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The risk of burnout in academic radiographers during the COVID-19 pandemic

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ABSTRACT

Introduction: The COVID-19 pandemic created major challenges across society, healthcare provision and also for those delivering healthcare education programmes. Clinical placements were disrupted and, in many incidences cancelled. Higher education institutions were required to move completely to online delivery methods with little notice. This created significant additional workload, stress and the need to learn new skills at a time of great uncertainty. This study explored the risks of burnout in academic radiographers during the first 12 months of the pandemic.
Methods: A survey was circulated using SurveyMonkey™ via personal, national and international networks, including the European Federation of Radiographer Societies (EFRS), to reach as many academic radiographers as possible. Disengagement and exhaustion were measured using the Oldenburg burnout inventory. Descriptive statistics and a one-way ANOVA were used to analyse the quantitative data using STATA V16 (Statacorp, TA).
Results: 533 academic radiographers responded to the survey from 43 different countries. Mean disengagement was in the medium range and exhaustion was high for the total dataset. In a subset of countries with 10 or more responses, there was significant variation between countries, with the UK having highest mean exhaustion score and the UK, Ireland and France sharing the highest mean disengagement score. In the total dataset, 86% agreed workload had increased during the pandemic and 35% had considered leaving academia in the last year.
Conclusion: These data demonstrate the stark reality of the impact of the COVID-19 pandemic on academic radiographers' workload, wellbeing, and intention to leave their roles.
Implications for practice: COVID-19 has had a significant impact on academic radiographers and this study highlights the urgent need for remedial measures to better support academic radiographers in order to ensure a sufficient, and sustainable workforce.
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Introduction

Burnout is currently recognized as an occupational acquired phenomenon and is not a classified condition but it is included in the 11th Revision of the International Classification of Diseases (ICD-11).[1] Burnout occurs as a result of chronic workplace stress and physically manifests in a number ways, namely: exhaustion and reduced energy levels; increasing negativity or reduced enthusiasm towards work or personal distancing from work and decreased levels of professional efficacy.[2]

Over a decade ago Watts et al. (2011) performed a systematic review of articles related to the prevalence of burnout in university lecturers. The review revealed that staff exposure to high numbers of students, especially tuition of postgraduates, strongly predicts the experience of burnout. Other predictive variables included gender, with higher depersonalisation scores found in male teachers and female teachers typically were higher on the emotional exhaustion dimension. Age also demonstrated an association, with younger staff appearing more vulnerable to emotional exhaustion. Burnout in university teachers was comparable with other service sector employees such as schoolteachers and healthcare professionals.[3]

In the early stages of the COVID-19 pandemic, lockdowns were implemented and many student clinical placements were

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suspended. The result of this caused challenges in students completing the clinical aspects of their education for some institutions.[4] This created anxiety for students and academics alike, with academics needing to plan and re-plan mitigations for the lost placement time. With lockdowns, school and University closures meant that Academics needed to move learning and examinations online quickly,[5–7] while some were also juggling home schooling.

A recent article in Nature by Gewin (2021) highlighted the extent of burnout in academia due to the COVID-19 pandemic. The article reported the number of academics stressed doubled between 2019 and 2020 following the commencement of the pandemic. The survey was conducted in Boston Massachusetts and two thirds of the 1122 participants reported fatigue compared to one third of academics in 2019 and anger had increased almost three-fold. Evidence of burnout was greater in females (79%) compared to males (59%) and more than double the numbers of females impacted by burnout since 2019 when only 34% of females reported feeling stressed. Workloads had increased for 80% of females and 70% of males and overall work-life balance had deteriorated in 2020 for in excess of two thirds of academics.[8] These American findings align to those published by DeGuyter (2020) who reported on a European poll of academic journal and book authors in May 2020 (n = 3124) from 103 countries and October 2020 (n = 1100) from 78 countries, this work identified a general tripling of workload reported to manage academics' transitions to digital teaching.[9] Academics with frontline healthcare roles caring for COVID-19 patients were found to have intensified levels of burnout and associated increased workloads reduced an individuals' ability to improve their personal exercise and sleep patterns and recovery options.[8] These findings are of particular importance when investigating the impact of the COVID-19 pandemic on academics involved in healthcare training as significant numbers of academics retain some clinical hours to ensure their professional compencies are maintained to support their teaching.[10]

