



BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers' comments and the authors' responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (<http://bmjopen.bmj.com>).

If you have any questions on BMJ Open's open peer review process please email info.bmjopen@bmj.com

BMJ Open

Transition shock among nursing students during clinical practice: a scoping review protocol

Journal:	BMJ Open
Manuscript ID	bmjopen-2024-098112
Article Type:	Protocol
Date Submitted by the Author:	17-Dec-2024
Complete List of Authors:	Jia, Xue-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Ren, Shuang-Shuang ; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Huang , Yang-Yang; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Shi, Pei-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Urology Mi , Yu; Second Affiliated Hospital of Anhui Medical University, The Second Department of Orthopedics Zhang, Miao; Second Affiliated Hospital of Anhui Medical University, Department of nursing Zhu, Gui-yue; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine
Keywords:	Nursing research, Protocols & guidelines < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Psychological Stress < Stress, Psychological

SCHOLARONE™
Manuscripts

only incorporate publications in Chinese or English. Two researchers will independently screen the literature according to inclusion criteria, and then conduct data extraction. Any differences arising between the two researchers will be addressed by engaging in discussion with a third researcher. We will collate, summarize and analyze the extracted data, and subsequently present the results by means of figures, tables and descriptive narratives. This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist.

Ethics and dissemination as this review does not involve patients or public, there is no need for ethical approval. The results of this scoping review will be spread by means of conference presentations and publication in a peer-reviewed academic journal.

Registration The scoping review protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Keywords nursing research; psychological stress; protocols & guidelines.

Strengths and Limitations

Based on our current understanding, this scoping review appears to be the first to focus on the transition shock of nursing students during clinical practice. It will provide a comprehensive overview of the research in this area, and identify knowledge gaps to guide further research. We will use methodology of JBI scoping review to conduct this scoping review, which enhance methodological rigor. In order to ensure that we can retrieve as much evidence as possible, we systematically and comprehensively search electronic databases and grey literature sources. However, due to limited translation resources, we will only include literature written in Chinese or English, which may lead to the exclusion of related literature in other languages. In addition, critical quality appraisal for included studies will not be conducted, which may lead to the inclusion of some studies with poor quality.

INTRODUCTION

Clinical practice is a crucial aspect of nursing education¹. During the clinical practice period, nursing students engage in a hospital environment to apply their knowledge and skills to clinical nursing, guided by experienced practitioners². This is a crucial period

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

for preparing nursing students for the role of registered nurses³. However, due to insufficient knowledge and skills , as well as the complexity in clinical practice period, nursing students often experienced a series of emotional and interpersonal fluctuations when they first entered clinical practice⁴. This may lead to the occurrence of transition shock. The concept of "Transition Shock" refers to a series of psychological and emotional responses when transitioning from a familiar role to a relatively unfamiliar one, which was initially used to describe conflict experiences that newly graduated nurses encountered during their adaptation to the professional nursing role⁵. Nevertheless, recent studies have indicated that nursing students also undergo transition shock when moving from the academic environment of school to the clinical environment ⁶. This negative clinical practice experience not only makes the adaptation to clinical practice difficult, but also influences the smooth transition from nursing students to registered nurses, and eventually could lead them to leave the nursing profession^{7 8}. Thus, identifying the factors that have impacts on transition shock among nursing students and developing strategies to help them cope with it are crucial for ensuring a successful transition into the nursing roles. Previous literature have shown that the influencing factors of transition shock include individual factors⁹, organizational factors¹⁰, educational factors¹¹, and so on. In addition, transition shock negatively affected professional identity¹², quality of nursing care¹³, patient outcomes¹⁴, and so on. Intervention strategies to reduce transition shock involve peer or mentor support¹⁵, psychological interventions¹⁶, transition programs¹⁷, and so on. However, these studies mainly focus on newly graduated nurses. Due to the differences in job content and level of responsibility between nurses and nursing interns, the assessment, influencing factors, and intervention strategies of transition shock among nursing students may differ from those for newly graduated nurses. Recently, there has been a notable increase in research dedicated to transition shock among nursing students. *Kim and Shin* modified the Transition Shock Scale for newly graduated nurses and validated its validity and reliability among nursing students¹⁸. The modified scale has been widely used to assess transition shock of nursing students^{19 20}. *Zhao et al's* study indicated that nursing students experienced a moderate extent of transition shock in clinical placement;

Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies.
Enseignement Supérieur (ABES)

patient safety attitudes, professional identity, and climate of caring were negatively correlated with transition shock². *Kim et al's* study indicated that higher levels of incivility, lower levels of psychological capital were significantly associated with increased levels of transition shock among nursing students²¹. Despite the attention given to transition shock among nursing students during clinical practice, the overview of research done on this topic remains unclear. The scoping review methodology is widely recognized as an effective approach for synthesizing existing evidence. Therefore, we will conduct a scoping review to systematically review the literature about transition shock among nursing students during their clinical practice, synthesize existing evidence, and identify knowledge gaps to guide further research.

OBJECTIVES

The purpose of this scoping review is to map the literature on assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students and identify knowledge gaps to guide further research.

REVIEW QUESTIONS

In accordance with the objectives of this scoping review, the primary research questions are as follows: (1) What assessment tools have been used to measure transition shock of nursing students? (2) What are the factors that affected transition shock among nursing students? (3) What impact does transition shock during clinical practice have on nursing students? (4) What intervention strategies are available to reduce transition shock among nursing students?

METHODS

We will use the Joanna Briggs Institute (JBI) scoping review guidelines as the methodological guidance for this scoping review²². This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist²³. This protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Eligibility criteria

The inclusion criteria are formulated in accordance with the elements of PCC (population, concept, context) and the types of evidence sources.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Population

The population were nursing students who are currently undergoing clinical practice. Newly graduated nursing students are not included.

Concept

This scoping review will focus on studies regarding assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students.

Context

Various Stages of Nursing Students' clinical practice

Types of study design

The type of included studies are quantitative primary studies, including analytical observational studies, experimental and quasi-experimental studies, and so on. In addition, for mixed-methods studies, only the quantitative studies component will be included. Reviews, conference abstracts, protocols, or commentaries will not be considered.

Search strategy

We will conduct a three-step search strategy to identify relevant studies in the topic area. In the initial step, a preliminary search will be conducted in PubMed to identify text words and the index terms. Subsequently, we will employ the identified keywords and index terms conduct systematic searches across all included databases, to ensure the comprehensive identification of relevant literature. These databases include: PubMed, CINAHL (Plus with Full Text), Scopus, ProQuest, EMBASE, PsychINFO, Web of Science, Cochrane library, CNKI (China National Knowledge Infrastructure), Wan Fang, SinoMed. In addition, grey literature will be searched through Google Scholar, OpenGrey. The preliminary search strategy for PubMed is detailed in the online supplemental table 1. Finally, we will hand-search the reference lists of all selected studies to uncover any additional studies that may have been missed. The search period will be restricted from May 2009 to December 2024, as the concept of transition shock was initially described by Duchscher in 2009²⁴. Due to lack of translation resources, this review will only include papers written in Chinese or English.

Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies. Ensignement Supérieur (ABES).

Study selection

The search results will be imported into reference manager software EndNote 20 for deduplication. Following the removal of duplicate records, two researchers (PS and YM) will independently conduct a preliminary screening of the titles and abstracts of the included studies, and then proceed to full-texts screening based on the inclusion criteria. Any discrepancies arising between the two reviewers during the screening process will be resolved through consultation with a third reviewer (GZ). Before initiating the formal literature screening process, we will conduct a pilot-test on 5% of the randomly selected references to verify the reliability of the screening process²⁵. Two researchers will independently conduct the literature screening based on predetermined inclusion criteria. Then, we will use the percentage agreement calculation method to evaluate the consistency level of the two researchers in the literature screening process²⁶. Only when the consistency between the two researchers reaches 75% or higher we will initiate the formal literature screening²⁷. The results of literature search and the screening process will be depicted in a PRISMA-ScR flow diagram, as shown in Figure 1²³. The selection of study will be conducted between January 2025 and March 2025.

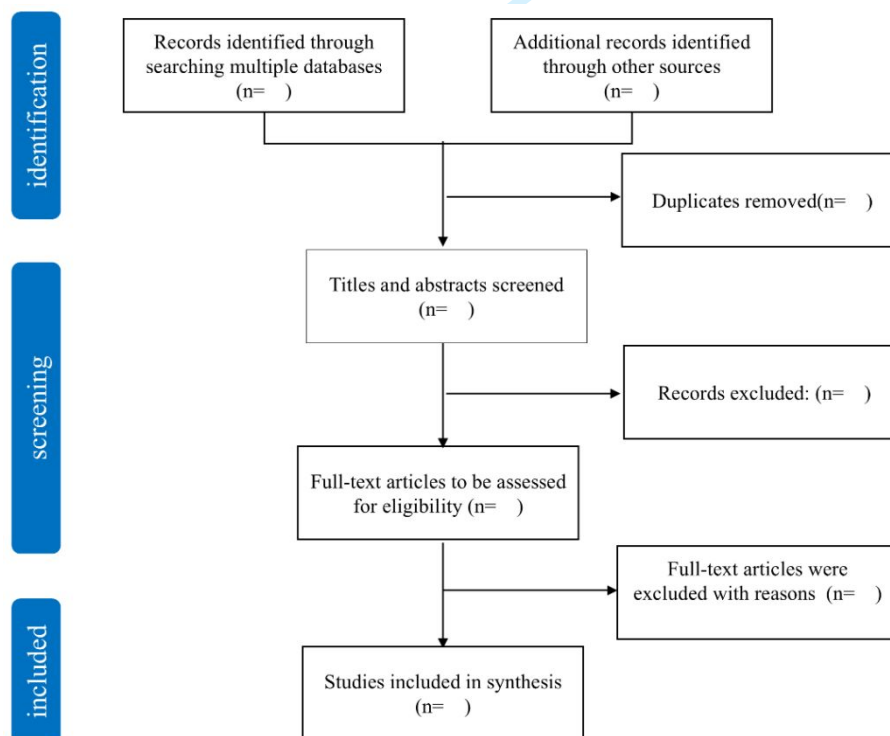


Figure 1 Flowchart for literature screening

Data extraction

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Our research team will develop a data extraction form based on research objectives to capture relevant information, which will be recorded on Microsoft Excel. The extracted data will include author(s), title, publication year, country of origin, aim, study design, settings, population and sample size, assessment tools, influencing factors, outcomes, intervention strategies and key findings. To ensure the feasibility of the data extraction form, two researchers (PS and YM) will pilot the form independently on a randomly selected 10% sample of the included studies. If necessary, the draft of data extracting form will be adjusted or revised. The final form will be presented in the scoping review report. The draft of data extracting form is presented in online supplemental table 2. During the data extraction process, two researchers (PS and YM) will independently perform data extraction from each included study using the form. Any discrepancies arising between the two reviewers will be resolved through consultation with a third reviewer (GZ). Critical quality appraisal of the included studies will not be performed, as the purpose of this scoping review is to provide a broad overview of the existing body of literature. Data extraction will be conducted between March 2025 and July 2025.

