**ORIGINAL RESEARCH**

**Under-graduate nursing students working during the first outbreak of the COVID-19 pandemic: A qualitative study of psychosocial effects and coping strategies**

Juan Francisco Velarde-García PhD, RN, Professor\(^1,2\) | Raquel González-Hervías PhD, PsyD, RN, Professor\(^1\) | Beatriz Álvarez-Embarba PhD, RN, Professor\(^1\) | Jose Miguel Cachón-Pérez PhD, RN, Professor\(^3\) | Marta Rodríguez-García PhD, RN, Professor\(^3\) | Oscar Oliva-Fernández PhD, RN, Professor\(^3\) | Pilar González-Sanz PhD, RN, Professor\(^3\) | Domingo Palacios-Ceña PhD, RN, Professor\(^4\) | Marta Rodríguez-García PhD, RN, Professor\(^3\) | Paloma Moro-López-Mencherio PT, Candidate\(^4\) | César Fernández-de-las-Peñas PhD, PT, Professor\(^5\) | Marta Mas Espejo PhD, RN, Professor\(^1\)

\(^1\)Department of Nursing, Red Cross College of Nursing, Universidad Autónoma de Madrid, Madrid, Spain
\(^2\)Research Nursing Group of Instituto de Investigación Sanitaria Gregorio Marañón (IIiSGM), Madrid, Spain
\(^3\)Department of Nursing, Facultad Ciencias Salud, Research Group of Teaching Methodologies and Assessment Systems in Nursing, Universidad Europea de Madrid, Madrid, Spain
\(^4\)Department of Physical Therapy, Occupational Therapy, Physical Medicine and Rehabilitation, Research Group of Humanities and Qualitative Research in Health Science of Universidad Rey Juan Carlos (Hum&QRinHS), Alcorcón, Spain
\(^5\)Department of Physical Therapy, Occupational Therapy, Physical Medicine and Rehabilitation, Research Group of Manual Therapy, Dry Needling and Therapeutic Exercise of Universidad Rey Juan Carlos (GITM-URJC), Madrid, Spain

**Correspondence**
Domingo Palacios-Ceña, Department of Physical Therapy, Occupational Therapy, Physical Medicine and Rehabilitation, Research Group of Humanities and Qualitative Research in Health Science of Universidad Rey Juan Carlos (Hum&QRinHS), Avenida Atenas s/n, 28922 Alcorcón, Spain.
Email: domingo.palacios@urjc.es

**Abstract**

**Background:** The first wave of the COVID-19 pandemic caused a shortage of health care staff, forcing the hiring of senior nursing students.

**Aims:** To describe the psychosocial impact and coping strategies used by nursing students during the first outbreak of the COVID-19 pandemic and to understand the coping strategies they employed.

**Method:** A qualitative exploratory study was conducted, based on Sandelowski’s proposal. Purposive sampling was carried out to recruit 18 students hired during the pandemic. The students were interviewed between 18 March and 15 June 2020. Semi-structured interviews were conducted using a digital platform. An inductive thematic analysis was performed.

**Findings:** The students lived alone and isolated during their contract to protect their cohabitants from possible contagion. The impact of working during the pandemic leads to experiences of stress, insomnia, nightmares and anxiety. Nursing students...
coped with the emotional burden through mental disconnection and the support of co-workers and family members.

**Conclusion:** Psychological support and tutoring should be provided by health centres. In addition, in these special circumstances, universities should adapt the training provided.

**KEYWORDS**
COVID-19, nursing students, pandemic, psychological distress, qualitative research

**Summary statement**

What is already known about this topic?
- In Spain, as in many other countries, a state of alarm was declared during the first wave of COVID-19. The Ministry of Health established measures to manage the health crisis and contain infections, including the hiring of senior nursing students to work.
- Working conditions had a high physical and psycho-emotional impact on health professionals.
- The lack of prior experience of students in the context of a pandemic and how they enter the workforce could make it difficult to develop adequate coping strategies, enhancing the presence of mental and emotional disorders.

What this paper adds?
- During their work, and in order to avoid contagion, the students lived apart from their families, limited their contacts and were isolated in refuge in rooms or homes. Upon entering the home, they showered, changed clothes and disinfected any surfaces they touched.
- The students described feeling stressed due to the lack of protective equipment and staff, heavy workloads and lack of knowledge regarding the unit and work protocols. They worried about making mistakes, doing their jobs poorly or being unable to help patients. When they got home, they had episodes of insomnia and anxiety.
- Faced with this situation, students used mental disconnection or distraction as coping strategies. Others shared their fears and uncertainties with other health care professionals and family members, seeking support and understanding. Other times, they tried to be strong and hide their suffering.

The implications of this paper:
- The incorporation of students as relief for professionals in a situation of extreme need is not exempt from significant psychosocial risks and should include monitoring programs and psychological evaluation.
- The hospitals should monitor and mentor students to facilitate their adaptation to similar situations in the future.
- The students required greater support from the administration, including offering them housing where they could live away from family and relatives.
1 | INTRODUCTION

The pandemic caused by severe acute respiratory syndrome due to coronavirus (SARS-CoV-2) has caused a worldwide health and social crisis (Casafort et al., 2020). The spread of the virus led the World Health Organization (2020) to declare a pandemic situation on 11 March, urging governments to establish a comprehensive strategy through prevention and effective case management.

