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Clinical experiences of final-year nursing students during the COVID-19 pandemic: A systematic review and meta-synthesis

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ARTICLE INFO
Keywords:
COVID-19
Nursing student
Nursing experience
Systematic review, Meta-synthesis

ABSTRACT

Objectives: This systematic review aimed to qualitatively synthesise existing literature to examine the clinical nursing experiences of final-year nursing students during the COVID-19 pandemic and provide recommendations for the effective management of clinical placement of nursing students.

Design: A qualitative systematic review was conducted and reported following Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines.

Data sources: Five electronic databases were searched and qualitative studies were included for analysis if they focussed on the clinical nursing experiences of final-year nursing students during the COVID-19 pandemic.

Review methods: Data synthesis was conducted by extracting all findings, developing categories, and producing synthesised findings.

Results: Four synthesised findings were concluded: 1) facing the unknown and willingness to help, 2) challenging the clinical environment, 3) transition improving professional identity, and 4) finding ways out of the pandemic.

Conclusions: The transition of nursing students to clinical nursing practice during the pandemic is a personally and professionally challenging process, while nursing students try to adapt to the changing clinical environment and enhance their professional identity. Nursing managers and health policymakers should acknowledge the challenges encountered by nursing students during the pandemic and support the professional growth of future nursing teams by providing high-quality supervision.

1. Introduction

The coronavirus disease 2019 (COVID-19) has emerged as a serious public health threat worldwide. According to the COVID-19 Map of the Johns Hopkins University Coronavirus Resource Center, over 0.5 billion cases of COVID-19 have been reported worldwide until April 19th, 2022. Large-scale disease epidemics not only pose numerous challenges to individuals of all ages but also threaten the physical and psychological health of healthcare professionals (Tam et al., 2004; Vizheh et al., 2020). The pandemic has posed various challenges for health systems regarding high health-related demands (Esterwood and Saeed, 2020) and nursing students have been invited to fill the shortage of healthcare staff (Col-lado-Boira et al., 2020). While joining the healthcare workforce during the pandemic has been reported to put nursing students at greater risk, it was also an opportunity for professional development (Goni-Fuste et al., 2021; Heung et al., 2005).

The transition from a final-year nursing student to a registered nurse is a challenging process. According to the transition theory, nursing students normally go through three transition stages: doing, being, and knowing (Duchscher, 2009). Transition-to-practice experiences have been reported to be closely related to the job satisfaction and retention of novice nurses (Hampton et al., 2020). Therefore, various interventions have been implemented to support novice nurses during their transition period aimed at reducing the turnover rate and maintaining the stability of the nursing team (Edwards et al., 2015).

The COVID-19 pandemic has led to a transition in learning among...
nursing students, with online education being adopted by many medical universities worldwide (Wayne et al., 2020). For final-year nursing students, clinical placement is an important learning activity that provides an opportunity to put theory into practice and confirm career choices (McKenna et al., 2010; Nash et al., 2009). However, clinical placement has become challenging because of the uncertainty accompanying the pandemic, and nursing students require professional competency and extended support to help them navigate these unprecedented times (Ulenaers et al., 2021). A stable nursing workforce relies on final-year nursing students who choose nursing as a career in the future (Bogossian et al., 2020) and the experiences of final-year nursing students who engage in clinical nursing practice could potentially influence their future career planning (Gómez-Ibáñez et al., 2020).

The influence of COVID-19 on final-year nursing students has been explored in several studies, which have mainly focused on the psychological health of nursing students (Kane et al., 2021; Reverté-Villarroya et al., 2021) and clinical placement (Seah et al., 2021; Velarde-García et al., 2021). Quantitative research indicates that final-year nursing students who experienced the COVID-19 pandemic reported a higher risk of experiencing psychological health problems (Reverté-Villarroya et al., 2021). Conversely, qualitative studies on the clinical placement experience of final-year nursing students revealed that the pandemic promoted the personal and professional growth of the students aside from undergoing negative emotions (Seah et al., 2021; Velarde-García et al., 2021). As qualitative research enables a thorough analysis of the research topic, a meta-synthesis of qualitative evidence can assist in understanding the complexities related to the clinical experiences of final-year nursing students during the COVID-19 pandemic. After the initial literature review, it was found that although many qualitative studies have reported the clinical experiences of final-year nursing students during the pandemic, no systematic reviews on the same have been conducted so far. Therefore, a systematic review of the existing research in this area could guide the transition of nursing students in unprecedented times (Ulenaers et al., 2021). A stable nursing workforce and participating in clinical internship programs during the COVID-19 pandemic.