Literature has identified novel stressors and student concerns due to COVID-19, which are affecting student health, both physical and mental. The societal implications and additional stress related to on-line learning and assessments, along with the uncertainties of clinical training disruptions and pressures whilst on placement due to COVID-19 all contributed to raising stress levels in students.[4,11] The awareness of burnout across professions prior to the COVID-19 pandemic is noted as are emerging manuscripts related to clinical healthcare professionals during the COVID-19 pandemic, including some radiography specific studies.[12–16] The COVID-19 pandemic had a profound impact on clinical radiographers, with increased exhaustion being reported, often related to new shift patterns and changing patterns of work with more mobile radiography.[17] Clinical radiographers also reported anxieties regarding a lack of personal protective equipment (PPE) and their concerns of getting COVID-19 and subsequently infecting their families or others they lived with.[10,17,18]

There remains limited focus on academic staff and the impact of their required response to manage education delivery throughout 2020 and 2021 during the COVID-19 pandemic. This study aimed to address the lack of literature with respect to the Radiography profession by undertaking an international survey of academic Radiographers, including both diagnostic and therapeutic, to explore the impact of the COVID-19 pandemic on their workload and wellbeing.

Methods

As a low-risk study, an ethics waiver was granted by the University College Dublin, research ethics committee (reference: LS-E-21-48-Rainford).

Survey development

Survey questions (n = 48) were developed and checked by all research members. The Oldenburg burnout inventory[19,20] was selected by the researchers as a validated tool, which has a robust evidence base to support its use for quantifying the risk of burnout. Participants were asked to indicate using a 4-point scale of strongly agree, agree, disagree, strongly disagree with 36 short statements which had been previously validated by Halbeslben and Demerouti.[19] Two open response boxes at the end of the survey requested participants to outline the top three challenges they had experienced with their academic role during the COVID-19 pandemic to date and to outline any self-care, well-being, and coping strategies they had utilised during the COVID-19 pandemic.

Additional demographic focused questions (n = 12) were included namely: country of work, gender and age range. Details of the academics' role and years of experience were recorded: academic lecturer, clinical academic/clinical lecturer, clinical tutor or if required an “other” teaching title could be added. The years of experience working as an academic were requested and whether academic contracts were full-time or part-time. The extent of the academics' role in a range of tasks was questioned, these included: lecturing, tutorial support, module leadership and co-ordination, programme leadership and coordination, experimental research, clinical research, clinical placement leadership, departmental leadership role. The level at which the academic taught was sought and multiple selections permitted to capture activity across all years of pre -registration Radiography training, and postgraduate studies at European Qualifications Framework (EQF) 7 and 8 levels.

Participants were requested to identify if they had been involved in home schooling during the pandemic period and whether or not their employer had maintained their salary fully throughout the pandemic. The survey questions were uploaded into SurveyMonkey™ (http://www.surveymonkey.com/) to enable widespread distribution of the survey and ease of data collection.

Survey participants

Inclusion criteria were that the academics were employed in a full-time or part-time basis as part of the academic teaching team for undergraduate or postgraduate radiography training programmes during the period from September 2019 through to the live survey period. All participants consented to their responses being used as part of this research study and a part of any subsequent publications. No incentive was offered for survey participation and the survey was clearly identified as a collaboration between two European universities.

Survey distribution

An application was made to the European Congress of Radiology (ECR) Research Hub for distribution of the survey in their 2021 conference and to the European Federation of Radiographer Societies (EFRS) for distribution through their membership. The survey was distributed through the ECR, EFRS, national bodies, personal contacts and via a snowballing technique. The survey took a median of 8 min to complete. The survey was opened on the 2nd March 2021 and closed on the 31st March 2021. All responses were anonymous and each participant had to consent to their anonymous data being used in the analysis and any related publications.

Data analysis

The survey responses were removed for any participants who did not consent to their data being analysed and published. The

survey data were divided into three discrete datasets: the questions relating to the Oldenburg burnout inventory; the remaining quantitative data and the qualitative data. The burnout survey data were analysed using the scoring criteria as described in Oldenburg burnout inventory[21] and descriptive statistics were used to analyse the quantitative data using STATA V16 (Statacorp, TA). The quantitative dataset was analysed as a whole and then analysed for responses relating to different countries. As there were some countries with very small response rates, a threshold of equal to or greater than 10 responses was set for a country to be included for sub-analysis (10 countries, $n = 341$). A Chi square test was used to identify any significance in the variance between countries for categorical data. A one way ANOVA was used to compare the burnout results between countries and a p-value of ≤ 0.05 was used for statistical significance.

Method for qualitative data

The qualitative data were analysed using content analysis by a qualitative researcher. There were a total of 340 responses outlining the challenges, and a total of 327 responses for coping strategies. The first stage of the analysis involved taking the two survey questions as a starting point, namely Challenges and Coping strategies. NVivo software (QSR International, MA) was used for the second stage of analysis with a bottom-up, deductive approach, which allowed for themes to emerge as the survey data was explored. From this, the data were coded into the appropriate themes, with these becoming the main themes. During the second stage, it was necessary to breakdown the data even further to explore it at a more granular level, which formed sub-themes.

