Weighted N = 389

Of those who had accessed services, 28.1% had a mental health problem in the past 12 months meaning that over 71.9% did not report sufficient symptoms to indicate the presence of a mental health problem according to the DISC-5. As shown in Figure 3, adolescents with a mental health problem who did access services were more likely to report impairment than not, regardless of whether they endorsed full threshold (14.8%, n= 16) or subthreshold (60.1%, n = 66) symptoms.



Weighted N = 109

Figure 3. *Symptom threshold and impairment endorsement among 10-17-year-olds with a mental health problem using services in the past 12 months.*

Perceived need and barriers to care

Among all parents, only 5.1% (n = 307) identified that their adolescent needed help for emotional and behavioural problems. Among those identifying that their adolescent needed help, 37.7% (n = 116) reported that their adolescent had received all the help they needed. As shown in Table 14, one-fifth of parents (20.4%) reported preferring to manage the adolescent's problem alone or with the

support of family while one in ten reported not knowing whether the adolescent needed help (10.7%) and/or that they did not know where to get help (10.0%). Note that the parent was able to endorse multiple options except for those who indicated that none of the listed reasons applied.

Table 14. *Barriers to seeking help or receiving help for emotional and behavioural problems in the past 12 months among parents of 10-17-year-olds*

Reason	%	n
Preferred to handle adolescent's problems alone or with the support of family	20.4	63
Wasn't sure if adolescent needed help	10.7	33
Wasn't sure where to get help	10.0	30
Thought the problem would get better by itself	5.8	18
Wasn't anywhere to get help	3.8	12
It cost too much or our family couldn't afford it	2.7	8
None of these reasons (other)[a]	2.4	7
There was a problem getting to a service	2.0	6
Worried about what other people would think	1.3	4
Didn't want to talk about it with a stranger	1.3	4
Adolescent refused help or didn't attend the appointment	0.7	2
Asked for help but didn't get it	0.6	2

Weighted N = 307; a single choice option only

Informal support

All adolescents were asked who they usually speak to when they have worries or concerns. They were able to select more than one option except for those who endorsed not speaking to anyone (9.5%). Among those who indicated that they did speak with someone, close to three-quarters (73.9%) of adolescents endorsed speaking to a family member, followed by close to two-fifths who reported speaking to a friend (38.2%) (Table 15).

Table 15. *Person spoken to when having worries or concerns among 10-17-year-olds*

Who the adolescent usually talks to when they have worries or concerns	%	n
Family member	73.9	4,429
Friend	38.2	2,288
Teacher	2.9	176
Partner (boyfriend/girlfriend)	2.3	137
Community member	1.6	94
Other	1.0	60
Doctor	0.5	31
Religious/faith leader	0.4	22

Self-help strategies

All adolescents were asked about their strategies for managing and preventing emotional and behavioural problems over the past 12 months. Adolescents could choose more than one option except when reporting that they did not use any self-help strategies (11.7%). Table 16 shows 30.7% endorsed engaging in more exercise while a quarter (24.8%) stated they did more of the things they enjoyed.

Table 16. *Self-help strategies used to manage or prevent emotional and behavioural problems among 10-17-year-olds*

Self-help strategy	%	n
Did more exercise or took up a sport	30.7	1,839
Did more of the things you enjoy	24.8	1,490
Sought support from family	19.2	1,149
Sought support from friends	17.7	1,060
Improved your diet	14.7	884
Sought information in books, magazines or on TV	9.0	538
Sought support through social networking such as online chat rooms, social media or other internet groups	6.9	416
Joined a social group of some kind	1.7	104
Meditated or did relaxation therapy	1.6	97
Stopped smoking, drinking alcohol or using drugs	0.2	14

Considerations

Interpretation

The findings indicate a potentially large unmet need for mental health services for adolescents in Viet Nam. Of adolescents with a mental health problem (21.7%; n = 1,301), only 8.4% (n = 109) had used any service that provides support or counselling for emotional and behavioural problems in the past 12 months. This finding is in line with international surveys that indicate that most people in low- and middle-income countries (LMICs) with mental disorders do not receive treatment (Demyttenaere et al. 2004).

The findings around barriers to care may provide some clues as to why service access was low amongst those with mental health problems. Only 5.1% (n = 307) of parents indicated that their adolescent needed help for emotional and behavioural problems during the past 12 months. Of those who did, close to two-fifths (37.7%) reported that their adolescent had received all the help they needed with a further 20.4% preferring to handle their adolescent's problems alone or with the support of family. While it is possible that some adolescents did receive sufficient help, these findings may indicate an issue with mental health literacy, particularly in relation to recognising mental health problems which may need professional help. This is supported by previous studies in Viet Nam (Hoang-Minh Dang et al. 2020). There may also be an effect of stigma surrounding mental health whereby the likelihood of seeking help for mental health problems is reduced. Previous research has found existing stigma of mental health among Vietnamese populations impacts help-seeking behaviours (Kamimura et al. 2018, Mai Do et al. 2014).