The experiences of final-year nursing students engaged in clinical nursing during the COVID-19 pandemic. The clinical settings could be from any country, cultural context, or geographical location.

2.3. Inclusion criteria

2.3.1. Types of participants

This review only considered studies that focused on final-year nursing students engaged in clinical nursing during the COVID-19 pandemic.

2.3.2. Phenomena of interest

The phenomena of interest for this review included the experiences of final-year nursing students who engaged in clinical nursing during the COVID-19 pandemic. The experiences included joining the healthcare workforce and participating in clinical internship programs during the COVID-19 pandemic.

2.3.3. Research context

This review investigated studies that examined the experiences of final-year nursing students engaged in clinical nursing during the COVID-19 pandemic. The clinical settings could be from any country, cultural context, or geographical location.

2.3.4. Types of studies

Different types of qualitative studies were examined in this review, such as phenomenological design, focus groups, and grounded theory. Mixed methods studies were included only if qualitative data could be extracted from them.

2.4. Study screening and selection

A total of 271 studies (270 from selected databases and one from other sources) were collected and imported into the EndNote bibliographic software (Clarivate Analytics, PA, USA). After the removal of 158 duplicates, two authors independently reviewed the titles and abstracts of 113 studies, and based on the inclusion and exclusion criteria, 74 studies were further excluded from the analysis (see Fig. 1). Two reviewers independently reviewed the full texts of the remaining 39 potentially relevant articles, and 27 of them were excluded. Finally, 12 studies that met the inclusion criteria were selected for critical appraisal. The two reviewers used the prioritisation and sequential exclusion techniques to ensure the quality and accuracy of the selection process, while a third reviewer resolved any disagreements between the first two reviewers.

2.5. Assessment of methodological quality

Two authors independently assessed the methodological quality of the review using the JBI Qualitative Critical Appraisal Checklist, which included ten criteria to assess the quality of qualitative studies from the perspective of research methodology, researchers, participants, and ethical approval (Table 1). In case the reviewers disagreed, a third reviewer joined the discussion. When meeting nine or ten of all the ten criteria, the quality of the study was rated as ‘A’; when meeting seven or eight of all the ten criteria, the quality of the study was rated as ‘B’; when meeting six or less of all the ten criteria, the quality of the study was rated as ‘C’, which would be excluded from the review (Wu et al., 2022).

Table 1 shows the results of the methodological quality assessment. All the studies shortlisted for review were rated ‘A’ according to the JBI Qualitative Critical Appraisal Checklist. Regarding research methodology (criteria 2, 3, 4, and 5) and adequate representation of participants’ voices (criterion 8), all the included studies were rated positively. Regarding the conclusions, all included studies were rated positively. Regarding the influence of the researcher on the research, only three studies were classified.

2.6. Data extraction and synthesis

The JBI Qualitative Assessment and Review Instrument (QARI),
Records identified through database searching (n = 270)
Additional records identified through other sources (n = 1)
Records after duplicates removed (n = 113)
Records screened (n = 113)
Records excluded for the following reasons: (n = 74)
Not clinical experiences (n=45)
Not nursing students (n=3)
Not qualitative studies (n=16)
Not final-year students (n=10)
Fig. 1. PRISMA flow diagram of study selection and inclusion process.