Results

Five hundred forty-one responses were received and of these 533 were from participants who consented to their data being used across a total of 43 countries. The data from the eight who did not provide consent on the survey were excluded from the analysis. There were a greater proportion of responses from females or those who identify as female than males or those who identify as male, with 60.8% female versus 38.0% male and 1.2% preferred not to state their gender or identified as queer. The respondents ranged from the age category 20 to 24 years through to 70 years and older, with the modal age range being 35 to 39 years.

The roles of the respondents varied, with 54.6% describing themselves as a full-time academic, 19.2% as a part-time academic, 8.4% as a clinical academic, 11.2% as a clinical tutor or practice educator and the remainder as “other”, with a range of titles. Roles were varied and included a number of activities. 92.0% included lecturing and tutorial support, 60.7% undertook module leadership, 36.3% had a programme leadership role, 36.5% undertook research involving experimental studies or surveys, while 26.6% undertook clinical research. Placement leadership was undertaken by 26.6% and leadership roles such as head of department, Associate Dean, Dean were undertaken by 17.1% of respondents. Of those responding, 84.0% were on a permanent contract while 16.0% were in a temporary contact. The modal duration in academia was 0–4 years, with the range extending to 40 or more years. The majority of respondents had their salary maintained during the pandemic at pre-pandemic levels, but 5.9% had experienced a reduction in pay ranging from 10% to 30% for three or more months.

The majority of respondents, 73.6%, 77.0%, 77.43% and 32.3%, taught across years one to 4 respectively, while 50.0% taught at EQF level 7 and only 9.3% supervised doctoral students (EQF level 8). In many countries schools closed during the 2020 and early 2021 pandemic peaks and 45.2% of respondents reported home schooling children or looking after young children during the pandemic.

Table 1 outlines the mean disengagement and exhaustion rates calculated from the Oldenburg burnout inventory tool for the total dataset and for countries with ≥ 10 individual responses. All results fall within or above the medium burnout threshold, with the majority of countries reporting medium burnout for both disengagement and exhaustion. The UK and Ireland means fall above the threshold for a high risk of burnout for the exhaustion scores, although the confidence interval for Ireland is wider demonstrating a greater range of responses. There is significant variation between the individual countries with the UK reporting the highest exhaustion scores and Germany the lowest. The mean disengagement scores are lower than the exhaustion scores, with the UK, Ireland and France reporting the highest disengagement.

There were no significant differences for exhaustion and disengagement with age, home schooling or different academic roles. Disengagement and exhaustion were highly correlated as would be expected, with a correlation coefficient of 0.71 (0.59–0.82).

Table 2 outlines the self-reported impact of the COVID-19 pandemic on activities related to academic workload in radiography for the total dataset and individual countries above the threshold number of responses. The majority of respondents in each of the countries and in the whole sample indicated that workload had increased since the COVID-19 pandemic. Individual activities undertaken as part of academic workload varied with regard to the increase of their burden and the variability across countries. An increased meeting burden was noted across all countries.

Table 3 outlines self-reported digital connectivity and there is large variation across the countries. Sixty-one to 88.9% of respondents had sufficient broadband connectivity to undertake their roles remotely, with the worst connectivity reported for Germany and the best for the Netherlands. Support with information technology (IT) access varied more with France reporting the lowest at 41.7% and the Netherlands the highest at 88.8%. The support to develop online assessments varied, with Ireland reporting the lowest support at 23.5% of respondents indicating they had support, while the UK reported the greatest level with 63.1%. Digital learning support again yielded large difference between countries ranging from 25.0% to 94%.

Table 4 outlines some self-reported positive aspects of new techniques, learning and the supportiveness of employers in the first year of the COVID-19 pandemic. In the total dataset, 64.8% felt well supported by their employer, but when broken down in the sub-analysis, France had the lowest percentage of respondents indicating they felt well supported at 33.3%, while the Netherlands had the highest at 77.8%. A similar pattern was seen for wellbeing support, but with Norway reporting the lowest at just 18.8%. The majority of respondents felt well supported by their colleagues and met regularly with them and most had effective self-care strategies. Almost all had identified new ways of learning and teaching.

