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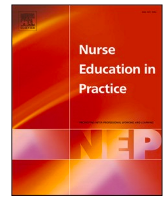

Nursing students' clinical placement experiences during the Covid-19 pandemic: A phenomenological study

Michela Barisone [a,*], Luca Ghirotto [b], Erica Busca [a], Matías Eduardo Diaz Crescitelli [b], Monica Casalino [c], Giovanni Chilin [d], Simona Milani [e], Paola Sanvito [f], Barbara Suardi [g], Antonia Follenzi [h], Alberto Dal Molin [i]

[a] *Department of Translational Medicine, University of Piemonte Orientale, Via P. Solaroli, 17, 28100 Novara, Italy*
[b] *Qualitative Research Unit, Azienda USL-IRCCS di Reggio Emilia, Viale Umber to I, 50 - 42123 Reggio Emilia, Italy*
[c] *School of Nursing, Department of Translational Medicine, University of Piemonte Orientale, Vercelli Hospital, 13100 Vercelli, Italy*
[d] *School of Nursing, Department of Translational Medicine, University of Piemonte Orientale, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, 15121 Alessandria, Italy*
[e] *School of Nursing, Department of Translational Medicine, University of Piemonte Orientale, Biella Hospital "Nuovo Ospedale degli Infermi", 13900 Biella, Italy*
[f] *School of Nursing, Department of Translational Medicine, University of Piemonte Orientale, Verbania Hospital, 28921 Verbania, Italy*
[g] *School of Nursing, Department of Translational Medicine, University of Piemonte Orientale, 28100 Novara, Italy*
[h] *Department of Health Sciences, University of Piemonte Orientale, 28100 Novara, Italy*
[i] *Department of Translational Medicine, University of Piemonte Orientale, Direzione delle Professioni Sanitarie - A.O.U. Maggiore della Carità di Novara, Via P. Solaroli, 17, 28100 Novara, Italy*

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ABSTRACT

Aim: This study explored the clinical placement experiences of nursing students during the Covid-19 pandemic.
Background: The health emergency caused by Covid-19 required a rapid reorganisation of care settings. This reorganisation entailed revisiting the clinical placements settings and learning programs of Italian nursing faculties. Some Italian universities wanted to seize the health emergency as a learning opportunity enabling the nursing student to acquire additional knowledge and skills.
Design: We conducted a descriptive qualitative study employing a phenomenological approach. The study population was second and third-year nursing students. The students did their clinical placement in 5 Northern Italy hospitals, mainly in infectious diseases wards, intensive care and sub-intensive care units, emergency department, short-stay surgical units and internal medicine wards. In these departments, the inpatient wards were entirely converted into Covid-19 units. Ethical approval was obtained from the local ethics committee.
Methods: Semi-structured, open-ended interviews were conducted in March-April 2021 and analysed following a phenomenological approach.
Results: Twenty-one nursing students in their 2nd and 3rd academic year participated. Their average age was 24 years. 81% were female and 19% were male. Three main themes were generated: (i) Learning which surpasses technicalities; (ii) Confronting dignity issues; (iii) Feeling treated as an equal in the workspace. Students had to learn how to lower their fear and self-manage the emotional burden to be a caring presence for the patients who were intensely suffering from the disease and isolation. Attending a clinical practice placement in Covid-19 wards led them to focus on human dignity issues: participants realised how dignity was questioned and how they could become patients' advocates. Students also described that they felt part of the team, with their student role almost fading.
Conclusions: This study describes that the most unpredictable public health emergency, such as Covid-19, can provide learning opportunities in the practice environment for nursing students. Students described feeling useful and capitalising on new competencies. Designing educational activities for nursing students concerning pandemic emergencies may be strategic for dealing with similar situations in the future.

* Corresponding author.
E-mail addresses: michela.barisone@uniupo.it (M. Barisone), luca.ghirotto@gmail.com (L. Ghirotto), erica.busca@uniupo.it (E. Busca), matiaseduardo.diazcrescitelli@ausl.re.it (M.E. Diaz Crescitelli), monica.casalino@uniupo.it (M. Casalino), giovanni.chilin@med.uniupo.it (G. Chilin), simona.milani@aslbi.piemonte.it (S. Milani), paola.sanvito@uniupo.it (P. Sanvito), barbara.suardi@med.uniupo.it (B. Suardi), antonia.follenzi@med.uniupo.it (A. Follenzi), alberto.dalmolin@med.uniupo.it (A. Dal Molin).