### Table 1
Assessment of methodological quality.

| Citation                        | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Level |
|---------------------------------|----|----|----|----|----|----|----|----|----|-----|-------|
| Canet-Vélez et al., 2021        | Y  | Y  | Y  | Y  | N  | Y  | Y  | Y  | Y  | Y   | A     |
| Cafiafont et al., 2021          | Y  | Y  | Y  | Y  | N  | Y  | Y  | Y  | Y  | Y   | A     |
| Godbold et al., 2021            | Y  | Y  | Y  | Y  | N  | N  | Y  | Y  | Y  | A   | A     |
| Gómez-Baíz et al., 2020         | Y  | Y  | Y  | Y  | N  | Y  | Y  | Y  | Y  | Y   | A     |
| Martin-Delgado et al., 2021     | Y  | Y  | Y  | Y  | N  | N  | Y  | Y  | Y  | A   | A     |
| Roc et al., 2021                | Y  | Y  | Y  | Y  | N  | Y  | Y  | Y  | Y  | A   | A     |
| Rodríguez-Almagro et al., 2021  | Y  | Y  | Y  | Y  | N  | N  | Y  | Y  | Y  | A   | A     |
| Ruth-Sahd, 2022                 | Y  | Y  | Y  | Y  | N  | N  | N  | N  | N  | Y   | A     |
| Seáh et al., 2021               | Y  | Y  | Y  | Y  | N  | N  | Y  | Y  | Y  | Y   | A     |
| Susmarini et al., 2022          | Y  | Y  | Y  | Y  | N  | N  | Y  | N  | N  | Y   | A     |
| Vázquez-Calatayud et al., 2022  | Y  | Y  | Y  | Y  | N  | N  | Y  | N  | N  | Y   | A     |
| Velarde-García et al., 2021     | Y  | Y  | Y  | Y  | N  | N  | Y  | Y  | Y  | A   | A     |

Note: Aromatari E, Munn Z (Editors). JBI Manual for Evidence Synthesis. JBI, 2020. Available from https://synthesismanual.jbi.global, https://doi.org/10.46658/JBIMES-20-01

Q1 Is there congruity between the stated philosophical perspective and the research methodology?
Q2 Is there congruity between the research methodology and the research question or objectives?
Q3 Is there congruity between the research methodology and the methods used to collect data?
Q4 Is there congruity between the research methodology and the representation and analysis of data?
Q5 Is there congruity between the research methodology and the interpretation of results?
Q6 Is there a statement locating the researcher culturally or theoretically?
Q7 Is the influence of the researcher on the research, and vice- versa, addressed?
Q8 Are participants, and their voices, adequately represented?
Q9 Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?
Q10 Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?
which is a data extraction tool for qualitative research, was used to extract the findings of the qualitative studies. A self-designed table (Appendix II) was used to extract the general information from the included studies. For qualitative data, three levels of credibility (unequivocal, credible or unsupported) were used to rate each finding. The findings were rated as unsupported were excluded from the synthesis. For data synthesis, a three-step process comprising extracting all findings rated as unequivocal and credible, developing categories for these findings, and producing synthesised findings, was implemented.

3. Results

A total of 12 research studies were included in the current systematic review. Among the 12 studies, eight were from Spain and the remaining were from the UK, the US, Indonesia, and Singapore. Regarding the data sources, ten studies conducted interviews, one was focus group-based data, and one collected data from reflective journals.

A total of 67 findings were extracted from the ten studies included in the meta-analysis (Table 2). All the findings were rated as either ‘credible’ or ‘unequivocal’ (Appendix III). The findings were aggregated into ten categories, which were subsequently synthesised into four synthesised findings.

3.1. Synthesised finding 1: facing the unknown and willingness to help

This synthesised finding is underpinned by 22 extracted findings and is subdivided into two categories: “positive and negative feelings at the same time” and “wavering thoughts but willingness to help.” These categories summarise the impact of the COVID-19 pandemic and the active participation of nursing students.

The first category “positive and negative feelings at the same time” has been developed from 13 extracted findings, and the second category “wavering thoughts but willingness to help” is developed from nine extracted findings. When facing the unknown in the context of the COVID-19 pandemic, final-year nursing students experienced negative emotions such as fear, uncertainty, and anger. Nonetheless, they were also excited to engage in clinical practice because of the learning opportunities and the prospect to put their theoretical knowledge into practice. These findings indicate that engaging in clinical practice during the COVID-19 pandemic could be an opportunity for nursing students to develop their personal and professional skills in exceptional circumstances.

“What scared me the most was what I was going to see, how I was going to react.”

(Vázquez-Calatayud et al., 2022)

“When the hospitals became overwhelmed, all I could think of was that I wanted to help. I didn’t know if I was up to the task, but I wanted to help, I wanted to be there.”