Conversely, only 28.1% of those accessing services had a mental health problem. This means that 71.9% of those who accessed services for emotional and behavioural problems did not report sufficient symptoms to indicate a mental health problem as measured by the DISC-5. This finding is difficult to interpret, given the small proportion of adolescents seeking services to begin with (6.5%; n = 389). It is possible that a proportion of these adolescents received sufficient help from these services to reduce symptoms to the point of no longer registering as having a mental health problem. However, given that the DISC-5 measures symptoms over the past 12 months and given the fact that half of these adolescents only accessed services once, it seems unlikely that this would be the case in all instances. It is also possible that some of these adolescents did have a mental health problem but did not register as such based on the symptoms assessed in the DISC-5 or that the concept of what constitutes an 'emotional and behavioural problem' was not as well correlated to a mental health-related problem as intended by the questions. Further, despite all efforts made to adapt the DISC-5 to the Vietnamese context, it is possible that the DSM-5-based scoring algorithms (i.e., how those

with a mental health problem or mental disorder are identified) may need further review to accurately capture the different symptom distributions within the Vietnamese population. The data provided by V-NAMHS allow for such investigation in future analyses.

Limitations

The V-NAMHS findings regarding service use for emotional and behavioural problems should be interpreted with some caution. First, the small number of adolescents accessing services for emotional and behavioural problems (n = 389) makes it difficult to identify clear patterns in service use (e.g., frequency or presence of a mental health problem). However, these findings are a starting point and, at the broadest level, demonstrate the unmet need and barriers to care among the Vietnamese adolescent population. Second, most questions were asked of parent rather than the adolescent due to considerations relating to the potential length of the interview. This means that the adolescent's perspective, particularly regarding barriers to care, is not measured. However, given that most adolescents reported speaking to a family member when they have worries or concerns, the parent's role as 'gatekeeper' to accessing mental health services indicates that they are well-placed to provide information on barriers to care that are most pertinent to policymakers. Further, the service use questions asked of the parent could be easily adapted to adolescent respondents in future studies.

Implications

V-NAMHS found a potentially large unmet need for services, with less than 10% of those with a mental health problem accessing services in the past 12 months. However, the findings also highlight opportunities for improving the propensity of adolescents and their families to seek help for mental health problems. For example, the findings showed that parents and families are a central source of support for adolescents. Close to three-quarters of adolescents (73.9%) reported that they speak to a family member when they have worries or concerns. This is in line with previous research from Viet Nam that also found young people were most likely to seek help for mental health problems from family and friends (Kamimura et al. 2018, Truc Thanh Thai, Ngoc Ly Ly Thi Vu and Han Hy Thi Bui 2020). However, in V-NAMHS, only 5.1% of parents identified that their adolescent needed help for emotional and behavioural problems in the past 12 months despite 21.7% of adolescents having a mental health problem during the same period. Of those, well over a third (37.7%) reported that their adolescent received all the help they needed and an additional 20.4% reported not accessing help because they preferred to handle their adolescent's problems themselves or with the help of family. The combination of the parent and adolescent data demonstrate that strategies specifically designed to improve mental health literacy, reduce mental health-related stigma, and increase awareness of available services among families may be a prudent step. Such programs could focus on ensuring parents feel better equipped to handle worries or concerns presented by an adolescent while, at the same time, educating them on indicators of mental health problems, where to seek help for such problems, and the benefits of doing so for both their adolescent and their family more broadly. There is a burgeoning evidence-base for adapting mental health literacy programs for Viet Nam (Hoang Minh Dang et al. 2018, Nga Linh La et al. 2022, Thach Tran et al. 2020). The issue of low mental health literacy and substantial stigma surrounding mental health within Viet Nam is evidenced by existing studies reporting perspectives from both the general population (Kamimura et al. 2018, Mai Do et al. 2014, Mckelvey et al. 1999, Quynh Chi Nguyen Thai and Thanh Huong Nguyen 2018, Truc Thanh Thai, Ngoc Ly Ly Thi Vu and Han Hy Thi Bui 2020) and mental health professionals (Hoang-Minh Dang et al. 2020), noting that evidence specific to adolescents and their families is still limited.

Any improvements to help-seeking behaviour among adolescents and their families must also be met by equivalent improvements to service availability. Again, the findings of V-NAMHS highlight opportunities for initial steps towards such improvements. For example, of those who accessed services for emotional and behavioural problems in the past 12 months, over half (56.2%) did so from more formal health providers such as a doctor or a nurse. As such, there may be an opportunity to incorporate mental health screening into existing general health services while also providing education and training on mental health and referral pathways for general health practitioners. For example, to facilitate the integration of mental health care services into primary health services, WHO

published the mhGAP Intervention Guide (mhGAP-IG version 1.0 published in 2010; version 2.0 published in 2016) for mental, neurological and substance use disorders in non-specialist health settings for use by doctors, nurses, other health workers as well as health planners and managers (World Health Organization 2016). The feasibility and usefulness of integrating mental health care services into primary and community-based settings have been demonstrated within several LMICs (Keynejad, Spagnolo and Thornicroft 2022). The mhGAP guidelines provide a foundation for the implementation of such policies and practices within Viet Nam that can be used to further facilitate and support the services that adolescents and their families are seeking for mental health support. Integrating mental health practices into primary care providers will help to utilise the findings of V-NAMHS by providing formal healthcare providers with adequate training and resources to provide mental health support. It should be noted that any such efforts require the recognition of mental disorders through appropriate policies and strategies designed to guide improved resource allocation for adolescent mental health.