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1. Introduction

The Covid-19 pandemic continues to evolve and data related to the numbers of positive cases and deaths changes daily (WHO, 2021). The pandemic has highlighted gaps in healthcare systems and staffing shortages (International Council of Nurses, 2021). This context has offered unprecedented challenges and opportunities for the Universities that have engaged in the increased demand for healthcare services and workers. In some countries, nursing students have been provided early graduation or deployed to support healthcare professionals (e.g., Covid-19 vaccination).

In others, supervisors of academic nursing programs decided to remove students from clinical placements and move academic courses online (Morin, 2020; Swift et al., 2020). However, some universities allowed students to remain in clinical placements, even in COVID wards.

While dealing with Covid-19 patients may provide unique learning opportunities, even fundamental for the professional future, the decision of allowing nursing students to face a global public health emergency such as this pandemic may not be without cost (Dewart et al., 2020). The risks were not only related to the possibility of being infected and virus transmission. What was at stake was also a psychological sequela which may affect future professionalism (Hayter and Jackson, 2020). The literature widely discusses the Covid-19 impacts on frontline healthcare professionals (Ritin Fernandez et al., 2020a, 2020b; Liu et al., 2020), their mental strain and psychological status (Gallego-Gómez et al., 2020; Huang et al., 2020; Savitsky et al., 2020). As to nursing students, insights into their experience during the first wave of the pandemic while attending academic courses (Masha'al Dina et al., 2020) or clinical placement (Eweida et al., 2020) are emerging. However, studies considering the clinical practice experience while caring for Covid-19 patients (Casafont et al., 2021; Galvin et al., 2020; Nabavian et al., 2021; Rodríguez-Almagro et al., 2021) are scarce. To the best of our knowledge, no study has examined this experience in Italy, where the pandemic strongly hit since February 2020 and clinical placements were almost wholly suspended. This research offers data to build knowledge of how students experienced clinical placements in Covid-19 wards. Results may inform nursing educators and academic decision-makers for helping students to process this experience sequela and reflect on the pros and cons of a clinical placement in Covid-19 wards, more generally, in emergency/pandemic situations.

2. Methods

2.1. Design

Consistent with the study's aim, we followed a phenomenological design approach through open-ended interviews and descriptive analysis (Colaizzi, 1978; Mortari, 2019). We relied on the empirical phenomenological perspective of Mortari (2019). According to her, rather than eidetic essences (i.e., necessary and universal qualities of a given phenomenon), phenomenology applied to empirical research requires researchers to explore empirical facts (Mortari, 2019) as narrated by participants. Narratives reveal the empirical qualities of a lived experience which cannot be separated from the context of the phenomenon (Dahlberg, 2006).

Data were collected from March to April 2021. We reported this qualitative research according to indications of the COREQ Check List (Tong et al., 2007).

2.2. Setting

The study was carried out at the University of Piemonte Orientale (Italy), having more than 1200 nursing students. Students undertook clinical placements in two different moments: i) when the Covid-19 pandemic was initially strongly localised in the northern regions of the country and reached its peak (February-May 2020) and ii) at the beginning of the autumn-winter season 2020 when Italy experienced a slow and progressive worsening of the Covid-19 pandemic. Whether to continue nursing students' clinical placements was related to the regional government's decision and precautions adopted to meet students learning needs, keeping them physically and psychologically safe.

Nursing students' clinical placements took place in 5 hospitals nearby the University. Students are required to alternate classes with experiences in clinical settings during the academic programs. Specifically, the following settings were involved: in infectious diseases wards, intensive care and sub-intensive care units, emergency department, short-stay surgical units and internal medicine wards. In these departments, the inpatient wards were entirely converted into Covid-19 units. The students did their clinical placements for 4–6 weeks and worked in 8-hour shifts (morning, afternoon and night) alongside a clinical nurse tutor from the ward. As per the clinical placements' program, the ward tutor is usually a nurse with advanced experience and specific training in guiding the students in their learning journey, providing clinical and educational support. Prior to starting the clinical placements, students completed a 16-hour online course. Content included epidemiology of Covid-19, modes of infection's transmission, preventive measures and containment of the disease.