In Spain, following the declaration of a national state of alarm (Spanish Government, 2020), the Spanish Ministry of Health issued Order SND/232/2020 on 15 March, which established measures to manage the health crisis and contain contagions, including the voluntary recruitment of final-year nursing students to work under the supervision of a registered nurse while they completed their studies. The order provided for the hiring of approximately 10,200 senior nursing students, who voluntarily joined the health workforce.

Several professional institutions reported the danger of putting students on the frontline for lack of protection, as well as for patient safety, due to the difficulties of monitoring and adequate supervision by registered nurses (Cervera-Gasch et al., 2020; SATSE, 2020). Other countries, such as the United Kingdom, gave students the opportunity to extend their internships during the pandemic (Wift et al., 2020). This strategy has also been questioned, and some authors have suggested a support plan for those students who decided to continue with their internships during the pandemic (Hayter & Jackson, 2020).

The high number of infections among staff during the first wave was close to 20% in Lombardy, 26% in Spain and 19.6% in the Netherlands (The Lancet, 2020). The strenuous working conditions, in turn, had a high physical and psycho-emotional impact on health care professionals (Danet, 2021; Lai et al., 2020), driving many of them away from the service (RENAVE, 2020). Previous studies highlight that nurses working during the pandemic experienced moral distress, discomfort, fatigue and helplessness (Sun et al., 2020) and even developed episodes of anxiety, depression and acute stress and post-traumatic stress disorders (Erquicia et al., 2020; Shreffler et al., 2020).

In relation to the COVID-19 pandemic and the incorporation of nursing students, the learning process can become stressful and cause the students significant distress. Thus, the lack of a specific role for students who began working during the COVID-19 pandemic, together with the lack of mentoring and guidance in the face of critical situations such as the elevated mortality during the first wave, and the burden of care and decision-making under pressure are some of the factors that contribute to this situation (Velarde-García et al., 2021). Also, the students’ lack of previous experience in the care of critically ill patients in the context of a pandemic or disaster, together with the high morbidity and mortality rates (Monforte-Royo & Fuster, 2020), can trigger situations of anxiety, uncertainty, worry and fear of becoming infected (Collado-Boira et al., 2020; Swift et al., 2020).

Transitions are moments in people’s lives that may include episodes of extreme vulnerability or opportunities for growth, although they require coping and adaptation strategies to be carried out in a healthy way (Meleis, 2007). According to the Transitions Theory postulated by Meleis, a transition begins when reality presents an event that brings associated changes in the fundamental patterns of life (Meleis, 2007). Each transition experience facilitates the development of coping and adaptation strategies that are considered healthy as long as the circumstances facilitate the process; although some events are unpredictable, it is important to be able to prevent and mitigate the effects of those that can be anticipated (Meleis, 2010). The transition from nursing student to registered nurse should be a gradual process that promotes success and retention in nursing (Mellor & Gregoric, 2016).

Previous studies show how the incorporation of students into the world of work during the pandemic was abrupt and sudden without a progressive transition (Rodríguez-Monforte et al., 2021; Velarde-García et al., 2021). The way in which the students joined the workforce could hinder the development of these adequate coping strategies, enhancing the presence of mental and emotional disturbances. The present study is relevant to the clinical practice of student nurses during the COVID-19 pandemic because it provides key information to understand the psychological impact of conducting nursing studies during the pandemic and understanding the responses of student nurses. The aims of the present study were (a) to describe the psychosocial impact of the pandemic on nursing students and (b) to understand the coping strategies employed by nursing students during the first outbreak of the COVID-19 pandemic.

2 | METHODS

This study was conducted according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007) and the Standards for Reporting Qualitative Research (SRQR) (O’Brien et al., 2014).

2.1 | Design

An exploratory qualitative study based on Sandelowski’s proposal was conducted (Sandelowski, 2000, 2010; Sandelowski & Barroso, 2003). The theoretical framework that guided this study was interpretivist (Creswell & Poth, 2018). With the use of qualitative methodology, the aim is to understand the beliefs, values and motivations that underlie individual health behaviours (Korstjens & Moser, 2017). The aim of an explorative descriptive qualitative study is to identify an event or a critical situation. It seeks to show ‘what is happening’ and ‘how it is happening’ (Sandelowski & Barroso, 2003). Qualitative exploratory studies aim to be a comprehensive summary of events in the everyday terms of the described event. This design is the method of choice when straight descriptions of phenomena are desired (Sandelowski, 2000, 2010). Moreover, from an interpretive perspective, human action is meaningful, and the goal of inquiry is understanding how people respond and understand the meaning of social phenomena (Carpenter & Suto, 2008; Creswell & Poth, 2018).
2.2 | Research team

Eleven researchers were involved in this study (six women). Of these, three had experience in qualitative designs (DPC, JMCP and JFVG). Ten held PhDs in health sciences, were university professors and were not involved in clinical activity. Eight members of the research team worked as professors in the study context (BAE, JMCP, JFVG, MME, MRG, OOF, PGS and RGH) and had a previous relationship with the students. The positioning of the researchers was established regarding the theoretical framework, their beliefs, prior experience and personal motivations for participating in the research (Korstjens & Moser, 2017).

