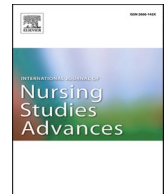




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Impact of nurse education prior to and during COVID-19 on nursing students' preparedness for clinical placement: A qualitative study

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ABSTRACT

Introduction: Nursing students internationally entered challenging clinical placements during COVID-19. Lessons learnt could inform nurse education planning, particularly in preparation to implement future workforce plans.

Aim: This study aimed to explore the impact of COVID-19 on nursing students undertaking clinical placements across the UK, particularly the extent to which nursing education prior to and during COVID-19 had prepared them for placements, and to distil key messages for future nursing education.

Methods: A UK-wide qualitative study was conducted using audio or written placement diaries and post-placement telephone or online interviews with nursing students from all years of study and from adult, children, mental health and learning disability disciplines. Transcripts were analysed thematically using the Framework Approach. A pre-survey collected participants' demographic information, details and expectations of their upcoming clinical placements, and how well prepared they felt. Ethical approval was gained.

Results: Two hundred and sixteen nursing students from across the UK participated in the study. Five key themes were identified: 'stepping up to the challenge and feeling the fear', 'new ways of learning', 'theory versus clinical practice', 'impact on clinical and academic partnerships', and 'concerns around demonstrating proficiency'.

Discussion: Differing levels of preparedness of nursing students for clinical placement were reported. While many felt honoured to be a part of the nursing workforce during COVID-19, the

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rapidly changing clinical landscape led to unplanned changes to placements, lack of skills practice, uncertain practice supervision and distance learning which impacted on their confidence and perceived levels of competence leading to anxiety around demonstrating proficiency and achieving practice hours. Greater collaboration between universities, clinical placement teams, policy makers and regulators are key lessons post COVID19 to improve the support and preparedness of nursing students.

Contribution of paper:

What is already known about this topic

Student nurses continued their placements during the COVID19 pandemic and played a critical role in alleviating the high level of pressure placed on health care services globally during COVID-19

Third year students in the UK were offered paid placements to bolster the strained nursing workforce

Student nurses' fears and uncertainties about going into placement at this time have been widely reported

What the paper adds

Unplanned changes to placements, lack of skills practice, uncertain supervision and assessment arrangements and distance learning impacted on the confidence and self-perceived competence of student nurses while on placement leading to anxiety around demonstrating proficiency and achieving practice hours.

Post COVID curricula need to prepare student nurses to be able to rapidly respond to fast-changing, dynamic situations so that they can be adaptable and flexible in both their academic thinking and their practical application of these skills.

Collaborative working and better communication between educators, clinical placement teams, policy makers and regulators are needed to improve support and preparedness of student nurses entering the profession post COVID-19

1. Introduction

Globally, the COVID-19 pandemic presented an unprecedented challenge for healthcare providers and educators. High demands on health services coupled with staff shortages due to sickness, burnout and social distancing policies led to an urgent need to fill the gaps in the healthcare workforce (Esterwood and Saeed, 2020). This intensified pre-existing crisis within the UK National Health Service (NHS) of staff shortages, retention and recruitment issues and low morale (Health Foundation, 2020). In the UK, nursing students played a critical role in alleviating the pressures on the NHS, by providing support to an increasingly depleted workforce, via both paid and supernumerary placements (NMC, 2020).

The nursing curriculum in the UK is designed to ensure that nursing students acquire the knowledge, skills, and professional behaviours necessary to provide high-quality care in various healthcare settings. It is regulated by the Nursing and Midwifery Council (NMC), which sets out standards for education, training, conduct, and performance. The NMC's pre-registration standards (NMC, 2018) are the foundation of nursing education, requiring students to complete both theoretical and practical components. The practical elements of training require nursing students to complete 2300 hours of clinical placement during their education to meet the requirements set out by the Nursing and Midwifery Council (NMC) pre-registration standards (NMC, 2018). A clinical placement has a direct bearing on the student's ability to work effectively and integrate theory to practice. Practice supervisors and assessors facilitate and assess learning, enabling the achievement of required learning outcomes and competencies (NMC, 2018). Nursing students were therefore expected to continue clinical placements throughout the pandemic to achieve this. Across the UK, many nursing students in years two and three of their programmes were asked to sign up to undertake extended placements during the first wave of COVID-19 in early 2020 (NMC, 2020), while others opted to continue supernumerary clinical placements. Nursing students who offered to undertake an extended placement were remunerated in line with the salaries of non-registered care assistants. Supernumerary clinical placements returned after the initial pressure on the NHS, and student nurses continued as before in clinical placements despite COVID-19 policies remaining in place.

Nursing students faced extraordinary challenges during COVID-19. Education was impacted through the closure of university campuses and transitions to online learning (Langegård et al., 2021; Ramos-Morcillo et al., 2020). This presented challenges in teaching the practical elements of nursing, particularly the teaching and practising of clinical skills. Furthermore, nursing students often stayed apart from family and friends to prevent potential contamination leading to isolation and their experiences during this time led to poor mental health (Zhu et al., 2024; Mulyadi et al., 2022). Unexpected changes to clinical placement and ongoing changes in policies within their clinical area emphasised the need for flexible and adaptable skills.

