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Radiography 28 (2022) 142–147

Contents lists available at ScienceDirect

Radiography

journal homepage: www.elsevier.com/locate/radi

Transitioning into the workforce during the COVID-19 pandemic: Understanding the experiences of student diagnostic radiographers

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ARTICLE INFO

Article history:
Received 29 March 2021
Received in revised form
20 August 2021
Accepted 12 September 2021
Available online 20 September 2021

Keywords:
Diagnostic radiographers
Education
Early career
Pandemic

ABSTRACT

Introduction: The COVID-19 pandemic, with associated pressures on healthcare services and workforce, had implications for final year Diagnostic Radiography students completing their training and transitioning into employment. The aim of this study was to explore their experience as novice practitioners starting work and integrating into the workforce during a time of national crisis.
Methods: Five early career Diagnostic Radiographers, eligible to join the temporary HCPC register, were recruited. One to one interviews were completed online exploring their thoughts, feelings and experiences. Participants had the option of using photographs to aid communication.
Results: Interviews were transcribed, emerging themes identified and coded. Four main themes emerged specifically related to the COVID-19 pandemic, (i) perceived challenges associated with joining the workforce, (ii) managing expectations and unexpected outcomes during transition, (iii) adapting to changes in systems and structures, (iv) sense of uncertainty relating to professional identity. The impacts were experienced beyond the work environment into social and personal lives. Participants demonstrated resilience as they adapted to their shifting lives and drew on the support of clinical colleagues and University academics for help. They did report feelings of concern and anxiety. The participants all expressed a sense of feeling valued and supported in their new roles.
Conclusion: The Pandemic was unprecedented and created uncertainty in terms of workforce requirements. This study highlights the personal impact and professional responses of novice practitioners, who felt a sense of duty and care to help support the NHS and others.
Implications for practice: This will help in the understanding of the transition of student into employment and what wider support needs to be in place prior, during and after this phase.

Introduction

In March 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic. As of the 10th January 2021, almost 2 million people have died from COVID-19 across 223 countries.[1] Due to the increased demand for health services and to reduce the risk of transmission, significant changes in clinical practice were required.[2] To cope with the anticipated increase in demand on imaging services, the United Kingdom (UK) National Health Service (NHS) engaged with Universities and professional regulators to invite final year diagnostic radiography students to join the workforce before graduating. In April 2020, final year students who had completed all practical elements of their training were afforded the opportunity to join a temporary register which would enable them to practice earlier than routinely anticipated.

Adapting to the new way of working has had a significant impact on the way medical imaging departments work. As clinical practice has changed, additional demands have been placed on radiographers, including the addition of precautionary protocols and the use of personal protective equipment (PPE) to prevent the transmission of the virus.[3] In addition, radiographers have reported significant impacts on their home life and well-being. A survey of 312 diagnostic radiographers in the UK identified that 61% of respondents always and 31% sometimes experienced work stress as a result of the COVID-19 pandemic. Of these, almost one in five felt they needed professional help to deal with this stress.[2]

However, little is known about the impact of COVID-19 on diagnostic radiography students moving into clinical practice early

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https://doi.org/10.1016/j.radi.2021.09.005
1078-8174/

in response to the pandemic. Courtier et al.[4] have shown that before joining the workforce, therapeutic radiography students expected that COVID-19 would place additional demands on the transition in to the workforce and there was some variability in the degree to which they felt ready for the psychological, emotional and practical challenges they would face.

The aim of this study is to explore the experience of diagnostic radiography students transitioning into clinical practice during the COVID-19 pandemic, including the physical, psychological, educational, environmental and social impacts they experienced as novice practitioners alongside barriers and facilitators to this transition.