2.3 | Setting and context

The study was carried out in two universities of the Community of Madrid (Spain) where the university degree in nursing was taught. The final 4-year course of nursing studies includes 90 external clinical practice credits with at least 2025 h of training at health centres. In the fourth year, 50% of the practical hours are carried out in critical care the emergency department, or operating room units (Spanish Government, 2008). At the beginning of the pandemic, nursing students had only performed 5 months of clinical practice (from October 2019 to February 2020), and many had not yet undergone placements in units such as the ICU or the emergency room. However, these units are considered the frontline during the pandemic and required reinforcement with new professionals. The fact that students were hired to work during the pandemic did not qualify them for completing their nursing degree. The students had to take exams during their participation to obtain the degree.

2.4 | Participants and sampling strategies

Purposive sampling was conducted, aimed at including those participants who possessed information that was relevant to the study (Creswell & Poth, 2018). Student recruitment was conducted between 18 March and 15 June 2020. Inclusion criteria were nursing students who (1) were in their final year during the first COVID-19 outbreak, (2) agreed to work under a health care professional relief contract during the pandemic and (3) signed informed consent. Sampling and data collection continued until redundancy was achieved (Creswell & Poth, 2018). In the present study, this occurred after inclusion of 18 participants. There were no dropouts.

2.5 | Data collection

Data collection was conducted by faculty members (BAE, CFP, DPC, JMCP, JFVG, MME, MRG, OOF, PMLM, PGS and RGH) from the centres through in-depth semi-structured interviews, with open-ended questions on the topics of interest (Creswell & Poth, 2018).

The students were interviewed between 18 March and 15 June 2020 (Table 1). In total, 511 min of interviews were recorded (mean of 46.45 min and SD of 9.44 min). Due to the state of alarm, the interviews could not be conducted face to face. The Microsoft Teams videoconferencing platform was used (Archibald et al., 2019). Interviews were audio and video recorded to access both verbal and non-verbal information (Creswell & Poth, 2018). Additionally, field notes during the semi-structured interviews were also collected by the researchers, since they provide a rich source of information as participants describe their personal experiences and their behaviours during data collection, as well as noting their reflections concerning methodological aspects of the data collection (Carpenter & Suto, 2008).

Video-recording enabled the collection of non-verbal information, which could enrich the descriptions of students’ experiences. Two interviews were only audio recorded at the express request of the students. Finally, the interviews were transcribed verbatim.

| Research areas | Questions |
|----------------|-----------|
| Impact of the pandemic | Has participating in the pandemic affected you emotionally? How has it affected you? Has it influenced the work you did? |
| Coping with and managing the experience | Did you find it easy to cope with the situations you experienced? How did you cope with the emotional burden in your daily life? |
| Living with others during the pandemic | Did you find it easy to cope with the situations you experienced? How did you cope with the emotional burden in your daily life? |
| Coping with and managing the experience | How did you manage to control your emotions? What support did you have to cope with the situation? |
| Living with others during the pandemic | What strategies or guidelines did you use to manage your emotions and/or thoughts? |
| Coping with and managing the experience | How did your family respond when you told them you were going to participate/work during the pandemic? |
| Living with others during the pandemic | What kind of contacts did you maintain while you were working? How did you interact with your family members and domestic partners? Who did you live with during those days? |
| Living with others during the pandemic | Did you take any precautions at home with your family members when you returned from work? If so, what did they consist of? |
2.6 | Analysis

An inductive analysis of interview transcripts and researchers’ field notes was conducted. No qualitative analysis software was used. Three researchers with experience in qualitative studies analysed the data (DPC, JMCP and JFVG). An inductive thematic analysis of the data was performed, where the most descriptive content was identified to obtain codes. Subsequently, the groups of codes that presented a common meaning (categories) were identified, until the themes describing the students' experience were obtained (Miles et al., 2013). The interviews were analysed separately and independently. Each researcher performed the coding and analysis of codes and categories. Subsequently, meetings were held, where the results obtained were shared and compared, and themes were identified. In the event of different opinions, a decision was reached by consensus.

2.7 | Rigour

The criteria defined by Lincoln and Guba (1985) and Creswell and Poth (2018) were used to establish the trustworthiness of data in relation to their credibility, transferability, reliability and confirmability (Table 2).

2.8 | Ethics

The present study was conducted in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for human experimentation. Approval was requested and obtained from the Ethics Committee of the Universidad Rey Juan Carlos (code: 2305202012320). The confidentiality of the participants was preserved. The students participated voluntarily in the study. The work contract was an activity directed by the Ministry of Health, outside the University.

3 | RESULTS

Eighteen senior nursing students (17 women) participated; 12 students were from university centre A; the remaining six students were from centre B. The mean age of the students was 23.7 years (SD 2.96). The duration of the work contracts ranged from 1 to 3 months. During the pandemic, they worked at different departments: emergency, intensive care units (ICU) and hospitalization units for patients with COVID-19 (Table 3).