COVID-19

Overview

The first case of COVID-19 was detected in Viet Nam in January 2020. A National Steering Committee was then established to manage the Government's response to the COVID-19 pandemic. The Government initiated formal quarantine procedures and strict measures to prevent the spread of COVID-19 including banning public gatherings, enforcement of movement restrictions, and mandatory face masks in public places. A nationwide lockdown was initiated from April 2020 where people were required to stay home, and businesses and schools were closed. After the national lockdown, local lockdowns at the provincial level continued. Viet Nam saw a peak of COVID-19 cases in September 2021 with more than 10,000 new cases per day. In 2022, given the high COVID-19 vaccination rates, the Government relaxed lockdown and isolation measures across the country (Bộ Y tế 2022, Chính phủ 2022).

Globally, the COVID-19 pandemic impacted the lives of adolescents through the enforcement of containment measures (including school closures) leading to social isolation, lack of daily routines, and household stress. Emerging evidence has shown an association between the COVID-19 pandemic and higher rates of anxiety, depression, and stress (Jones, Mitra and Bhuiyan 2021). Understanding how COVID-19 may have affected adolescent mental health is necessary for future pandemic preparations and for providing the supports young people need to address what some are referring to as "a lost generation" (Hafstad and Augusti 2021). Currently, there is a lack of nationally representative data from either adolescents or their parents on how the COVID-19 pandemic has impacted their lives in the context of mental health and wellbeing. This chapter outlines how elements of the COVID-19 pandemic most pertinent for V-NAMHS were measured and reports key findings. All proportions and numbers presented in this chapter are weighted. While tests of statistical significance are not included in this chapter or the report more broadly, differences that are statistically significant have been highlighted in the relevant table and only differences which are statistically significant are discussed in text. Considerations related to the interpretation of these findings and their implications for policymakers in the context of mental health are then briefly discussed.

Measurement

The COVID-19 questions focused on factors most likely to be associated with mental health as per the core aim of V-NAMHS. These questions were not intended nor designed to be a comprehensive measure of all experiences during the COVID-19 pandemic. The questions were specifically designed for the survey, initially based on a review of relevant literature and then in consultation with all five international NAMHS teams. Questions were asked to both the parent and the adolescent and related specifically to experiences during the pandemic.

Both the parent and the adolescent were first asked if they had heard of COVID-19. Those who had were then asked a series of questions related to their experiences during the COVID-19 pandemic. The parent was asked questions about their direct contact with COVID-19, quarantine, stigma, economic impacts on the household (including any change in household income and insufficient funds for necessities), and changes to their own alcohol and illicit drug use. The parent was also asked about their adolescent's need for help with emotional or behavioural problems during the COVID-19 pandemic, whether they used services for these problems during the pandemic, and what barriers related to COVID-19 stopped them from getting help for their adolescent (if applicable).

The adolescent was asked about whether they permanently stopped going to school during the COVID-19 pandemic. They were also asked about different experiences during the pandemic including witnessing violence between adults in the household, alcohol and illicit drug use by adults in the household, and their own alcohol and illicit drug use. Finally, adolescents were asked about increases in specific emotional and behavioural problems during the COVID-19 pandemic and if they had someone to talk to while experiencing these problems.

Findings

As shown in Table 17, 7.7% of adolescents reported often experiencing at least one emotional or behavioural problem more than usual during the COVID-19 pandemic, with no differences between males and females.

Table 17: *Proportion often experiencing emotional and behavioural problems more than usual during the COVID-19 pandemic among 10-17-year-olds by sex*

	Male		Female		Total	
	%	n	%	n	%	n
More anxious or stressed	5.2	162	4.9	141	5.1	304
Sadder or more depressed	3.6	112	3.7	106	3.6	218
More problems concentrating	2.7	85	1.9	55	2.3	140
More lonely or isolated	2.2	70	1.5	42	1.9	112
Total (increase in any problem)	8.2	254	7.3	209	7.7	463

Weighted N: males = 3,119; females = 2,877

A total of 7.1% (n = 427) of parents reported that their adolescent needed help for emotional and behavioural problems during the COVID-19 pandemic. Of those, 80.3% (n = 343) did not access services during the pandemic and most reported that this was due to fear of contracting COVID-19 (69.2%; n = 237), noting that parents could endorse more than one reason for not accessing services during this time.

