A Cross-Sectional, Household, Population-Based, Prevalence Survey of Mental Health Symptoms and Disorders Across 20 of 24 Oblasts in Ukraine Since the Russian Invasion

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MHSRS

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Disclosures

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Background – Mental Health in Ukraine

- MOH Ukraine predicts 10-15 million Ukrainians will need professional psychological assistance due to war
- Recent mental health studies: Online, response rates 7%—57% or "unknown", non-probability samples, limited to specific subgroups, not broadly generalizable to the population, limited mental health symptoms measured
- This study: nationally representative prevalence study to comprehensively assess mental health symptoms across all accessible oblasts (20/24 regions) in Ukraine
- Provides the largest set of generalizable data on the mental health status of the Ukrainian population and defines the characteristics of those most at risk for mental health disorders
    - Prevalence data can be used to plan for response, mental health support and rehabilitation

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METHODS

Ethics Review

- Uniformed Services University of the Health Sciences (USUHS), Bethesda, Maryland USA
- Ukraine – Center for Public Health, Kyiv, Ukraine

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Quantitative Methods

- **Nationally Representative Sample:**
  - Complex, six-stage sampling frame
  - Proportional to population – representative of total population of 20 of 24 Oblasts
    - ~33 of 39 million persons

- **Randomly Selected Sample: (n=4,385)**
  - Response rate = 96%
  - Household based (non-institutionalized populations)
  - Females and males ≥18 years old
  - Secondary information on all household members including children
  - Over-sampling of Internally Displaced Persons (IDPs)
  - 2014 and 2022 invasions
  - 01 May 2025 to 29 June 2025

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Six Stage Sampling Design

Stage 1 —  **Stratify national population by oblast**

Stage 2 —  **Stratify oblast by settlement size** (>50,000; >50,000-100,000; 100,000 - <500,000; >500,000)

Stage 3 —  **Clusters** (geopolitical settlements) within each stratum

Stage 4 —  **Random sample of voting districts in cluster**

Stage 5 —  **10 housing units per voting district**

Stage 6 —  **Adult member with the last birthday in calendar year of each household**

Excluded:

- Crimea, Donetsk, Luhansk, Sumy
- Heavy shelling and inability to ensure safety of data collectors

Household Survey:

- InfoSapiens (https://www.sapiens.com.ua/)
- Trained 188 local data collectors
- Computer-Assisted Personal Interviewing (CAPI); a face-to-face survey
- 45-60 mins
- Standardized skip intervals

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Mental Health Assessment Inventory (MHAI)

- **Ukraine validated Mental Health Tool**
  - Ukrainian and Russian versions
- **Mental Health Disorder Symptom Assessment**
  - PTSD
  - Major Depressive Disorder (MDD)
  - Anxiety
  - Substance Abuse
  - Mild to Moderate TBI
  - Recent Suicidal Ideation
  - Lifetime Suicide Attempts (self and household)
- **Conflict-Related Sexual Violence**
  - Intimate Partner Violence
  - Sexual Violence

C. Часто
D. Майже завжди
E. Відмова від відповіді

Питання 23 Рядок 10: Як часто за останні 4 тижні Ви стикалися з проблемою думки про те, щоб вкоротити собі віку?

A. Ніколи
B. Інколи
C. Часто
D. Майже завжди
E. Відмова від відповіді

ПИТАННЯ 24. (ТРИВОЖНІСТЬ; МАТРИЦЯ З ВИБОРОМ ОДНОГО ВАРІАНТА ВІДПОВІДІ ДЛЯ КОЖНОГО РЯДКА)

Питання 24 Рядок 1: Як часто за останні 4 тижні Ви стикалися з проблемою відчуття, що Ви в пастці або піймані?

A. Ніколи
B. Інколи
C. Часто
D. Майже завжди
E. Відмова від відповіді

Питання 24 Рядок 2: Як часто за останні 4 тижні ви стикалися з проблемою надмірне занепокоєння з різних приводів?

A. Ніколи
B. Інколи
C. Часто
D. Майже завжди
E. Відмова від відповіді

Питання 24 Рядок 3: Як часто за останні 4 тижні Ви стикалися з проблемою відсутність інтересу до всього?