Data analysis and presentation

We will use both qualitative and quantitative methods for data synthesis. First, we will use frequency distribution and descriptive statistics to summary characteristics of the included studies. Second, regarding research questions, qualitative inductive methods will be used to classify the assessment tools, influencing factors, the impacts, intervention strategies of transition shock among nursing students. The results of this scoping review will be presented using tables, figures and descriptive narrative to demonstrate how the findings related to the review objectives. Data analysis will be conducted between July 2025 and November 2025.

Patient and public involvement

No patients or the public are involved in this review.

Ethics and dissemination

As this review does not involve patients or the public, there is no need for ethical approval. The results of this scoping review will be spread by means of conference

presentations and publication in a peer-reviewed academic journal.

REFERENCES

1. Lee JJ, Clarke CL, Carson MN. Nursing students' learning dynamics and influencing factors in clinical contexts. *Nurse Education in Practice* 2018;29:103-09. doi: 10.1016/j.nepr.2017.12.003
2. Zhao S, Liang Q, Tao H, et al. Transition shock among nursing interns and its relationship with patient safety attitudes, professional identity and climate of caring: a cross-sectional study. *BMC Nursing* 2024;23(1) doi: 10.1186/s12912-024-01722-5
3. Jonsén E, Melender H-L, Hilli Y. Finnish and Swedish nursing students' experiences of their first clinical practice placement — A qualitative study. *Nurse Education Today* 2013;33(3):297-302. doi: 10.1016/j.nedt.2012.06.012
4. Younas A, Essa CD, Batool SI, et al. Struggles and adaptive strategies of prelicensure nursing students during first clinical experience: A metasynthesis. *Journal of Professional Nursing* 2022;42:89-105. doi: 10.1016/j.profnurs.2022.06.006
5. Duchscher JB, Windey M. Stages of Transition and Transition Shock. *Journal for Nurses in Professional Development* 2018;34(4):228-32. doi: 10.1097/nnd.0000000000000461
6. Ko Y-J, Kim S-Y. Transition Shock Experience of Nursing Students in Clinical Practice: A Phenomenological Approach. *Healthcare* 2022;10(4) doi: 10.3390/healthcare10040613
7. Kim S-y, Shin YS. Structural Model of Professional Socialization of Nursing Students With Clinical Practice Experience. *Journal of Nursing Education* 2020;59(3):133-41. doi: 10.3928/01484834-20200220-03
8. Kaihlanen A-M, Salminen L, Flinkman M, et al. Newly graduated nurses' perceptions of a final clinical practicum facilitating transition: A qualitative descriptive study. *Collegian* 2019;26(1):55-61. doi: 10.1016/j.colegn.2018.03.003
9. Tong Y, Wang T, Tong S, et al. Relationship among core competency, self-efficacy and transition shock in Chinese newly graduated nurses: a cross-sectional study. *BMJ Open* 2024;14(4) doi: 10.1136/bmjopen-2023-082865
10. Kramer M, Brewer BB, Maguire P. Impact of Healthy Work Environments on New Graduate Nurses' Environmental Reality Shock. *Western Journal of Nursing Research* 2011;35(3):348-83. doi: 10.1177/0193945911403939
11. Sterner A, Eklund A, Nilsson MS. Prepared to learn but unprepared for work: A cross sectional survey study exploring the preparedness, challenges, and needs of newly graduated nurses entering a hospital-based transition program. *Nurse Education in Practice* 2023;72 doi: 10.1016/j.nepr.2023.103782
12. Li YR, Liu JY, Fang Y, et al. Novice nurses' transition shock and professional identity: The chain mediating roles of self - efficacy and resilience. *Journal of Clinical Nursing* 2024;33(8):3161-71. doi: 10.1111/jocn.17002
13. Labrague LJ. Relationship between transition shock in novice emergency room nurses, quality of nursing care, and adverse patient events: The mediating role of emotional exhaustion. *Australasian Emergency Care* 2024;27(1):9-14. doi: 10.1016/j.auec.2023.07.001
14. Labrague LJ, Santos JAA. Transition shock and newly graduated nurses' job outcomes and select patient outcomes: A cross - sectional study. *Journal of Nursing Management* 2020;28(5):1070-79. doi: 10.1111/jonm.13033
15. Clipper B, Cherry B. From Transition Shock to Competent Practice: Developing Preceptors to Support

New Nurse Transition. *The Journal of Continuing Education in Nursing* 2015;46(10):448-54. doi: 10.3928/00220124-20150918-02

16. Xu B, Li S, Bian W, et al. Effects of group psychological counselling on transition shock in newly graduated nurses: A quasi - experimental study. *Journal of Nursing Management* 2021;30(2):455-62. doi: 10.1111/jonm.13506

17. Kim EA, Lee JS, Bong YS, et al. Nursing practice readiness improvement program tailored for newly graduated registered nurses: A quasi-experimental study. *Nurse Education Today* 2024;133 doi: 10.1016/j.nedt.2023.106077

18. Kim SY, Shin YS. Validity and Reliability of the Transition Shock Scale for Undergraduate Nursing Students. *Journal of Korean Academic Society of Nursing Education* 2019;25(1):17-26. doi: 10.5977/jkasne.2019.25.1.17

19. Kim J-S. Relationships between reality shock, professional self-concept, and nursing students' perceived trust from nursing educators: A cross-sectional study. *Nurse Education Today* 2020;88 doi: 10.1016/j.nedt.2020.104369

20. Tao H, Fan S, Zhao S, et al. Mediating effects of transition shock and professional identity on the perception of a caring climate in hospitals and patient safety attitudes of nursing interns: A cross-sectional study. *Nurse Education in Practice* 2023;73 doi: 10.1016/j.nepr.2023.103836

21. Woo CH, Kim C. Impact of incivility and psychological capital on nursing students' transition shock. *Collegian* 2022.

22. Peters MD, Godfrey C, Mclnerney P, et al. *Chapter 11: scoping reviews*. In: Aromataris E, Munn Z, eds. JBI Manual for Evidence Synthesis: JBI. 2020: 406–51.

23. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med* 2018;169(7):467-73. doi: 10.7326/M18-0850 [published Online First: 20180904]

24. Duchscher JEB. Transition shock: the initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing* 2009;65(5):1103-13. doi: 10.1111/j.1365-2648.2008.04898.x

25. Thomas A, Lubarsky S, Durning SJ, et al. Knowledge Syntheses in Medical Education: Demystifying Scoping Reviews. *Academic Medicine* 2017;92(2):161-66. doi: 10.1097/acm.0000000000001452

26. Syed M, Nelson SC. guidelines for establishing reliability when coding narrative data. *PsyArXiv* 2017 doi: 10.31234/osf.io/scu9x

27. Aromataris E, Munn Z. JBI manual for evidence synthesis. Adelaide: Joanna Briggs Institute, 2020.

Contributions GZ and MZ conceptualised the manuscript idea. XJ, SR and YH designed the protocol and drafted the manuscript. All the authors contributed to the improvement of the study design as well as to the editing and revision of this protocol.

Competing interests statement None declared

Funding This work was supported by the Teaching Research Project of the Higher Education Institutions of Anhui Province (grant number :2021jyxm0709)

Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies. Ensignment Supérieur (ABES).

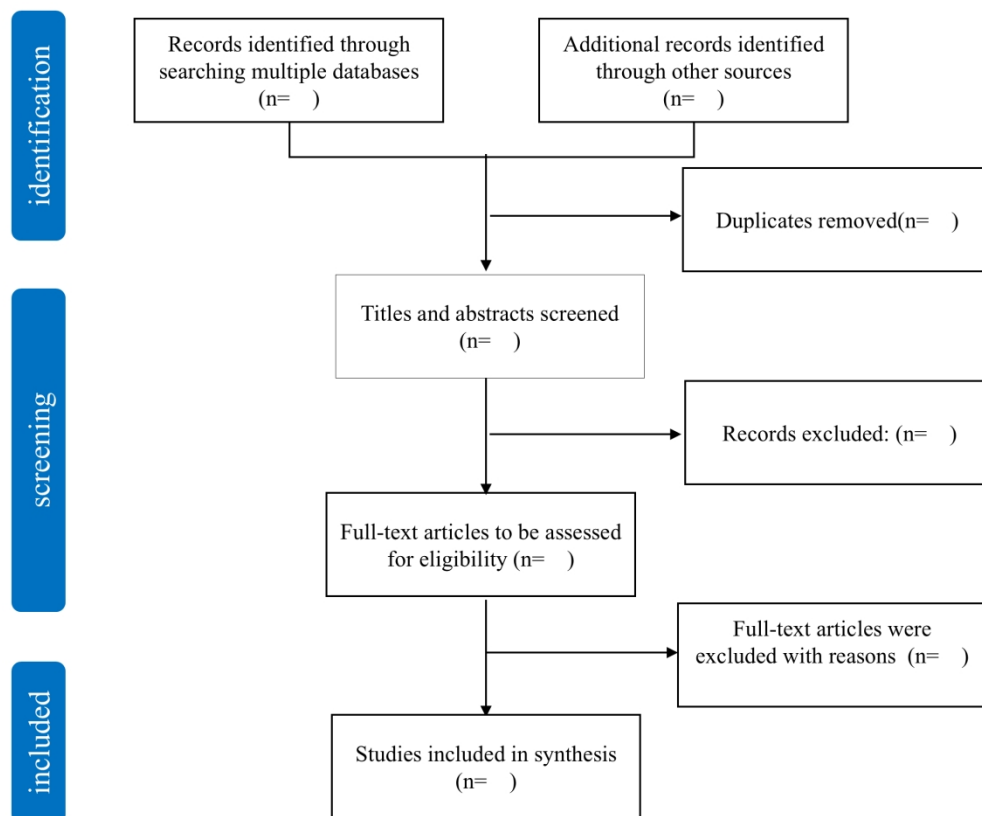


Figure 1 Flowchart for literature screening

187x155mm (300 x 300 DPI)

Table 1. Search strategy used for PubMed (searched on December16,2024)

Search	Query	Records retrieved
#1	student*[Title/Abstract] OR undergrad*[Title/Abstract] OR trainee*[Title/Abstract] OR postgraduate*[Title/Abstract] OR educator*[Title/Abstract] OR intern*[Title/Abstract] OR pre-registrat*[Title/Abstract] OR “pre registration”[Title/Abstract]	1,547,821
#2	nurs*[Title/Abstract]	285,475
#3	"Students, Nursing"[Mesh] OR "Education, Nursing"[Mesh]	37,027
#4	(#1 AND #2) OR #3	108,060
#5	"Clinical Clerkship"[Mesh] OR ("Hospitals"[Mesh]) OR "Preceptorship"[Mesh]	153,843
#6	"clinical practice"[Title/Abstract] OR "clinical training"[Title/Abstract] OR placement*[Title/Abstract] OR clerkship [Title/Abstract] OR preceptorship [Title/Abstract] OR rotation*[Title/Abstract] OR practicum*[Title/Abstract] OR internship[Title/Abstract] OR "clinical setting*" [Title/Abstract] OR "clinical environment"[Title/Abstract] OR "clinical education"[Title/Abstract] OR hospital*[Title/Abstract] OR "clinical context*" [Title/Abstract]	1,634,110
#7	#5 OR #6	1,666,724
#8	"transition shock"[Title/Abstract] OR "reality shock"[Title/Abstract] OR "emotional shock"[Title/Abstract] OR "culture shock"[Title/Abstract] OR "role adaptation"[Title/Abstract] OR "role transition"[Title/Abstract] OR "stressful transition"[Title/Abstract] OR "transitional challenges"[Title/Abstract] OR "real-world shock"[Title/Abstract] OR "maladaptive transitions"[Title/Abstract] OR "transition experience"[Title/Abstract] OR "transfer shock"[Title/Abstract] OR "shock of reality"[Title/Abstract] OR "shock reaction"[Title/Abstract]	962
#9	#4 AND #7 AND #8	183

Table 2. Data Extraction Form

NO.	Author(s)	Year of publication	Country of origin	Aim	Study design	Settings	Population and sample size	Assessment tools	Influencing factors	outcomes	Intervention strategies	Key findings

- Note:
- (1) population and sample size included social demographic of the participants and sample size;
 - (2) interventions strategies were defined as measures or programs provided to reduce participants’ transition shock;
 - (3) outcomes referred to the variables or items influenced by transition shock;
 - (4) assessment tools were specific tools or scales used to assess transition shock of nursing students;
 - (5) setting referred to the specific location where the study was conducted;
 - (6) country of origin referred to which country the study was conducted;
 - (7) key findings referred to other information related to the review questions and objectives.