Three themes were identified: (a) living isolated and alone, (b) the impact of working during the pandemic and (c) coping with the emotional burden. We included some of the patients' narratives taken directly from the interviews regarding the three emerging themes (Table 4).

3.1 | Theme 1. Living isolated and alone

The students described how during the period that they worked at the hospitals, they limited contact with family members due to the risk of contagion and some of them isolated themselves in rooms within their usual homes. They described how the only social contact they had was with colleagues at the hospital or with patients. Some students decided to live separate from their families in other homes, although not all of them had this option due to lack of financial resources. Participant 1 was rejected by roommates and had conflicts with her friends because of her work during the pandemic. The students reported that one of the most frequent options was to share housing with students who were in the same situation as them or with other health care workers. Our participants reported that all communication with the family was by video call or telephone. After finishing the workday, the students described how they adopted measures to avoid infecting others living at their home: changing clothes, showering and disinfecting the surfaces they touched, even describing it as a ritual. An important concern arose when the students returned to their family home at the end of their contract; some preferred to maintain a preventive isolation for fear of contagion.

3.2 | Theme 2. The impact of working during the pandemic

The students described how they were under great pressure to provide care, and every day they experienced a great demand for assistance and care, together with lack of personal protective equipment and shortage of staff, which caused them great

| TABLE 2 Trustworthiness criteria |
|----------------------------------|
| Criteria                        | Techniques performed and application procedures |
| Credibility                     | Triangulation: Triangulation between researchers was carried out, where each interview was analysed by three researchers. Participant triangulation was carried out, as participants from different universities were included. Member-checking: Returning the data to the participants for confirmation, offering to review the audio and/or video recordings to confirm their experience. None of the participants made any additional comments. |
| Transferability                 | The study was described in depth, providing details of participant characteristics, contexts, sampling strategies, and data collection and analysis procedures. |
| Dependability                   | An audit was conducted by an external researcher, who evaluated the research protocol, focusing on methodological aspects and results of the study. |
| Confirmability                  | This was ensured by the triangulation methods applied, together with the researchers reflective reporting. |
uncertainty. On occasions, the students recounted how they experienced stressful situations that lead to conflicts within the work team. The students reported feeling stressed because they were on their own, without the support of other nurses, in addition to the scarcity of resources and lack of knowledge of the unit and the work protocols. They recounted how they constantly thought that they could make mistakes, that they were doing their job badly or that they would be unable to help patients.

During their workday, the students spoke of how they lacked time to reflect or think about everything they were experiencing. The work was exhausting and demanded their full attention and concentration. When they got home, and when they relaxed, all the events of the day engulfed them like a wave, which affected them emotionally. Insomnia was a common complaint due to recurring work-related thoughts; at other times, students woke up frequently or had nightmares. Feelings of anxiety were ever present due to the possibility of catching COVID-19 at work.

### 3.3 Theme 3. Coping with the emotional burden

The students described that their main strategy was to mentally ‘disconnect’ from the situations experienced at work to avoid impact on their personal lives. Many described how the more experienced nurses recommended that they distract themselves with other activities and that the worries of work should stay there. On other occasions, they shared their experiences, fears and uncertainties with their peers and other health professionals, seeking support and understanding among what the students defined as ‘peers’.

Furthermore, during their work, the students tried to be emotionally strong in front of patients, hiding their suffering, crying in solitude and avoiding ‘breaking down’ in front of the patients. At other times, the students used relaxation techniques, focusing on the positive side of their experiences, seeing it as a valuable opportunity and thus being able to control their emotions. The students described how their families became an important source of support to cope with the emotional burden they felt during their work. It should be noted that only one student reported that she was receiving professional psychological help.

### 4 Discussion

Our findings show that when the nursing students started working during the first wave of the pandemic, they experienced feelings of loneliness and isolation within their close circle. The experience of working at the hospital had marked them, as they experienced stress, and dealt with critical situations without sufficient help or guidance. Finally, this study reveals the strategies used by the students to cope with and manage their experiences and emotions during their work at the hospital. According to Meleis’ (2007) Transition Theory, the transition of students to registered nurses involved a process of adjustment,
**TABLE 4** Student narratives