There is limited evidence about how the nursing curriculum prior to the pandemic prepared student nurses for entering clinical placements during COVID-19. Furthermore, lessons from the students' experiences during this time are critical to help support them post COVID and retain them in the nursing profession.

The aim of this study was to explore the impact of COVID-19 on nursing students undertaking clinical placements across the UK, particularly the extent to which nursing education prior to and during COVID-19 had prepared them for their rapidly evolving role in

managing the crisis and the impact that it had on them. The study also aimed to identify key messages for future nursing education, regulation and professional leadership.

2. Methodology and methods

A qualitative approach was necessary for this study to explore and understand complex phenomena of student nurses entering clinical placement during COVID19, providing rich, detailed insights into human experiences, behaviours, and social contexts that quantitative methods may not fully capture. We used a pragmatist approach to research as it recognises the value that the qualitative data lends to the understanding of a particular phenomenon—an understanding that is not limited by one specific research paradigm or methodology (Turnbull J and Lathlean 2015).

In this study, pragmatism influenced data collection, analysis, and integration in research by emphasizing flexibility, practicality, and the relevance of methods to the research question, rather than strict adherence to any one philosophical or methodological tradition. Pragmatism encouraged the use of the most relevant methods, that is qualitative research methods contextualised by a survey of demographics which the research team decided was best suited to address the research question rather than being bound by strict paradigmatic divides.

2.1. Design

This UK-wide multisite COV-ED Nurse study therefore comprised three consecutive phases: pre-placement survey to provide context, in-placement diaries, and post-placement interviews with nursing students. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was followed to ensure rigour in reporting of qualitative data (Tong et al., 2007). Data were collected from December 2020 to November 2021

2.2. Recruitment

Nursing student participants were recruited from across the four countries (England, Scotland, Wales and Northern Ireland) of the UK and from all four nursing specialties: adult, children, learning disabilities and mental health (including those on dual registration programmes). All nursing students in any year of their degree programme, who were due to start a clinical placement were eligible to participate. Convenience and snowball sampling techniques were used. A hub-and-spoke approach was used to facilitate recruitment where recruitment was coordinated by the lead institution via a centrally managed study website and promoted via existing networks, which included project partners and steering group members across the UK. Various recruitment channels were used to target eligible nursing students, including social media networks, university lecturers and student unions, online learning platforms and word of mouth. Eligible students were signposted to the study website where they could access a participant information sheet. Interested students were then invited to complete an online expression of interest form and, once eligibility was confirmed, were provided with an online consent form to complete. To incentivise recruitment, all participants who took part in phases one and two were given a £20 voucher, and participants who completed all three phases of the study were entered into a prize draw to win an iPad.

2.3. Data collection and analysis

2.3.1. Phase 1: pre-placement survey

Participants were invited by email to complete a short online pre-placement survey (appendix 1). The survey collected demographic data: age, ethnicity, gender identity, occupation, relationship status, family size (number of children and other caring responsibilities) nursing discipline and student year. The survey also asked the student about their feelings ahead of placement (excited, apprehensive, motivated, nervous, frightened or determined) and how prepared the study was feeling about going into placement (Five item: well prepared – not at all prepared). This data was used to provide the diversity details for the sample and to provide context for how the student might be feeling during the interview. We also used the pre-survey data to explore the key findings within the qualitative data by demographics to see if different groups had similar or different experiences.

2.3.2. Phase 2: placement diaries

Participants were asked to provide audio, video or written diaries (using their own devices (e.g., smartphones, tablets, laptops) for audio/video diaries), and submit them weekly via a Google Form over four consecutive weeks of their clinical placement. Participants were provided with technical instructions on how to make and upload their diaries together with a topic guide which, as well as encouraging them to describe their experience, asked them to reflect on the extent to which they felt their university and clinical nursing education prior to and during COVID-19 had influenced their resilience and their ability to cope, both personally and professionally.

Data from diaries were used to provide real time experiences of being in clinical placement during the COVID 19 pandemic. This data was combined with the interview data for each individual student and analysed as one transcript.

2.3.3. Phase 3: post placement interviews

On completion of their clinical placements, the same students were contacted by a researcher and invited to take part in a post-placement interview. Interviews were conducted by telephone or online using the Zoom platform. A topic guide was used to

explore students' experiences and reflections on the impact of working through COVID-19 from a professional and personal perspective, their perceptions of the level of support offered to them, and how their experiences influenced their decision-making relating to a future career in nursing. Interviews were also informed by participants' placement diaries.

2.4. Ethical approval

Ethical approvals were obtained in May 2020 from the central research team's local university research ethics committee (L20209). All participants provided online written informed consent prior to participating in the study, as well as recorded verbal consent prior to taking part in the interview study. All surveys, diary and interview data were de-identified prior to analysis and managed according to General Data Protection Regulation principles.

2.5. Analysis

Survey data were analysed descriptively using IBM SPSS software version 27 and used to provide context for the qualitative data. Weekly recordings, written diary records, and interview data were transcribed by an approved transcription company. Transcripts were analysed thematically using the Framework Approach (Gale et al., 2013). This follows five main stages: familiarisation with the data by reading and re-reading the transcripts, identifying a coding framework, indexing the transcripts using the coding framework, charting the data into tables, and finally mapping and interpretation of the data through exploration of themes. NVivo software version

Table 1

Pre-placement survey responses for consented participants and participants submitting data.