BMJ Open

Transition shock among nursing students during clinical practice: a scoping review protocol

Journal:	BMJ Open
Manuscript ID	bmjopen-2024-098112.R1
Article Type:	Protocol
Date Submitted by the Author:	01-Feb-2025
Complete List of Authors:	Jia, Xue-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Ren, Shuang-Shuang ; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Huang , Yang-Yang; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Shi, Pei-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Urology Mi , Yu; Second Affiliated Hospital of Anhui Medical University, The Second Department of Orthopedics Zhang, Miao; Second Affiliated Hospital of Anhui Medical University, Department of nursing Zhu, Gui-yue; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine
Primary Subject Heading:	Nursing
Secondary Subject Heading:	Nursing
Keywords:	Nursing research, Protocols & guidelines < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Psychological Stress < Stress, Psychological

SCHOLARONE™
Manuscripts

Transition shock among nursing students during clinical practice: a scoping review protocol

Xue-Li Jia^{†1}, Shuang-Shuang Ren^{†1}, Yang-Yang Huang^{†1}, Pei-Li Shi², Yu Mi³,
Miao Zhang^{*4}, Gui-Yue Zhu^{*1}

1. The First Department of Critical Care Medicine, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China.
2. The First Department of Urology, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China
3. The Second Department of Orthopedics, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China
4. Department of nursing, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China

*Correspondence to: zhuguiyueahmu@126.com (GZ), mm20070317@126.com (MZ)

† These authors contributed equally to this work.

ABSTRACT

Introduction Transition shock is a very common negative clinical practice experience for nursing students, which not only makes the adaptation to clinical practice difficult, but also influences the smooth transition from nursing students to registered nurses, and eventually could lead them to leave the nursing field. Therefore, transition shock of nursing students deserves attention. Recently, there has been a notable increase in research dedicated to transition shock experienced by nursing students. However, the overview of research done on this topic remains unclear. Therefore, we will conduct a scoping review to summarise assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students, and identify knowledge gaps in this field to guide further research.

Methods and analysis We will use the Joanna Briggs Institute (JBI) scoping review guidelines as the methodological guidance for this scoping review. A comprehensive literature search will be conducted through twelve databases and grey literature sources.

The search period will be restricted from May 2009 to December 2024, and this review will only incorporate publications in Chinese or English. Two researchers will independently screen the literature according to inclusion criteria, and then conduct data extraction. Any differences arising between the two researchers will be addressed by engaging in discussion with a third researcher. We will collate, summarize and analyze the extracted data, and subsequently present the results by means of figures, tables and descriptive narratives. This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist.

Ethics and dissemination as this review does not involve patients or public, there is no need for ethical approval. The results of this scoping review will be spread by means of conference presentations and publication in a peer-reviewed academic journal.

Registration The scoping review protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Keywords nursing research; psychological stress; protocols & guidelines.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- The study will follow JBI scoping review guidelines to enhance methodological rigor.
- We will systematically and comprehensively search electronic databases and grey literature sources to ensure all available evidence is identified.
- This scoping review will be limited to included studies written in English or Chinese.
- Critical quality appraisal for included studies will not be conducted.

INTRODUCTION

Clinical practice is a crucial aspect of nursing education¹. During the clinical practice period, nursing students engage in a hospital environment to apply their knowledge and skills to clinical nursing, guided by experienced practitioners². This is an essential period for preparing nursing students for the role of registered nurses³. However, due to insufficient knowledge and skills, as well as the complexity during the clinical practice period, nursing students often experience a series of emotional and

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

interpersonal fluctuations when they first enter clinical practice⁴. This phenomenon is commonly referred to as "Transition Shock". The concept of "Transition Shock" refers to a series of psychological and emotional responses when transitioning from a familiar role to a relatively unfamiliar one, which was initially used to describe conflict experiences that newly graduated nurses encountered during their adaptation to the professional nursing role⁵. Nevertheless, recent studies have indicated that nursing students also undergo transition shock when moving from the academic environment of school to the clinical environment, describing their adaptation to clinical demands as similar to being thrown in the deep end ^{6 7}. This negative clinical practice experience not only makes the adaptation to clinical practice difficult, but also influences the smooth transition from nursing students to registered nurses, and eventually could lead them to leave the nursing profession^{8 9}. Thus, identifying the factors that have impacts on transition shock among nursing students and developing strategies to help them cope with it are crucial for ensuring a successful transition into the nursing roles. Previous literature have shown that the influencing factors of transition shock include individual factors¹⁰, organizational factors¹¹, educational factors, ~~and so on~~.¹²In addition, transition shock negatively affected professional identity¹³, quality of nursing care¹⁴, patient outcomes¹⁵, ~~and so on~~. Intervention strategies to reduce transition shock involve peer or mentor support¹⁶, psychological interventions¹⁷, transition programs¹⁸, ~~and so on~~. However, these studies mainly focus on newly graduated nurses. Due to the differences in job content and level of responsibility between nurses and nursing students, the assessment, influencing factors, and intervention strategies of transition shock among nursing students may differ from those for newly graduated nurses. Recently, there has been a notable increase in research dedicated to transition shock among nursing students. *Kim and Shin* modified the Transition Shock Scale for newly graduated nurses and verified the validity and reliability of this scale among nursing students¹⁹. The modified scale has been widely used to assess transition shock of nursing students^{20 21}. *Zhao et al's* study indicated that nursing students experienced a moderate extent of transition shock in clinical placement; patient safety attitudes, professional identity, and climate of caring were negatively correlated with transition

Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies. Ensignment Supérieur (ABES).

shock². *Kim et al's* study indicated that higher levels of incivility and lower levels of psychological capital were significantly associated with increased levels of transition shock among nursing students²². Despite the attention given to transition shock among nursing students during clinical practice, the overview of research done on this topic remains unclear. The scoping review methodology is widely recognized as an effective approach for synthesizing existing evidence. Therefore, we will conduct a scoping review to systematically review the literature about transition shock among nursing students during their clinical practice, synthesize existing evidence, and identify knowledge gaps to guide further research.

OBJECTIVES

The purpose of this scoping review is to map the literature on assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students and identify knowledge gaps to guide further research.

REVIEW QUESTIONS

In accordance with the objectives of this scoping review, the primary research questions are as follows: (1) What assessment tools have been used to measure transition shock of nursing students? (2) What are the factors that affected transition shock among nursing students? (3) What impact does transition shock among nursing students during clinical practice have? (4) What intervention strategies are available to reduce transition shock among nursing students?

METHODS

We will use the Joanna Briggs Institute (JBI) scoping review guidelines as the methodological guidance for this scoping review²³. This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist²⁴. This protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Eligibility criteria

The inclusion criteria are formulated in accordance with the elements of PCC (population, concept, context) and the types of evidence sources.

Population

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Literature focusing on nursing students who are currently undergoing clinical practice or have already completed their clinical practice will be included, while those focusing on newly graduated nursing students will not be included.

Concept

This scoping review will focus on studies regarding assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students.

Context

Various stages of nursing students' clinical practice

Types of study design

Given that this scoping review focuses on primary research to identify gaps, we will include primary studies that employ a variety of research designs, including quantitative, qualitative, and mixed-methods. Reviews will not be included. Nevertheless, their reference lists will still be searched to ensure relevant articles are retained. Conference abstracts, research protocols, or commentaries will not be considered either, as they do not provide sufficient information to answer the research questions.

Search strategy

We will conduct a three-step search strategy to identify relevant studies in the topic area. In the initial step, a preliminary search will be conducted in PubMed to identify text words and the index terms. Subsequently, we will employ the identified keywords and index terms conduct systematic searches across all included databases, to ensure the comprehensive identification of relevant literature. These databases include: PubMed, CINAHL (Plus with Full Text), Scopus, ProQuest, EMBASE, PsychINFO, Web of Science, Cochrane library, ScienceDirect, CNKI (China National Knowledge Infrastructure), Wan Fang, SinoMed. In addition, grey literature will be searched through Google Scholar, OpenGrey. The preliminary search strategy for PubMed is detailed in the online supplemental table 1. Finally, we will hand-search the reference lists of all selected studies to uncover any additional studies that may have been missed. The search period will be restricted from May 2009 to December 2024, as the concept of transition shock was initially described by Duchscher in 2009²⁵. We will only include

papers written in Chinese or English because the research team is proficient in these two languages. Moreover, the majority of papers published in widely used international databases are in English. Therefore, considering English papers can maximize the coverage of papers that meet the inclusion criteria. the researchers will also searched databases that mainly cover Chinese publications to scope evidence from the context of China.

Study selection

The search results will be imported into reference manager software EndNote 20 for deduplication. Following the removal of duplicate records, two researchers (PS and YM) will independently conduct a preliminary screening of the titles and abstracts of the included studies, and then proceed to full-texts screening based on the inclusion criteria. Any discrepancies arising between the two reviewers during the screening process will be resolved through consultation with a third reviewer (GZ). Before initiating the formal literature screening process, we will conduct a pilot-test on 5% of the randomly selected references to verify the reliability of the screening process²⁶. Two researchers will independently conduct the literature screening based on predetermined inclusion criteria. Then, we will use the percentage agreement calculation method to evaluate the consistency level of the two researchers in the literature screening process²⁷. Only when the consistency between the two researchers reaches 75% or higher we will initiate the formal literature screening²⁸. The results of literature search and the screening process will be depicted in a PRISMA-ScR flow diagram, as shown in Figure 1²⁴. The selection of study will be conducted between January 2025 and March 2025.