A. Ніколи

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RESULTS

Not for distribution

Manuscripts in R&R (European J of Psychotraumatology)

Ukraine = “sensitive topic”

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Reported Chronic Health Disorders

Reported Chronic Health Disorders	Percent (unweighted)
None	72.5%
At Least One	26.6%
Heart Disease	11.1%
Diabetes	7.2%
Mental Health Issue	2.7%
Lung Disease	1.8%
Cancer	0.7%
Disability*	7.9%
Disability related to war (2014 + 2022)*	21.4%

3.6M of 33M persons

>0.5M of 33M persons

* Weighted, 53.5% visual and mobility disabilities, officially registered (95%)

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MENTAL HEALTH IN UKRAINE

TRAUMATIC BRAIN INJURY (TBI)

11% OR 4 MILLION PEOPLE

Suffering from TBI

DEPRESSION

50% OR 17 MILLION PEOPLE

Experiencing Depression

ANXIETY

44% OR 14 MILLION PEOPLE

Struggling with Anxiety

MENTAL HEALTH CRISIS AFFECTING MILLIONS

Household Survey of Mental Health Symptoms in 20 of 24 Regions of Ukraine

PTSD rates among other groups:

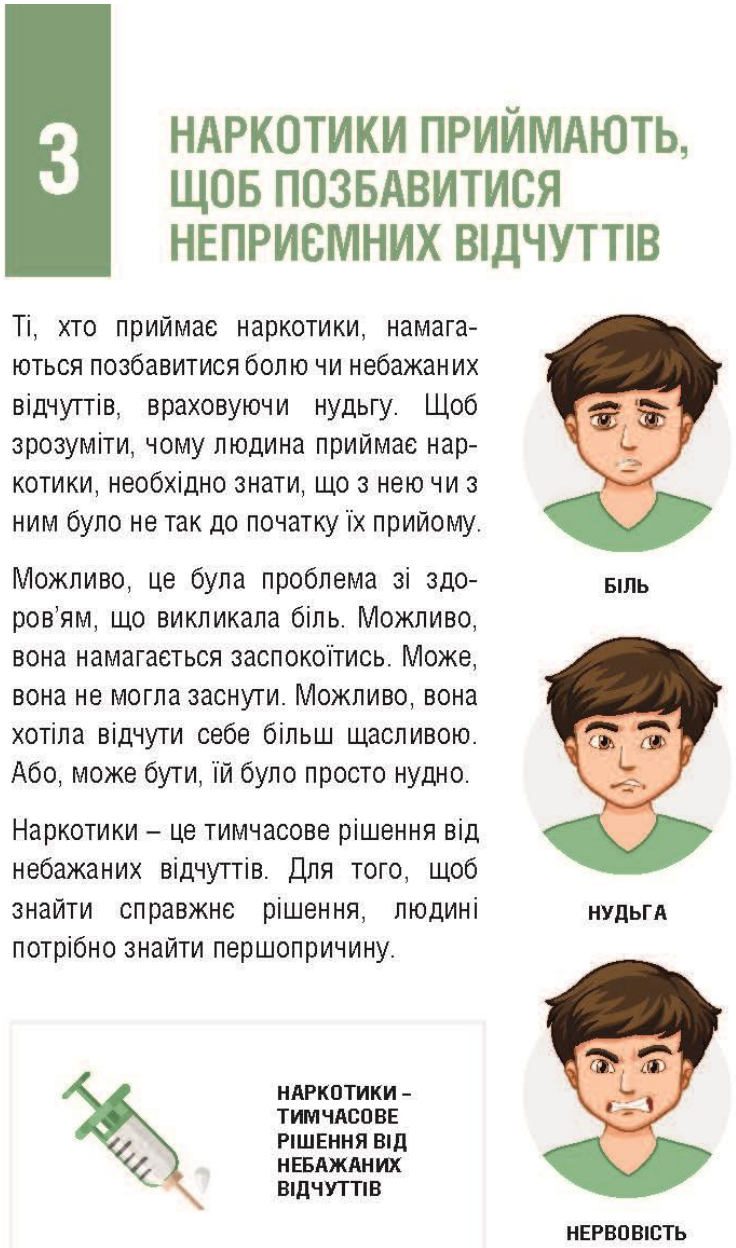
- **20%** Eastern Front
- **29%** Traumatic Brain Injury (TBI)
- **20%** Internally Displaced Persons
- **22.0%** Military
- **38%** Military with TBI
- **343% ↑** odds if trouble sleeping (OR 4.43)
- **1217% ↑** odds if angry (OR 13.17)