Figure 4 shows the proportion of adolescents endorsing different experiences during the COVID-19 pandemic and the proportion who reported that this was an increase compared to before the pandemic. While close to 10% of adolescents reported an adult in the household drinking alcohol

or using illicit drugs during the pandemic, less than 1% (0.5%) of the entire adolescent sample reported that this was an increase as compared to before the pandemic. Over two-thirds of parents (71.5%) reported a decrease in household income during the COVID-19 pandemic. Further, 12.3% stated that they often did not have enough money for necessities during the pandemic.

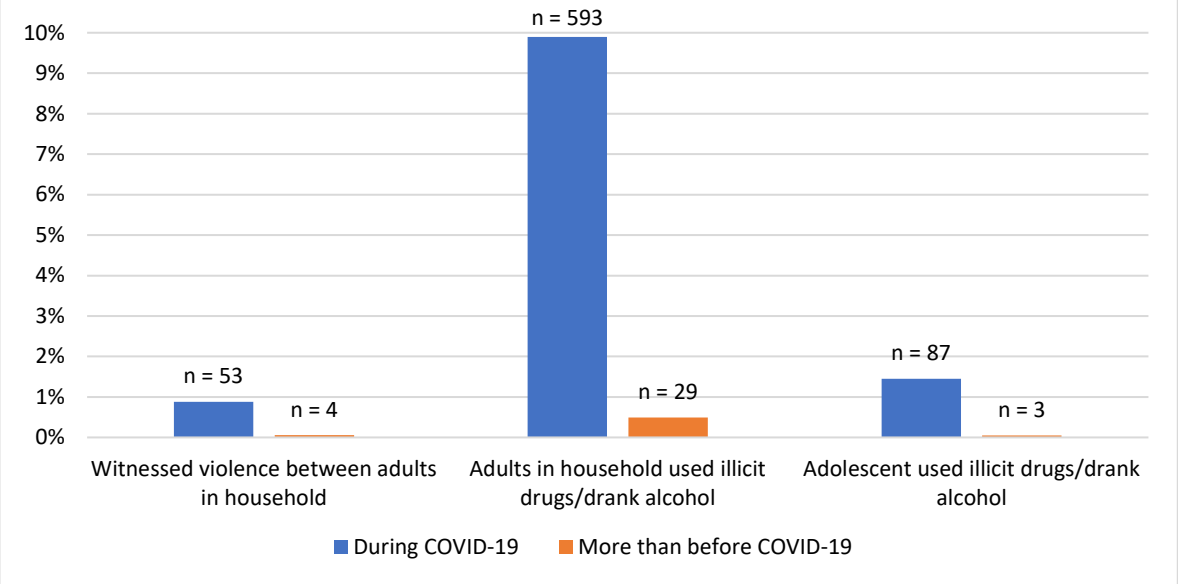


Figure 4. *Experiences during the COVID-19 pandemic among 10-17-year-olds*

Considerations

Interpretation

One in thirteen adolescents (7.7%) reported often feeling more depressed, more anxious, more isolated, or having more problems concentrating during the COVID-19 pandemic than prior to the pandemic. These findings are broadly consistent with other studies conducted in Viet Nam. For example, a rapid qualitative assessment of the impacts of COVID-19 in Viet Nam by UNICEF found an association between COVID-19 and increased levels of stress, anxiety, and depression anecdotally reported by young people (UNICEF 2020a). However, comparison is difficult as there are few quantitative studies on the impacts of COVID-19 in Viet Nam, with no such studies conducted on a larger scale. Further, while 7.1% of parents reported that their adolescent needed help for emotional and behavioural problems during the COVID-19 pandemic, 80.3% of those reported that they did not use services. This was largely due to a fear of catching COVID-19 (69.2%). Similar studies conducted in other LMICs have also reported that a considerable proportion of adolescents and young people felt that they needed help related to their physical and mental wellbeing during the COVID-19 pandemic but did not ask for help (UNICEF 2020b).

Limitations

While V-NAMHS provided a unique opportunity to assess the impacts of the COVID-19 pandemic on adolescent mental health and wellbeing, the study was not designed nor intended to comprehensively measure all aspects of the COVID-19 pandemic. Rather, the questions were designed to provide a brief 'snapshot' of the COVID-19 pandemic in the context of V-NAMHS and provide the opportunity for future analysis accounting for any impact of the pandemic. It therefore remains possible that some relevant aspects of the pandemic period were not captured. Further, there were initial concerns that fear of contacting COVID-19 may impact the response rate of V-NAMHS and potentially bias the findings. However, the eventual response rate of 81.1% indicates that this was not an issue.

Implications

The findings of V-NAMHS demonstrated that the COVID-19 pandemic had a negative impact on the mental health of adolescents in Viet Nam. These findings, coupled with those indicating an unmet need for mental health services, indicate there are improvements to be made to the policies and services that support adolescents both now, into the future, and in preparation for future pandemics/crisis situations. For example, services that are easy to access (e.g., such as phone lines or online chat services) may be a prudent approach to address the potentially large unmet need for services while also ensuring that crisis care and continuity of existing mental health care can be ensured during unforeseen circumstances. In these situations, tailored health promotion may also be useful to target adolescents who develop mental health problems in relation to specific stressors, e.g., loneliness and depression related to school closures. Adolescents who need to access services for the first time may be particularly vulnerable, and public health messaging that provides knowledge, reduces stigma, and normalises mental health may be of particular importance. Further, the reported increase in emotional and behavioural problems during the COVID-19 pandemic highlights the importance of including mental health in planning for future population-level events such as pandemics, natural disasters, and conflict.