Data extraction

Our research team will develop a data extraction form based on research objectives to capture relevant information, which will be recorded on Microsoft Excel. The extracted data will include author(s), title, publication year, country of origin, aim, study design, settings, population and sample size, assessment tools, influencing factors, outcomes, intervention strategies and key findings. To ensure the feasibility of the data extraction form, two researchers (PS and YM) will pilot the form independently on a randomly selected 10% sample of the included studies. If necessary, the draft of data extracting

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

form will be adjusted or revised. The final form will be presented in the scoping review report. The draft of data extracting form is presented in online supplemental table 2. During the data extraction process, two researchers (PS and YM) will independently perform data extraction from each included study using the form. Any discrepancies arising between the two reviewers will be resolved through consultation with a third reviewer (GZ). Critical appraisal assessment is generally not recommended in scoping reviews because the aim is to map the available evidence rather than provide a synthesized and clinically meaningful answer to a question²⁹. Considering that the purpose of this scoping review is to provide a broad overview of research on transition shock of nursing students during their clinical practice, critical quality appraisal of the included studies will not be conducted. Data extraction will be conducted between March 2025 and July 2025.

Data analysis and presentation

We will use both qualitative and quantitative methods for data synthesis. First, we will use frequency distribution and descriptive statistics to summary characteristics of the included studies. Second, regarding research questions, qualitative inductive methods will be used to classify the assessment tools, influencing factors, the impacts, intervention strategies of transition shock among nursing students. The results of this scoping review will be presented using tables, figures and descriptive narrative to demonstrate how the findings related to the review objectives. Data analysis will be conducted between July 2025 and November 2025.

Patient and public involvement

No patients or the public are involved in this review.

Ethics and dissemination

As this review does not involve patients or the public, there is no need for ethical approval. The results of this scoping review will be spread by means of conference presentations and publication in a peer-reviewed academic journal.

REFERENCES

1. Lee JJ, Clarke CL, Carson MN. Nursing students' learning dynamics and influencing factors in clinical contexts. *Nurse Education in Practice* 2018;29:103-09. doi: 10.1016/j.nepr.2017.12.003

- 210 2. Zhao S, Liang Q, Tao H, et al. Transition shock among nursing interns and its relationship with patient
211 safety attitudes, professional identity and climate of caring: a cross-sectional study. *BMC*
212 *Nursing* 2024;23(1) doi: 10.1186/s12912-024-01722-5
- 213 3. Jonsén E, Melender H-L, Hilli Y. Finnish and Swedish nursing students' experiences of their first clinical
214 practice placement — A qualitative study. *Nurse Education Today* 2013;33(3):297-302. doi:
215 10.1016/j.nedt.2012.06.012
- 216 4. Younas A, Essa CD, Batool SI, et al. Struggles and adaptive strategies of prelicensure nursing students
217 during first clinical experience: A metasynthesis. *Journal of Professional Nursing* 2022;42:89-
218 105. doi: 10.1016/j.profnurs.2022.06.006
- 219 5. Duchscher JB, Windey M. Stages of Transition and Transition Shock. *Journal for Nurses in Professional*
220 *Development* 2018;34(4):228-32. doi: 10.1097/nnd.0000000000000461
- 221 6. Ko Y-J, Kim S-Y. Transition Shock Experience of Nursing Students in Clinical Practice: A
222 Phenomenological Approach. *Healthcare* 2022;10(4) doi: 10.3390/healthcare10040613
- 223 7. Gause G, Sehularo LA, Matsipane MJ. Coping strategies used by undergraduate first-year nursing
224 students during transition from basic to higher education: a qualitative study. *BMC Nursing*
225 2024;23(1) doi: 10.1186/s12912-024-01938-5
- 226 8. Kim S-y, Shin YS. Structural Model of Professional Socialization of Nursing Students With Clinical
227 Practice Experience. *Journal of Nursing Education* 2020;59(3):133-41. doi: 10.3928/01484834-
228 20200220-03
- 229 9. Kaihlanen A-M, Salminen L, Flinkman M, et al. Newly graduated nurses' perceptions of a final clinical
230 practicum facilitating transition: A qualitative descriptive study. *Collegian* 2019;26(1):55-61.
231 doi: 10.1016/j.colegn.2018.03.003
- 232 10. Tong Y, Wang T, Tong S, et al. Relationship among core competency, self-efficacy and transition
233 shock in Chinese newly graduated nurses: a cross-sectional study. *BMJ Open* 2024;14(4) doi:
234 10.1136/bmjopen-2023-082865
- 235 11. Kramer M, Brewer BB, Maguire P. Impact of Healthy Work Environments on New Graduate Nurses'
236 Environmental Reality Shock. *Western Journal of Nursing Research* 2011;35(3):348-83. doi:
237 10.1177/0193945911403939
- 238 12. Sterner A, Eklund A, Nilsson MS. Prepared to learn but unprepared for work: A cross sectional survey
239 study exploring the preparedness, challenges, and needs of newly graduated nurses entering
240 a hospital-based transition program. *Nurse Education in Practice* 2023;72 doi:
241 10.1016/j.nepr.2023.103782
- 242 13. Li YR, Liu JY, Fang Y, et al. Novice nurses' transition shock and professional identity: The chain
243 mediating roles of self - efficacy and resilience. *Journal of Clinical Nursing* 2024;33(8):3161-
244 71. doi: 10.1111/jocn.17002
- 245 14. Labrague LJ. Relationship between transition shock in novice emergency room nurses, quality of
246 nursing care, and adverse patient events: The mediating role of emotional exhaustion.
247 *Australasian Emergency Care* 2024;27(1):9-14. doi: 10.1016/j.aupec.2023.07.001
- 248 15. Labrague LJ, Santos JAA. Transition shock and newly graduated nurses' job outcomes and select
249 patient outcomes: A cross - sectional study. *Journal of Nursing Management*
250 2020;28(5):1070-79. doi: 10.1111/jonm.13033
- 251 16. Clipper B, Cherry B. From Transition Shock to Competent Practice: Developing Preceptors to Support
252 New Nurse Transition. *The Journal of Continuing Education in Nursing* 2015;46(10):448-54. doi:
253 10.3928/00220124-20150918-02

17. Xu B, Li S, Bian W, et al. Effects of group psychological counselling on transition shock in newly graduated nurses: A quasi - experimental study. *Journal of Nursing Management* 2021;30(2):455-62. doi: 10.1111/jonm.13506

18. Kim EA, Lee JS, Bong YS, et al. Nursing practice readiness improvement program tailored for newly graduated registered nurses: A quasi-experimental study. *Nurse Education Today* 2024;133 doi: 10.1016/j.nedt.2023.106077

19. Kim SY, Shin YS. Validity and Reliability of the Transition Shock Scale for Undergraduate Nursing Students. *Journal of Korean Academic Society of Nursing Education* 2019;25(1):17-26. doi: 10.5977/jkasne.2019.25.1.17

20. Kim J-S. Relationships between reality shock, professional self-concept, and nursing students' perceived trust from nursing educators: A cross-sectional study. *Nurse Education Today* 2020;88 doi: 10.1016/j.nedt.2020.104369

21. Tao H, Fan S, Zhao S, et al. Mediating effects of transition shock and professional identity on the perception of a caring climate in hospitals and patient safety attitudes of nursing interns: A cross-sectional study. *Nurse Education in Practice* 2023;73 doi: 10.1016/j.nepr.2023.103836

22. Woo CH, Kim C. Impact of incivility and psychological capital on nursing students' transition shock. *Collegian* 2022

23. Peters MD, Godfrey C, Mclnerney P, et al. Chapter 11: scoping reviews. In: Aromataris E, Munn Z, eds. *JBIManual for Evidence Synthesis: JBI*.

24. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med* 2018;169(7):467-73. doi: 10.7326/M18-0850 [published Online First: 20180904]

25. Duchscher JEB. Transition shock: the initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing* 2009;65(5):1103-13. doi: 10.1111/j.1365-2648.2008.04898.x

26. Thomas A, Lubarsky S, Durning SJ, et al. Knowledge Syntheses in Medical Education: Demystifying Scoping Reviews. *Academic Medicine* 2017;92(2):161-66. doi: 10.1097/acm.0000000000001452

27. Syed M, Nelson SC. guidelines for establishing reliability when coding narrative data. *PsyArXiv* 2017 doi: 10.31234/osf.io/scu9x

28. Aromataris E, Munn Z. *JBIManual for evidence synthesis*. Adelaide: Joanna Briggs Institute, 2020.

29. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. *JBIEvidence Implementation* 2021;19(1):3-10. doi: 10.1097/xeb.0000000000000277

Figure legends

Figure 1 Flowchart for literature screening

Contributions GZ and MZ conceptualised the manuscript idea. XJ, SR and YH designed the protocol and drafted the manuscript. All the authors contributed to the improvement of the study design as well as to the editing and revision of this protocol. GZ is responsible for the overall content as guarantor.

Competing interests statement None declared

For peer review only

294 **Funding** This work was supported by the Teaching Research Project of the Higher
295 Education Institutions of Anhui Province (grant number :2021jyxm0709)

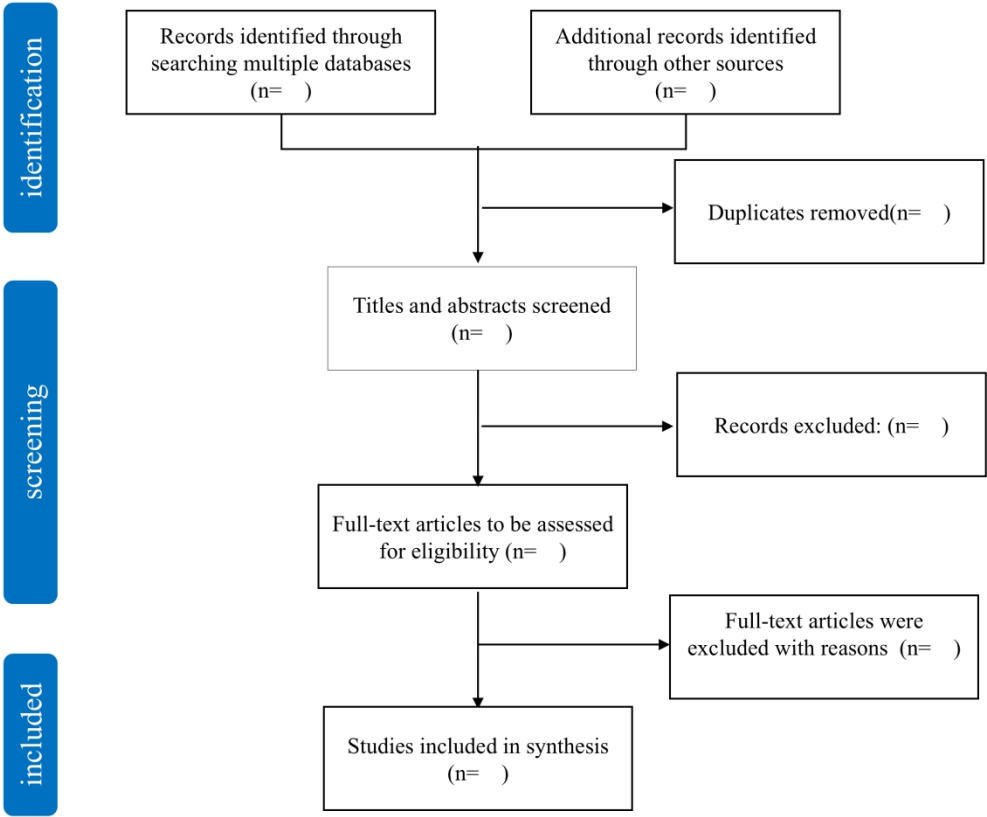


Figure 1 Flowchart for literature screening

187x155mm (300 x 300 DPI)