After the war, PTSD will increase from **14% to 23% or 7.6 million** people

Substance Abuse

- **Prevalence Rates**
  - Overall **22.8%** (20.9%-24.9%), (7.5 million persons)
  - Males **33.6%** (30.6%-36.6%)
  - Females **14.1%** (12.0%-16.1%)

- **At-Risk Groups*:**
  - Sexual Violence **35.9%** (26.6%-43.4%)
  - TBI **40.0%** (34.6%-45.3%)
  - Military **38.3%** (33.2%-43.3%)
  - Military with TBI **46.2%** (38.3%-54.1%)



- Includes alcohol and illicit drug abuse

Suicidal Ideation and Attempts

- **Recent Suicidal Ideation**
  - Overall **7.2%** (6.0%-8.5%)
  - Males **8.4%** (6.5%-10.3%)
  - Females **6.1%** (5.0%-7.3%)
- **At-Risk Groups*:**
  - Eastern Front **10%** (8.3%-13.0%)
  - Sexual Violence **17.7%** (11.6%-23.9%)
  - TBI **12.2%** (8.5%-15.9%)
- **Females with -**
  - Sexual Violence **17.8%** (11.5%-24.1%)
  - IPV **12.1%** (7.6%-16.5%)
- **Males with -**
  - IPV **21.0%** (10.7%-31.4%)

- **Lifetime Suicide Attempts**
  - Overall **2.2%** (1.7%-2.8%) (7.26 M)
  - Males **2.4%** (1.5%-3.3%)
  - Females **1.9%** (1.4%-2.5%)
- **At-Risk Groups*:**
  - Sexual Violence **19.8%** (13.5%-20.7%)
  - TBI **7.7%** (4.8%-10.6%)
- **Females with -**
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  - Military **15.2%** (1.5%-28.9%)
- **Males with -**
  - IPV 13.2% (4.1%-22.2%)

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Limitations

- Data represent adult household members in 20 of 24 oblasts – 33 million persons
- Mental health impacts could be higher in the war-affected areas we had to exclude or lower if people fled the areas
- Sample weights rely on voter registration records and might introduce bias into estimates due to the imperfections in the administrative system, as well as changes in the underlying populations since 2020
- Study represents associations and does not prove causation
- Instruments assess mental health symptoms suggestive of disorders, but may not be diagnostic
- Respondents may under/overestimate responses if they felt doing so was in their best interest
  - We suspect respondents minimize mental health symptoms due to stigma
  - Post-conflict rates will likely increase
  - CRSV is rarely over-estimated

SUMMARY

- A broad range of mental health disorders are prevalent among the population in Ukraine
- Prioritizing at-risk groups is essential to save lives (e.g. military females – suicide, TBI, SV, military with TBI)
- Strong association between sleep difficulties and mental health disorders suggests sleep quality scales may identify those at risk of mental health disorders (moral injury?)
- Anger screening (primary care) will be helpful to identify reluctant patients
- Our estimates exceed previous other studies and MOH estimates of those who will require mental health care
- Ukraine will need on-going support, community-based services, qualified medical professionals

Questions

For additional comments or feedback, please contact us:

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Traumatic Brain Injury (Mild to Moderate)

- **Overall** – 11% (3.6 million persons)
- **Males –** 17.5%
- **Females** – 5.9%

<0.0001

Of those with TBI, TBI Obtained:

- 2014 war – 5.4%
- Current war – 27.8% (> 1 million)
- Males current war – 35.0%
- Females current war – 10.1%