Demographics		Consented
Region <i>N (%)</i>	England (South)	52 (24.1)
	England (Midlands)	28 (13.0)
	England (North)	27 (12.5)
	England (London)	44 (20.4)
	Scotland	17 (7.9)
	Wales	30 (13.9)
	Northern Ireland	18 (8.3)
Nursing Field	Adult Nursing	145 (67.1)
	Children's Nursing	30 (13.9)
	Mental Health Nursing	30 (13.9)
	Learning Disability Nursing	8 (3.7)
	Dual Field	3 (1.4)
Year of Study <i>N (%)</i>	Year 1	14 (6.5)
	Year 2	102 (47.2)
	Year 3	100 (46.3)
Gender <i>N (%)</i>	Female	196 (90.7)
	Male	16 (7.4)
	Non-binary	4 (1.9)
Ethnicity <i>N (%)</i>	White	90 (88.0)
	Black	13 (6.0)
	Asian	8 (3.7)
	Chinese	2 (0.9)
	Mixed	2 (0.9)
	Other	1 (1.7)
Age		24.0
Median (IQR)		(21.0–32.3)
Relationship Status <i>N (%)</i>	Single	82 ¹ (39.8)
	In a relationship	85 (41.3)
	Married/defacto/civil partnership	33 (16.0)
	Divorced/separated	6 (2.9)
Children <i>N (%)</i>	Yes	52 ² (25.5)
	No	152 (74.5)
Other dependents <i>N (%)</i>	Yes	5 ³ (2.5)
	No	195 (97.5)
Feelings ahead of placement <i>N (%)</i>	Excited	128 (59.3)
	Apprehensive	107 (49.5)
	Motivated	80 (37.0)
	Nervous	122 (56.5)
	Frightened	22 (10.2)
	Determined	83 (38.4)
	Very well prepared	11 ¹ (5.3)
Feeling of preparedness <i>N (%)</i>	Well prepared	80 (38.8)
	Somewhat prepared	87 (42.2)
	Not very well prepared	23 (11.2)
	Not at all prepared	5 (2.4)

1. *n* = 206 2. *n* = 204 3. *n* = 200.

12 was used to manage the data. Weekly research team meetings were held to develop the framework, ensure analytical rigour, and agree interpretations of the dataset. Double coding was undertaken on a selection of transcripts to ensure rigour and consistency.

3. Results

In total 216 students consented to take part in the study and completed the pre-placement survey. Of these 124 submitted data in the form of diaries ($n = 107$) and/or interviews ($n = 97$). Descriptive statistics for the pre-placement survey data are presented in Table 1. Most participants were from the England (South) or London regions (44.5 %), were in their second or third years of study (93.5 %) and were from the adult nursing field (67.1 %). The median age of participants was 24.0 years (IQR: 21.0–32.2), and the majority

Table 2
Framework demonstrating relationship between coding framework and themes.

Coding framework	Summary of Data	Theme
Placement preparedness (pre-, going into, during, University team, clinical team, student factors)	Preparedness negatively impacted by online learning, students put more emphasis on skills learnt during practice – although clearly had drawn on theory learnt in online lectures <i>“Everything that I apply in practice is what I learnt in practice rather than at university. I have used the skills of patient communication, organisation and medication management”</i>	Theory vs Clinical Practice
Placement Organisation (pre-, going into, during, University team, clinical team, student factors)	Lack of practical readiness for placement due to last minute organization. Students blamed university for lack of organization of placements not NHS <i>“we literally had two days’ notice between being told you were starting on this area on Monday. Can you please make contact with your ward and say hello, with two days’ notice. And I find that really difficult, because I want to know where I’m going, I want to do a bit of reading and drugs you might be using, some of the procedures that happen. I like to go in with a little bit of armour”</i>	Impact on clinical and academic partnerships
Skills, learning and Practice (Opportunity to learn in quiet placement, opportunity to learn in busy placement, opportunity to learn on paid placement)	Change to online learning - loss of face-to-face interaction, loss of identity as a student, difficulties with engagement and motivation, and lack of suitability of online delivery for clinical skills learning. <i>“Found online learning a challenge. I find it really hard to engage with an online lecture. Like in the classroom, you know, you feel more comfortable to ask questions, you’re sat with your peers, it’s a lot easier to actually engage”</i> COVID 19 restrictions affected what skills students were able to practice, if they received mentorship, and if they were able to observe other teams or move around the setting freely) <i>“There was always discussion before we went into [patients’] homes about background about the patient, and then what we were going to do, how the patient reacts to it, if the nurse had found any best methods for doing things ...this went during COVID as we had to travel in separate cars. I missed the learning from the debrief afterwards too”</i>	New Ways of Learning
Emotional impact (Isolation and uncertainty, mental health issues, fear, impact of dying patients, guilt, disappointment around placement, loss of confidence, positive emotional impact)	Fear around lack of opportunity to practice skills and demonstrate proficiency for assessments greater than fear of being infected <i>“I was reassured by the university that I could carry over the missing hours to next year, however I am concerned as I know the final year will already be very busy”</i>	Concerns around demonstrating proficiency Stepping up to the challenge and feeling the fear
Support (unmet support, greater need for support, experiences of support: academic, clinical, personal/informal)	Less contact with University staff and with clinical teams due to COVID restrictions led to a reduction in support for students <i>“In terms of my competencies that need to be signed off, there are a few which I doubt will be completed due to COVID, which is quite upsetting as I feel I am missing out on certain learning opportunities. In order to combat this for students, I feel as if something should be implemented to support students and ensure they are still involved in a learning experience”</i>	Impact on clinical and academic partnerships Concerns around demonstrating proficiency
Evolving Role of Student (changing responsibility, changing experiences, changing identity, changing preparedness, organisation, skills, support)	Finding confidence in a crisis, adjusting to role as a health care assistant in paid placements, adapting to new policies and new ways of working in placements <i>“I felt proud to be going into this profession. I wouldn’t say I was afraid. This is what I have been training for. I felt honoured to be a part of it ...to do my bit in the crisis”</i> <i>“The paramedic working with me pointed out that while attending the COVID 19 patients we should be wearing surgical gowns, which did not come to my attention previously (previous week I did attend COVID 19 patients) and I guess now I feel little bit more anxious than previously”</i>	Stepping up to the challenge and feeling the fear