Appendix 1: **Measures**

The measures administered to the parent and adolescent are shown below. This information was adapted from Erskine et al. (2021).

Parent

Measure	Description
Demographics	Collects demographic information pertaining to the household, adolescent, and parent. Eligibility is also assessed in this module according to the exclusion criteria detailed in the Introduction under 'Who participated in V-NAMHS'?
Chronic illness	Measures serious or chronic illness experienced by the adolescent or caregiver/s.
Pediatric Symptom Checklist – 17 (PSC-17)	Brief screening questionnaire that assesses internalising and externalising symptoms in adolescents, used to measure the parent's perspective of the adolescent's mental health.
Patient Health Questionnaire – 9 (PHQ-9)	Brief screening measure used to screen the parent's depressive symptomology.
Generalised Anxiety Disorder – 7 (GAD-7)	Brief screening measure used to screen the parent's anxious symptomology.
DISC-5: Introductory module	Establishes a timeline of significant events in the past 12 months to assist the participant with recall and instructs participants on how to answer questions in the DISC-5 modules.
DISC-5: ADHD	Measures the prevalence of ADHD in the past 12 months.
Service use	Collects information from the parent about service use, barriers to care, and perceived need for care in relation to the adolescent.
COVID-19	Measures direct contact with COVID-19, stigma, economic impact on the household, substance use by the parent, and the adolescent's service use during the COVID-19 pandemic.

Adolescent

Measure	Description
DISC-5: Introductory module	Establishes a timeline of significant events in the past 12 months to assist the participant with recall and instructs participants on how to answer questions in the DISC-5 modules.
DISC-5: Social phobia	Measures the prevalence of social phobia in the past 12 months.
DISC-5: Generalised anxiety disorder	Measures the prevalence of generalised anxiety disorder in the past 12 months.
DISC-5 major depressive disorder	Measures the prevalence of major depressive disorder in the past 12 months. Includes suicidal behaviour questions which are asked of all adolescents.
Self-harm	Measures the prevalence, age of onset, and recency of self-harm.
DISC-5: Conduct disorder	Measures the prevalence of conduct disorder in the past 12 months.
DISC-5: PTSD	Measures the prevalence of PTSD in the past 12 months.
Informal help and self-help strategies	Collects information about informal help and self-help strategies.
Self-rated health and body image	Measures the adolescent's self-rated health and body image.
Physical activity	Measures the adolescent's physical activity.
Rosenberg Self-Esteem Scale	Brief standardised measure of self-esteem.
Bullying	Measures bullying victimisation and perpetration frequency, including the mode of bullying.
School and education	Measures academic aspirations (both current and past aspirations depending on current school status), expectations, and pressure.
Peer relationships and loneliness	Collects information about the adolescent's friendships (including peer deviance) and loneliness.
GEAS Family Connectedness	Collects information about the adolescent's relationship with their parent.
Religiosity	Measure of perceived support from faith community.
Safety and security	Measures perceived personal safety in different contexts e.g., home, school, and the neighbourhood.
Sexual behaviour*	Collects information on the adolescent's sexual behaviour, sexuality, and gender identity. Only asked to adolescents aged 12-17 years old.
Adverse Childhood Experiences (ACEs) questionnaire*	Measures lifetime exposure to multiple types of abuse, neglect, violence between parents or caregivers, other kinds of serious household dysfunction, and violence.
Substance use*	Measures of use of cigarettes, alcohol, cannabis, and other illicit drugs.
COVID-19	Measures direct contact with COVID-19, education impacts, household/individual adversities, and emotional and behavioural problems during the COVID-19 pandemic.

* These modules were self-administered by the adolescent.

Appendix 2: **Methodology**

Sampling frame

The primary objective of the sampling frame for V-NAMHS was to provide statistically reliable estimates of the prevalence of adolescent mental disorders. The sample is nationally representative, including urban and rural areas.

The V-NAMHS sampling frame included all 63 provinces, consisting of 713 districts, which were divided into four regions (Northern Midlands and Mountain Areas and the Central Highlands; Red River Delta; North Central and Central Coastal Areas; and South East and the Mekong River Delta).