<0.0001

DEMOGRAPHIC CHARACTERISTIC (n)	WEIGHTED PERCENT OR MEAN	95% CI
REPORTS TBI	11.1%	(10.0% - 12.3%)
OBTAINED IN 2013 OR PRIOR	22.3%	(17.5% - 27.2%)
OBTAINED IN 2014 CONFLICT	5.4%	(3.1% - 7.7%)
OBTAINED BETWEEN 2014 AND CURRENT CONFLICT	7.0%	(4.3% - 9.7%)
OBTAINED DURING CURRENT CONFLICT	27.8%	(23.4% - 32.1%)
OBTAINED AS A CHILD	40.2%	(34.6% - 45.8%)

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Traumatic Brain Injury (Mild to Moderate)

- **Overall** – 11% (3.6 million persons)
- **Males –** 17.5%
- **Females** – 5.9%

<0.0001

Of those with TBI, TBI Obtained:

- 2014 war – 5.4%
- Current war – 27.8% (> 1 million)
- Males current war – 35.0%
- Females current war – 10.1%

<0.0001

"…constant battles, constant shelling, concussions. At first, I was a bit stunned, a bit dizzy, then it would pass, and after 2–3 days it would start again…sometimes you shake, sometimes your blood pressure jumps, sometimes you lose hearing, or your head just rings"
(UVM-20)

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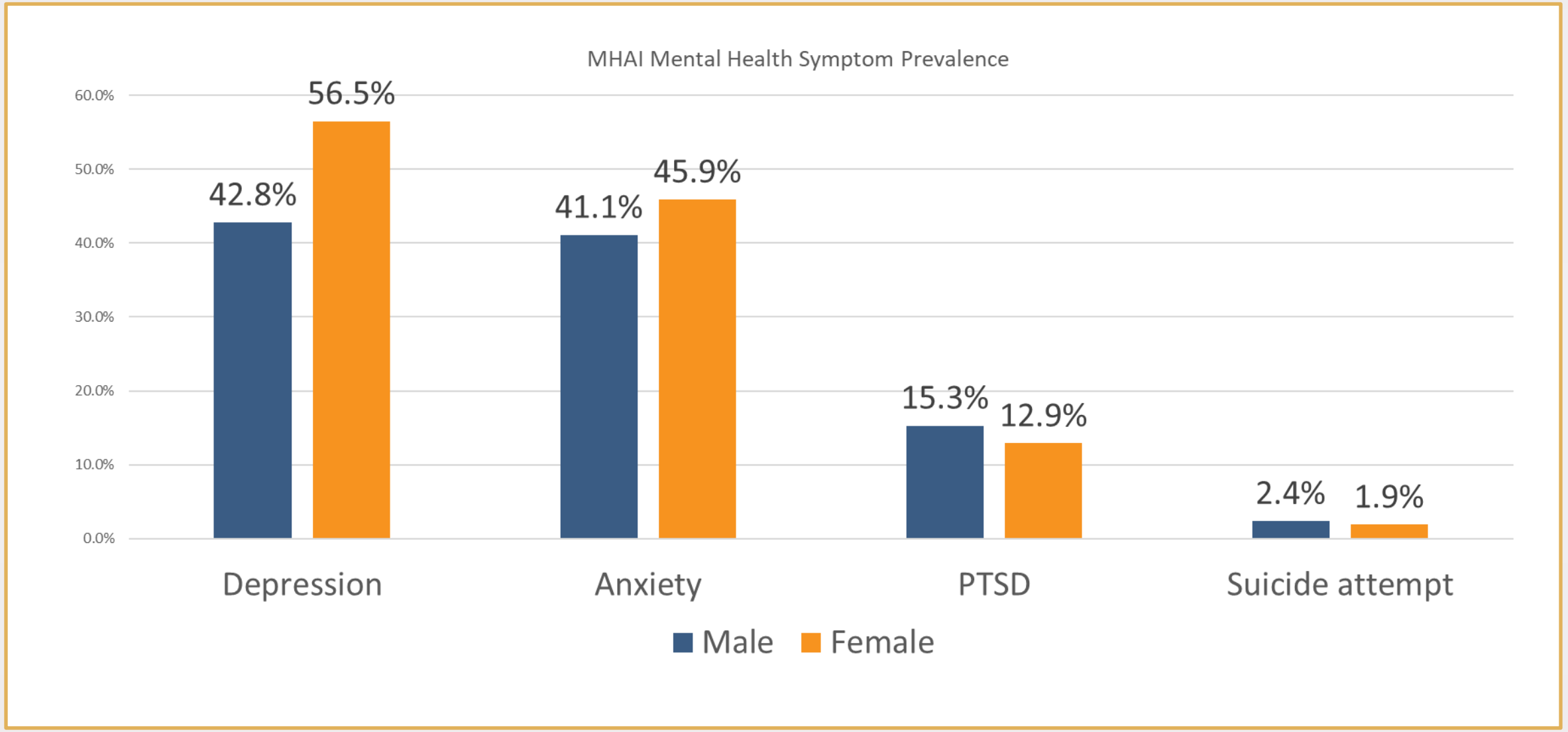
MHAI Mental Health Symptom Prevalence