were female (90.7 %), white (88.0 %), in a relationship or married/defacto/civil partnership (57.3 %), and without children (74.5 %) or other dependents (97.5 %). Participants highlighted a range of feelings ahead of going into placement, with excitement (59.3 %) and nervousness (56.5 %) being most common. Only a small proportion of participants indicated that they felt 'not very well' or 'not at all' prepared ahead of going into placement (13.6 %). Pre-placement survey responses of those who submitted diary and interview data subsequently did not differ significantly from those who did not.

Five key themes from the qualitative data relating to nursing student education and the extent to which they felt prepared for clinical practice during and beyond their placements were identified: Stepping up to the challenge and feeling the fear; New ways of learning; Theory versus clinical practice; Impact on clinical and academic partnerships; Concerns around demonstrating proficiency. [Table 2](#) demonstrates the relationship between the coding framework and the themes.

1. Stepping up to the challenge and feeling the fear

Nursing students continued with their clinical placements during COVID-19, rising to the challenging demands placed on nursing staff during the pandemic. They felt valued and part of something bigger, and this experience often shaped their positive feelings about the nursing profession and their future careers within it. Students expressed a sense of being part of history, learning new things and stepping up to a challenge that was personally fulfilling as well as professionally worthwhile.

I felt proud to be going into this profession. I wouldn't say I was afraid. This is what I have been training for. I felt honoured to be a part of it ...to do my bit in the crisis

Adult nursing student 3rd year London

This sense of value was heightened because of highly visible public support for those on the 'front line'.

"I think it's more like the people around me have recognised the profession more for what it is, and yeah, it's something I feel really proud to be part of as well. Like it's been a really difficult time, and yet we've all just responded and adapted...I think for me it feels even more strongly that it's more than just a profession... I think it's really positively changed my impression of healthcare and the ability to respond to crises."

Learning Disability student nurse 2nd year Wales

"My respect for nurses has increased, because they after all they have gone through, even during the peak of the pandemic they still went to work. But personally, also I'm thinking well I really want to be a nurse"

Adult student nurse 3rd year South of England

However, despite feeling valued, participants expressed anxiety about the nature of the nursing care they were about to undertake. This was mainly centred around the potential for causing harm in placements where supervision was lighter, and concerns about infecting vulnerable patients with COVID.

"It was just that fear of is that patient COVID positive or negative, and it's the fact that you're rounding up there and going on to another person's house, and going on to another person's house"

Adult nursing student 3rd year South of England

"I was on a blood transfusion ward, with a bone marrow and genetic therapy. I could tell you it was absolutely petrifying. All the patients were immunocompromised, they had no immune system and ... it was during the peak of COVID, and I could never be more terrified of giving them COVID"

Adult nursing student 2nd year Wales

Furthermore, participants were concerned about the COVID risk they might present to those around them. Nursing students often sacrificed contact with their families to protect them, leading to their own increased sense of isolation.

"I was going to be working with children who were previously exposed to COVID-19. It also made me feel anxious considering I live with my parents and one of my siblings so I moved back to student accommodation"

Children's student nurse 2nd year Midlands

"I was informed by the matron that the sister ward next door had now turned into a COVID ward and that our ward would be taking more 'step down' COVID patients. This made me feel a little uneasy ..I felt concerned for my family's health due to exposure risks"

Adult nursing student 3rd year London

With fast changing policies, confusion over the right level of protection and a scarcity of the right protective equipment, there were concerns about not being prepared for the rapidly changing clinical environment.

"The paramedic working with me pointed out that while attending the COVID-19 patients we should be wearing surgical gowns, which did not come to my attention previously (previous week I did attend COVID-19 patients) and I guess now I feel little bit more anxious than previously."

