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ADMINISTRATIVE INFORMATION**Support** - None.**Review Stage at time of this submission** - Piloting of the study selection process.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202430119**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 March 2024 and was last updated on 27 March 2024.**INTRODUCTION**

Review question / Objective This umbrella review aims to evaluate the efficacy of mobile phone-based interventions for post-traumatic stress disorder (PTSD).

Condition being studied A World Health Organization (WHO) study reveals that approximately 70% of individuals across 24 countries have endured traumatic exposure, with PTSD affecting 10% to 20% of this population, culminating in a lifetime prevalence that may reach 3.9%. In recent years, with the development of mHealth technology, there has been an increasing amount of research on mobile phone-based interventions for the treatment of PTSD and a corresponding rise in the number of systematic review studies. However, no studies have yet synthesized these systematic reviews, and there is a lack of in-depth evaluation of the quality of their design and the strength of their evidence.

METHODS

Search strategy This study plans to conduct a comprehensive search in four Chinese databases, three English databases, and four gray literature databases, please see "Information Source" for detailed information.

A search strategy combining free and subject terms was used to ensure that as much relevant literature as possible was collected without omission. The English search strategy was used as an example:

#1: "mobile*" OR "phone*" OR "tele*" OR "smartphone*" OR "smart-phone*" OR "cellular phone" OR "software*" OR "app" OR "apps" OR "portable electronic application" OR "mhealth" OR "m-health" OR "ehealth*" OR "e-health*" OR "electronic health*" OR "text-messa*" OR "text messag*" OR "voice messag*" OR "short messaging service" OR "SMS" OR "multimedia messaging service" OR "MMS" OR "interactive voice response" OR "IVR"

#2: "Smartphone" [MeSH] OR "Cell Phone" [MeSH] OR "Telephone" [MeSH] OR "Software" [MeSH] OR "Mobile Applications" [MeSH] OR "Telemedicine" [MeSH] OR "Text Messaging" [MeSH]

#3: #1 OR #2

#4: "PTSD" OR "posttrauma*" OR "post-trauma*" OR "post trauma*" OR "stress disorder*" OR "combat disorder*" OR "war neuros*" OR "trauma and stressor related disorder*"

#5: "Stress Disorders, Post-Traumatic" [MeSH] OR "Stress Disorders, Traumatic" [MeSH] OR "Stress Disorders, Traumatic, Acute" [MeSH] OR "Trauma and Stressor Related Disorders" [MeSH] OR "Combat Disorders" [MeSH] OR "Psychological Trauma" [MeSH]

#6: #4 OR #5

#7: "systematic review*" OR "meta-analys*" OR "meta analys*" OR "metaanalys*" OR "meta-synth*" OR "meta synth*" OR "metasynth*"

#8: "Systematic Reviews as Topic" [MeSH]

#9: "Systematic Review" [Publication Type]

#10: "Meta-Analysis as Topic" [MeSH] OR "Network Meta-Analysis" [MeSH]

#11: "Meta-Analysis" [Publication Type]

#12: #7 OR #8 OR #9 OR #10 OR #11

#13: #3 AND #6 AND #12.

Participant or population The study was conducted on (i) individuals with PTSD diagnosed by a medical professional, (ii) individuals who showed symptoms of PTSD as assessed by a scale, and (iii) those who had experienced a traumatic event. There were no restrictions on demographic characteristics such as age, gender, and race of the participants in this study.

Intervention Interventions will be limited to mobile phones, excluding intervention methods based on other communication technologies such as computers, video conferencing, landlines, etc.

Comparator Control measures included all control types, such as conventional treatment, wait-list control, etc.

Study designs to be included Eligible study designs include systematic review or Meta-analysis. If it is a systematic review or Meta-analysis exploring the effect of an intervention (or prevention effect) on PTSD symptoms, then these studies should be included in randomized controlled trials (RCTs) or non-randomized controlled trials. If it is a systematic review or Meta-analysis of other study outcomes, there is no restriction on the type of article study in which these studies are included. Randomized controlled trials.