Table 1. Search strategy used for PubMed (searched on December 16, 2024)

Search	Query	Records retrieved
#1	student*[Title/Abstract] OR undergrad*[Title/Abstract] OR trainee*[Title/Abstract] OR postgraduate*[Title/Abstract] OR educator*[Title/Abstract] OR intern*[Title/Abstract] OR pre-registrat*[Title/Abstract] OR "pre registration"[Title/Abstract]	1,547,821
#2	nurs*[Title/Abstract]	285,475
#3	"Students, Nursing"[Mesh] OR "Education, Nursing"[Mesh]	37,027
#4	(#1 AND #2) OR #3	108,060
#5	"Clinical Clerkship"[Mesh] OR ("Hospitals"[Mesh]) OR "Preceptorship"[Mesh]	153,843
#6	"clinical practice"[Title/Abstract] OR "clinical training"[Title/Abstract] OR placement*[Title/Abstract] OR clerkship [Title/Abstract] OR preceptorship [Title/Abstract] OR rotation*[Title/Abstract] OR practicum*[Title/Abstract] OR internship[Title/Abstract] OR "clinical setting*" [Title/Abstract] OR "clinical environment"[Title/Abstract] OR "clinical education"[Title/Abstract] OR hospital*[Title/Abstract] OR "clinical context*" [Title/Abstract]	1,634,110
#7	#5 OR #6	1,666,724
#8	"transition shock"[Title/Abstract] OR "reality shock"[Title/Abstract] OR "emotional shock"[Title/Abstract] OR "culture shock"[Title/Abstract] OR "role adaptation"[Title/Abstract] OR "role transition"[Title/Abstract] OR "stressful transition"[Title/Abstract] OR "transitional challenges"[Title/Abstract] OR "real-world shock"[Title/Abstract] OR "maladaptive transitions"[Title/Abstract] OR "transition experience"[Title/Abstract] OR "transfer shock"[Title/Abstract] OR "shock of reality"[Title/Abstract] OR "shock reaction"[Title/Abstract]	962
#9	#4 AND #7 AND #8	183

Table 2. Data Extraction Form

NO.	Author(s)	Year of publication	Country of origin	Aim	Study design	Settings	Population and sample size	Assessment tools	Influencing factors	Outcomes	Intervention strategies	Key findings

- Note:
- (1) population and sample size included social demographic of the participants and sample size;
 - (2) intervention strategies were defined as measures or programs provided to reduce participants’ transition shock;
 - (3) outcomes referred to the variables or items influenced by transition shock;
 - (4) assessment tools were specific tools or scales used to assess transition shock of nursing students;
 - (5) setting referred to the specific location where the study was conducted;
 - (6) country of origin referred to which country the study was conducted;
 - (7) key findings referred to other information related to the review questions and objectives.
 - (8) Influencing factors referred to the variables or items that affected transition shock of nursing students.

BMJ Open

Transition shock among nursing students during clinical practice: a scoping review protocol

Journal:	BMJ Open
Manuscript ID	bmjopen-2024-098112.R2
Article Type:	Protocol
Date Submitted by the Author:	15-Feb-2025
Complete List of Authors:	Jia, Xue-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Ren, Shuang-Shuang ; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Huang , Yang-Yang; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine Shi, Pei-Li; Second Affiliated Hospital of Anhui Medical University, The First Department of Urology Mi , Yu; Second Affiliated Hospital of Anhui Medical University, The Second Department of Orthopedics Zhang, Miao; Second Affiliated Hospital of Anhui Medical University, Department of nursing Zhu, Gui-yue; Second Affiliated Hospital of Anhui Medical University, The First Department of Critical Care Medicine
Primary Subject Heading:	Nursing
Secondary Subject Heading:	Nursing
Keywords:	Nursing research, Protocols & guidelines < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Psychological Stress < Stress, Psychological

SCHOLARONE™
Manuscripts

Transition shock among nursing students during clinical practice: a scoping review protocol

Xue-Li Jia^{†1}, Shuang-Shuang Ren^{†1}, Yang-Yang Huang^{†1}, Pei-Li Shi², Yu Mi³,
Miao Zhang^{*4}, Gui-Yue Zhu^{*1}

1. The First Department of Critical Care Medicine, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China.
2. The First Department of Urology, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China
3. The Second Department of Orthopedics, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China
4. Department of nursing, The Second Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China

*Correspondence to: zhuguiyueahmu@126.com (GZ), mm20070317@126.com (MZ)

† These authors contributed equally to this work.

ABSTRACT

Introduction Transition shock is a very common negative clinical practice experience for nursing students, which not only makes the adaptation to clinical practice difficult, but also influences the smooth transition from nursing students to registered nurses, and eventually could lead them to leave the nursing field. Therefore, transition shock of nursing students deserves attention. Recently, there has been a notable increase in research dedicated to transition shock experienced by nursing students. However, the overview of research done on this topic remains unclear. Therefore, we will conduct a scoping review to summarise assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students, and identify knowledge gaps in this field to guide further research.

Methods and analysis We will follow the Joanna Briggs Institute (JBI) scoping review guidelines to conduct this scoping review. A comprehensive literature search will be conducted through twelve databases and grey literature sources. The search period will

be restricted from May 2009 to December 2024, and this review will only incorporate publications in Chinese or English. Two researchers will independently screen the literature according to inclusion criteria, and then conduct data extraction. Any differences arising between the two researchers will be addressed by engaging in discussion with a third researcher. We will collate, summarize and analyze the extracted data, and subsequently present the results by means of figures, tables and descriptive narratives. This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist.

Ethics and dissemination As this review does not involve patients or public, there is no need for ethical approval. The results of this scoping review will be disseminated by means of conference presentations and publication in a peer-reviewed academic journal.

Registration The scoping review protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Keywords nursing research; psychological stress; protocols & guidelines.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- The study will follow JBI scoping review guidelines to enhance methodological rigor.
- We will systematically and comprehensively search electronic databases and grey literature sources to ensure all available evidence is identified.
- This scoping review will be limited to included studies written in English or Chinese.
- Critical quality appraisal for included studies will not be conducted.

INTRODUCTION

Clinical practice is a crucial aspect of nursing education. ¹During the clinical practice period, nursing students engage in a hospital environment to apply their knowledge and skills to clinical nursing, guided by experienced practitioners. ² This is an essential period for preparing nursing students for the role of registered nurses. ³ However, due to insufficient knowledge and skills, as well as the complexity during the clinical practice period, nursing students often experience a series of emotional and

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

interpersonal fluctuations when they first enter clinical practice.⁴ This phenomenon is commonly referred to as “Transition Shock”. The concept of “Transition Shock” refers to a series of psychological and emotional responses when transitioning from a familiar role to a relatively unfamiliar one, which was initially used to describe conflict experiences that newly graduated nurses encountered during their adaptation to the professional nursing role.⁵ Nevertheless, recent studies have indicated that nursing students also undergo transition shock when moving from the academic environment of school to the clinical environment, describing their adaptation to clinical demands as similar to “being thrown in the deep end”.^{6 7} This negative clinical practice experience not only makes the adaptation to clinical practice difficult, but also influences the smooth transition from nursing students to registered nurses, and eventually could lead them to leave the nursing profession.^{8 9} Thus, identifying the factors that have impacts on transition shock among nursing students and developing strategies to help them cope with it are crucial for ensuring a successful transition into the nursing roles. Previous literature have shown that the influencing factors of transition shock include individual factors¹⁰, organizational factors¹¹, educational factors¹². In addition, transition shock negatively affected professional identity,¹³ quality of nursing care,¹⁴ patient outcomes.¹⁵ Intervention strategies to reduce transition shock involve peer or mentor support¹⁶, psychological interventions,¹⁷ transition programs.¹⁸ However, these studies mainly focus on newly graduated nurses. Due to the differences in job content and level of responsibility between nurses and nursing students, the assessment, influencing factors, and intervention strategies of transition shock among nursing students may differ from those for newly graduated nurses. Recently, there has been a notable increase in research dedicated to transition shock among nursing students. *Kim and Shin* modified the Transition Shock Scale for newly graduated nurses and verified the validity and reliability of this scale among nursing students.¹⁹ The modified scale has been widely used to assess transition shock of nursing students.^{20 21} *Zhao et al’s* study indicated that nursing students experienced a moderate extent of transition shock in clinical placement; patient safety attitudes, professional identity, and climate of caring were negatively correlated with transition shock.² *Kim et al’s* study indicated that higher levels of

Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies.
Enseignement Supérieur (ABES).

incivility and lower levels of psychological capital were significantly associated with increased levels of transition shock among nursing students.²² Despite the attention given to transition shock among nursing students during clinical practice, the overview of research done on this topic remains unclear. The scoping review methodology is widely recognized as an effective approach for synthesizing existing evidence. Therefore, we will conduct a scoping review to systematically review the literature about transition shock among nursing students during their clinical practice, synthesize existing evidence, and identify knowledge gaps to guide further research.

OBJECTIVES

The purpose of this scoping review is to map the literature on assessment tools, influencing factors, the impacts and intervention strategies of transition shock among nursing students and identify knowledge gaps to guide further research.

REVIEW QUESTIONS

In accordance with the objectives of this scoping review, the primary research questions are as follows: (1) What assessment tools have been used to measure transition shock of nursing students? (2) What are the factors that affected transition shock among nursing students? (3) What impact does transition shock among nursing students during clinical practice have? (4) What intervention strategies are available to reduce transition shock among nursing students?

METHODS

We will follow the Joanna Briggs Institute (JBI) scoping review guidelines to conduct this scoping review.²³ This review will be reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting checklist.²⁴ This protocol is registered in the Open Science Framework (OSF; <https://osf.io/2r6jn/>).

Eligibility criteria

The inclusion criteria are formulated in accordance with the elements of PCC (population, concept, context) and the types of evidence sources.

Population

Literature focusing on nursing students who are currently undergoing clinical practice

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

120 or have already completed their clinical practice will be included, while those focusing
121 on newly graduated nursing students will not be included.

122 *Concept*

123 This scoping review will focus on studies regarding assessment tools, influencing
124 factors, the impacts and intervention strategies of transition shock among nursing
125 students.

126 *Context*

127 Various stages of nursing students' clinical practice

128 *Types of study design*

129 Given that this scoping review focuses on primary research to identify gaps, we will
130 include primary studies that employ a variety of research designs, including quantitative,
131 qualitative, and mixed-methods. Reviews will not be included. Nevertheless, their
132 reference lists will still be searched to ensure relevant articles are retained. Conference
133 abstracts, research protocols, or commentaries will not be considered either, as they do
134 not provide sufficient information to answer the research questions.