Adult nursing student 3rd year London

"I think the main thing's just juxtaposition from having been in my orthopaedic placement where I had worn FFP3 s, visors, and even wearing visors with all non-COVID patients, just because it was a medium risk pathway, to then just be wearing a surgical mask, gloves and apron, when you knew ...that everyone had COVID-19"

Adult nursing student 3rd year London

2. New ways of learning

Participants highlighted the various challenges and opportunities presented by new and different ways of learning during the pandemic. The impact of online learning was particularly prominent. This included the challenges around online learning and the opportunities that were lost due to the rapid transition to remote education. Challenges reported included loss of face-to-face interaction, loss of identity as a student, difficulties with engagement and motivation, and lack of suitability of online delivery for clinical skills learning.

"Found online learning a challenge. I find it really hard to engage with an online lecture. Like in the classroom, you know, you feel more comfortable to ask questions, you're sat with your peers, it's a lot easier to actually engage"

Adult nursing student, 2nd year South of England

"Seems to have had a negative impact on the students' identity. I honestly don't feel like a student"

Adult nursing student 2nd year Midlands

The timing of the transition to online learning within the degree course was seen as important, with first years struggling the most. Nursing students in the first year of their degree had not yet formed strong relationships with other students so reported feeling isolated and trying to learn subjects not suited to online lectures.

"I'm pleased that it happened within my degree where it did. Had I had to have done pharmacology... Yeah, pharmacology, anatomy, that would have been really, really, difficult to learn online. But the way that it sat within my degree, and how my modules were, there were a lot more individual learning anyway, so that was OK"

Adult nursing student 3rd year London

"The first year said to me 'I am in my first year, I don't know any other students and I am learning how to be a nurse online. It wasn't how I expected'"

Adult nursing student 3rd year London

However, the participants also reported benefits of online learning, such as flexibility, blended learning, and time saving due to less travelling.

"Before COVID because the training sessions would've been in person and I would've had to spend half a day booked onto them, which probably would've made it unfeasible"

Adult nursing student 2nd year South of England

The continued use of simulation to practice skills was a valued learning experience by students. Simulation training provided an opportunity to apply theory and gain experience in skills or procedures preparing them for the greater independent working expected in placement due to staff shortages and, for some, greater numbers of patients.

"I think we did have a few simulations, which I felt really benefited me... Our university would get actors and actresses to play patients, and we had a simulation room, and there was an actual patient and we had to actually care for them... It prepared us for the more independent working required on the wards during COVID"

Adult nursing student 3rd year North England

Participants also highlighted the impact of COVID-19 on learning in clinical practice. The impact on staffing, how busy the setting was, impaired communication and the impact of COVID-19 protocols and regulations all impacted on learning opportunities. The restrictions affected what skills students were able to practice, if they received mentorship, and if they were able to observe other teams or move around the setting freely.

"We weren't able to shadow the clinicians which was a real loss. I didn't know my mentor because she was leaving... When they then gave me a new mentor, that then changed, because they were too busy, which then changed again later on. And I don't think I got anything done until quite later on in the placement."

Adult nursing student 3rd year North England

"There was always discussion before we went into [patients'] homes about background about the patient, and then what we were going to do, how the patient reacts to it, if the nurse had found any best methods for doing things ...this went during COVID as we had to travel in separate cars. I missed the learning from the debrief afterwards too".

Adult nursing student 2nd year South England

Furthermore, final-year nursing students who opted into paid placements to boost the nursing workforce at this time of crisis reported varied experiences of this. Some perceived themselves treated as healthcare assistants and reported feeling that they had lost many of the practice skills that nurses perform.

"We were treated as health care assistants so given jobs which need doing, rather than jobs which add to our learning. I feel behind."

Adult nursing student 3rd year London

Others perceived this opportunity as beneficial allowing them more responsibility and greater opportunities to practice their skills

"[I was able] to be in a position of being a band four having my own patients, I wouldn't have had that had it not been for COVID, I wouldn't of (sic) learnt'.

Adult Nurse student 3rd Year Midlands

However, the challenging clinical environments were at times beneficial to nursing students who gained experience from working more independently due to staff shortages. They also reported learning skills they would not have learnt before COVID-19. For others the clinical environments were quiet which provided the opportunity for more intense mentoring.

"In a way some of the skills kind of in a way benefited with COVID, it was busy so I learnt more ... because like there were ECGs to be done, and a lot of COVID patients had ECGs done." Adult nursing student 2nd year Midlands

"I did get to spend a lot of time with her, and she's an experienced band six nurse, and when it was downtime she'd just be like OK, what shall we talk about? What shall we look at?" Adult nursing student 3rd year Scotland

COVID-19 policies had a big impact on student nurses' informal opportunities to learn. Social distancing and mask wearing policies led to less communication between student nurses and experienced nurses and less contact with the patients. This had varying impacts across the different nursing disciplines. For example, community placement student nurses travelled separately to the home they were visiting losing the opportunities to debrief with senior nurses after the visit, visits to homes were shorter, contact was limited on busy wards with COVID patients, and physical comfort could not be provided to vulnerable disabled children.