### Theme 1. Living isolated and alone

- **Limiting contacts with cohabitants**: ‘I isolated myself downstairs in a room on my own, I entered through a different door from my parents, I ate alone, I didn’t want to have contact with them for fear of infecting them’. (P16).
- **Social contact at work**: ‘I came home, I had no relationship with anyone, in the end you are alone when you came home from the hospital’. (P10).
- **Living away from the family**: ‘I had to leave home, it seemed a bit risky to me, I could be a source of contagion’. (P3).
- **Wishing not to cohabitate with the family**: ‘I would like not to have lived with my family, but as we are with the dissertation and this is where I have the computers, the WIFI... I don’t know what I may be faced with if I go to the hostel’. (P6).
- **Rejection by roommates who are non-healthcare professionals**: ‘I was in Madrid in a shared apartment with students from other degrees, when I told them I was going to work, they called me all sorts of names, saying that I was putting them at risk, I had to clean the whole house with bleach every time I touched something. They isolated themselves in one part of the house’. (P1).  
- **Sharing housing with other students and/or health care providers**: ‘I was away for a month and a half living with two work colleagues’. (P7); ‘I was in an apartment for health care workers and there were two other nurses’. (P5).
- **Support among cohabitants who were healthcare workers**: ‘two friends who were nursing assistants and a classmate of mine moved to an apartment for mental health reasons and for fear of infecting someone in my house, we consoled each other, we understood each other’s misfortunes, after all, the person next door was going through the same thing...having lived with peers has allowed me to normalize the situation’. (P3).
- **Communication with the family**: ‘I lived alone, my parents made video calls all the time’. (P13); ‘I didn’t live with them, I called and talked to my family every day at all hours’. (P8).
- **Measures to limit contagion**: ‘I got in the shower, the clothes went to the washing machine, after showering I washed the bathroom, the doorknobs’. (P3); ‘before entering the house I left my slippers in the hallway; my mother was waiting for me with a big garbage bag where I put all my clothes and I went straight to the shower. It was quite a ritual’. (P6).
- **Preventive isolation for fear of contagion**: ‘I was away for a month and a half living with two work colleagues and when I returned home, I was afraid of infecting them, I was not tested at all, I spent another 10 days in my room in fear of infecting my father and my mother’. (P7); ‘they were afraid that I would be infected, especially when I returned, in case I came home with it and gave it to them’. (P3).

### Theme 2. The impact of working during the pandemic

**Workload pressure**: ‘there were days when you couldn’t go on any longer; being in those garments all day with the work we had to do was very stressful’. (P3); ‘I felt under pressure when the workload was higher, there were days when I had 50 patients in the observation room and there were three nurses’. (P7).

**Conflicts within the team**: ‘there was a lot of tension and arguments with colleagues, we were overwhelmed and in the end any comment was annoying at the least’. (P18).

**Stress due to the type of work performed**: ‘When I was alone without another nurse, the lack of resources and the fact that you didn’t know the unit, made me think that at some point I would do badly, I felt under pressure when the workload was higher, there were days when I had 50 patients in the observation room and there were three nurses’. (P7).

**Controlling emotions**: ‘I would calm down, take a deep breath. I tried to distance myself from my emotions, to know where my limit was’. (P2).

**Focusing on the positive side and seeing it as an opportunity**: ‘I tried to be strong, mentalizing that I had to overcome it and work on it as best as I could. I had to think positively, that it was an opportunity’. (P2); ‘Although it has affected me, it has been positive. If I had a bad day, I tried to see the good side’. (P1).

**Family support**: ‘they were very supportive, very happy and proud of me for having worked during Covid’; ‘I called my mother and she told me that I was her heroine, she applauded me, she was very proud of me’. (P1).

(Continues)
recalibration and development of new skills and abilities to cope with the new demands they faced during the first wave of the pandemic. Meleis (2007) states that all transitions include awareness, commitment, change and difference, time, critical points and phenomena. In our study, the transition experienced by the students can be explained by Meleis’ (2007, 2010) model because it implied (1) that they were aware of the change, assuming the same precautions as registered nurses for the risk of infection, decreasing their social contacts and isolation measures; (2) the students were committed, through a contract, lending their support as health system workers; (3) the students experienced important changes that involved stress, anxiety, insomnia or nightmares; (4) the students’ transition was sustained for as long as their contract lasted; and (5) it was related to job performance as a critical event.

The students’ closest social contacts were reduced to their work environment. Contact with their family, friends and other relatives was via telephone calls or video calls. The study by Roca et al. (2021) is in line with our findings, describing how during the COVID-19 pandemic, the students limited contact with their cohabitants due to the risk of contagion within their own home, while others preferred to reside outside the home with colleagues or other health care providers. The concern of nursing students for their own safety and that of their family members appears in other studies carried out during the pandemic. Thus, Collado-Boira et al. (2020) point out that the students’ concern was greater when they lived with family members belonging to vulnerable groups. Cervera-Gasch et al. (2020) and Swift et al. (2020) relate these behaviours to students’ fear of self-infection or infecting others. Similarly, higher levels of anxiety were identified in professionals who lived with their parents, due to the severity and lethality of the disease (Arpacioglu et al., 2020). Self-quarantine as a strategy to limit contagion has been used by health care professionals in norovirus infections (Rao et al., 2009).

Our participants experienced rejection, and conflicts arose within their social environment for accepting to work during the first wave of the pandemic. This phenomenon of rejection, conflicts, situations of abandonment or stigmatization experienced by professionals also appeared in other epidemic outbreaks such as SARS (Dodgson et al., 2010) or the H1N1 virus (McCauley et al., 2013).

The students experienced significant stressful situations related to the pressure of care, the type of work and its conditions, suffering from insomnia or episodes of anxiety. Casafont et al. (2020) highlight the magnitude of the pandemic (mortality) and the continuous changes in protocols and in the organization of care as a source of stress in nursing students. All the participants in the present study indicated that they experienced stress, regardless of the unit where they worked, whether it was at the first line (ICU or emergency department) or within hospitalization units.