Methods

A qualitative study using in-depth one to one interviews via an online platform was used to explore the experiences and perceptions of student radiographers transitioning into the workforce during the COVID-19 pandemic. Individual interviews permitted an in-depth insight into their lived experience.[5] Participants were invited to take and share photographs as a way of expressing themselves in a non-verbal way.[6] The photographs were used as a prompt for the discussion. A real-time video conferencing tool was used to host and record the interviews. For inclusion in the study, participants had to be in the final year of the Diagnostic Radiography degree programme and eligible to join the Health and Care Professions Council (HCPC) temporary register. The interviews were conducted in June/July 2020, at that time the R rate (generally considered as the number of people that an infected person will pass the virus on to) was estimated to be between 0.6 and 0.9, and Northern Ireland was entering a relaxation of public health restrictions, following the publication of a recovery plan on 12th May 2020.[7]

Recruitment and consent

Individuals in the final year of a diagnostic radiography undergraduate degree, that put their name forward for the temporary register, were sent an email by their course co-ordinator inviting them to participate in the study. The aim was to recruit a purposeful sample of between 5 and 10 individuals. The email included a participant information sheet and a consent form that was to be signed and returned to the research team. An opportunity to discuss queries prior to giving consent was offered and a cooling off period of at least 48 h was given between the submission of the consent form and interview being arranged. Participants were asked to complete a short survey prior to the interviews, including demographic questions (age, gender, employment status) and the validated Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS)[8] to provide a description of the mental wellbeing of participants. All participants were asked to consent to being contacted for follow up interviews.

Interviews

The interviews were facilitated by a single member of the research team who had no existing relationship to the students. A topic guide was developed using open but focused questions to encourage respondents to speak freely about their own perceptions of the topic but allowing the facilitator to maintain some control over the content and process of the interviews.[9] Questions were focused around the physical, social and emotional experiences of participants relating to their transition into the workplace during the pandemic. Photographs shared with the facilitator during or prior to the interviews were used to trigger discussions, a method known to add value by capturing rich multidimensional data,[10] and adding valuable insights into the everyday world of participants.[11]

Data analysis

The data were anonymised using pseudonyms and transcribed verbatim. A thematic approach to data analysis was used, allowing themes to emerge from the research questions and the participants narrative.[12,13] Each transcript was independently coded, codes were reviewed and refined by all members of the research group with final coding and categories being agreed by consensus. Emerging themes were then identified by individual members of the research group, reviewed, analysed and agreed by all through consensus. The data for the interviews were analysed to the point where all concepts were well developed, variation in the data had levelled off and no new perspectives were emerging from the dataset.[14]

Ethical considerations

Ethical approval for this study was given by a Research Ethics Filter Committee. Any personal identifying information was separated from participants' data and linked using a pseudonym with no external meaning. While the areas for discussion were not overly sensitive, it was possible that sensitive issues may have emerged during the discussion. A distress management protocol was developed to ensure participant wellbeing was a priority throughout.

Results

Five early career Diagnostic Radiographers consented to take part. Participants were all female, aged between 18 and 24 years, single and had no dependants. Their WEMWBS scores ranged from 50 to 58 out of 70, which is similar to the median score for adults in Northern Ireland of 50 (Table 1).[15] All participants had migrated onto the temporary HCPC register and taken up a temporary post or secured a permanent post in their profession at the time of interview. Questions explored their experience of the transition associated with joining the workforce during the COVID-19 pandemic. Four main themes emerged specifically related to the CoVid-19 pandemic, (i) perceived challenges associated with joining the workforce, (ii) managing expectations and unexpected outcomes during transition, (iii) adapting to changes in systems and structures, (iv) sense of uncertainty relating to professional identity.

Perceived challenges associated with joining the workforce during the COVID-19 pandemic

Participants reported concerns regarding training for competencies during their induction period. They noted challenges associated with changes to systems and structures which resulted in a lack of mentorship and formal training. Participants stated that they perceived the lack of formal training in line with standard practice to be due to staffing issues and increased patient numbers.

Table 1
Characteristics of participants.

	Age	Gender	Marital status	WEMWBS score (/70)
R1	18–24 years	Female	Single	52
R2	18–24 years	Female	Single	55
R3	18–24 years	Female	Single	54
R4	18–24 years	Female	Single	58
R5	18–24 years	Female	Single	50

R2: "So we weren't given mentors, you just sort of when you went into your group or whoever you were working with really was your mentor for the day because shift patterns and the way everything was changing and who you were working with during the day wasn't the same so you couldn't really be with one person because of say night shifts and stuff."

Participants also commented on the lack of consistency in terms of shift patterns and clinical rotations.

R1: "You see usually you start on a nine to five and do one week of theatre and one week of portables … but for us we're actually put straight onto shift. So we're like one day here, one day somewhere else, one day another place, so we're not actually getting our full training."