We travelled separately to the home due to social distancing policies. I wasn't able to discuss the case with her before the visit and wasn't able to debrief afterwards.

Children's student nurse 3rd year Midlands

"It was difficult to get to know staff because of the mask wearing. I felt awful talking to the older patients with masks on as they couldn't understand us"

Adult student nurse 3rd year Northern Ireland

3. Theory versus clinical practice

The hasty transition to online learning and increased use of virtual clinical simulations gave some nursing students the perception that preparedness for clinical practice had been negatively impacted. Participants often did not link how academic study prepared them for clinical practice and tended to put much more emphasis on the skills and knowledge that they gained in placements.

"I do feel as though the, the kind of, the skills or the knowledge that I've drawn on in placement are actually knowledge and skills that have come from my previous placements rather than from my academic study or my academic support. It's a lot easier to think of the different things I've done in placement before that have helped me now".

Adult nursing student 3rd year London

"I honestly did not feel as if there were any aspects of my academic education that I drew on. Everything that I apply in practice is what I learnt in practice rather than at university. I have used the skills of patient communication, organisation and medication management"

Adult nursing student 2nd year North England

However, when discussing both their preparedness to go into clinical practice and the skills learnt and practised in different settings, participants had clearly drawn on their understanding of their education and on content learnt during lectures.

I was looking after a suspected COVID patient who began to choke on her sputum, with obvious pallor change and I deemed this an emergency. As such, I immediately sat her up and prepared the suctioning device and began to try and suction her secretions. This was successful and she was fine, in fact, having managed to expectorate secretions her oxygen saturations improved and her breathing felt better. After this event, once I had informed the nurse-in-charge, I was mildly reprimanded for suctioning in a bay. I was told that suctioning was an AGP and therefore it was not permitted without full PPE or ideally, separating her"

Adult Nursing, student 3rd Year London

4. Impact on clinical and academic partnerships

Participants highlighted problems with the way placements were organised, the degree to which the clinical and academic components of the course were joined up, and the extent to which their expectations of their education and training and experiences of clinical practice were met.

Placement organisation impacted on participants' feelings of confidence and competence when beginning a placement and was closely linked to how and on what timescale clinical placements were organised, and how this was communicated to students. Students commented that they liked to be given the time prior to going into placements to learn about it, work out the logistics of getting to and from the site, and revise their knowledge about the clinical area. The last-minute nature of placement allocation and communication during COVID-19 meant that this lead time was substantially reduced, and students found it difficult to engage in this practical preparation as they normally would.

"We usually receive our placement allocation 4 weeks prior to the commencement date, however we were informed that our placement had been suspended by one week due to the trust being overwhelmed. We received notice of our new allocation and our start date 4 days prior to the commencement date. This caused a lot of stress and anxiety for me due to my childcare situation and due to the fact that I like to contact the placement area to introduce myself" Adult nursing student 2nd Year N Ireland

"So we didn't get to choose where we were going to be going, it was really quite ambiguous, and that was quite frightening, not knowing. And this was round about, I think it was April or May in 2020, so there's a lot of uncertainty then." Children's nursing student 2nd year Wales

The blame for these problems and unmet expectations was often placed with the University and not the clinical teams or their future profession. For example, the disruption of placements was attributed to the universities not the chaos within the NHS.

"The University is supposed to give people two weeks' notice when we get told where we are going, and whether it was due to COVID or just whether the whole placement thing has been quite difficult to arrange, I think it probably has, we literally had two days' notice between being told you were starting on this area on Monday. Can you please make contact with your ward and say hello, with two days' notice. And I find that really difficult, because I want to know where I'm going, I want to do a bit of reading and drugs you might be using, some of the procedures that happen. I like to go in with a little bit of armour"

Adult nursing 2nd year South England

5. Concerns around demonstrating proficiency

Students highlighted numerous concerns around demonstrating proficiency and making up practice hours in their placements during the COVID-19 pandemic. They reported receiving varying degrees of support both in practice and from their universities in trying to navigate this aspect of qualifying. However, the anxiety linked to demonstrating proficiency was clear and often appeared to be over and above any anxiety associated with personal risk or fear of infection.

"In terms of my competencies that need to be signed off, there are a few which I doubt will be completed due to COVID, which is quite upsetting as I feel I am missing out on certain learning opportunities. In order to combat this for students, I feel as if something should be implemented to support students and ensure they are still involved in a learning experience" Children's nursing student 3rd year London

"I tried to extend the placement but due to the trust not being able to accommodate I could not. I was reassured by the university that I could carry over the missing hours to next year, however I am concerned as I know the final year will already be very busy"

Adult nursing student 2nd year London

This in turn impacted on nursing students' perceived level of competency as nurses and their levels of preparedness for becoming a nurse.

I'm a third year student and soon I will be graduating into nursing but I don't feel prepared for this. I don't feel my skills have progressed this year.

Adult nursing student 3rd year South England

4. Discussion

The findings from this study highlight the sense of pride nursing students felt in contributing to the healthcare landscape during COVID-19, but also reveal the fear that many nursing students experienced in entering clinical practice during the crisis. With regard to their education experience, students reported both challenges and benefits with the move to online learning and a hybrid approach to nursing education. The rapidly changing clinical landscape led to a lack of preparedness for placement, impacting on the confidence and perceived competence of many nursing students while on placement and leading to anxiety around demonstrating proficiency and achieving practice hours.