Specifically, the videos are available on YouTube, which students can access through the university digital platform (https://www.dir.uniupo.it/course/view.php?id=10327). In addition, students undertook training on using personal protective equipment (PPE). The training periods were planned for February-March 2020 (first pandemic wave) and November 2020-February 2021 (second pandemic wave).

2.3. Sampling and participants

We followed a purposive sampling. Participants were students attending the 2nd and 3rd years of nursing during the first and second pandemic waves in the academic year 2020–2021, whose clinical placements experience involved Covid-19 positive patients. Participation was voluntary. Degree coordinators invited students meeting the inclusion criteria to participate. They were informed about the research purpose through an information sheet and invited to the interviews. Twenty-one students were interviewed: twenty-eight students expressed their willingness to participate in the study, but seven declined afterwards. Of these, five students did not respond to the invitation to be interviewed, while two students informed us by email that they could not participate in the study due to work constraints.

2.4. Data collection

Data were collected using a semi-structured open-ended interview (See supplementary material). By answering open-ended questions, participants could describe their experiences according to what and how it was essential to tell (Sità, 2012). Additional questions were used as prompts based on the students' responses or supporting their storytelling during the interviews. No references to literature or preconceived theories drove the definition of the interview guide, which is shown in the supplementary material.

The interviews were conducted by MB (Female, PhD, RN, Research Fellow). Due to health emergency restrictions, interviews were conducted through conferencing software, audio-recorded and verbatim transcribed by the interviewer. The students joined the interview's meeting from home, in their rooms, without intrusion from other people or family members. During the interviews, there were no other persons present. Therefore, it was not necessary to repeat interviews with any of the participants included in the study. During the interviews, field notes on non-verbal behaviours were collected by MB. We conducted 21 interviews (whose duration ranged 30–60 min – mean 35′).

2.5. Data analysis

The interviews were verbatim transcribed by NVivo 12 and subsequently checked for accuracy by MB and EB. Analysis was performed according to Colaizzi's (1978) indications as revisited by Mortari (2019), including the following steps: (1) comprehensive reading of the transcripts to reach the depth of meanings (by MB, EB and MEDC); (2) extraction of meaningful descriptions from the participants (by EB and MEDC); (3) re-formulation of meanings into sub-themes and themes (by MB, EB, MEDC and LG); (4) construction of themes' descriptions of empirical-phenomenological qualities (by MEDC and LG); (5) sharing results with participants for verification (by MB and EB); (6) integration of the results into a comprehensive description, i.e., the definition of overarching statements to summarise the participant's lived experience. Data management was assisted by NVivo12.

2.6. Reflexivity and epochè

EB is RN. At the time of the study, she was at the end of her PhD programme in nursing science. MB, MEDC are RNs with a PhD in Nursing and Health Sciences. LG is a methodologist with a background in education and social sciences. The interviewer, MB, whose expertise includes interviewing, had no prior knowledge or interaction with the study population before data collection. For data description, the use of epochè(bracketing) was employed. 'Bracketing' is a means to suspend preconceived notions and help researchers focus on participants' real-life experiences (Giorgi, 2000). We managed to reach a shared view on findings trying not to allow personal thoughts and previous experiences to be operating while analysing the participants' narratives. Each analysis step was carried out by at least four researchers (MB, LG, MDC and EB) whose analytical work was collaboratively corroborated in several online meetings. Finally, the participants could discuss the results before publication: the researchers organised a dedicated online conference where the students could integrate findings with further reflections and confirm their declarations. The meeting lasted about 1 h.

2.7. Ethics approval

Ethical approval was obtained from the local ethics committee (A.O.U. "Maggiore della Carità", Novara, Italy - in-house protocol n. 11/21). Written consent by email was obtained from each student on the confidentiality of personal information and the necessity of digital registration. Before proceeding to the interview, each student was asked if any further clarification was necessary regarding the aim of the study and how the data would be collected.

2.8. Study population

Twenty-one nursing students participated in this study. The mean age of the participants was 24 years (SD= 1.41). 81% of the participants were women. The students undertook their placement in the referral hospital of the School of Nursing. They were involved in internal medicine wards (28%), short-stay surgical units (24%), infectious diseases wards (24%), intensive care/sub-intensive care units (15%) and emergency departments (9%). In these departments, the inpatient wards were entirely converted into Covid-19 units. Students' characteristics are listed in Table 1.

Table 1
Study population characteristics.