135 **Search strategy**

136 We will conduct a three-step search strategy to identify relevant studies in the topic area.
137 In the initial step, a preliminary search will be conducted in PubMed to identify text
138 words and the index terms. Subsequently, we will employ the identified keywords and
139 index terms to conduct systematic searches across all included databases, ensuring the
140 comprehensive identification of relevant literature. These databases include: PubMed,
141 CINAHL (Plus with Full Text), Scopus, ProQuest, Embase, PsycInfo, Web of Science,
142 Cochrane Library, ScienceDirect, CNKI (China National Knowledge Infrastructure),
143 Wan Fang, SinoMed. In addition, grey literature will be searched through Google
144 Scholar, OpenGrey. Full search strategies for all included databases are detailed in
145 online supplemental table 1. Finally, we will hand-search the reference lists of all
146 selected studies to uncover any additional studies that may have been missed. The
147 search period will be restricted from May 2009 to December 2024, as the concept of
148 transition shock was initially described by Duchscher in 2009.²⁵ We will only include
149 papers written in Chinese or English because the research team is proficient in these

two languages. Moreover, the majority of papers published in widely used international databases are in English. Therefore, considering English papers can maximize the coverage of papers that meet the inclusion criteria. the researchers will also search databases that mainly cover Chinese publications to scope evidence from the context of China.

Study selection

The search results will be imported into reference manager software EndNote 20 for deduplication. Following the removal of duplicate records, two researchers (PS and YM) will independently conduct a preliminary screening of the titles and abstracts of the included studies, and then proceed to full-text screening based on the inclusion criteria. Any discrepancies arising between the two reviewers during the screening process will be resolved through consultation with a third reviewer (GZ). Before initiating the formal literature screening process, we will conduct a pilot-test on 5% of the randomly selected references to verify the reliability of the screening process.²⁶ Two researchers will independently conduct the literature screening based on predetermined inclusion criteria. Then, we will use the percentage agreement calculation method to evaluate the consistency level of the two researchers in the literature screening process.²⁷ Only when the consistency between the two researchers reaches 75% or higher will we initiate the formal literature screening.²⁸ The results of literature search and the screening process will be depicted in a PRISMA-ScR flow diagram, as shown in Figure 1.²⁴ The selection of study will be conducted between January 2025 and March 2025.

Data extraction

Our research team will develop a data extraction form based on research objectives to capture relevant information, which will be recorded on Microsoft Excel. The extracted data will include author(s), title, publication year, country of origin, aim, study design, settings, population and sample size, assessment tools, influencing factors, outcomes, intervention strategies and key findings. To ensure the feasibility of the data extraction form, two researchers (PS and YM) will pilot the form independently on a random 10% sample of the included studies. If necessary, the draft of the data extraction form will be adjusted or revised. The final form will be presented in the scoping review report.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

The draft of the data extraction form is presented in online supplemental table 2. During the data extraction process, two researchers (PS and YM) will independently perform data extraction from each included study using the form. Any discrepancies arising between the two reviewers will be resolved through consultation with a third reviewer (GZ). Critical appraisal assessment is generally not recommended in scoping reviews because the aim is to map the available evidence rather than provide a synthesized and clinically meaningful answer to a question.²⁹ Considering that the purpose of this scoping review is to provide a broad overview of research on transition shock of nursing students during their clinical practice, critical quality appraisal of the included studies will not be conducted. Data extraction will be conducted between March 2025 and July 2025.

Data analysis and presentation

We will use both qualitative and quantitative methods for data synthesis. First, we will use frequency distribution and descriptive statistics to summarize characteristics of the included studies. Second, regarding research questions, qualitative inductive methods will be used to classify the assessment tools, influencing factors, the impacts, intervention strategies of transition shock among nursing students. The results of this scoping review will be presented using tables, figures and descriptive narrative to demonstrate how the findings are related to the review objectives. Data analysis will be conducted between July 2025 and November 2025.

Patient and public involvement

No patients or the public are involved in this review.

Ethics and dissemination

As this review does not involve patients or the public, there is no need for ethical approval. The results of this scoping review will be disseminated by means of conference presentations and publication in a peer-reviewed academic journal.

REFERENCES

1. Lee JJ, Clarke CL, Carson MN. Nursing students' learning dynamics and influencing factors in clinical contexts. *Nurse Education in Practice* 2018;29:103-09. doi: 10.1016/j.nepr.2017.12.003
2. Zhao S, Liang Q, Tao H, et al. Transition shock among nursing interns and its relationship with patient safety attitudes, professional identity and climate of caring: a cross-sectional study. *BMC*

- 211 *Nursing* 2024;23(1) doi: 10.1186/s12912-024-01722-5
- 212 3. Jonsén E, Melender H-L, Hilli Y. Finnish and Swedish nursing students' experiences of their first clinical
- 213 practice placement — A qualitative study. *Nurse Education Today* 2013;33(3):297-302. doi:
- 214 10.1016/j.nedt.2012.06.012
- 215 4. Younas A, Essa CD, Batool SI, et al. Struggles and adaptive strategies of prelicensure nursing students
- 216 during first clinical experience: A metasynthesis. *Journal of Professional Nursing* 2022;42:89-
- 217 105. doi: 10.1016/j.profnurs.2022.06.006
- 218 5. Duchscher JB, Windey M. Stages of Transition and Transition Shock. *Journal for Nurses in Professional*
- 219 *Development* 2018;34(4):228-32. doi: 10.1097/nnd.0000000000000461
- 220 6. Ko Y-J, Kim S-Y. Transition Shock Experience of Nursing Students in Clinical Practice: A
- 221 Phenomenological Approach. *Healthcare* 2022;10(4) doi: 10.3390/healthcare10040613
- 222 7. Gause G, Sehularo LA, Matsipane MJ. Coping strategies used by undergraduate first-year nursing
- 223 students during transition from basic to higher education: a qualitative study. *BMC Nursing*
- 224 2024;23(1) doi: 10.1186/s12912-024-01938-5
- 225 8. Kim S-y, Shin YS. Structural Model of Professional Socialization of Nursing Students With Clinical
- 226 Practice Experience. *Journal of Nursing Education* 2020;59(3):133-41. doi: 10.3928/01484834-
- 227 20200220-03
- 228 9. Kaihlanen A-M, Salminen L, Flinkman M, et al. Newly graduated nurses' perceptions of a final clinical
- 229 practicum facilitating transition: A qualitative descriptive study. *Collegian* 2019;26(1):55-61.
- 230 doi: 10.1016/j.colegn.2018.03.003
- 231 10. Tong Y, Wang T, Tong S, et al. Relationship among core competency, self-efficacy and transition
- 232 shock in Chinese newly graduated nurses: a cross-sectional study. *BMJ Open* 2024;14(4) doi:
- 233 10.1136/bmjopen-2023-082865
- 234 11. Kramer M, Brewer BB, Maguire P. Impact of Healthy Work Environments on New Graduate Nurses'
- 235 Environmental Reality Shock. *Western Journal of Nursing Research* 2011;35(3):348-83. doi:
- 236 10.1177/0193945911403939
- 237 12. Sterner A, Eklund A, Nilsson MS. Prepared to learn but unprepared for work: A cross sectional survey
- 238 study exploring the preparedness, challenges, and needs of newly graduated nurses entering
- 239 a hospital-based transition program. *Nurse Education in Practice* 2023;72 doi:
- 240 10.1016/j.nepr.2023.103782
- 241 13. Li YR, Liu JY, Fang Y, et al. Novice nurses' transition shock and professional identity: The chain
- 242 mediating roles of self - efficacy and resilience. *Journal of Clinical Nursing* 2024;33(8):3161-
- 243 71. doi: 10.1111/jocn.17002
- 244 14. Labrague LJ. Relationship between transition shock in novice emergency room nurses, quality of
- 245 nursing care, and adverse patient events: The mediating role of emotional exhaustion.
- 246 *Australasian Emergency Care* 2024;27(1):9-14. doi: 10.1016/j.auec.2023.07.001
- 247 15. Labrague LJ, Santos JAA. Transition shock and newly graduated nurses' job outcomes and select
- 248 patient outcomes: A cross - sectional study. *Journal of Nursing Management*
- 249 2020;28(5):1070-79. doi: 10.1111/jonm.13033
- 250 16. Clipper B, Cherry B. From Transition Shock to Competent Practice: Developing Preceptors to Support
- 251 New Nurse Transition. *The Journal of Continuing Education in Nursing* 2015;46(10):448-54. doi:
- 252 10.3928/00220124-20150918-02
- 253 17. Xu B, Li S, Bian W, et al. Effects of group psychological counselling on transition shock in newly
- 254 graduated nurses: A quasi - experimental study. *Journal of Nursing Management*

2021;30(2):455-62. doi: 10.1111/jonm.13506

18. Kim EA, Lee JS, Bong YS, et al. Nursing practice readiness improvement program tailored for newly graduated registered nurses: A quasi-experimental study. *Nurse Education Today* 2024;133 doi: 10.1016/j.nedt.2023.106077

19. Kim SY, Shin YS. Validity and Reliability of the Transition Shock Scale for Undergraduate Nursing Students. *Journal of Korean Academic Society of Nursing Education* 2019;25(1):17-26. doi: 10.5977/jkasne.2019.25.1.17

20. Kim J-S. Relationships between reality shock, professional self-concept, and nursing students' perceived trust from nursing educators: A cross-sectional study. *Nurse Education Today* 2020;88 doi: 10.1016/j.nedt.2020.104369

21. Tao H, Fan S, Zhao S, et al. Mediating effects of transition shock and professional identity on the perception of a caring climate in hospitals and patient safety attitudes of nursing interns: A cross-sectional study. *Nurse Education in Practice* 2023;73 doi: 10.1016/j.nepr.2023.103836

22. Woo CH, Kim C. Impact of incivility and psychological capital on nursing students' transition shock. *Collegian* 2022

23. Peters MD, Godfrey C, McInerney P, et al. *Chapter 11: scoping reviews. In: Aromataris E, Munn Z, eds. JBI Manual for Evidence Synthesis: JBI.*

24. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med* 2018;169(7):467-73. doi: 10.7326/M18-0850 [published Online First: 20180904]

25. Duchscher JEB. Transition shock: the initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing* 2009;65(5):1103-13. doi: 10.1111/j.1365-2648.2008.04898.x

26. Thomas A, Lubarsky S, Durning SJ, et al. Knowledge Syntheses in Medical Education: Demystifying Scoping Reviews. *Academic Medicine* 2017;92(2):161-66. doi: 10.1097/acm.0000000000001452

27. Syed M, Nelson SC. guidelines for establishing reliability when coding narrative data. *PsyArXiv* 2017 doi: 10.31234/osf.io/scu9x

28. Aromataris E, Munn Z. JBI manual for evidence synthesis. Adelaide: Joanna Briggs Institute, 2020.

29. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Implementation* 2021;19(1):3-10. doi: 10.1097/xeb.0000000000000277

Figure legends

Figure 1 Flowchart for literature screening

Contributions GZ and MZ conceptualised the manuscript idea. XJ, SR and YH designed the protocol and drafted the manuscript. All the authors contributed to the improvement of the study design as well as to the editing and revision of this protocol. GZ is responsible for the overall content as guarantor.

