INPLASY

Depression, mental health help-seeking and interventions among mainland China healthcare workers: protocol for a systematic review

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ADMINISTRATIVE INFORMATION

INTRODUCTION

*R*eview question / Objective This review investigates multi-dimensional issues related to mental health problems among health care workers (HCW, including doctors and nurses) in mainland China. The four parts are: 1) a meta-analysis of the prevalence of depression during and after the COVID-19 period in mainland China, 2) a narrative review of the occupational factors of depression in this group, 3) a narrative review of the help seeking related to depression among healthcare workers in mainland China, and 4) a narrative review of the number and types of randomized controlled trials (RCT) on depression interventions targeting this group.

The research questions are based on the Population-Exposure-Comparison-Outcome (PECO) approach: Population (P): Chinese healthcare workers (doctors, nurses). Exposure (E): Exposure to factors of depression and help seeking; Comparison (C): Subgroups (COVID-19 vs. non-COVID-19 periods; specialties; regions; gender. Outcomes (O): Prevalence of depression;

ORs or WMDs for factors of depression and help-seeking behaviors; types and number of mental health interventions.

Rationale It is known that HCW are subjected to high prevalence of depression, but the situations about prevalence in the post-COVID-19 period, related risk factors of depression, pattern of help seeking to deal with depression, and availability of RCT on depression intervention among HCW in China is largely unknown. It is known that the prevalence of depression elevated during the COVID-19 period, but it is uncertain whether it has declined afterwards. In Part 2, knowing occupational factors of depression would allow for improvements through modification of the such factors of depression among HCW in mainland China. Despite the high prevalence, people with depression tend not to seek help and there are reasons to believe that the situation is even less ideal among HCW. Knowing related factors may facilitate promotion of help seeking behaviors A stock-taking of the existing interventions targeting

this group is a good start for planning future interventions. The findings would hence be important for policy making, health promotion, and research.

Condition being studied We are focusing on depression as it is among the most prevalent and consequential mental health disorders among HCW reported in literature. Examples of occupational factors include occupational stress, doctor-patient relationship etc. Help seeking behaviors may include formal mental health services and informal support from social networks. Examples of factors associated with help seeking behaviors and intention may include knowledge, beliefs about capabilities, social influences, behavioral regulation, and so on. The number and types of RCT studies on depression interventions targeting HCW will be reviewed.

METHODS

Search strategy Common strategies for all parts
As mentioned, the study includes 4 parts of meta-analysis and systematic review. Some common search strategies combining three dimensions will be used to identify relevant literature, using the AND operator: 1) Population: Healthcare Workers (HCWs); 2) Outcome: Depression; 3) Context: Mainland China. Keywords within the three dimensions are connected by the OR operator.
1) Search Terms for the Population (HCW)
("health personnel"[MeSH Terms] OR "health worker"[Title/Abstract] OR "health care worker"[Title/Abstract] OR "health professional"[Title/Abstract] OR "health provider"[Title/Abstract] OR "healthcare personnel"[Title/Abstract] OR "healthcare professional"[Title/Abstract] OR "clinical staff"[Title/Abstract] OR "medical staff"[Title/Abstract] OR "HCW"[Title/Abstract] OR "physician"[Title/Abstract] OR "doctor"[Title/Abstract] OR "nurse"[Title/Abstract])
2.Search Terms for Outcome (Depression)
("depress*"[Title/Abstract] OR "depressed"[Title/Abstract] OR "depression"[Title/Abstract] OR "depressive symptoms"[Title/Abstract] OR "major depression"[Title/Abstract] OR "major depressive disorder"[Title/Abstract] OR "mdd"[Title/Abstract] OR ("depressive disorder"[MeSH Terms] OR "depression"[MeSH Terms]) OR "depressive disorder, major"[MeSH Terms])
3.Search Terms for Context (Mainland China)
("China"[Title/Abstract] OR "Chinese"[Title/Abstract] OR "mainland China"[Title/Abstract])

Additional strategies specific to Part 2 to 4
Part 2: Occupational factors of depression