In our study, students volunteered to work (through the relief contract) during the first wave of the pandemic. Gómez-Ibáñez et al. (2020) highlight the students’ commitment, with their willingness to help prevailing over the fear of infecting their loved ones. The students in our study worked with a lack of resources and support, with insufficient knowledge and only the experience gained during their practical training. This led to additional stress and concerns about making mistakes, doing the job poorly or being unable to help patients. According to a study by Maben and Bridges (2020) on the impact of the pandemic on the psychological state of nurses, nurses experienced feelings of helplessness and the inability to care for patients as they would in normal situations, leading to stress and a significant emotional burden. In addition, our participants, in the final year of their studies, did not take theoretical exams; they only undertook clinical placements, which were evaluated, and their final year dissertation. This could be a further source of stress for the students affecting their learning (Monforte-Royo & Fuster, 2020) due to the high psychological and physical demands during the pandemic (Algummeeyn et al., 2020; Galehdar et al., 2020).

Our study did not measure the stress experienced by the students; however, Arpacioglu et al. (2020) identified higher levels of stress in nurses who were on the front line, due to their close and frequent contact with patients, in the face of longer than usual working hours; especially if they had less than 10 years’ work experience.

Another of the effects experienced by our students were sleep disturbances, as identified in studies conducted in Italy (Barello et al., 2020) or the United Kingdom with professionals (Cipolotti et al., 2021) where sleep disturbances and concern about becoming infected were reported. Gómez-Ibáñez et al. (2020) highlighted that many nursing students presented sleep difficulties and high stress, fear and/or anxiety.

Previous studies affirm that nurses are a professional group at risk (Elbay et al., 2020; Rossi et al., 2020; Santamaría et al., 2021), experiencing higher levels of anxiety than other professions (Huang et al., 2020; Shechter et al., 2020). Gao et al. (2003) justify this by stating that women place more importance on their internal experiences and self-perceptions, with emotions that are more fragile and sensitive, and a greater vulnerability to depression, anxiety and loneliness. Huang et al. (2020) in their study on responses and coping strategies in nurses and nursing students during the COVID-19 outbreak describe how nurses had higher levels of anxiety, fear, sadness and anger than nursing students; however, nurses used more coping strategies than nursing students.

Our findings reveal how the students employed coping strategies aimed at controlling emotions, through mental disconnection, seeking social support at work and from the family and practicing positive thinking. Meanwhile, Savitsky et al. (2020) found that nursing students during the pandemic used alcohol, sedatives or binge eating as avoidance strategies. According to these authors, the use of active strategies (resilience and humour) was associated with significantly lower anxiety levels, while mental disengagement was associated with higher anxiety levels.

The authors believe it is worth noting that only one student confirmed that she received psychological therapy after her work in the pandemic. The absence of psychological support and specific training in mental health for the students may have influenced the absence of coping strategies. In contrast, other studies conducted...
among professionals during the COVID-19 pandemic (Cipolotti et al., 2021; Shechter et al., 2020) highlight the support received through psychotherapy and other measures such as the practice of physical activities, religious activities, yoga or meditation. In our study, with the exception of one student, the remaining students did not receive professional assistance, but rather followed the advice and recommendations given by veteran nurses and/or their own families. Traynor (2018) argues that the resilience demonstrated by the students should be a collective and organizational responsibility and not depend exclusively on individual resources.

The authors believe that the nursing students in our study should have received greater support from the nursing departments (by facilitating rotations supervised by veteran nurses, providing psychological care) and from the administration (by offering them housing where they could live away from family and relatives).

### 4.1 Study limitations

The present study does not address the impact of having worked on the pandemic after the first wave. A follow-up study would be necessary in the future. Finally, the interviews could not be conducted face-to-face, and this may have influenced the interaction between participants and researchers.

### 5 CONCLUSIONS

This study focuses on a poorly studied group, which has been fundamental for meeting the needs of the health care system. In light of these findings, the research team consider that the incorporation of students as relief for professionals in a situation of extreme need is not exempt from significant psychosocial risks and has implications for human resources policies. Therefore, these situations should include monitoring programs and psychological evaluation of students who entered the workforce during the pandemic. Among the practical implications, the hospitals should monitor and tutor the students to facilitate their adaptation. Moreover, universities should implement psychological follow-up programs for students working in units with direct contact with COVID-19.

### ACKNOWLEDGEMENTS

To our students, may their sacrifice and vocation guide our work as teachers.

### CONFLICT OF INTEREST

The authors declare no conflicts of interest.

### DISCLOSURE STATEMENT

The data presented in this manuscript are original and are not under consideration elsewhere. In the present work, we do not have any conflict of financial interest.