(Martín-Delgado et al., 2021)

3.2. Synthesised finding 2: challenging clinical environment

This synthesised finding is underpinned by 17 extracted findings and is subdivided into three categories: “changing practice environment,” “challenge of caring for COVID-19 patients,” and “lack of enough supervision.” Overall, COVID-19 has posed a major challenge for healthcare organisations and the clinical practice and learning environments have changed considerably to adapt to the demands of the situation.

The first category “changing practice environment” is developed from eight extracted findings, which indicate that the therapeutic and organizational contexts of clinical healthcare settings have been changed by the pandemic.

### Table 2: Results of meta-synthesis.

| Synthesised finding 1: Facing the unknown and willingness to help | Positive and negative feelings at the same time | Emotions and feelings generated |
|---|---|---|
| | | Fear and uncertainty of the unknown |
| | | Ambivalent emotions |
| | | Facing the unknown |
| | | Lack of awareness in the early stages of the pandemic |
| | | Overwhelming situation |
| | | Risk of contagion and transmission of disease |
| | | Pressure caused by working with COVID-19 patients |
| | | Impact of a shortage of PPE and health resources |
| | | Personal health and wellbeing |
| | | Progressing from fear toward hope |
| | | Intrapersonal response |
| Synthesised finding 2: Changing clinical environment | Wavering thoughts but willingness to help | Factors that influenced the decision to join the health care workforce during the pandemic |
| | | Implications of working in the health system during the crisis |
| | | Propelling Intrinsic Motivators |
| | | Healthcare and Non-Healthcare Volunteering Opportunities |
| | | Accounting for Extrinsic Concerns |
| | | Unique learning opportunity |
| | | Learning |
| | | Learning opportunities |
| | | Rationale for undertaking the extended placement |
| | | Unclear care processes |
| | | Constant organizational changes |
| | | Professional practice context |
| | | The nurse in front of COVID-19: nursing skills, therapeutic context changes, professional values and situational impact |
| | | The impact on teaching and learning |
| | | Received education: effective learning and required training |
| | | Appreciating holistic compassionate care |
| | | Inconvenient experience |
| Synthesised finding 3: Transition improving professional identity | Challenge of caring for COVID-19 patient | Patient admitted with COVID-19: emotional control, family isolation and lack of communication |
| | | Patient communication |
| | | Caring for patients and their families |
| | | The person with COVID-19 Experiences and learning in the use of PPE and application of safety measures |
| | | Desiring ethical decision-making skills |
| | | Lack of enough supervision |
| | | Learning barriers |
| | | The learning process during the pandemic |
| | | Feeling defenseless and let down |
| | | Experiencing a rapid transition from student to professional |
| | | The students’ role during the relief contract |
| | | Change of role from student to professional |
| | | Role tensions |
| | | Entangled in the Student Role: “We Are Not Full Nurses Yet” |
| Transition into nurses | | Being and feeling like a nurse |

(continued on next page)
“It's more complicated than it is in clinical practice placement; it's another thing altogether...”

(Roca et al., 2021)

The second category “challenge of caring for COVID-19 patients” is developed from a total of six findings, where nursing students reported that caring for patients infected with COVID-19 and their families was not easy. In addition, nurses reported that they needed more training in pandemic-related knowledge and skills.

“If you see a parent crying you couldn't go there and...give them a hug...the nursing care we would normally provide and having to think of how to protect the patient, how to protect myself, having to go against everything we've been taught over the three years about providing care.”

(Godbold et al., 2021)

The third category, “lack of enough supervision” has been developed from three extracted findings, which reflected that final-year nursing students needed more guidance and supervision in the changing clinical environment during the COVID-19 pandemic.

“It’s been quite staggered, I couldn't count on a nurse to tell me how things were done.”

(Velarde-García et al., 2021)

3.3. Synthesised finding 3: Transition improving professional identity

This synthesised finding is underpinned by 16 extracted findings and is subdivided into two categories: “transition into nurses” and “growing professional identity.” Final-year nursing students transitioned into nurses when engaged in clinical nursing during the pandemic and their professional identity was enhanced in the process.

The first category “transition into nurses” is developed from seven extracted findings, which reflect that the rapid transition process for nursing students during the pandemic was not easy.

“First work experience and in this way... so fast, with hardly any time to assimilate it.”

(Vázquez-Calatayud et al., 2022)

The second category “growing professional identity” is developed from nine extracted findings, which suggest that professional values of nursing were cultivated during the pandemic and the nursing students quickly transitioned into the role of professional nurses.