Major Depressive Disorder (MDD)

- **Overall** – 50.4% (16.6 million persons)
- **At-Risk Groups*:**
- Eastern Front (58.6%)
- Lifetime SV (75.9%)
- TBI (71.5%)
- IDPs (60.8%)
- Military with TBI (71.1%)
- Females – up to 78.2%; IDP, lifetime SV or Intimate partner violence (IPV)
- Males – up to 66.2%; military experience or IPV

Characteristic	Weighted % MDD (95% CI)
Eastern Front	58.6% (54.1%-63.0%)
Not eastern front	46.8% (44.1%-49.6%)
p-value	**<0.0001**
Lifetime SV	75.9% (68.5%-83.5%)
No lifetime SV	49.1% (46.8%-51.5%)
p-value	**<0.0001**
TBI	71.5% (66.5%-76.4%)
No TBI	46.6% (44.2%-49.0%)
p-value	**<0.0001**
IDP	60.8% (53.7%-67.8%)
Not IDP	49.9% (47.5%-52.3%)
p-value	**0.0042**
Military with TBI	71.1% (63.9%-78.2%)
Military with no TBI	39.4% (33.0%-45.8%)
p-value	**<0.0001**

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Predictors of MDD (aOR)

- 66% ↓ odds if military experience
- 61% ↓ odds if married

- 1% ↑ in odds for every 1-year increase in age
- 35%↑ odds if in Eastern front
- 112%↑ odds if female
- **982% ↑** odds if trouble sleeping (OR 10.82)
- **398% ↑** odds if angry (OR 4.98)

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Anxiety

- **Prevalence Rates**
  - Overall **43.8%** (41.3%-46.3%), (14.4 million persons)
  - Females **45.9%** (43.1%-48.7%)
  - Males **41.5%** (37.8%-44.5%)

- **At-Risk Groups*:**
  - Eastern Front **55.9%** (50.5%-61.3%)
  - Sexual Violence **70.8%** (63.2%-78.4%)
  - TBI **68.9%** (63.8%-74.0%)
  - IDPs **56.2%** (49.2%-63.2%)
  - Military **48.9%** (43.3%-54.4%)
  - Military with TBI **71.8%** (64.8%-78.8%)

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Predictors of Anxiety (aOR)

- 72% ↓ odds if military experience
- 71% ↓ odds if married

- 2% ↑ in odds for every 1-year increase in age
- 70%↑ odds if in Eastern front
- 30%↑ odds if female

- **409%** ↑ odds if trouble sleeping (OR 5.09)
- **687%** ↑ odds if angry (OR 7.87)

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Post-Traumatic Stress Disorder

- **Prevalence Rates**
  - Overall **14.0%** (12.2%-16.0%), (4.6 million persons)
  - Males **15.3%** (12.9%-17.8%)
  - Females **12.9%** (11.0%-14.8%)