Despite the issues raised surrounding a lack of consistency and mentorship in training, the participants reflected that their confidence in their professional ability had improved as an indirect benefit of being given more responsibility within the workplace.

In addition, participants reported skill development related to the pandemic, specifically their ability to conduct particular imaging and in relation to infection control.

R1: "… like my skills have improved massively, I think. And like we're doing so many chests on trolleys because of COVID and I feel like I can do them so well now and they're something that I hated doing, so that has been a positive getting to learn all that and even just being in the middle of the pandemic …"

Participants described challenges associated with PPE and the pressure to uphold government guidelines in relation to social distancing within their role. Participants reported discomfort in carrying out long shifts in full PPE and some experienced physical effects such as skin breakouts as a result of the facial PPE. Participants also reflected on other physical side effects of infection control both in work and at home.

R4: "Yeah we can't really social distance at all and like we're so hands on with patients, like transferring patients, some of the patients can't move, so we have to physically move them, so you're like on top of them, there is no way to keep your distance and the same with staff you need the help from your other colleagues in some examinations and you just can't keep your distance and that's what I mean, the pressure of feeling like I'm doing something wrong because I'm not able to keep my distance and knowing that it looks really bad, but you can't help it, you need to get the job done and I can't social distance"

In addition, participants noted challenges associated with communicating with patients while wearing PPE, with difficulty experienced when dealing with elderly patients or those with hearing impairments. They also recognised challenges associated with dealing with patient fears and the difficulties that could arise when working with children.

An interesting finding to emerge from the data was regarding feelings of safety in the workplace in relation to protection from the virus, with perceived increased risk during normal activity.

R1: "I actually feel safer in the hospital than I do when going to a large supermarket for the shopping like because you know you're so covered up, there is so much hand washing like …. . In the hospital, everyone is being careful whereas when you go out to the shops it's like people don't care and sometimes I'm just like oh dear, I can't be dealing with this here, I'm away …"

Managing expectations and unexpected outcomes during the transition period

Participants reflected on the social impact of joining the workforce during the COVID-19 pandemic. This included missing celebrations including graduation with some participants having to move out of their home in order to protect vulnerable family members.

R4: "She [mother] really misses me out of the house and like we didn't get to celebrate my degree or my job … like we didn't get graduation …"

Managing their work-life balance was something that participants reflected on, stating that they had to make a conscious effort to make time to see friends on their days off and in most cases socialising online to keep in touch. Participants stated that they were socialising less for a number of reasons, including being tired following long-shifts and the restrictions that were in place. Other participants described a fear of bringing COVID-19 home, having to adapt the home environment to mitigate the risk of transmitting to others.

R1: "I was just so worried that I would bring it home and that was one of my biggest fears was bringing it home to my family, fears of like taking it home and spreading it to them"

Participants commented on the importance of social and professional support during the transition period. They noted a sense of camaraderie, improved communication and increased confidence in having discussions with clinical colleagues due to their close working relationships formed during the pandemic. For some participants, what they went into was how they had anticipated it to be, some stated that they expected variation in working procedures and standard induction processes and that they were fine with that.

R2: "Yeah, well I sort of just expected to be thrown in the deep end and just to roll with it and I was fine with that.… within reason [laughter]."

Adapting to changes in systems and structures due to COVID-19

Shift patterns and rotations were impacted as a result of COVID-19, in addition some adaptations were made to training, with face-to-face induction limited and a number of induction processes carried out online using E-learning. Some participants stated that the mandatory training they had completed on placement was carried forward, although there was a preference for this to be delivered again as a staff member and by means of refresher. It was evident from the discussions that the pattern of induction had changed, with increased movement and less formal training due to a lack of mentors available as a result of the ever-changing environment. Participants described a quick transition from student to autonomous staff member, noting perceived differences in the interest other staff members had in them, moving from student to colleague and they reported a notable increased workload and administrative responsibility since joining the workforce.

R5: "Like its mad the differently we're treated now we're not students, like people are definitely more interested in you, which is understandable because you're working there [laughing] and they definitely trust you more …"

Participants reflected on the perceived benefits of working out of hours, describing increased autonomy and more control of situations due to a quieter working environment. Participants also reflected on the negative impact of working 12-h shifts, including pain and discomfort from wearing PPE, physical exhaustion which raised concerns among participants in terms of making mistakes at work or the impact it could have on decision making. Psychologically, some participants described mental exhaustion and feeling overwhelmed due to the heightened workload and patients experiencing prolonged waiting times due to the backlogs in treatment caused by COVID-19.