Eligibility criteria Inclusion criteria will focus on: (1) Participants: (i) patients with PTSD diagnosed by a medical professional; (ii) individuals who showed symptoms of PTSD as assessed by a scale; and (iii) those who had experienced a traumatic event. There were no restrictions on demographic characteristics such as age, gender, and race of the participants in this study. (2) Interventions: specifically, interventions implemented based on cell phones, excluding intervention methods based on other communication technologies such as computers, computerized video conferencing, and landline phones. (3) Control: control measures include all control modalities, such as conventional treatment, wait-list control (i.e., not receiving the intervention immediately but waiting for follow-up treatment), etc. (4) Type of study: systematic review or Meta-analysis. If the studies are systematic reviews or Meta-analyses exploring the effects of interventions for PTSD symptoms (or prevention effects), these studies should be included in randomized controlled trials (RCTs) or non-randomized controlled trials. If it is a systematic review or Meta-analysis of other study outcomes, there is no restriction on the type of article study in which these studies are included. Exclusion criteria: (1) Literature published in languages other than Chinese or English. (2) Duplicate publications were excluded. (3) For studies with highly similar topics, only studies with relatively higher AMSTAR-2 ratings (i.e., higher design quality) were retained to ensure the accuracy of the findings. (4) If there were updated systematic reviews, only the most recently published version was retained.

Information sources (1) Chinese databases: CNKI, CBM, VIP, WanFang Data. (2) English databases: PubMed, Epistemonikos, ProQuest PTSDpubs. (3) Gray literature databases: PsycEXTRA, Health Evidence, PQDT Global Global BoM Dissertation Database, PROSPERO. (4) Supplementary search: tracing the reference lists of the included literature.

Main outcome(s) Study outcomes: improvement in PTSD symptoms (assessed using scales with good reliability and validity).

Additional outcome(s) Evaluation of economic costs, dropout rates, patients' acceptability or satisfaction, and improvement in substance abuse (e.g. smoking, drinking.) among subjects with PTSD symptoms.

Data management Two researchers will import the literature from the search into NoteExpress 3.2 software, screen out duplicates and irrelevant

literature, perform initial screening based on inclusion and exclusion criteria, read titles and abstracts, and re-screen by reading the full text to obtain the final included literature. Two trained researchers will independently extract the following data: title, first author, year of publication, total sample size, number of original studies included, type of original studies included, interventions, controls, and outcome indicators.

Author 9 - Lu Y provided statistical expertise.
Author 10 - Lin AH read through this protocol and improved this protocol.

Quality assessment / Risk of bias analysis

(1) Evaluation of methodological quality

Two researchers each alone evaluated the included literature using AMSTAR 2. Disagreements on the evaluation results were resolved by mutual agreement and, if necessary, arbitrated by a third researcher.

(2) Evaluation of reporting quality

Two researchers each alone evaluated the included literature using PRISMA 2020. Disagreements in the evaluation results were resolved by mutual agreement, or decided by a third researcher if necessary.

(3) Evaluation of credibility of evidence

The two researchers separately and alone assessed the included literature using GRADE. Disagreements in the assessment results, if any, will be resolved by mutual agreement and, if necessary, arbitration by a third researcher.

Strategy of data synthesis Not applicable.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Country(ies) involved P.R. China.

Keywords Mobile Intervention, PTSD, Umbrella Review.

Contributions of each author

Author 1 - Yan B designed this study and will draft the manuscript.

Author 2 - He XT participated in designing this study and will draft the manuscript.

Author 3 - Xu M contributed to the development of quality assessment and inclusion criteria.

Author 4 - Wang HX contributed to developing the search strategy and inclusion criteria..

Author 5 - He GM contributed to developing inclusion and exclusion criteria..

Author 6 - Xie Y contributed to modifying the search strategy and exclusion criteria.

Author 7 - Liu JY helped with modifying the inclusion criteria and additional outcomes.

Author 8 - Lin YQ helped with modifying the search strategy and quality assessment.