Common strategies (see above) AND (("Workload"[Mesh] OR "Work Schedule Tolerance"[Mesh] OR "Night Shift"[Mesh] OR "Sleep Deprivation"[Mesh] OR "Physician-Patient Relations"[Mesh] OR "Inter-professional Relations"[Mesh] OR "Social Support"[Mesh] OR "Organizational Culture"[Mesh] OR "Leadership"[Mesh] OR "Burnout, Professional"[Mesh] OR "Occupational Stress"[Mesh] OR "Work-Life Balance"[Mesh] OR "Role Conflict"[Mesh] OR "Workplace Violence"[Mesh]) OR ("working hours"[Title/Abstract] OR "shift work"[Title/Abstract] OR "overtime"[Title/Abstract] OR "patient load"[Title/Abstract] OR "doctor-patient"[Title/Abstract] OR "patient relationship*"[Title/Abstract] OR "bullying"[Title/Abstract] OR "job control"[Title/Abstract] OR "autonomy"[Title/Abstract] OR "organizational support"[Title/Abstract] OR "emotional labor"[Title/Abstract] OR "moral distress"[Title/Abstract] OR "work-family conflict"[Title/Abstract] OR "yinao"[Title/Abstract] OR "medical dispute*"[Title/Abstract] OR "workplace violence"[Title/Abstract] OR "aggression"[Title/Abstract]))
Part 3: Help-seeking behavior and intention
Common strategies (see above) AND ("help-seeking behavior"[MeSH Terms] OR help seek*[Title/Abstract] OR treatment seek*[Title/Abstract] OR care seek*[Title/Abstract] OR "health service utilization"[MeSH Terms] OR "treatment use"[Title/Abstract] OR "healthcare utilization"[Title/Abstract] OR "health service utilization"[Title/Abstract] OR "health services"[MeSH Terms] OR "mental health services"[MeSH Terms] OR "treatment use"[Title/Abstract] OR service*[Title/Abstract] OR barrier*[Title/Abstract] OR facilitator*[Title/Abstract] OR "social support"[MeSH Terms] OR "support"[Title/Abstract] OR "social stigma"[MeSH Terms] OR stigma*[Title/Abstract] OR "counseling"[MeSH Terms] OR counsel*[Title/Abstract] OR "disclosure"[MeSH Terms] OR disclos*[Title/Abstract] OR "coping"[Title/Abstract]).
Part 4: Intervention
Common strategies (see above) AND ("randomized controlled trials as topic"[MeSH Terms] OR "RCT"[Title/Abstract] OR "pilot randomized controlled trial"[Title/Abstract] OR "intervention"[Title/Abstract] OR "randomized placebo controlled trial"[Title/Abstract] OR "randomized controlled trial"[Title/Abstract] OR "randomized placebo-controlled clinical trial" [Title/Abstract] OR "placebo-controlled randomized clinical trials"[Title/Abstract] OR "randomized trial"[Title/Abstract] OR "controlled trial"[Title/Abstract] OR "placebo-controlled trial"[Title/

Abstract] OR "clinical trial"[Title/Abstract] OR "pilot trial protocol"[Title/Abstract]).

Participant or population Chinese healthcare workers (doctors, nurses) in mainland China.

Intervention In part 1 to part 3 include depression study.In part 4, a narrative review will identify intervention studies related to depression using RCT design among HCWs in mainland China. The objective is to describe the number and types of such interventions in general. Since the interventions are heterogeneous, a meta-analysis of pooled efficacy may not be too meaningful. Instead, a review of the availability and patten may be a good starting point to describe the state of intervention research in this regard.

Comparator In Part 4, the comparison group will only include placebo-control and no intervention control studies.

Study designs to be included The meta-analysis and review in Part 1 and 3 only include observational studies (cross-sectional, case-control, cohort studies, qualitative studies). In Part 4, we will only include RCT studies. Systematic reviews and meta-analyses will be included for the purpose of "citation chasing" (i.e., screening their reference lists for additional relevant primary studies), but they will not be the primary source of data for this narrative review.

Eligibility criteria Inclusion criteria for all parts (basing on PECO)
1) The study populations will include healthcare workers (HCWs) practicing in mainland China. HCWs include doctors and nurses only to increase homogeneity. The study must include reports on prevalence incidence(part1), factors(part2), help-seeking(part3) and intervention(part4) of depression or depression symptoms. measured using a validated scale (e.g., PHQ-9, BDI, CES-D) or a formal clinical diagnosis.
2) The papers for review will should have been published in in a peer-reviewed journal in English or Chinese, and between January 1, 2010, and May 31, 2025.
3) The studies need to be conducted in mainland China.