N = 21	N° (%)
Gender	
Female	17 (81%)
Male	4 (19%)
Age	
< 21 yrs	5 (24%)
21–25 yrs	14 (66%)
> 25 yrs	2 (10%)
Course year	
Second year	9 (43%)
Third year	12(57%)
Internship department	
Infectious diseases wards	5 (24%)
Internal Medicine wards	6 (28%)
Emergency Department	2 (9%)
Short-stay surgical units	5 (24%)
Intensive care Unit/sub-intensive care units	3 (15%)

3. Results

3.1. Overarching meaning of the experience

The students showed a strong interest in participating in the study because they considered this research an opportunity to share their experiences with their peers from other Italian universities. A strong involvement was also obtained from the Coordinators of the Degree Courses and Academic Tutors.

According to our analysis, the clinical placement in Covid-19 wards "went beyond being a student" (S_05). Initially, participants found themselves clueless with the fear of the unknown. Students had to learn how to lower their anxiety and self-manage the emotional burden to be a caring presence for the patients who were intensely suffering from the disease and isolation. Participants could learn how important non-verbal communication was for connecting with patients.

Attending a clinical placement in Covid-19 wards led them to focus on human dignity issues: participants realised how dignity was questioned by social isolation of patients, restraints, overtreatments and even lonely deaths when students were asked to tag the white bags for corpses with the patients' names.

Finally, students described that they felt part of the team, with their student role almost fading. Participants were proud of being part of the "heroic workforce" shown on TV and felt invested with the same responsibility of their tutors and health professionals in their workspace.

To describe the participants' experience, we generated three main themes: (i) Learning which surpasses technicalities; (ii) Confronting dignity issues; (iii) Feeling treated as an equal in the workspace.

3.2. Learning which surpasses technicalities

Participants were introduced in wards where patients were suffering Covid-19, an "indefinite disease". Lowering their fear and protecting their safety was the first lesson students described they had learned:

"I was afraid because I was saying: 'Did I put the right facemask on? Did I put double gloves on?'." (S_01).

"The biggest fear was bringing Covid home; we all have grandparents, uncles, mums and dads, […], so we were afraid of infecting them." (S_08).

Participants recognised that the experience of learning how to assist and care for Covid-19 patients immediately required an emotional investment in the relationship rather than specific nursing techniques:

"Clinical placement's objectives changed because the Covid-19 issue prevailed [.]. The human aspects took precedence over the techniques [.]" (S_04).

"The first weeks were hard, psychologically [.] I faced patients who had been alone in their rooms for a long time, who only saw their relatives by video calls" (S_18).

Students described high levels of uncertainty and feelings of unpreparedness in dealing with situations they defined as "complex" where they did not know how to satisfy patients' needs:

"Some patients felt smothered by the helmet [.] in these cases I did not feel qualified to meet the patient's needs; even if [.] at home I searched in books or on the Internet." (S_16).

"As I had not yet studied emergency medicine[.] I found it very improvised." (S_21).

Besides, what many students learned involved becoming "the only relationship patients could enjoy". Their narratives referred to patients sadly isolated from their families and sensing abandonment:

"They were segregated there [.] some asked when they could return home. It was a question that no one could answer. For them it was hard." (S_19).

In this context, some students described how non-verbal communication was pivotal in connecting with the patients since masks and PPEs were screens placed in between:

"He couldn't understand me and said: 'you are a young girl because I can see it in your eyes.' So, patients understood emotions from the eyes. This was reciprocal; we also understood their emotions from their eyes. So yes, it was more on a non-verbal level of communication." (S_14).

Many students became "the window" for the world outside during the clinical placement. They supported communication between patients and relatives using electronic devices, receiving and bringing clothes to the patients and establishing relational moments with patients about what was going on in the outside world:

"The nurse asked: 'so how are you doing?'. He understood that he wanted to hear his wife, but he didn't have a phone. So, the nurse took her phone and called his wife. His wife didn't speak much, but what I witnessed made my heart squeeze [.]. It was touching to see him crying on the phone and to hear her reassuring him: 'don't worry, be good, don't worry.'" (S_07).

Some students compared the clinical placement in Covid-19 wards with previous ones. What changed regarded the intensity of relational engagement with patients. Relating with Covid-19 patients demanded a more considerable amount of "caring":

"With patients, the relationship was more intense than in the normal ward. Because in the normal ward you talk, you relate with the patient [.]. It became almost impossible to communicate with C-PAP patients because the noise was deafening [.]. I tried to leave a comforting word, a caress [.] it was impossible to read lips, for security reasons." (S_19).