R3: "At the start I was so tired like you'd just come home and sleep …"

On the contrary, other participants described the positives that came out of the current situation including an increased appreciation and awareness of the role of others. Furthermore, participants reflected on feeling needed and appreciated in their role.

Sense of uncertainty relating to professional identity

When asked to reflect on why they put their name forward for the temporary register, participants noted a number of personal reasons for joining the workforce during the pandemic, including a recognition of the need for skill development, a willingness to work and duty of care and issues surrounding professional identity.

R2: "I sort of never thought about not doing it, really as soon as it came up I was like why not because you know I was going to be getting a job in it eventually so why not just go that wee bit earlier … Like as I say, it was the profession I was going into anyway so why wouldn't you …"

A number of barriers were identified during the registration process including, family concerns over timing of joining the workforce and a lack of understanding from friends regarding the decision to work in the frontline during the pandemic. This cohort of graduates were unique compared to previous years in that they joined the workforce as employees prior to receiving confirmation that they had successfully completed their degree programme. Participants stated that this raised some concerns during the application process and their initial working period due to the uncertainty of the impact the outcome of their degree could have on their role.

R3: "At the start like we hadn't even found out that we passed our exams or anything, so I didn't really like calling myself that until I had known that I had passed but then people did see you as the new band five."

R5: "Well the only thing, whenever I started, I didn't expect to be paid band five, that was like the main thing because we were like, we're not qualified we should not be getting paid what we should be getting if we were qualified, so that definitely was a big thing for us. But everything else has been fine for me, like working at this time hasn't really phased me to be honest, like I would rather be working than not working anyway …. .Like don't get me wrong it has been a great experience but it's just not how I expected to end my degree at all."

Participants also noted a number of facilitators in the process including support and reassurance from the Trust during the application stage, peer support from fellow early career professionals and pastoral care and guidance provided by their practice educator. Participants also stated that they had support from family members, some of whom were also front-line workers and were supported by their University course director.

R3: "Definitely one of the things that helped the most was the staff in the hospital, they are all so nice like …. .I suppose the practice educator I was in contact with at the start and she was great too."

Discussion

In this study exploring the experience of diagnostic radiography students transitioning into clinical practice as novice practitioners during the COVID-19 pandemic it emerged that participants faced a wide range of challenges arising from changing and inconsistent systems and work practices. The impacts were experienced beyond the work environment and impacting on the participants social and personal lives. Participants demonstrated resilience as they adapted to their shifting lives and drew on the support of clinical colleagues and University lecturers.

The normal second semester for final year Diagnostic Radiographers training in Northern Ireland involves placement 4 followed by an elective placement. The changeover from Placement 4 to elective normally happens at the Easter period once all clinical assessments are complete. Thus, in March 2020 as the situation regarding the COVID-19 pandemic came to the fore and Northern Ireland entered its first lockdown, a period of uncertainty arose regarding student training. The situation was compounded by increasing pressures in clinical environments and the subsequent development of the 'temporary register' by the HCPC ultimately increasing the potential for anxiety among students.

The temporary register went live on the 27th March 2020.[16] A list of those eligible to join the temporary register was sent to the HCPC in the third week of April 2020 leaving the students the option to join or wait until graduation and join the permanent register only. The current study found that a range of emotions and concerns were evident among the participants prior to joining the temporary register. This was a borne out more so by the COVID-19 pandemic issues all too prevalent at the time and stepping into the clinical field in this new grade of post.

Some participants wondered if they were indeed ready for the workplace as they perceived they hadn't finished their training. This was because they had not completed the traditional number of hours on complete clinical placement as their elective period was cancelled, but they had successfully completed all their clinical assessments, the standard set by the Health and Care Professions Council (HCPC) to join the temporary register[16] and learning outcomes of their academic modules. By contrast, a study[17] of 32 medical students working as Doctor's assistants in England during the pandemic reported high levels of confidence in the training they were receiving in the hospital and reported no mental health issues. The experience was seen as positive preparation for their future role as foundation level doctors.

