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NFB4Ukraine – neurofeedback interventions for combat-related post-traumatic stress disorder in Ukraine

Submission date
17/08/2026

Recruitment status
Recruiting

Registration date
19/08/2026

Overall study status
Ongoing

Last Edited
19/08/2026

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Post-traumatic stress disorder (PTSD) is a common mental health condition that can develop after experiencing traumatic events. Many Ukrainian military personnel have been exposed to combat-related trauma, and existing treatments do not help everyone. Researchers are therefore looking for new ways to improve recovery.
This study aims to find out whether a type of neurofeedback called infra-low frequency neurofeedback (ILF-neurofeedback) can reduce PTSD symptoms when added to usual care. The study will also investigate whether combining ILF-neurofeedback with Narrative Exposure Therapy (NET), a talking therapy designed for people who have experienced trauma, provides greater benefits than either treatment alone.

Who can participate?
The study is open to Ukrainian military personnel, both men and women, aged 18 to 60 years, who have been diagnosed with PTSD and meet the study assessment criteria.
People cannot take part if they have acute psychosis, severe traumatic brain injury, active substance dependence (other than nicotine), severe suicidal thoughts requiring immediate hospital care, or have recently started a new psychiatric medication.

What does the study involve?
The study will recruit 200 Ukrainian military personnel with PTSD.
Participants will be randomly assigned to one of five groups:
1. Usual care plus ILF-neurofeedback
2. Usual care plus Narrative Exposure Therapy (NET)
3. Usual care plus both ILF-neurofeedback and NET
4. Usual care plus visual relaxation sessions, involving nature videos
5. Usual care alone with placement on a waitlist
The treatment period lasts about six weeks for the active treatment groups.
Participants receiving ILF-neurofeedback will attend 10 to 15 sessions lasting 30 to 45 minutes each. Those receiving NET will attend 8 to 12 therapy sessions. Participants in the visual relaxation group will attend 10 to 15 sessions watching calming nature videos. All participants

will continue to receive their usual clinical care.
Researchers will assess participants before treatment begins, immediately after treatment ends, and one month later. They will measure PTSD symptoms as well as other aspects of mental health, such as anxiety, depression, emotional wellbeing, resilience and quality of life. Some participants will also be invited to take part in an interview to discuss their experiences of the treatment.

What are the possible benefits and risks of participating?
Participants may benefit from receiving an additional treatment that could help reduce PTSD symptoms alongside their usual care. The information collected may also help improve treatment options for military personnel with PTSD in the future.
As with any treatment that involves discussing or processing traumatic experiences, some participants may experience temporary emotional distress. Neurofeedback sessions may also cause temporary discomfort or distress in some individuals. All treatment sessions will be provided by trained professionals.
Participation is voluntary, and participants can leave the study at any time without affecting their usual care.

Where is the study run from?
The study is led by the Department of Clinical Psychology and Psychotherapy at Friedrich-Alexander-Universität Erlangen-Nürnberg in Germany and the Faculty of Psychology at Taras Shevchenko National University of Kyiv in Ukraine. The project is carried out in collaboration with the University of Salzburg in Austria and the University of the Bundeswehr Munich in Germany.
Participants will be recruited and treated at military rehabilitation centres in Ukraine.

When is the study starting and how long is it expected to run for?
June 2026 to August 2027.

Who is funding the study?
The study is funded by the Philipp Schwartz Initiative. Neurofeedback equipment has been provided free of charge by BEE Medics GmbH. The company has not been involved in the design, conduct, analysis or reporting of the study.