When nursing students entered healthcare placements at the time of COVID-19, there was increasing public support for the nursing profession, and many nursing students felt both personally and professionally fulfilled and honoured to be 'doing their bit' in the crisis. However, fear of entering the unknown was also reported. These contrasting positions have been reported in early COVID-19 studies where nursing students were found to experience both positive and negative feelings about entering placement at this time (Martin-Delgado et al., 2021; Canet-Vélez et al., 2021; Godbold et al., 2021). This study reports the pride the students felt alongside the stress of completing placements, practicing skills and academic assignments. Student nurses' fears and uncertainties about going into placement at this time have been widely reported. (Luo et al., 2023; Mulyadi et al., 2021; Kishore et al., 2022; Majrashi et al., 2021; Almed et al., 2022) The feeling of fear was generated by increased clinical workloads, staff shortages, insufficient personal protective equipment, inadequate preparation for caring for people with COVID-19 in hospital settings, reduced mentoring and fear of being infected with COVID-19 or infecting vulnerable family members (Luo et al., 2023; Mulyadi et al., 2021; Kishore et al., 2022; Godbold et al., 2021; Majrashi et al., 2021). This was juxtaposed against academic workload and assignments (Majrashi et al., 2021) social isolation, risk, a fear of dying and profound uncertainty (Kishore et al., 2022).

Mandatory COVID-19 social distancing requirements led to disruption in established approaches to pre-registration nurse education. The benefits and challenges of the rapid change to online learning and assessment were reported in this study. Other studies reported the barriers to learning (Apolinario et al., 2024; Velarde-García et al., 2021), experiences of stress (Rood 2022; Majrashi et al., 2021) and heightened anxiety due to the transition to online learning (Kishore et al., 2022; Godbold et al., 2021; Mukasa et al., 2021).

However, the disruption sometimes led to more creative ways for clinical practice learning, and students in this study valued the continued use of simulation to learn and practice clinical skills. Lobao et al. (2023) reported that virtual and campus-based simulation, virtual learning, and teaching strategies incorporating virtual platforms, scenarios, role play, reflection, debriefing, and online seminars had been introduced to replace clinical practice learning and enabled students to progress their studies. Further benefits of virtual reality simulation training, teleconsultation and virtual ward rounds and web-based specialized skills learning were also reported (Hao et al., 2022), with virtual reality significantly improving clinical reasoning based on applied knowledge and clinical performance (Sim et al., 2022). Several studies reported significant knowledge gains as a result of online learning (Cant et al., 2021; Kim et al., 2023; Hao et al., 2022). However, while many students reported a positive learning experience which enabled them to develop and grow their clinical competence and associated self-efficacy, problems with access and lack of interaction with peers were also reported in studies (Apolinario et al., 2024; Labao et al., 2023; Majrashi et al., 2021). Furthermore, students in this and comparative studies found that remote and online learning was no substitute for the academic and clinical learning associated with in-person education (Mousavizadeh et al., 2022). Concerns were raised about the optimal development of clinical competence, critical thinking skills, professionalism and teamwork, the impairment of student-patient and student-teacher relationships and the veracity of online assessment and academic integrity (Shorey et al., 2022; Sancho-Cantus et al., 2023). Deficits in soft skills education during COVID-19 also appeared to have a negative influence on coping and managing situations (Sancho-Cantus et al., 2023).

Post COVID-19, many institutions in the UK have moved to establishing hybrid education as the new normal. Support to help students build up expertise in online learning should be considered such as Salmon's five-stage-model which provides a framework or scaffold for a structured and paced programme of e-tivities (Salmon, 2013). However, contact with others is essential and digital simulation programmes and scenarios cannot replace this (Lobao et al., 2023). Furthermore, there is a need for selective application of learning methods in relation to different learning environments, as well as curricular subjects and topics (Kim et al., 2023).

With increased hours in placement, positive public opinions of nurses and a loss of student identity due to closed universities and online learning, student nurses may have identified more with their future profession than with their student status. As a result, unmet expectations were often directed at the universities rather than at the hosting NHS Trusts. Students reported disappointment in the lack of preparedness and organisation around clinical placements and at times a perceived lack of support from universities (Matihaba et al., 2022). This may in part have been caused by the sense of loss of the paternalistic relationship with their university.

Students in this study tended to put much more emphasis on the skills and knowledge that they gained in placements. It is generally expected that student nurses learn knowledge, skills and theory in academic settings and then apply their knowledge in practice. However, they may not always identify where this tacit knowledge/ learning has come from and may assume it is always from practice, whereas in fact it is likely to be a combination of the two. This highlights a particular dimension to the theory practice divide (Ousey et al., 2007). The ability of students to apply critical thinking skills and challenge best practice are two examples of academic learning applied in practice that were identified in this study.