Table 18. *Population of Viet Nam in 2019 by regions and rural-urban areas*

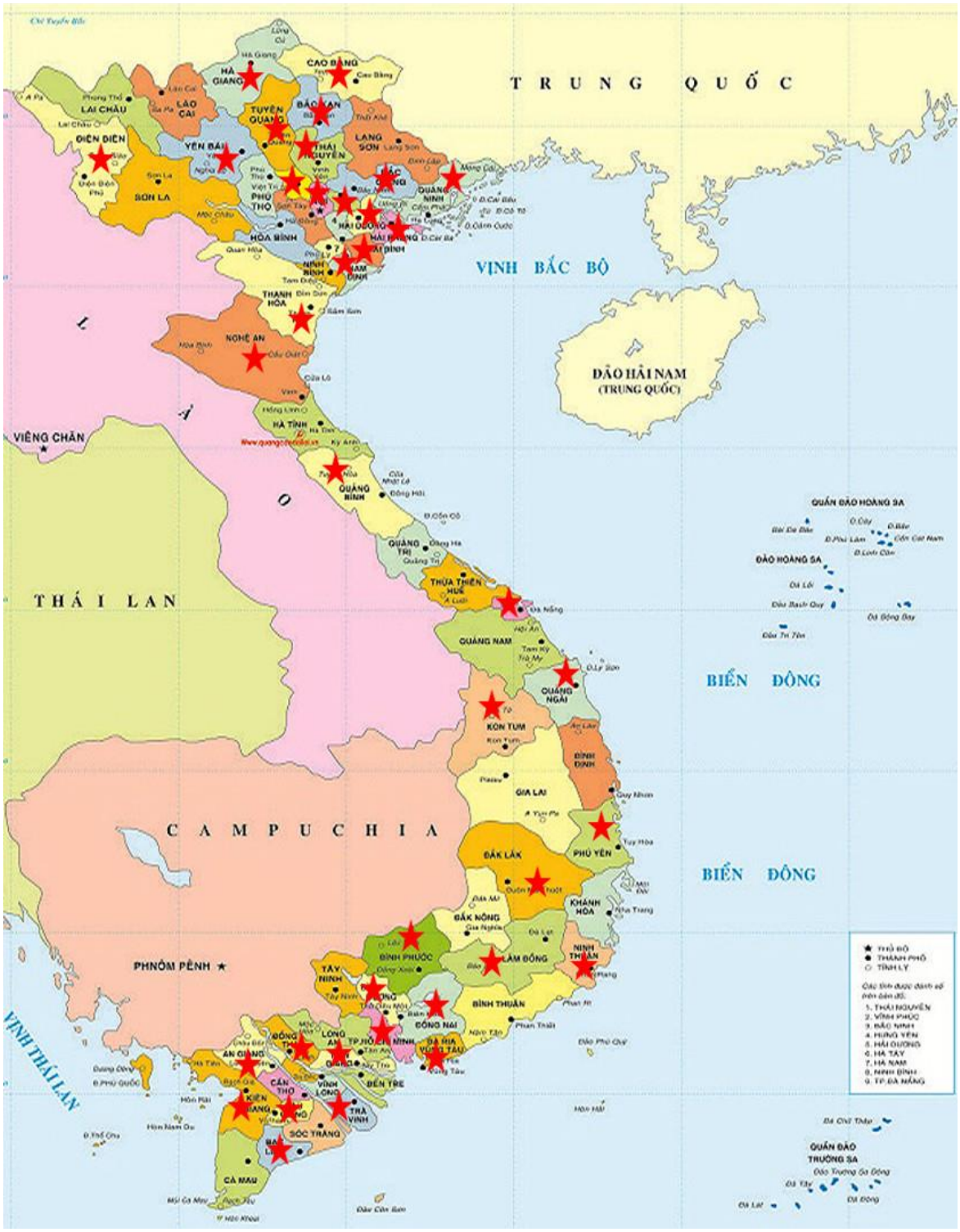
Region	Population (persons)	% of total population	Urban areas	
			Population (persons)	% of total population
Region 1: Northern Midlands and Mountain Areas + Central Highlands	18,375,547	19.1	3,957,095	21.5
Region 2: Red River Delta	22,543,607	23.4	7,856,566	34.9
Region 3: North Central and Central Coastal Areas	20,187,293	21.0	5,719,511	28.3
Region 4: South East + Mekong River Delta	35,102,537	36.5	15,526,563	44.2
Total	96,208,984	100.0	33,059,735	34.4

Source: *(General Statistical Office 2020)*

In total, 38 provinces/cities from four regions were selected for the survey (see the map in Figures 5), including:

- *Region 1*: Hà Giang, Cao Bằng, Bắc Kạn, Tuyên Quang, Điện Biên, Yên Bái, Thái Nguyên, Bắc Giang, Kon Tum, Đắk Lắk, Lâm Đồng.
- *Region 2*: Hà Nội, Quảng Ninh, Vĩnh Phúc, Hải Dương, Hải Phòng, Hưng Yên, Thái Bình, Nam Định.
- *Region 3*: Thanh Hoá, Nghệ An, Quảng Bình, Đà Nẵng, Quảng Ngãi, Phú Yên, Ninh Thuận.
- *Region 4*: Bình Phước, Bình Dương, Đồng Nai, Bà Rịa-Vũng Tàu, Hồ Chí Minh City, Tiền Giang, Trà Vinh, Đồng Tháp, An Giang, Kiên Giang, Hậu Giang, Bạc Liêu.