Once the students were selected from the temporary register to join the workforce early, they required support from both clinical colleagues and practice educators. Whilst in Northern Ireland a mentorship programme exists, it varies from Trust to Trust in structure and content.[18] The participants considered the mentorship system was put under pressure during the early stages of their transition. Noticeable that they felt that whilst on the temporary

register they were being asked to be flexible and adjust and cover a multitude of roles, then if they or colleagues were made permanent upon graduation the 'real' mentorship programme came into place. This did cause annoyance between those still on the temporary register and those switching to permanent posts. Whilst they had felt supported on the temporary register especially by their former practice educators, peers, family and information from their training University it was only when this new transition to permanent and the mentorship programme that they noticed a difference. Whilst the system was under pressure and the temporary register did help alleviate this it could be debated why the basic mentorship system was not utilised for those joining the temporary register.

It remains to be seen what impact these early experiences have on the future careers of this cohort of diagnostic radiography students. Some evidence is emerging that it may influence the careers choices of trainee health professionals. In one study from China[19] of 150 nursing students during the COVID-19 pandemic, 14% reported their intention to leave the profession. They tended to be individuals who had lower perceptions of their own professional identity. The respondents in the current study reported coming forward to join the temporary register in response to their sense to care and for the professional identity. The "get on with it" attitude was a common concept also identified by Courtier et al.[4] However, we cannot assume that all students experienced this equally and it is important to reinforce the professional identity of radiography students who have entered the workforce during the pandemic.

Another potential threat to the early careers of these practitioners is the impact on their mental health joining the workforce during such a devasting pandemic. Courtier et al.[4] alluded to the range of negative emotions that can be felt in this situation and identified that student's anxiety was related to both the pandemic but also moving into the clinical environment to work. Other research has demonstrated the mental health impacts on young people for example in a survey conducted early in the pandemic,[20] anxiety and depression were highest amongst younger people and females. This suggests that the mental health impacts reported by our participants may be shared by other groups of young people.

Similarly, other research studying the impact of the COVID-19 pandemic on more experienced radiographers, have reported high levels of emotional stress and anxiety[21] arising from the potential risk to health and the impact on workloads and social effects on family and friends.[22] The consequence of this are high levels of reported burnout. In surveys of Portuguese[22,23] and Irish radiographers,[24] between a quarter and 40% of radiographers have reported burnout.

Nonetheless, the participants all expressed that they felt valued and supported in their new roles. The anxiety s from the concern of worrying that their skills needed further fine tuning shifted as they got on with the job, developing their skills as they worked. They felt the added responsibility of being made to 'get on with it' made them feel like their skills improved faster. This kind of support should be further encouraged within the workplace.

Limitations/future research

Potential limitations of this study include a small sample of participants, recruited from a single University, all female, below 25 years, and without dependants. Although, the majority of students on diagnostic radiography programmes may fit this demographic, future research should make an effort to explore transition experiences in more demographically diverse populations. Exploring student perceptions over the first year of their clinical careers could provide a more complete picture, this may be of particular importance as the COVID-19 situation at any given timepoint is likely to influence perceptions.

Conclusion

This unprecedented pandemic caused uncertainty in regards to the workforce requirements. It can be seen that as these students transitioned to the temporary register they all felt a sense of duty and care to help support the NHS and others. They overcame their initial feelings of anxiety and developed their skills whilst working in a new environment. With each challenge that came their way during the pandemic they continued to strive to get through it. This is a fantastic mark of their resilience and dedication to their profession. However, what impact will this all have on them as they move forward. Will there be an impact on mental health unseen as yet? Therefore, it is planned to follow up on the group in 6 months and a year to see what has happened if any change has occurred.

Recommendations for practice

The findings of this study indicate that the effects of COVID-19 on the workforce may have a longer-term impact on some groups of staff and steps should be taken to monitor staff wellbeing and intervene with support where appropriate.

The study also indicated that in the future all newly qualified employees, whether temporary or permanent, have equity of mentorship and support as they start their careers.

Conflict of interest statement

There are no conflicts of interest for this work.

Acknowledgements

To all colleagues in the School of Health Sciences who contributed to supporting students during the COVID19 pandemic. There were no external funders or grants for this work.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.radi.2021.09.005.

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