“I would volunteer again. Because I felt like I played my part and I want to play my part in the situation.”

(Seah et al., 2021)

3.4. Synthesised finding 4: finding ways out of the pandemic

This synthesised finding is underpinned by 12 extracted findings and is subdivided into three categories: “support matters,” “teamwork matters,” and “coping mechanisms.” Overall, nursing students used several coping strategies to deal with the challenges they faced during the pandemic.

The first category “support matters” is developed from three extracted findings, which emphasise the importance of support.

“After a while we created a WhatsApp group for team members that we used to support each other and to send messages of encouragement. There was a real sense of communion, of togetherness. It didn't matter what job title or experience you had, everybody helped out in whatever way they could and did their bit to keep the group together.”

(Martin-Delgado et al., 2021)

The second category “teamwork matters” is developed from three extracted findings, which state the importance of teamwork.

“I think what I find more positive from here, is that we have all worked together all at one.”

(Casafont et al., 2021)

The third category “coping mechanisms” is developed from six extracted findings, which include adaptation, resilience, and management of nursing students. These findings indicate that nursing students found effective ways to deal with challenges related to clinical practice during the pandemic.

“If I ever got down, I have to move on, especially for the patients; they need me.”

(Vázquez-Calatayud et al., 2022)

4. Discussion

The current systematic review analyzed the challenges and learning opportunities of final-year nursing students who engaged in clinical nursing during the COVID-19 pandemic. The 12 selected studies in the meta-synthesis resulted in 67 findings that were summarised into ten categories and further concluded as four synthesised findings.

Previous research has indicated that undergraduate nursing students are more likely to experience anxiety during clinical internships (Joo-lee et al., 2015; Yi et al., 2022). The sources of anxiety include dilemmas related to career decisions and low confidence in self-competency (Yi et al., 2022). When confronted with COVID-19, negative reactions, including fear, anxiety, and psychological distress, were commonly observed among healthcare professionals (Griffin and Riley, 2022; Majrashi et al., 2021). In the current analysis, final-year nursing students were found to experience both positive and negative feelings at the same time. They expressed that they were excited about the learning opportunity (Martin-Delgado et al., 2021), however, they were also concerned about their inadequate readiness (Canet-Vélez et al., 2021). These findings indicate that nursing students might not be
psychologically prepared for internships in clinical settings, especially during unforeseen situations such as the COVID-19 pandemic. Therefore, it is necessary to boost the confidence of nursing students and provide sufficient support during their transition. Nursing schools and clinical settings must provide a psychologically safe environment for nursing students during their transition to clinical practice.

In addition, nursing students faced professional and psychological challenges when providing care during the COVID-19 pandemic. The lack of supervision is a manifestation of the challenging clinical environment during COVID-19 (Velarde-García et al., 2021). Nursing students expressed that they experienced learning barriers due to a lack of tutoring and unclear definitions of their roles (Velarde-García et al., 2021), and they needed more support to assist them with the transition process (Ulenaers et al., 2021). These results indicate that nursing managers should provide a supportive clinical practice environment through the effective management of clinical placement programs and maintaining high-quality supervision to facilitate the transition process of nursing students (Kaihlanen et al., 2018). Providing care for COVID-19 patients has been a challenge for all healthcare professionals, including nursing students (Godbold et al., 2021). Therefore, we recommend that nursing schools reinforce the relevant curriculum for infectious diseases and public health emergencies to prepare students for possible unforeseen events in the future.

Nursing students expressed that they needed time to adjust to their new role and that they felt constrained by the status of being students while contributing as nurses (Seah et al., 2021). Although the transition from a nursing student to a nurse during the COVID-19 pandemic is undoubtedly challenging (Hellferty et al., 2021), it is important to note that nursing students displayed personal growth as nurses (Seah et al., 2021). More importantly, the experience of being engaged in clinical nursing guided nursing students to confirm their career paths and improve their professional identity (Martin-Delgado et al., 2021). Professional identity is reported to have a direct relationship with the retention rate of nursing students in the nursing profession (Nie et al., 2021), and the COVID-19 pandemic might be an opportunity to reconstruct the professional identity of nursing students. These findings indicate that nursing schools and clinical settings can explore effective ways to strengthen the cultivation of professional identity among nursing students, especially when faced with challenging situations.

