# INPLASY

## Risk factors and related outcomes of nurses' mental health: a scoping review from cohort evidences

**Corresponding author:**
Jiaxin Yang

jiaxin0913@csu.edu.cn

**Author Affiliation:**
Clinical Nursing Teaching and Research Section, The Second Xiangya Hospital, Central South University Changsha, Hunan, China.

Yang, JX[1]; Chen, YM[2]; Tian, YS[3]; Li, XT[4]; Huang, CM[5]; Yu, Q[6]; Chen, ZY[7]; Ning, M[8]; Li, SN[9]; Huang, BQ[10]; Peng, YQ[11]; Wu, XJ[12]; Li, YM[13].

## ADMINISTRATIVE INFORMATION

**Support -** No.

**Review Stage at time of this submission -** Data extraction.

**Conflicts of interest -** None declared.

**INPLASY registration number:** INPLASY202370037

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 July 2023 and was last updated on 11 July 2023.

## INTRODUCTION

Review question / Objective What are the demographic and methodological characteristics of the identified cohort studies related to mental health in nurse? What factors can be used as predictors of nurses' mental health? What are the adverse outcome events caused by mental health problems in nurses? What research gaps that can be addressed in future research?

Background The World Health Organization (WHO) defines mental health as an individual's good state of mental, emotional and social well-being, in which they are able to cope with life stresses and have positive personal development and adaptability. Nurse mental health problems refer to various psychological problems and troubles that appear in nurses' professional stage, which are related to various factors such as physiology, psychology, and society. If these problems are not timely and effectively intervened and treated, they may have a negative impact on the physical and mental health of nurses. However, nurses, the largest number of health care workers in the world, play an important role in promoting health, preventing disease and providing primary and community health care, and are key to achieving universal health coverage.

Rationale The research on global nurses' mental health problems has made some achievements, but there are still some limitations. Yet, nurse's mental health—what factors contribute to its development, and what the wider consequences are for individuals, organizations, or their patients —is not always completely elucidated. Moreover, the research design of assessing the influencing factors of nurses' mental health is simple—more cross-sectional studies, fewer cohort studies. No review works have been done in topic analysis of nurse cohort studies. This weakness has an impact on the mental health of nurse in various aspects. A scoping review of existing nurse cohort studies worldwide can answer questions about what is known and unknown in the field of nurses' mental health. On the one hand, a scoping review can help us clarify the extensive evidence related to nurses' mental health, summarize and discover the

heterogeneity of existing research, identify gaps in existing research, and plan and guide the next search strategy[37]. On the other hand, On the other hand, cohort studies can provide high-quality evidence support for the investigation of causality[37]. It will contribute to a better understanding of the mental health of nurses worldwide. Accordingly, we aimed to provide an overview of the literature and research on mental health in nurse; identify the risk factors and protective factors for nurses' mental health based on the health ecology models; investigate the reverse relationship and identify consequences of nurses' mental health problems; map the existing data and identify any gaps in nurse's mental health research.

## METHODS

**Search strategy** The PubMed, EMBASE.com, Epistemonikos database, Web of Science, CINAHL, PsycINFO were searched for articles published before March 1, 2023. Reference lists of articles, gray literature, and conference proceedings were searched. The keywords and Mesh terms of mental health included: The search terms were "Mental Disorder*", "Psychological Phenomena", "Emotion*", "Mental Hygiene", "Mental Health", "psychological health", "psychological distress", "anxiety disorder*", "panic disorder*", "specific phobia*", "anxious neurosis", "anxiety neuroses", "depress*", "melancholia", "Trist mania", "disruptive mood dysregulation disorder*", "dysthymia", "dysthymic", "premenstrual dysphoric disorder*", "Stress*", "Emotional regulation", "Emotion Self-Regulation", "Emotion Regulation", "Emotional Self-Regulation", "Psychological flexibility", "Mood Disorder*", "Affective Disorder*", "Burn out", "Burnout", "fatigue", "dyssomni*", "insomn*", "sleep*", "Wakeful*", ""Post Traumatic Stress Disorder*", "Post traumatic Neuroses", "Post traumatic Stress Disorder*", "Post Traumatic Neuroses", "Post-Traumatic Neuroses", "Post-Traumatic Stress Disorder*", "Post Traumatic Stress Disorder*", "Moral Injur*", "Delayed Onset Post-Traumatic Stress Disorder", "Delayed Onset Post Traumatic Stress Disorder", "Chronic Post-Traumatic Stress Disorder*", "Chronic Post Traumatic Stress Disorder*", "Hypervigilance", "Nervousness", "Obsessive Compulsive Disorder*", "Obsessive Compulsive Neuros*", "Anankastic Personality", "Anankastic Personalities", "compulsion neurosis", "obsessive compulsive reaction", "compulsive neurosu*", "obsessive syndrome", "obsessional compulsive reaction", "obsessional neurosis", "preoccupation neurosis", "stress", "distress", "fear". Depending on the database, combinations of free vocabulary words and/or controlled terms were used.

**Eligibility criteria** Articles for this scoping review were included if they met the following eligibility criteria: (1) participants were employed as nurses/midwife or retired from nursing at baseline and endpoint; (2) studies based on clinical-epidemiological or self-reported mental health data obtained through at least one year follow-up with ≥2 data collection points; (3) followed a prospective or retrospective cohort design to identify ≥1 major risk factors other than age and sex, and to estimate causality; (4) the exposure or endpoint was about mental health. Studies that included both nurses and other healthcare workers were excluded. Studies not published in English were excluded.

**Source of evidence screening and selection** All records were imported into the reference management software EndNote (version 20, Thomson Reuters Corporation), which automatically identified and removed duplicate records. Titles and abstracts were screened for eligibility by two independent researchers. Studies which met the inclusion criteria, or if it is unclear whether the research met the eligibility, will be reviewed in full text. Any disagreement in study selection will be resolved by consensus or by consulting a third researcher.

**Data management** Two researchers independently extracted data into a custom-designed data extraction form. The extracted main content was as follows; (1) cohort characteristics (name, country/regions, sample sizes, cohort baseline, general follow-up assessments); (2) Characteristics of included studies (year, author, sources of studies, study design, sample sizes, age range, male/female, mental health variables, follow-up interval, follow-up period, and main findings. We contacted the authors via e-mail to obtain missing data or important information. Finally, a third researcher examined the data. Disagreements resolved through consensus.

**Reporting results / Analysis of the evidence** Descriptive statistics will be used for the statistical analysis. All identified studies were geographically depicted on a world map and classified by countries and income. Trend graphs will be used to visualize the trends in publications over time and the relative frequency of each specific type of study, respectively[42]. All statistical analyses were conducted using Stata 16.0 software (StataCorp, College Station, Texas, USA).

**Language restriction** English.

**Country(ies) involved** China.

**Keywords** nurse; mental health; risk factor; scoping review; cohort study.

**Contributions of each author**
Author 1 - Jiaxin Yang.
Email: jiaxin0913@csu.edu.cn
Author 2 - Yamin Chen.
Author 3 - Yusheng Tian.
Author 4 - Xuting Li.
Author 5 - Chongmei Huang.
Author 6 - Qiang Yu.
Author 7 - Zengyu Chen.
Author 8 - Meng Ning.
Author 9 - Sini Li.
Author 10 - Bingqing Huang.
Author 11 - Yingqian Peng.
Author 12 - Xinjuan Wu.
Author 13 - Yamin Li.