3.3. Confronting dignity issues

What appeared to be unique to the clinical placement experience in Covid-19 wards had to do with patients' dignity. Specifically, the students described many challenging situations related to dignity: social isolation of patients, restraints, overtreatments and unattended deaths.

On the one hand, some participants could recognise professionals taking care of patients with respect and empathy:

"For me, restraint is unacceptable but, in that case, necessary. The patient didn't keep his facemask on and every time you left him alone, he dismantled all devices. It was a matter of life or death. but to see him restrained. A dementia patient restrained is something heart-breaking [.]. The professionals did everything with love and compassion. All the choices they made were heavy for the patients, but at the same time, the best ones for them." (S_19).

On the other one, some participants described how they felt frustrated in their beliefs about the ideal of "good care":

"I felt I was restricting patients who were tired to stay in the room [.] it meant forcing even patients with no continence control problems to evacuate in the comfy chair." (S_06).

Many students described various situations where they perceived patients were overtreated. Some participants tried to mitigate the risks of "undignifying care" and futile treatments. This was the case of a student asking the doctor to stop overtreating a patient since the treatment would not have led to any chance for him:

"*With tears in my eyes, I begged a doctor to look into his conscience and to let a patient die. I told her, 'I beg you because I cannot finish this shift seeing this person like this.' Sometimes, I would have liked to bring the relatives in and say, 'would you want to die in this way?'.*

Back to us. the patient had been in gasping for eight hours. he was clutching at air that he could no longer take in and would have died any minute, but he couldn't let go. it was so bad. I had enoxaparin to do in therapy; it seemed to be torture. These things taught me so much [.]. I always insisted on this and nobody ever allowed me to say, 'you are nobody to say that'. I had the infectious disease specialist in front of me. I said, 'please stop. You come, see the patient for 5 min and then leave. We are here 24 h seeing people and seeing how bad it is to die in this way. I'm sure that if you go into the room and stay in there for more than 10 min without doing anything, you will come out, increase the morphine and disconnect everything. It takes dignity. You need dignity in living; you need dignity in dying' [.]. I put my hand on my conscience many times and it was horrible" (S_21).

The concern for the patients' dignity was particularly evident in the narratives describing dying and deaths. Participants also confronted themselves with undignified deaths and corpses locked in bags:

"I perceived over-treatment on a dying patient. She was intubated and died shortly afterwards. I am in favour of letting the person go with a dignified death." (S_14).

"Dead patients were put in white bags where we wrote their names on. And you, that closed the bag, you were the last person who would see that person. Once the bag was closed, it was never opened again. I didn't know. I found out in the ward and had a moment of instability. Having to write the name on the bag was harsh. You, nurse, or student… closing that bag and it would never be opened again. It was quite impactful." (S_05).

For some participants, dignity was respected when they described doctors stopping overtreatments or nurses accepting the death of a patient:

"I was impressed by a doctor who turned off the infusion pumps and let the patient go peacefully because he had reached the end. There was no need for the emergency trolley, resuscitation and making him suffer. It is right to do every possible treatment, but the ideal is also to evaluate the quality of life." (S_15).

3.4. Feeling treated as an equal in the workspace

The experience of the Covid-19 clinical placement our participants lived was also shaped by the feeling of being valued as a part of the team. No professionals working with the students or patients could recognise them as nursing students. Therefore, all the participants perceived a high level of involvement and responsibility. In this sense of collaboration, students described that they were frightened but proud of being part of the "heroic workforce" of health professionals against Covid-19:

"I thought: 'Oh my God!' Everything we saw on TV, everything we imagined… now my colleague and I were going to live it. There was a huge fear. It went beyond being a student." (S_05).

In their wards, participants felt they were peers of the staff members. Some perceived the disappearance of the professional-student hierarchy because the whole team wore the same uniform and faced "the same chaos":

"I felt lucky. I immediately felt part of the team with both doctors and nurses" (S_03).

"There was an extraordinary relationship with the doctors, so much so that I ask myself: 'as they all dressed the same, they probably took us for real nurses.' They make us feel like team members." (S_07).

"Nurses made me an integral part of the team, with whom I still maintain a relationship. That was the core of my experience. We were able to work comfortably, even though everything around us was bad." (S_21).