Who is the main contact?
Dr Oleksandra Loshenko, psiholog3003@gmail.com

Contact information

Type(s)
Principal investigator, Scientific, Public

Contact name
Dr Oleksandra Loshenko

ORCID ID
https://orcid.org/0000-0002-3303-3162

Contact details
Staronavodnicka
Kyiv

Ukraine
01015
+38 975067781
oleksandraloshenko@knu.ua; psiholog3003@gmail.com

Additional identifiers

Study information

Scientific Title
NFB4Ukraine – Neurofeedback interventions for combat-related post-traumatic stress disorder in Ukraine: a randomized-controlled study

Acronym
NFB4Ukraine

Study objectives
The primary objective is to evaluate the efficacy of ILF-Neurofeedback, NET, and their combination in reducing PTSD symptoms among Ukrainian military personnel.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 29/05/2025, Research Ethics Committee of the Faculty of Psychology of Taras Shevchenko National University of Kyiv (2a Akademika Hlushkova Avenue, Kyiv, 03680, Ukraine; +38 (44) 521-35-09; psy-univ@ukr.net), ref: № 05-25/44

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Active

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Post-traumatic stress disorder (PTSD) in Ukrainian military personnel (combat-related trauma)

Interventions
This is a five-arm, prospective, parallel-group randomised controlled trial (RCT) with an equal 1:1:1:1:1 allocation ratio. Participants are randomly assigned to one of five conditions:
(1) TAU + ILF-Neurofeedback
(2) TAU + Narrative Exposure Therapy (NET)
(3) TAU + ILF-Neurofeedback + NET (combined)
(4) TAU + Visual Relaxation (active control)
(5) TAU / Wait-list control
Randomisation is performed using a computer-generated block randomisation sequence (block sizes of 10 and 15) generated by an independent researcher not involved in recruitment, intervention delivery, or outcome assessment. Group assignment is concealed using sequentially numbered, sealed, opaque envelopes, opened by the study therapist after completion of the baseline assessment (T1).
The intervention phase lasts 6± weeks for all active groups:
- ILF-Neurofeedback: 10-15 sessions (30-45 min each), using the Othmer method (Cygnet software), targeting central nervous system arousal regulation.
- NET: 8-12 sessions following the standard Narrative Exposure Therapy protocol, a short-term trauma-focused intervention in which participants construct a chronological narrative of their life while repeatedly and systematically processing traumatic memories within their autobiographical context, using a "lifeline" technique.
- Visual Relaxation: 10-15 sessions viewing neutral/calming nature videos (active control for therapist contact time).
- TAU: standard clinical care provided by the military hospital (e.g. CBT, Prolonged Exposure, EMDR, per Ministry of Health protocols).
Participants remain blinded to their group allocation throughout the study. Therapists are blinded until the envelope is opened, after which they are informed of the assigned condition to deliver the appropriate protocol. Outcome assessors and data analysts remain blinded to group allocation throughout (assessor-blind design).
Assessments occur at baseline (T1, before randomisation), post-intervention (T2, immediately after the 6±-week intervention), and at one-month follow-up (T3). A qualitative component (semi-structured interviews with a purposive subsample of 15 participants, 3 per arm) is conducted between T2 and T3 to explore treatment acceptability and participant experience.

Intervention Type
Behavioural

Primary outcome(s)
1. PTSD symptom severity (change in PCL-5 total score from baseline to post-intervention) measured using PTSD Checklist for DSM-5 (PCL-5), a 20-item self-report measure assessing the severity of PTSD symptoms at Baseline (T1, before randomisation) and post-intervention (T2, immediately after the 6±-week intervention)

Key secondary outcome(s)

Completion date
31/08/2027

Eligibility

Key inclusion criteria

1. Ukrainian military personnel (men and women)
2. Age 18-60 years
3. Primary diagnosis of post-traumatic stress disorder (PTSD) according to DSM-5, confirmed via Structured Clinical Interview for DSM-5 (SCID-5)
4. PTSD Checklist for DSM-5 (PCL-5) total score ≥33

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Upper age limit
60 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Acute psychosis
2. Severe traumatic brain injury (TBI)
3. Active substance dependence (excluding nicotine)
4. Acute suicidality requiring immediate hospitalisation
5. Start of new psychotropic medication within 4 weeks prior to baseline

Date of first enrolment
01/06/2026

Date of final enrolment
31/07/2027

Locations

Countries of recruitment
Ukraine

Sponsor information

Organisation
Friedrich-Alexander-Universität Erlangen-Nürnberg

ROR

https://ror.org/00f7hpc57

Funder(s)

Funder type

Funder Name
Philipp Schwartz Initiative

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available