Competing interests statement None declared

Funding This work was supported by the Teaching Research Project of the Higher Education Institutions of Anhui Province (grant number :2021jyxm0709)

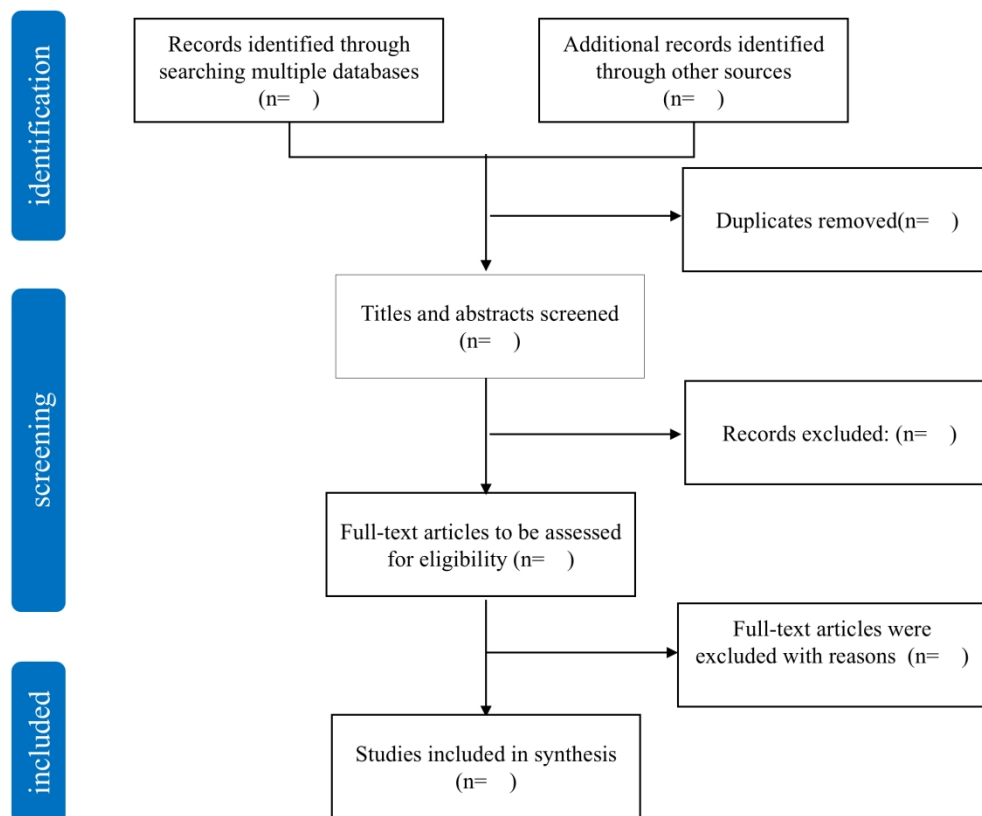


Figure 1 Flowchart for literature screening

187x155mm (300 x 300 DPI)

Table 1 Search strategies for databases

1.Database: PubMed Number of results:146 Date of Update Search: February 10th, 2025		
Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31 b. Humans or Animal: Human c. Language: English, Chinese		
NO.	Search strategies	Results
#1	student*[Title/Abstract] OR undergrad*[Title/Abstract] OR trainee*[Title/Abstract] OR pre-registrat*[Title/Abstract] OR pre-registrat*[Title/Abstract] OR educat*[Title/Abstract] OR intern*[Title/Abstract] OR pre-registrat*[Title/Abstract]	2,372,640
#2	nurs*[Title/Abstract]	573,734
#3	"Students, Nursing"[Mesh] OR "Education, Nursing"[Mesh]	105,296
#4	(#1 AND #2) OR #3	208,941
#5	"Clinical Clerkship"[Mesh] OR ("Hospitals"[Mesh]) OR "Preceptorship"[Mesh]	343,415
#6	"Clinical practice"[Title/Abstract] OR "clinical training"[Title/Abstract] OR placement*[Title/Abstract] OR clerkship[Title/Abstract] OR preceptorship[Title/Abstract] OR rotation*[Title/Abstract] OR practicum*[Title/Abstract] OR internship[Title/Abstract] OR "clinical setting"[Title/Abstract] OR "clinical environment"[Title/Abstract] OR "clinical education"[Title/Abstract] OR hospital*[Title/Abstract] OR "clinical context"[Title/Abstract]	2,487,153
#7	#5 OR #6	2,595,302
#8	"transition shock"[Title/Abstract] OR "reality shock"[Title/Abstract] OR "emotional shock"[Title/Abstract] OR "culture shock"[Title/Abstract] OR "role adaptation"[Title/Abstract] OR "role transition"[Title/Abstract] OR "stressful transition"[Title/Abstract] OR "transitional challenges"[Title/Abstract] OR "real-world shock"[Title/Abstract] OR "maladaptive transitions"[Title/Abstract] OR "transition experience"[Title/Abstract] OR "transfer* shock"[Title/Abstract] OR "shock of reality"[Title/Abstract] OR "shock reaction"[Title/Abstract]	1,473
#9	(#4 AND #7 AND #8) AND (2009/5/1:2024/12/31[pdat]) AND (chinese[Filter] OR english[Filter]) AND	146

	(humans[Filter])	
2.Database: Scopus Number of results:287 Date of Update Search: February 10th, 2025		
Search limit: a. Publication Years: 2009-2024 b. Language: English, Chinese		
NO.	Search strategies	Results
#1	TITLE-ABS-KEY(student*) OR TITLE-ABS-KEY(undergrad*) OR TITLE-ABS-KEY(bachelor*) OR TITLE-ABS-KEY(pupil*) OR TITLE-ABS-KEY(educat*) OR TITLE-ABS-KEY(intern*) OR TITLE-ABS-KEY(pre-registrat*) OR TITLE-ABS-KEY("pre registrat*")	9,042,349
#2	TITLE-ABS-KEY (nurs*)	1,050,651
#3	#1 AND #2	343,327
#4	TITLE-ABS-KEY("clinical practice") OR TITLE-ABS-KEY("clinical training") OR TITLE-ABS-KEY(placement*) OR TITLE-ABS-KEY(clerkship) OR TITLE-ABS-KEY(preceptorship) OR TITLE-ABS-KEY(rotation*) OR TITLE-ABS-KEY(practicum*) OR TITLE-ABS-KEY(internship) OR TITLE-ABS-KEY("clinical setting*") OR TITLE-ABS-KEY("clinical environment") OR TITLE-ABS-KEY("clinical education") OR TITLE-ABS-KEY(hospital*) OR TITLE-ABS-KEY("clinical context*")	4,978,153
#5	TITLE-ABS-KEY("transition shock") OR TITLE-ABS-KEY("reality shock") OR TITLE-ABS-KEY("emotional shock") OR TITLE-ABS-KEY("culture shock") OR TITLE-ABS-KEY("role adaptation") OR TITLE-ABS-KEY("role transition") OR TITLE-ABS-KEY("stressful transition") OR TITLE-ABS-KEY("transitional challenges") OR TITLE-ABS-KEY("real-world shock") OR TITLE-ABS-KEY("maladaptive transitions") OR TITLE-ABS-KEY("transition experience") OR TITLE-ABS-KEY("transfer* shock") OR TITLE-ABS-KEY("shock of reality") OR TITLE-ABS-KEY("shock reaction")	4,969
#6	(#3 AND #4 AND #5) AND (PUBYEAR > 2008 AND PUBYEAR < 2025) AND (LIMIT-TO (LANGUAGE, "English") OR LIMIT-TO (LANGUAGE, "Chinese"))	287
3.Database: Web of Science Number of results:355 Date of Update Search: February 10th, 2025		
Search limit: a. Publication Years: 2009-2024 b. Language: English, Chinese		

NO.	Search strategies	Results
#1	TS=(student*) OR TS=(undergrad*) OR TS=(trainee*) OR TS=(pupil*) OR TS=(educat* OR TS=(intern*) OR TS=(pre-registrat*) OR TS=(“pre registrat*”)	12,945,834
#2	TS=(nurs*)	1,460,253
#3	#1 AND #2	430,919
#4	TS=("Clinical practice") OR TS=("clinical training") OR TS=(placement*) OR TS=(clerk*) OR TS=(clinical setting*) OR TS=(preceptorship) OR TS=(rotation*) OR TS=(practicum*) OR TS=(internship) OR TS=(clinical environment*) OR TS=("clinical environment") OR TS=("clinical education") OR TS=(hospital*) OR TS=(clinical context*)	7,481,724
#5	TS=("transition shock") OR TS=("reality shock") OR TS=("emotional shock") OR TS=("pre shock") OR TS=("role adaptation") OR TS=("role transition") OR TS=("stressful transition") OR TS=("transitional challenges") OR TS=("real-world shock") OR TS=("maladaptive transitions") OR TS=("transition experience") OR TS=("transfer* shock") OR TS=("shock of reality") OR TS=("shock reaction")	5,651
#6	#3 AND #4 AND #5	510
#7	#6 AND (2009 OR 2010 OR 2011 OR 2012 OR 2013 OR 2014 OR 2015 OR 2016 OR 2017 OR 2018 OR 2019 OR 2020 OR 2021 OR 2022 OR 2023 OR 2024) (Publication Years)	379
#8	#7 AND (English or Chinese) (Languages)	355
4.Database: Cochrane Library Number of results:7 Date of Update Search: February 10th, 2025		
Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31		
NO.	Search strategies	Results
#1	(student*):ti,ab,kw OR (undergrad*):ti,ab,kw OR (trainee*):ti,ab,kw OR (pupil*):ti,ab,kw OR (educat*):ti,ab,kw OR (intern*):ti,ab,kw OR (pre-registrat*):ti,ab,kw OR (pre NEXT registrat*):ti,ab,kw	260,666
#2	(nurs*):ti,ab,kw	61,966
#3	#1 AND #2	21,120
#4	MeSH descriptor: [Students, Nursing] explode all trees	920