Many students described how they felt important and appreciated by doctors or completing tasks for the first time:

"We had student skills, limited skills. However, we were taken into consideration by doctors for many things, which was not expected. They called us by name, gave us the instructions, therapy sheets and explained them to us. It was nice because you don't get to experience that in many wards." (S_14).

Feeling part and involved allowed the participants to improve their nursing skills and learning autonomy. Some participants described that the team made a difference despite the difficulties and heavy clinical placement experiences:

"Now I feel more at a nurse's level; before I was just a student. This clinical placement helped me a lot. The team understood the difficulty and helped me gain confidence." (S_19).

4. Discussion

Clinical learning placements have been discontinued in many universities (Shrigiriwar and Garg, 2020; Woolliscroft, 2020), but in those universities where clinical placements have continued, students' experiences have proved significant from a learning perspective (Casafont et al., 2021). Typically, the clinical placement is an expected experience for nursing students to learn practical aspects and put their technical knowledge to work (Ulenaers et al., 2021). However, experiencing the clinical placement in Covid-19 wards has unique characteristics because it involves the "unknown" of an emerging disease about which knowledge was evolving. Wearing properly personal protective equipment and improving the knowledge about the virus to raise awareness about the pandemic care scenario were fundamental for facilitating the learning experience (Goni-Fuste et al., 2021). Contrary to what Canet-Vélez and colleagues (2021) informed, our participants were somehow prepared, even if they stressed how the health emergency disrupted the "usual way" of being in a clinical placement.

In the first days, the feelings included anxiety and fear of becoming infected and transmitting the disease to their families. This connects with findings reported by Nabavian et al. (2021). Their participants also said they even hid from their families and friends while serving in Covid-19 wards so as not to generate anxiety. These aspects are also described in other qualitative studies (Canet-Vélez et al., 2021; Roca et al., 2021). Our participants had to learn how to manage their emotions and care for Covid-19 patients.

While using students as part of the workforce may have been risky in this context, participants appreciated feeling helpful and capitalising on the competencies and skills required in an emergency. This connects to findings reported by Rodríguez-Almagro et al. (2021), who noted that students felt they had grown personally and professionally.

The participants had the opportunity to acquire advanced technical skills and, probably thanks to their young age, to profit from their adaptation to change, which, as reported elsewhere (Casafont et al., 2021; Heilferty et al., 2021), made this experience distinctive. Nursing students were able to see how the organisational changes led to a consequent reallocation of healthcare staff, both doctors and nurses, who were assigned to a different operational context from their own (Dunn et al., 2020).

Participants experienced this transition as an improvement in solidarity and strong bonds between staff. Indeed, studies show how the value provided by teamwork contributes positively to coping with stressful situations and challenges dictated by the pandemic (Martinez Estalella et al., 2021).

Universities were also involved in this emergency-driven organisational change and had to make decisions about their nursing students in a short period (Hayter and Jackson, 2020; Huang et al., 2020); however, many universities made efforts to provide adequate support for them so as not to interrupt learning opportunities altogether (Wallace et al., 2021) and the role of the academic tutor was crucial in managing anxiety and stress (Ulenaers et al., 2021).

However, the support from clinical, academic staff and peers is one of the factors that may interfere with the nursing student's adjustment process during the clinical placement (Aghaei et al., 2021), especially when it lacks, as reported by Rodríguez-Almagro et al. (2021) in their phenomenological study with Spanish nursing students.

Like in another study (Cervera-Gasch et al., 2020), nursing students proved keen to care for those patients. We realised that the emergency allowed the participants to work for the patients uniquely. Students replaced the affections of family members, caregivers, unable to see their relatives due to health restrictions, helping them make video calls to their loved ones, replacing hugs with a smile, a caress, or a word of comfort (Negro et al., 2020). The experience also gave them a different meaning to specific values such as time, family and freedom (Garrino et al., 2021).

Patient relationships and non-verbal language, together with technical skills, are just some of the aspects that nursing students practised during their Covid-19 clinical placement experiences. Those skills should not be unexploited in the future and should be inserted into the curricular courses of nursing students. Accordingly, the Covid-19 clinical placement lesson brought Canet-Vélez et al. (2021) to suggest integrating specific training modules into academic education, including stress management and how to communicate bad news.