The findings of the current systematic review indicated that final-year nursing students found creative ways out of the pandemic when faced with the uncertainty of the pandemic and the challenging practice environment (Vázquez-Calatayud et al., 2021; Casafont et al., 2021). Nursing students demonstrated resilience, a sense of responsibility, and self-motivation during the crisis to provide care for patients with COVID-19 (Vázquez-Calatayud et al., 2021). As the pandemic progressed, they adapted to the new situation and a semblance of normality returned (Casafont et al., 2021; Martin-Delgado et al., 2021). In addition, supportive networks, including family, friends, and colleagues, played an important part in providing nursing students with opportunities to share their emotions (Casafont et al., 2021; Vázquez-Calatayud et al., 2021).

4.1. Limitations

Although the present systematic review reveals important findings, it has some limitations. Because this study focused on final-year nursing students instead of different levels and most of the final studies included in the meta-synthesis were conducted in Spain, these factors might limit the generalisability of the findings. Other limitations include language barriers since we only included studies published in English, which might have excluded relevant studies in other languages.

4.2. Implications for education and future research

Despite the great personal risk, nurses and nursing students faced numerous challenges and stepped forward to provide care for COVID-19 patients during the pandemic (Hellferty et al., 2021; Zipf et al., 2022). When facing uncertainty related to the pandemic, nursing students have been found to encounter more barriers to clinical practice due to their transition. Therefore, nursing teachers, managers, and health policymakers should acknowledge the challenges encountered by nursing students. In this context, a psychologically safe environment, supportive practice environment, and supportive social network are crucial for assisting the transition process of nursing students during clinical placements. Overall, the synthesised findings can be utilised to guide the transition of nursing students during unforeseen situations such as the COVID-19 pandemic and implement robust practices for the optimal management of clinical placement in future events.

5. Conclusion

This systematic review aimed to identify, critically appraise, and synthesise qualitative evidence regarding the experiences of final-year nursing students engaged in clinical nursing during the COVID-19 pandemic. The review concludes that the transition from nursing students to nurses during the pandemic poses several personal and professional challenges, while nursing students navigate the changing clinical environment and enhance their professional identity. Since clinical placement is an important period for nursing students to develop their professional identity and plan their career paths, the effective management of clinical placement during large-scale disasters such as a pandemic needs to be addressed and further explored in future research.

CRediT authorship contribution statement

Jing Luo: Conceptualization, Data search, Data analysis, Writing—original draft, Writing—review & editing. Ling Luo: Conceptualization, Data search, Data analysis, Writing—original draft, Writing—review & editing. Aihua Yang: Data search, Data analysis, Writing—original draft. Miao Cui: Data search, Data analysis, Writing—review & editing. Huijuan Ma: Conceptualization, Data search, Data analysis, Writing—original draft, Writing—review & editing.

Funding statement

This study was supported by Chongqing Science and Technology Health Joint Medical Research Project (2018szxm045), and Project of University-Town Hospital of Chongqing Medical University (2019LC10).

Declaration of competing interest

The authors declare that they have no competing interests.

Appendices. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.nedt.2022.105633.

References

Bogossian, F., McKenna, L., Levett-Jones, T., 2020. Mobilising the nursing student workforce in COVID-19: the value proposition. Collegian 27 (2), 147–149. https://doi.org/10.1016/j.colleg.2020.04.004 (Royal College of Nursing, Australia).
Casenó-Vólez, O., Botígue, T., Lavedan Santamaría, A., Manot, O., Cenelli, T., Roca, J., 2021. The perception of training and professional development according to nursing students as health workers during COVID-19: a qualitative study. Nurse Educ. Pract. 53, 103072 https://doi.org/10.1016/j.nepr.2021.103072.
Casafont, C., Fábregas, N., Rivera, P., Olive-Ferrer, M.C., Querol, E., Venturas, M., Prats, J., Cuurco, C., Frias, C.E., Pérez-Ortega, S., Zabalegui, A., 2021. Experiences of nursing students as healthcare aid during the COVID-19 pandemic in Spain: a phenomenological research study. Nurse Educ. Today 97, 104711. https://doi.org/10.1016/j.nedt.2020.104711.