### AUTHORSHIP STATEMENT

Beatriz Álvarez-Embarraba was responsible for the investigation, data curation and writing – review and editing. César Fernández-de-las-Peñas was responsible for the conceptualization, methodology and writing – review and editing. Domingo Palacios-Ceña was responsible for the conceptualization, methodology, formal analysis, writing – original draft, writing – review and editing, visualization and project administration. Jose Miguel Cachón-Pérez was responsible for the methodology, formal analysis, writing – review and editing, visualization and project administration. Juan Francisco Velarde-García was responsible for the conceptualization, methodology, formal analysis, writing – review and editing, visualization and project administration. Marta Mas Espejo was responsible for the investigation, data curation, writing – review and editing. Marta Rodríguez-García was responsible for the investigation, data curation and writing – review and editing. Oscar Oliva-Fernández was responsible for the investigation, data curation and writing – review and editing. Paloma Moro-López-Mencherio was responsible for the investigation, data curation, writing – review and editing. Raquel González-Hervías was responsible for the investigation, data curation and writing – review and editing.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### ORCID

Juan Francisco Velarde-García https://orcid.org/0000-0002-5801-4857

Domingo Palacios-Ceña https://orcid.org/0000-0003-0669-6339

### REFERENCES

Algunmeen, A., El-Dahiyat, F., Altakhiheh, M. M., Azab, M., & Babar, Z. U. (2020). Understanding the factors influencing healthcare providers’ burnout during the outbreak of COVID-19 in Jordanian hospitals. *Journal of Pharmaceutical Policy and Practice, 13*(53), 1–8. https://doi.org/10.1186/s40545-020-00262-y

Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using zoom videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods, 18*, 160940691987459. https://doi.org/10.1177/1609406919874596

Apcacioglu, S., Guler, M., & Cakiroglu, S. (2020). Secondary traumatization outcomes and associated factors among the health care workers exposed to the COVID-19. *The International Journal of Social Psychiatry, 67*(1), 84–89. https://doi.org/10.1177/0020764020940742

Barello, S., Palamenghi, L., & Graffigna, G. (2020). Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic. *Psychiatry Research, 290*, 113129. https://doi.org/10.1016/j.psychres.2020.113129

Carpenter, C., & Suto, M. (2008). Qualitative research for occupational and physical therapist. Blackwell Publishing.

Casafont, C., Fabrellas, N., Rivera, P., Olivé-Ferrer, M. C., Querol, E., Venturas, M., Prats, J., Cuzco, C., Friás, C. E., Pérez-Ortega, S., &...
Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Network Open, 3(3), e203976. https://doi.org/10.1001/jamanetworkopen.2020.3976

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry (Vol. 9, pp. 438–439). Sage. https://doi.org/10.1017/S174576312000062-8

Maben, J., & Bridges, J. (2020). Covid-19: Supporting nurses psychological and mental health. Journal of Clinical Nursing, 29(15–16), 2742–2750. https://doi.org/10.1111/jocn.15307

McCauley, M., Minsky, S., & Viswanath, K. (2013). The H1N1 pandemic: Media frames, stigmatization and coping. BMC Public Health, 13(1), 1–16. https://doi.org/10.1186/1471-2458-13-1116

Meleis, A. I. (2007). Theoretical nursing: Development and progress. Lippincott Williams & Wilkins.

Meleis, A. I. (2010). Specific theories in nursing research and practice. Transitions theory. Middelfiend and situations. Springer Publishing Company.

Mellor, P., & Gregoric, C. (2016). Ways of being: Preparing nursing students for transition to professional practice. The Journal of Continuing Education in Nursing, 47(7), 330–340. https://doi.org/10.3928/00201411-20160616-10

Miles, M., Huberman, A., & Saldaña, J. (2013). Qualitative data analysis: A method sourcebook (3rd ed.). Sage.

Monforte-Royo, C., & Fuster, P. (2020). Coronials: Nurses who graduated during the COVID-19 pandemic. Will they be better nurses? Nurse Education Today, 94, 104536. https://doi.org/10.1016/j.nedt.2020.104536

O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: A synthesis of recommendations. Academic Medicine, 89(9), 1245–1251. https://doi.org/10.1097/ACM.0000000000000388

Rao, S., Scattolini de Gier, N. S., Caram, L. B., Frederick, J., Moorefield, M., & Woods, C. W. (2009). Adherence to self-quarantine recommendations during an outbreak of norovirus infection. Infection Control and Hospital Epidemiology, 30(9), 896–899. https://doi.org/10.1086/59834610.1086/598346

RENAVE. (2020). Equipo COVID-19. Analysis of COVID-19 cases in health professionals notified to RENAVE until May 10 in Spain. CNE. CNM (ISCIII). https://www.isciii.es/QueHacemos/Servicios/VigilanciaSaludPublicaRENAVE/EnfermedadesTransmitibles/Documents/INFORME%20COVID-19%202020%20sanitario%2029%20de%20mayo%20de%202020.pdf

Roca, J., Canet-Vélez, O., Cemeli, T., Lavedán, A., Masot, O., & Botigué, T. (2021). Experiences, emotional responses, and coping skills of nursing students as auxiliary health workers during the peak COVID-19 pandemic: A qualitative study. International Journal of Mental Health Nursing, 30, 1080–1092. https://doi.org/10.1111/inm.12858

Rodríguez-Monforte, M., Berlanga-Fernández, S., Martín-Arribas, A., Carrillo-Alvarez, E., Navarro-Martínez, R., & Ñifá-Ros, R. (2021). Premature transition of nursing students to the professional world due to COVID-19 pandemic in Spain. Nurse Education in Practice, 51, 102997. https://doi.org/10.1016/j.nepr.2021.102997

Rossi, R., Socci, V., Pacitti, F., Di Lorenzo, G., Di Marco, A., Siracusano, A., & Rossi, A. (2020). Mental health outcomes among frontline and second-line health care workers during the coronavirus disease 2019 (COVID-19) pandemic in Italy. JAMA Network Open, 3(5), e2010185. https://doi.org/10.1001/jamanetworkopen.2020.10185