The dramatic aspect of patients' death has inevitably opened up critical ethical reflections in students, which deserve to be supported and discussed in the academic sphere in the light of this health emergency (Turale et al., 2020). Some ethical issues, such as end-of-life and patient dignity, triggered strong feelings about death. It is described as a shocking event in the immediate and then turns into acceptance, especially for people at the very end of their lives (with Covid-19) (Farfán-Zúñiga and Jaman-Mewes, 2021; Özkaya Sağlam et al., 2021). The students effortlessly recognised the limit of care during the Covid-19 pandemic, emphasising its, sometimes crude, aspects, such as the loneliness caused by the illness and the dying (Garrino et al., 2021).

Processing clinical placements' emotional and ethical impact should be seen as soon a university's duty, mainly if clinical placements demand so many personal resources. In this context, authors described the lack of communication tools and the need to experiment in active listening and make connections with the patient (Farfán-Zúñiga and Jaman-Mewes, 2021).

Finally, as to the appropriateness of having nursing students undertaking clinical placements during the pandemic, many questions have been posed to academic decision-makers and opened debates in the scientific community (Hayter and Jackson, 2020), especially in terms of safety and stress the students were exposed. This study, we hope, might enrich the ongoing debate.

4.1. Limitations

The specific setting of the study and the qualitative method applied do not allow for generalisations, but the results can make an interesting contribution to understanding similar experiences (transferability). The analysis was conducted in teams, and we tried through discussion to corroborate our descriptions inter-subjectively.

5. Conclusions

This study describes that the most unpredictable emergencies, such as Covid-19, can provide learning opportunities in the practice environment for nursing students. Participants described the clinical placement in Covid-19 wards as a very demanding experience in terms of emotional, relational and practical capabilities required. Students had to care for patients suffering from "an indefinite disease" in solitude. Participants described how crucial non-verbal communication was for connecting with them. Dignity's issues caused by Covid-19 were clearly described. For many, feeling part of the team and being valued by doctors, tutors and nurses were the core of this learning experience.

This clinical placement allowed the nursing students to learn about advanced care, which will make them more ready as soon as they graduate and reflect on the actual value of life and address their personal growth as persons and professionals.

Although expression of a university context in Northern Italy, this research wanted to capture the suggestions and experiences of the students to reformulate some of the learning activities following the Covid-19 health emergency and implement strategies to maintain some of the technical-relational skills acquired. Nursing students' educators should consider improving public health-related academic programs, including updated information about best practice nursing care in epidemics/pandemics, infection control and how to use PPE appropriately. Conversely, students who had the clinical placement experience in Covid-19 wards should be provided with the maintenance of their acquired advanced skills not to disperse them over time and participate in

dedicated activities. Those students may become peer-educators and should be invited by academics to share their knowledge and experience with first-year students. Universities should find ways for helping those students to process this experience sequela and prevent drop-out, involving them in dedicated workshops or seminars. Finally, we acknowledge the importance of psychological training programs to help all nursing students overcome stressors during future outbreaks (Ritin Fernandez et al., 2020a, 2020b), including stress management and skills for communicating bad news.

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CRediT authorship contribution statement

Michela Barisone: Conceptualization, Methodology, Software, Data curation, Writing – original draft, Visualization, Investigation, Software, Validation, Writing – review & editing. **Luca Ghirotto:** Conceptualization, Methodology, Software, Data curation, Writing – original draft, Software, Validation, Writing – review & editing. **Erica Busca:** Data curation, Writing – original draft, Visualization, Investigation, Software, Validation, Writing – review & editing. **Matías Eduardo DÍAZ Crescitelli:** Data curation, Writing – original draft, Writing – review & editing. Monica Casalino: Visualization, Investigation. **Giovanni Chilin:** Visualization, Investigation. **Simona Milani:** Visualization, Investigation. **Paola Sanvito:** Visualization, Investigation. **Barbara Suardi:** Visualization, Investigation. **Antonia Follenzi:** Writing – review & editing. **Alberto Dal Molin:** Conceptualization, Methodology, Software, Writing – review & editing

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Authorship

Study design: ADM, MB, LG. Enrolment of the study population: MC, GC, SM, PS, BS. Data collection: MB, EB,. Data analysis: MB, EB, LG, MEDC. Study supervision: ADM, LG, Manuscript writing: MB, EB, LG, Critical revisions for important intellectual content: MB, LG, ADM.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.nepr.2022.103297.

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