Exclusion criteria for all parts
1) Studies including only medical students and trainees who are not yet in clinical practice will not be included.
Editorials, commentaries, letters to the editor, conference abstracts, dissertations, book chapters, grey literature (e.g. unpublished reports) will not be included in the review study.
3) Studies of which the full text cannot be retrieved.

Inclusion/exclusion for Part 2
The study must report an association between at least one occupational factor and depression. Occupational factors include, but are not limited to workload, working hours, shift work, physician-patient relations, workplace violence (including "Yinao"), organizational culture, job control, leadership, social support at work, professional burnout, and work-family conflict. We will include studies that compare different levels of exposure (e.g., high vs. low workload) or studies that report on associations without an explicit comparison group (e.g., correlational studies).

Inclusion/exclusion for Part 3:
Studies investigating prevalence and factors (facilitators and barriers) of mental health help-seeking behaviors or intention among HCW in mainland China regarding depression or depressive symptoms from professionals (e.g., doctors, counsellors), peers, and other informal sources (e.g., family members and friends).
Inclusion/exclusion for Part 4:
Eligible study designs include randomized controlled trials (RCTs). The study must explicitly involve interventions of depression. The study must report intervention effects or related outcomes (e.g. changes in depression levels, improved job satisfaction, etc.).

Information sources English databases of PubMed, Web of Science, and PsycINFO;
Chinese databases of CNKI (China National Knowledge Infrastructure), Wanfang, and VIP (Weipu);
Grey literature including Chinese Health Commission websites, conference proceedings, and government reports.

Main outcome(s) Part1: Prevalence of depression;
Part2: ORs or WMDs for factors of depression;
Part3: Prevalence of different types of help-seeking behaviors/intentions regarding depression or depressive symptoms and the ORs/WMDs of associated facilitators and barriers.
Part4: The types and numbers of RCT on depression interventions targeting HCW in mainland China.

Data management In all parts, data will be from databases of PubMed, Web of Science, PsycINFO, CNKI (China National Knowledge Infrastructure), Wanfang, and VIP (Weipu).

The search strategy will determine through discussions within the group and a preliminary search was conducted. For details, please refer to item 11. Every part will have at least 2 reviewers for screening studies. When two reviewers have disagreement on the included studies, the supervisor of the research (Lau or Yu) will step in to make a judgment. Endnote, Zotero will used to screen studies and record decisions. The Covidence will be used to analysis statistic data. (https://www.covidence.org/).

Quality assessment / Risk of bias analysis Study quality of meta-analysis assessment was conducted using an eight-item assessment instrument for epidemiological studies with the total score ranging from 1 to 8 points. Study qualities were collapsed into low (0-3 points), moderate (4-6 points), and high quality (7 and 8 points). Any uncertainty was resolved by consensus or a discussion with the senior researcher (Lau or Yu).Study quality of meta-analysis assessment was conducted using an eight-item assessment instrument for epidemiological studies with the total score ranging from 1 to 8 points. Study qualities were collapsed into low (0-3 points), moderate (4-6 points), and high quality (7 and 8 points). Any uncertainty was resolved by consensus or a discussion with the senior researcher (Lau or Yu).

Strategy of data synthesis In Part I, the pooled prevalence of depression and corresponding 95% confidence interval (CI) was calculated using the random-effect model. The heterogeneity was evaluated by I2 statistic, with I2 more than 50% indicating high heterogeneity. Meta-regression analyses were performed to explore the source of heterogeneity. Depression will be analyzed as a continuous variable.

Subgroup analysis Subgroup analyses were performed based on the following categorical variables: healthcare worker types (doctors/nurses. timeframe (covid-19, non-covid-19).

Sensitivity analysis Sensitivity analysis of meta-analysis was conducted to test the consistency of primary results by removing each study one by one.

Language restriction Published in English or Chinese. English.

Country(ies) involved China.

Contributions of each author
Author 1 - Yanqiu Yu - Conceptualization; Drafting Original Manuscript; Data Collection and analysis; Editing Manuscript.
Author 2 - Xiaohan Liu - Conceptualization; Drafting Original Manuscript; Data Collection and analysis; Editing Manuscript. Yanqiu Yu and Xiaohan Liu contributes equally to this work..
Author 3 - Yang Wang - Drafting Original Manuscript; Editing Manuscript; Data Collection.
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