Households in 38 selected provinces were grouped into enumeration units called Enumeration Areas (EAs), with an average of about 120 households per EA. Then 200 EAs were randomly selected from 38 selected provinces with equal distribution across the four regions, i.e., 50 EAs per region (25 urban and 25 rural EAs). The number of households selected for each EA within V-NAMHS was 38 households per EA. An estimated response rate of 79% (non-response rate = 21%) was applied when calculating the V-NAMHS sample size. The selection of 7600 households corresponds to the expected numbers of 6000 households completing the interviews.



Note: *Selected provinces/cities are marked with ★*

Figure 5. *Map of Viet Nam and 38 selected provinces/cities*

Pilot study

Before the commencement of data collection for V-NAMHS, a pilot study was conducted to test all processes and logistics. The pilot study was carried out in Hanoi in the North and Dong Nai in the South. In Hanoi, 25 adolescents (nine males and 16 females) and their parent were interviewed. In Dong Nai, a further 25 adolescents (12 males and 13 females) and their parent were interviewed. The

pilot study was conducted to test consistency and coherence of study questions, length of interviews, language appropriateness, and administration of difficult or sensitive questions. The pilot study was also used to test the how well the tools were programmed on the SurveyCTO platform as well as to inform survey planning and organisation. Most of the challenges were related to the length of the tools, comprehension difficulties for younger adolescents, and programming issues. These challenges were reviewed and necessary revisions were made to the instrument prior to data collection.

Fieldwork

Data collection in Viet Nam started on 21st September 2022, beginning in the North followed by the South. Data collection involved a total of 127 interviewers. The fieldwork was implemented according to the fieldwork protocol developed and established by all five international NAMHS teams which was then applied within Viet Nam. The V-NAMHS team worked closely with the GOPFP to identify the boundaries during household listing and mapping in the 38 provinces. A total of 200 EAs were selected, each containing approximately 120 households from which 38 households were selected for the V-NAMHS sample. Due to COVID-19-related travel restrictions between provinces in Viet Nam during data collection, interviewers were staff of the local POPFP, which avoided the need for interviewers to travel between provinces. The number of interviewers allocated to each province was dependent on the size of the province and ranged between two to 16 interviewers. Data collection was only conducted if the selected EA was classified as "green" (safe) or "yellow" (low risk of COVID-19) and was suspended if the EA was classified as "orange" (high risk) or "red" (very high risk).

In the weeks prior to data collection, letters containing information on V-NAMHS were provided to the selected households within each EA. The protocols for securing voluntary participation of the parent and the adolescent, privacy, safety (for interviewers and participants), and data security were also included in the information provided to households. This was facilitated by a close cooperation between the V-NAMHS team, the GOPFP, and the POPFPs.

Throughout data collection, monitoring and technical support was provided to field staff daily by the V-NAMHS team via online communication. The V-NAMHS team also worked with the UQ and JHSPH teams who monitored the data according to pre-determined protocols. Ongoing technical advice and troubleshooting was also provided by these teams.

Appendix 3: **Glossary**

Term	Definition
12-month prevalence	Meeting criteria for a mental health problem or mental disorder as measured by the DISC-5 in the 12 months prior to the interview. This includes those whose symptoms first developed during the 12 months prior to the interview, and those whose symptoms developed earlier but who continued to meet criteria during the past 12 months.
Adolescent	A young person aged 10-17 years old. While WHO defines adolescents as those aged 10-19 years-old, adolescents aged 18-19 years-old were excluded from the study as they are more likely to be living independently and/or working away from home. Further, diagnostic measures (such as the DISC-5) are not designed to be administered to people aged 18 years and older who are normally assessed using instruments designed for adults in surveys focused on adults.
Anxiety disorders	A class of mental disorders defined by excessive fear and anxiety. Social phobia and generalised anxiety disorder were the two anxiety disorders included in this survey.
Attention-deficit/hyperactivity disorder (ADHD)	Characterised by persistent patterns of inattention and/or hyperactivity-impulsivity. Adolescents may have troubles with attention and concentration, have excessive movement and/or trouble controlling impulsive behaviours. These behaviours are inconsistent with the adolescent's age or developmental level and occur across numerous settings. The DISC-5 ADHD module was administered to the parent.
Conduct disorder	Characterised by a repetitive pattern of behaviours violate the rights of others and/or major societal rules or norms. The behaviours can include aggression to people or animals, destruction of property, deceitfulness or theft, or a serious violation of rules. The DISC-5 conduct disorder module was administered to the adolescent.
Diagnostic criteria	A set of specific requirements an adolescent must meet to be considered to have a mental disorder. Criteria can include: • A set number or combination of symptoms • The age of onset for symptoms or behaviours • Frequency and duration of symptoms • Distress or impairment In V-NAMHS, diagnostic criteria were determined according to DSM-5 (see below).
Diagnostic Interview Schedule for Children, Version 5 (DISC-5)	A fully structured diagnostic instrument designed to identified children or adolescents meeting DSM-5 diagnostic criteria for a mental disorder. Six diagnostic modules from the DISC-5 were included in the survey and adapted to ensure cultural relevance while maintain conceptual consistency.
Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)	Definition of individual mental disorders published by the American Psychiatric Association and used to define and diagnose mental disorders.