There are different lessons to draw from this research, one being the altered patterns of learning that we unearthed. Usual processes of socialisation into nursing through a continuum comprising academic learning and clinical placements were disrupted. Socialisation into the nursing role is an important consideration from these data. Melia (1987) reported the segmented nature of nurse education, contributing to a transience in the nursing profession and engendering a limited commitment to it amongst nursing students. Nursing students who contributed to this study seemed to identify with their registered clinical counterparts and attributed greater value to learning in practice than to theory from the university, indicating a disconnect between university and clinical placements. However, it is possible that they also drew on university learning subliminally but the data did not suggest this was the case. Nursing students are expected to learn effectively in both academic and clinical settings and therefore find themselves in 'a complicated nexus between policy, ideology and practice' (Stronach et al., 2002). Melia comments that nursing students traverse the worlds of education and practice with two alternative versions of nursing, the 'ideal' academic and the 'real' practice world and may identify more with their future profession rather than their current student status.

Given our findings, there is a need for increased collaborative efforts amongst stakeholders to support and mentor nursing students through their education and help them to identify the connections between theory and practice more explicitly, particularly during public health emergencies (Matihaba et al., 2022). Furthermore, it is important that the nursing curriculum is reflective of contemporary clinical priorities during these events, such as infectious control strategies and grief counselling.

Despite experiencing a sense of greater identity with frontline clinical nurses, and possibly also a more rapid process of professional socialisation into the registered nursing role, some nursing students also reported struggles with their socialisation into clinical teams due to policies being in place during COVID-19 (for patient safety largely) that limited their input during placements. A lack of registered nursing staff often left students without sufficient supervision and social distancing rules also led to a diminished sense of team spirit. The nature of the clinical learning environment and the experiences gathered there can strongly influence the development of learner nurses' professionalism within the nursing profession. (Flott and Linden, 2016). This, alongside communication issues from mask wearing and social distancing, may have led to a lack of occupational socialisation for some nursing students. As mentioned above occupational socialisation theories suggest that individuals learn about their future occupation by being 'socialized' into it by esteemed others (Butcher and Strauss 1961) with Melia (1987) describing the separation of nurse education and nurse practice. Lawson (1988) posited that occupational socialisation has three phases, namely, acculturation socialisation, professional socialisation, and organizational socialisation. While these students may have felt acculturation and professional socialisation into nursing to some extent, COVID19 policies prevented what might be considered full organisational socialisation. Interventions to overcome this deficit are needed to ensure nursing students' transitioning to qualified nurse status feel a strong sense of socialisation into the profession. These could include more emphasis on the socialisation process in the undergraduate curriculum as well as strategies to enhance feelings of self-worth and wellbeing.

Exploring nursing students' experiences provide valuable insights into how to facilitate effective education, ensure safety awareness in care settings and decrease attrition rates of nursing students' transitioning into the nursing profession. Improving preparedness of nursing students on, for example, personal protective equipment, grief management, expectations, roles and responsibilities during placement, and mental preparedness are recommended. Programmes to improve occupational socialisation into different clinical disciplines and upskilling nurses who report skill practice deficits on registration could be considered.

4.1. Strengths and limitations

This study has strengths and limitations. Firstly, to our knowledge it is the only study to have explored the experiences and needs of nursing students throughout the COVID-19 pandemic across the four UK nations. Utilising a four-nation approach enabled widespread representation across a range of geographical locations, universities, placement settings and programme branches, including adult, child, mental health and learning disabilities nursing. A wide range of students from a variety of ethnicities, ages and genders were sampled and as such the findings generated from the study are likely to be transferable across the UK and internationally.

However, the recruitment strategy involved participant self-selection and therefore will not have captured the experiences of those nursing students who were unable to go into clinical practice or found being in practice more challenging. Furthermore, no clear differences in experiences between different demographic profiles of students were observed in the qualitative data. This may have been because the sample was not diverse enough to capture these different experiences.

5. Conclusion

This study has reported the impact of the COVID-19 pandemic on student nurse experiences and how well their educational programme prepared them for clinical placements during COVID-19. Students reported experiencing a loss of their identity with the closure of universities while COVID-19 policies in practice settings impacted their sense of preparedness, competence, and occupational socialisation. Positive experiences included feeling useful and we noted a different path to professional socialisation without previous structures in place. Closer collaborative working is needed between universities and clinical placement teams post COVID, along with specific training on crisis related skills to improve the preparedness of nursing students entering clinical placement during public health emergencies such as COVID-19. Upskilling students entering the nursing profession following a pandemic may be a critical step to improve their sense of self-efficacy and recover some competencies that may have been lost. Addressing the lessons learnt from this paper could also have a positive impact on attrition rates in nursing students post COVID-19.

6. Recommendations

Closer collaboration between universities and clinical placement teams to improve support and preparedness of nursing students going into placement areas post COVID-19.

A flexible nursing curriculum to prepare future students to be able to rapidly respond to fast-changing, dynamic situations so that they can be adaptable and flexible in both their academic thinking and their practical application of these skills in practice.

Upskilling student nurses entering the profession post COVID-19 where skills practice may have been reduced but different opportunities for professional socialisation have been demonstrated.

Collaborative working between policy makers, regulators, educators and clinical placement teams to clarify the most appropriate way to achieve these recommendations and to advocate for increased support for nursing students in the future.

CRedit authorship contribution statement

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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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