Sandefors, M. (2000). Whatever happened to qualitative description? Research in Nursing & Health, 23(4), 334–340. https://doi.org/10.1002/1098-240X(200008)23:4<334::AID-NUR3.0.CO;2-G

Sandefors, M. (2010). What's in a name? Qualitative description revisited. Research in Nursing & Health, 33(1), 77–84. https://doi.org/10.1002/nur.20362

Sandefors, M., & Barroso, J. (2003). Classifying the findings in qualitative research study. Qualitative Health Research, 13(7), 905–923. https://doi.org/10.1177/1049732303253488
Santamaria, M. D., Ozamiz-Etxebarria, N., Rodriguez, I. R., Albondiga-Mayor, J. J., & Gorrochategui, M. P. (2021). Psychological impact of COVID-19 on a sample of Spanish health professionals. Revista de Psiquiatría Y Salud Mental, 14(2), 106–112. https://doi.org/10.1016/j.rpsm.2020.05.004

SATSE. (2020). Acabar con el déficit de enfermeras en las unidades de hospitalización, prioridad tras la crisis del Covid 19 (06/03/20). https://www.satse.es/comunicacion/sala-de-prensa/notas-de-prensa/satse-acabar-con-el-deficit-de-enfermeras-en-las-unidades-de-hospitalizacion-prioridad-tras-la-crisis-del-covid-19

Savitsky, B., Findling, Y., Erell, A., & Hendel, T. (2020). Anxiety and coping strategies among nursing students during the covid-19 pandemic. Nurse Education in Practice, 46. https://doi.org/10.1016/j.nepr.2020.102809

Shechter, A., Díaz, F., Moise, N., Anstey, D. E., Ye, S., Agarwal, S., Birk, J. L., Brodie, D., Canonne, D. E., Chang, B., Claassen, J., Cornelius, T., Derby, L., Dong, M., Givens, R. C., Hochman, B., Homma, S., Kronish, I. M., Lee, S. A. J., ... Abdalla, M. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. General Hospital Psychiatry, 66, 1–8. https://doi.org/10.1016/j.genhosppsych.2020.06.007

Shreffler, J., Petrey, J., & Huecker, M. (2020). The impact of COVID-19 on healthcare worker wellness: A scoping review. The Western Journal of Emergency Medicine, 21(5), 1059–1066. https://doi.org/10.5811/westjem.2020.7.48684

Spanish Government. (2008). Order CIN/134/2008 establishing the requirements for the verification of official university degrees that enable the exercise of the profession of Nursing, 2008. https://www.boe.es/boe/dias/2008/07/19/pdfs/A31680-31683.pdf

Spanish Government. (2020). Royal Decree 463/2020, of March 14, declaring the State of Alarm for the Management of the Health Crisis Situation Caused by COVID-19. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-3692

Sun, N., Wei, L., Shi, S., Jiao, D., Song, R., Ma, L., Wang, H., Wang, C., Wang, Z., You, Y., Liu, S., & Wang, H. (2020). A qualitative study on the psychological experience of caregivers of COVID-19 patients. American Journal of Infection Control, 48(6), 592–598. https://doi.org/10.1016/j.ajic.2020.03.018

Swift, A., Banks, L., Baleswaran, A., Cooke, N., Little, C., McGrath, L., Meechan-Rogers, R., Neve, A., Rees, H., Tomlinson, A., & Williams, G. (2020). COVID-19 and student nurses: A view from England. Journal of Clinical Nursing, 29(17-18), 3111–3114. https://doi.org/10.1111/jocn.15298

How to cite this article: Velarde-Garcia, J. F., González-Hervías, R., Álvarez-Embarba, B., Bachon-Pérez, J. M., Rodríguez-García, M., Oliva-Fernández, O., González-Sanz, P., Espejo, M. M., González-Hervías, R., Álvarez-Embarba, B., Moro-López-Mencherho, P., Fernández-de-Las-Peñas, C., & Palacios-Ceña, D. (2021). The challenges of “learning on the go”: A qualitative study of final-year Spanish nursing students incorporated to work during the first Covid-19 pandemic. Nurse Education Today, 103, 104942. https://doi.org/10.1016/j.nedt.2021.104942

Velarde-Garcia, J. F., Cachón-Perez, J. M., Rodriguez-Garcia, M., Oliva-Fernández, O., González-Sanz, P., Espejo, M. M., González-Hervías, R., Álvarez-Embarba, B., Moro-López-Mencherho, P., Fernández-de-Las-Peñas, C., & Palacios-Ceña, D. (2021). The challenges of “learning on the go”: A qualitative study of final-year Spanish nursing students incorporated to work during the first Covid-19 pandemic. Nurse Education Today, 103, 104942. https://doi.org/10.1016/j.nedt.2021.104942

World Health Organization. (2020). WHO Director-Generals opening remarks at the media briefing on COVID-19-11 March 2020. https://www.who.int/director-general/speeches/detail/who-director-general-opening-remarks-at-the-media-briefing-on-covid-19–11-march-2020