#5	MeSH descriptor: [Education, Nursing] explode all trees	1,314
#6	#3 OR #4 OR #5	21,120
#7	("Clinical practice"):ti,ab,kw OR ("clinical training"):ti,ab,kw OR (placement*):ti,ab,kw OR (clerkship):ti,ab,kw OR (preceptorship):ti,ab,kw OR (rotation*):ti,ab,kw OR (practicum*):ti,ab,kw OR (internship):ti,ab,kw OR (clinical NEXT setting*):ti,ab,kw OR ("clinical environment"):ti,ab,kw OR ("clinical education"):ti,ab,kw OR (hospital*):ti,ab,kw OR (clinical NEXT context*):ti,ab,kw	320,646
#8	MeSH descriptor: [Clinical Clerkship] explode all trees	213
#9	MeSH descriptor: [Preceptorship] explode all trees	52
#10	MeSH descriptor: [Hospitals] explode all trees	5,967
#11	#7 OR #8 OR #9 OR #10	321,014
#12	("transition shock"):ti,ab,kw OR ("reality shock"):ti,ab,kw OR ("emotional shock"):ti,ab,kw OR ("culture shock"):ti,ab,kw OR ("role adaptation"):ti,ab,kw OR ("role transition"):ti,ab,kw OR ("stressful transition"):ti,ab,kw OR ("transitional challenges"):ti,ab,kw OR ("real-world shock"):ti,ab,kw OR ("maladaptive transitions"):ti,ab,kw OR ("transition experience"):ti,ab,kw OR (transfer* NEXT shock):ti,ab,kw OR ("shock of reality"):ti,ab,kw OR ("shock reaction"):ti,ab,kw	72
#13	#6 AND #11 AND #12 with Cochrane Library publication date Between May 2009 and Dec 2024	7
5.Database: ScienceDirect Number of results:11 Date of Update Search: February 11th, 2025		
Search limit: a. Publication Years: 2009-2024		
NO.	Search strategies	Results
#1	Title, abstract, keywords:(“nursing students” OR “nursing interns” OR “Pupil Nurses”) AND (“clinical practice” OR “clinical placement” OR “clinical practicum”) AND (“transition shock” OR “reality shock” OR “transition experience”) Max 8 Boolean connectors	11

	Wildcards not supported	
6.Database: Embase Number of results:181		
Search limit: a. Publication Years: 2009-2024 b. Humans or Animal: Human c. Language: English, Chinese		
NO.	Search strategies	Results
#1	'nursing student'/exp	36,537
#2	'nursing education'/exp	101,752
#3	student*:ti,ab,kw OR undergrad*:ti,ab,kw OR trainee*:ti,ab,kw OR pupil*:ti,ab,kw OR apprentice*:ti,ab,kw OR intern*:ti,ab,kw OR 'pre registrat*':ti,ab,kw	3,226,975
#4	nurs*:ti,ab,kw	689,402
#5	#3 AND #4	198,770
#6	#1 OR #2 OR #5	257,318
#7	'clinical practice':ti,ab,kw OR 'clinical training':ti,ab,kw OR placement*:ti,ab,kw OR clerkship*:ti,ab,kw OR preceptorship*:ti,ab,kw OR rotation*:ti,ab,kw OR practicum*:ti,ab,kw OR internship*:ti,ab,kw OR 'clinical setting*':ti,ab,kw OR 'clinical environment':ti,ab,kw OR 'clinical education':ti,ab,kw OR hospital*:ti,ab,kw OR 'clinical context*':ti,ab,kw	3,737,457
#8	'clinical education'/exp	18,319
#9	'hospital'/exp	1,592,843
#10	#7 OR #8 OR #9	4,424,643
#11	'transition shock':ti,ab,kw OR 'reality shock':ti,ab,kw OR 'emotional shock':ti,ab,kw OR 'culture shock':ti,ab,kw OR 'role adaptation':ti,ab,kw OR 'role transition':ti,ab,kw OR 'stressful transition':ti,ab,kw OR 'transitional challenges':ti,ab,kw OR 'real-world shock':ti,ab,kw OR 'maladaptive transitions':ti,ab,kw OR 'transition experience':ti,ab,kw OR 'transfer* shock':ti,ab,kw OR 'shock of reality':ti,ab,kw OR 'shock reaction':ti,ab,kw	1,739
#12	#6 AND #10 AND #11	249
#13	#12 AND ([chinese]/lim OR [english]/lim) AND [humans]/lim AND [2009-2024]/py	181

7.Database: ProQuest Number of results:27 Date of Update Search: February 11th, 2025		
Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31 b. Language: English, Chinese		
NO.	Search strategies	Results
#1	title (student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat* OR "pre registrat*") OR abstract (student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat* OR "pre registrat*")	773,204
#2	title(nurs*) OR abstract(nurs*)	67,252
#3	#1 AND #2	22,065
#4	title ("clinical practice" OR "clinical training" OR placement* OR clerkship OR preceptorship OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*") OR abstract ("clinical practice" OR "clinical training" OR placement* OR clerkship OR preceptorship OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*")	473,472
#5	title ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction") OR abstract ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction")	455
#6	#3 AND #4 AND #5	27
8.Database: PsycInfo Number of results:112 Date of Update Search: February 11th, 2025		

Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31		
b. Humans or animal: Human		
c. Language: English, Chinese		
NO.	Search strategies	Results
#1	TX (student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat* OR “pre registrat*”)	2,688,224
#2	TX nurs*	220,312
#3	#1 AND #2	121,035
#4	TX ("clinical practice" OR "clinical training" OR placement* OR clerkship OR preceptor OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*")	719,872
#5	TX ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction")	1,863
#6	#3 AND #4 AND #5	112
9.Database: CINAHL Plus with Full Text Number of results:158 Date of Update Search: February 11th, 2025		
Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31		
b. Humans or animal: Human		
c. Language: English, Chinese		
NO.	Search strategies	Results
#1	MH "Students, Nursing"	38,325
#2	MH "Education, Nursing"	53,834
#3	TI (student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat OR “pre	861,039

	registrar*) OR AB (student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrar* OR "pre registrar")	
#4	TI nurs* OR AB nurs*	600,397
#5	#3 AND #4	153,744
#6	#1 OR #2 OR #5	191,277
#7	MH "Education, Clinical"	12,826
#8	MH "Hospitals"	69,369
#9	MH "Preceptorship"	5,238
#10	TI ("clinical practice" OR "clinical training" OR placement* OR clerkship OR preceptors OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*") OR AB ("clinical practice" OR "clinical training" OR placement* OR clerkship OR preceptorship OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*")	754,599
#11	#7 OR #8 OR #9 OR #10	790,843
#12	MH "Reality Shock"	245
#13	TI ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction") OR AB ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction")	1,279
#14	#12 OR #13	1,421
#15	#6 AND #11 AND #14	158
10.Database: Google Scholar Number of results:16,200 Date of Update Search: February 12th, 2025		

bmjopen-2024-098112 on 24 March 2025. Downloaded from <http://bmjopen.bmj.com/> on June 13, 2025 at Agence Bibliographique de l'Enseignement Supérieur (ABES). All rights reserved. No reuse allowed without permission. For peer review only - <http://bmjopen.bmj.com/site/about/guidelines.xhtml>

Search limit: a. Publication Years: 2009-2024		
NO.	Search strategies	Results
#1	((student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat* OR "pre registrat*") AND nurs*) AND ("clinical practice" OR "clinical training" OR placement* OR preceptorship OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*") AND ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction") Search limit:2009-2024	16,200 (limit to the first 20 pages)
11.Database: OpenGey Number of results:0 Date of Update Search: February 12th, 2025		
Search limit: None		
NO.	Search strategies	Results
#1	((student* OR undergrad* OR trainee* OR pupil* OR educat* OR intern* OR pre-registrat* OR "pre registrat*") AND nurs*) AND ("clinical practice" OR "clinical training" OR placement* OR preceptorship OR rotation* OR practicum* OR internship OR "clinical setting*" OR "clinical environment" OR "clinical education" OR hospital* OR "clinical context*") AND ("transition shock" OR "reality shock" OR "emotional shock" OR "culture shock" OR "role adaptation" OR "role transition" OR "stressful transition" OR "transitional challenges" OR "real-world shock" OR "maladaptive transitions" OR "transition experience" OR "transfer* shock" OR "shock of reality" OR "shock reaction")	0
12.Database: CNKI Number of results:72 Date of Update Search: February 12th, 2025		
Search limit: a. Publication Dates: 2009-05-01 - 2024-12-31		

NO.	Search strategies	Results
#1	TKA='护理学生'+ '护理专业学生'+ '护生'+ '护理本科生'+ '护理专业本科生'+ '实习护士'+ '护理专业实习生'+ '护理实习生' AND TKA= '临床实习'+ '实习'+ '毕业实习'+ '临床学习'+ '临床实践'+ '医院实习' AND TKA='转型冲击'+ '现实冲击'+ '角色适应'+ '冲击体验'+ '角色转型'+ '文化休克'	72
13.Database: Wan Fang Number of results:89 Date of Update Search: February 12th, 2025		
Search limit: a. Publication Years: 2009-2024		
NO.	Search strategies	Results
#1	(主题:("护理学生" OR "护理专业学生" OR "护生" OR "护理本科生" OR "护理专业本科生" OR "实习护士" OR "护理专业实习生" OR "护理实习生") and 主题:("临床实习" OR "实习" OR "毕业实习" OR "临床学习" OR "临床实践" OR "医院实习") and 主题:("转型冲击" OR "现实冲击" OR "角色适应" OR "冲击体验" OR "角色转型" OR "文化休克")) and 发表时间:2009-2024	89
14.Database: SinoMed Number of results:73 Date of Update Search: February 12th, 2025		
Search limit: a. Publication Years: 2009-2024 b. Humans or Animal: Human		
NO.	Search strategies	Results
#1	"学生, 护理"[不加权:扩展]	24,595
#2	"教育, 护理"[不加权:扩展]	38,897

#3	"护理学生"[常用字段:智能] OR "护理专业学生"[常用字段:智能] OR "护生"[常用字段:智能] OR "护理本科生"[常用字段:智能] OR "护理专业本科生"[常用字段:智能] OR "实习护士"[常用字段:智能] OR "护理专业实习生"[常用字段:智能] OR "护理实习生"[常用字段:智能]	82,986
#4	#1 OR #2 OR #3	68,088
#5	"临床实习"[不加权:扩展]	29,864
#6	"导师制"[不加权:扩展]	8,944
#7	"医院"[不加权:扩展]	84,991
#8	"临床实习"[常用字段:智能] OR "实习"[常用字段:智能] OR "毕业实习"[常用字段:智能] OR "临床学习"[常用字段:智能] OR "临床实践"[常用字段:智能] OR "医院实习"[常用字段:智能]	230,991
#9	#5 OR #6 OR #7 OR #8	591,973
#10	"转型冲击"[常用字段:智能] OR "现实冲击"[常用字段:智能] OR "角色适应"[常用字段:智能] OR "冲击体验"[常用字段:智能] OR "角色转型"[常用字段:智能] OR "文化休克"[常用字段:智能]	1,162
#11	((#4) AND (#9) AND (#10)) AND (人类[特征词]) AND 2009-2024[日期]	73

Table 2 Data Extraction Form

NO.	Author(s)	Year of publication	Country of origin	Aim	Study design	Settings	Population and sample size	Assessment tools	Influencing factors	Outcomes	Intervention strategies	Key findings

Note:

- (1) population and sample size included social demographic of the participants and sample size;
- (2) intervention strategies were defined as measures or programs provided to reduce participants' transition shock;

- (3) outcomes referred to the variables or items influenced by transition shock;
- (4) assessment tools were specific tools or scales used to assess transition shock of nursing students;
- (5) setting referred to the specific location where the study was conducted;
- (6) country of origin referred to which country the study was conducted;
- (7) key findings referred to other information related to the review questions and objectives;
- (8) influencing factors referred to the variables or items that affected transition shock of nursing students.