Term	Definition
Full threshold symptoms	Endorsement of all symptoms required to meet DSM-5 diagnostic criteria for a mental disorder (noting that impairment must also be endorsed to meet criteria for a mental disorder according to DSM-5).
Generalised anxiety disorder	Characterised by excessive anxiety and worry about several events or activities. The intensity, frequency, and duration of the anxiety and worry is out of proportion to the actual likelihood or impact of the anticipated event. The DISC-5 generalised anxiety disorder module was administered to the adolescent.
Impairment	Where symptoms of a mental disorder adversely impact or interfere with functioning and/or different aspects of an adolescent's life. Endorsement of impairment is required to meet DSM-5 diagnostic criteria for a mental disorder (along with endorsement of all required symptoms i.e., full threshold symptoms).
Impairment domains	In the DISC-5 impairment was assessed by six questions which measured impairment caused by symptoms across four domains: family (problems with relationships with caregivers, difficulties spending time with family), peer (difficulties spending time with peers), school or work (difficulties with school or work), and personal distress.
Major depressive disorder	Characterised by a period of at least two weeks during which there is depressed mood, loss of interest or pleasure in nearly all activities, and/or irritability. These feelings are also associated with other physical symptoms such as fatigue, sleep disturbances or concentration issues. The DISC-5 major depressive disorder module was administered to the adolescent.
Mental disorder	A mental disorder is a clinically significant behavioural or psychological syndrome or pattern that occurs in an individual and is associated with present distress (e.g., a painful symptom), disability (i.e., impairment in one or more important areas of functioning), and/or a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. For the purposes of this report, adolescents with a mental disorder were those meeting DSM-5 diagnostic criteria for a specific mental disorder (i.e., a mental disorder measured in V-NAMHS).
Mental health problem	A mental health problem is similar to a mental disorder in that it also interferes with how a person thinks, feels, and behaves, but to a lesser extent than a mental disorder. They can be experienced temporarily, or as an acute reaction to the stresses of life. For the purposes of this report, adolescents with a mental health problem includes those who met DSM-5 mental disorder diagnosis (i.e., full threshold symptoms and endorsement of impairment) as well as those who did not endorse impairment (i.e., full threshold symptoms but no impairment) and those who met at least half of the symptoms required by DSM-5 (i.e., subthreshold symptoms) with or without impairment.
Parent	For the purposes of this report, used to refer to the person nominated as the adolescent's primary caregiver. See "primary caregiver"
Posttraumatic stress disorder (PTSD)	Characterised by intrusive or recurrent thoughts, disassociation, distorted or negative cognitions, increased arousal or reactivity or other intrusive symptoms or physical reactions, all in relation to a specific trauma. The DISC-5 PTSD module was administered to the adolescent.

Term	Definition
Primary caregiver	The person who has responsibility for, cares for, and is best able to provide information about the adolescent. This primary caregiver self-identified at the beginning of the interview after being read the above definition. This was done prior to commencing the administration of survey measures. For the purposes of this report, the primary caregiver is referred to as the parent.
Self-harm	Self-harm is the act of doing something to deliberately cause harm or injury to oneself, without the intent of ending one's life. This differentiates self-harm from a suicide attempt.
Service	In this survey, services were considered any provider who provided support or counselling for emotional and behavioural problems. Service providers included in this survey were: • Doctor or nurse • Specialist (such as a psychologist or psychiatrist) • Community health worker • School staff (such as a teacher, coach, or school counsellor) • Religious/faith leader • Traditional healer • Other (as defined by the participant) The definition of service providers was expanded to include to those not generally considered as providers given the anticipated likelihood that these sectors would be accessed for such services.
Service use	Defined as use of any service (by providers listed above) for support or counselling for emotional and behavioural problems. Service use questions were asked of the parent.
Social phobia	Characterised by the fear of one or more social situations, in which the adolescent is the focus of other people's attention, which might cause a feeling of embarrassment and humiliation. This can lead to the adolescent avoiding these situations or enduring them but dreading doing so. In adolescents, the situations that induce the anxiety must be in a peer-setting, not only around adults. The DISC-5 social phobia module was administered to the adolescent.
Subthreshold symptoms	In the DISC-5, an adolescent was considered to have subthreshold symptoms if they endorsed at least half of the symptoms required by the DSM-5 but not all.
Suicidal behaviours	Inclusive of suicidal ideation, suicide planning, and suicide attempt.
Suicidal ideation	Thinking about wanting to die or general thoughts about ending one's own life.
Suicide attempt	Harming oneself with the intention of ending one's own life.
Suicide planning	Making a plan to end one's own life.

Appendix 4: **Research teams**

V-NAMHS team

A/Prof Vu Manh Loi	V-NAMHS Principal Investigator
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Nguyen Thi Xuan	V-NAMHS Research Officer
Nguyen Quang Tuan	V-NAMHS Research Officer

GOPFP team

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Krystina Wallis	NAMHS Research Officer
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