- **At-Risk Groups*:**
  - Eastern Front **19.7%** (15.9%-23.4%)
  - Sexual Violence **29.7%** (21.7%-37.7%)
  - TBI **29.3%** (23.8%-34.7%)
  - IDPs **20.3%** (13.8%-26.8%)
  - Military **22.0%** (17.4%-26.6%)
  - Military with TBI **37.7%** (29.3%-46.0%)

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Post-Traumatic Stress Disorder

- **Prevalence Rates**
  - Overall **14.0%** (12.2%-16.0%), (4.6 million persons)
  - Males **15.3%** (12.9%-17.8%)
  - Females **12.9%** (11.0%-14.8%)

- **At-Risk Groups*:**
  - **Sexual Violence 29.7% (21.7%-37.7%)**
  - **Military with Abuses 35.0% (19.3% 50.6%)**
  - **CRSV 38.9% (16.6%-61.1%)**

"two very young guys appeared, under twenty. They were in shock… and couldn't explain what had happened to them…. They had no external sexual organs. The Russians had cut them off" *(UVF-5)*

"Beatings, stun guns, ripping out hair, inserting a mop into the anal opening…they stretched me out against the wall in a star position and yanked me by the genitals."
(UVM-4).

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Predictors of PTSD

- 62% ↓ odds if married

- 47%↑ odds if in Eastern front

- **343% ↑** odds if trouble sleeping (OR 4.43)
- **1217% ↑** odds if angry (OR 13.17)

- Anger and trouble sleeping suggests moral injury?
- Analysis pending among military experienced participants

What affected me the most was that airstrike on the school building in Bilohorivka. The Russians dropped an aerial bomb on a school, 90 people were hiding in the basement, about 60 were killed. I was a witness of many people died, and it left a deep mark on me
(UVM-1)

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Substance Abuse

- **Prevalence Rates**
  - Overall **22.8%** (20.9%-24.9%), (7.5 million persons)
  - Males **33.6%** (30.6%-36.6%)
  - Females **14.1%** (12.0%-16.1%)

- **Change in Use Since Start of War**
  - Decreased **28.0%** (25.2%-31.1%)
  - Stayed the Same **58.8%** (55.9%-61.6%)
  - Increased **13.2%** (11.4%-15.2%)

- **At-Risk Groups*:**
  - Sexual Violence **35.9%** (26.6%-43.4%)
  - TBI **40.0%** (34.6%-45.3%)
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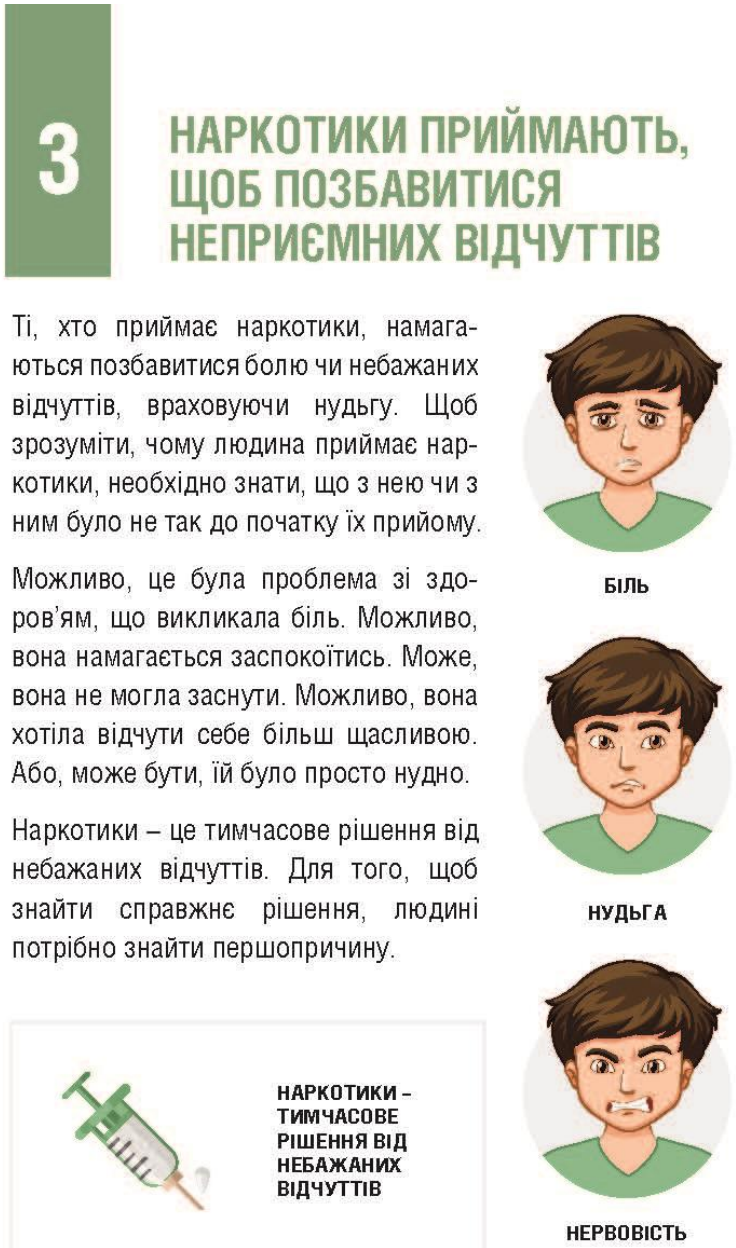

- Includes alcohol and illicit drug abuse

Suicidal Ideation and Attempts

- **Recent Suicidal Ideation**
  - Overall **7.2%** (6.0%-8.5%)
  - Males **8.4%** (6.5%-10.3%)
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- **At-Risk Groups*:**
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- **Lifetime Suicide Attempts**
  - Overall **2.2%** (1.7%-2.8%) (7.26 M)
  - Males **2.4%** (1.5%-3.3%)
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- **Females with -**
  - Sexual Violence **21.6%** (14.9%-28.3%)
  - IPV **12.0%** (8.0%-15.9%)
  - Military **15.2%** (1.5%-28.9%) – 7-fold increase
- **Males with -**
  - IPV 13.2% (4.1%-22.2%)

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Predictors of Suicide Attempts

- **89%** ↑ odds if substance abuse (OR 1.89)
- **417%** ↑ odds if lifetime SV (OR 5.17)
- **272%** ↑ odds if lifetime IPV (OR 3.72)
- **223%** ↑ odds if TBI (OR 3.23)

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Abuses and Traumatic Experiences

	Weighted Percent
Fear of human rights abuses by military members	
A lot/Moderate Amount	**28.3%** (26.1%-30.5%)
A Little	**38.4%** (36.1%-40.8%)
Not at all	**33.3%** (30.9%-35.9%)
Fear of abuse of family, friends by civilian strangers	
A lot/Moderate Amount	**11.5%** (9.9%-13.2%)
A Little	**23.3%** (21.3%-25.5%)
Not at all	**65.2%** (62.5%-67.8%)
War Affected State of Mind	
Extremely/Quite a Bit	**69.2%** (67.1%-71.2%)
A Little	**25.1%** (23.3%-27.1%)
Not at all	**4.0%** (3.3%-4.8%)

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To Feel Safe…

WHAT WOULD MAKE YOU FEEL SAFE IN THE FUTURE?	
End of war (n=3,948)	93.3% (92.2%-94.3%)
Laws against CRSV (n=1,399)	31.8% (29.5%-34.3%)
Enforcement of laws against CRSV (n=1,369)	31.3% (28.9%-33.8%)
Prosecution of perpetrators (n=1,300)	30.9% (28.5%-33.4%)
Continued/increased international/UN presence (n=1,067)	25.7% (23.4%-28.1%)

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What will help with…

- **Experiences during the war**
- Support of Family: 37.1% (34.8%-39.4%)
- Discussion with family members: 34.2% (32.1%-36.4%)
- Discussion with friends: 33.2% (31.0%-35.4%)

- **State of Mind and Coping**
- Support of Family: 46.7% (44.3%-49.1%)
- Discussion with friends: 35.6% (33.3%-38.0%)
- Mental health counseling: 19.4% (17.6%-21.3%)

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Mental Health Symptom Prevalence: Current and After the War