Table 5 outlines the impact of COVID-19 on academic staff and activities they undertake. The majority of respondents (85% total dataset) had found that COVID-19 had increased the challenges of juggling educational and research aspects of their role and many had also struggled with managing the uncertainties during the pandemic (86.6%). In the total dataset, 34.7% of staff had considered leaving academic during the previous 12 months since the covid-19 pandemic started and this was highest in the UK, where 45.5% of the staff had considered leaving. With 141 respondents from the UK, this is robust data. In the total dataset, 34.3% had considered returning to clinical practice and this was greatest in Malta with 50%, but with only 12 respondents from this country, this is a much smaller number than the UK.

Table 1
Disengagement and exhaustion mean scores for the total dataset and individual countries above the threshold number of responses.

	Total dataset (n = 533)	Australia (n = 19)	France (n = 27)	Germany (n = 24)	Ireland (n = 20)	Italy (n = 36)	Malta (n = 12)	Netherlands (n = 18)	Norway (n = 17)	Portugal (n = 30)	UK (n = 148)
	Mean (95% CI)										
Disengagement*	2.4 (2.4–2.5)	2.0 (1.9–2.2)	2.5 (2.1–2.8)	2.2 (1.9–2.4)	2.5 (2.3–2.8)	2.3 (2.1–2.5)	2.1 (2.0–2.3)	2.3 (2.1–2.5)	2.3 (2.1–2.5)	2.2 (2.1–2.4)	2.5 (2.4–2.6)
Exhaustion**	2.7 (2.6–2.7)	2.5 (2.2–2.7)	2.6 (2.2–2.9)	2.3 (2.1–2.6)	2.7 (2.4–3.0)	2.6 (2.4–2.8)	2.5 (2.1–2.8)	2.4 (2.1–2.6)	2.4 (2.2–2.6)	2.5 (2.3–2.6)	2.9 (2.8–3.0)

*p=<0.01 for comparison between countries, **p = <0.001 for comparison between countries.
Burnout thresholds are based on the Oldenburg burnout inventory and thresholds of ≤1.62 = low, 1.63 to 2.67 = medium, ≥2.68 = high.

Table 2
The self-reported impact of the COVID-19 pandemic on activities related to academic workload in radiography academic practice for the total dataset and individual countries above the threshold number of responses.

	Total dataset (n = 533)	Australia (n = 19)	France (n = 27)	Germany (n = 24)	Ireland (n = 20)	Italy (n = 36)	Malta (n = 12)	Netherlands (n = 18)	Norway (n = 17)	Portugal (n = 30)	UK (n = 148)
Increased:	**% Agree/strongly agree**										
Workloads	85.9	78.9	91.7	76.5	88.2	77.8	66.7	83.3	94.1	88.5	94.7
Exam marking time	59.8	36.8	70.8	76.5	75.0	64.3	30.0	66.7	62.5	61.5	54.0
Coursework marking time	60.0	26.3	70.8	76.5	68.8	75.0	40.0	44.4	68.8	73.1	50.0
Time supporting tutees	60.7	47.4	75.0	27.8	33.3	50.0	58.3	55.6	56.3	73.1	71.0
Frequency of meetings	79.5	73.7	66.7	61.1	60.0	71.4	75.0	77.8	76.5	96.2	85.6

Table 3
The self-reported impact of activities related to digital connectivity in radiography academic practice for the total dataset and individual countries above the threshold number of responses.

	Total dataset (n = 533)	Australia (n = 19)	France (n = 27)	Germany (n = 24)	Ireland (n = 20)	Italy (n = 36)	Malta (n = 12)	Netherlands (n = 18)	Norway (n = 17)	Portugal (n = 30)	UK (n = 148)
	% Agree/strongly agree										
Sufficient broadband to support IT activities	74.8	84.2	62.5	61.1	64.7	75.0	83.3	88.9	88.2	88.5	75.0
Adequately supported with IT access	71.0	78.9	41.7	72.2	64.7	64.3	75.0	88.8	47.1	84.6	84.2
Support to develop online assessments	53.9	42.1	30.4	55.6	23.5	59.3	60.0	44.4	18.8	57.7	63.1
Digital learning support from University	76.0	84.2	25.0	66.7	56.3	53.6	72.7	94.4	81.3	65.4	81.8

Table 4
The impact of activities related to support and opportunities in radiography academic practice for the total dataset and individual countries above the threshold number of responses.

	Total dataset (n = 533)	Australia (n = 19)	France (n = 27)	Germany (n = 24)	Ireland (n = 20)	Italy (n = 36)	Malta (n = 12)	Netherlands (n = 18)	Norway (n = 17)	Portugal (n = 30)	UK (n = 148)
Support/opportunities	% Agree/strongly agree										
Well supported by University/employer	64.8	73.7	33.3	50.0	52.9	64.3	70.0	77.8	50.0	57.7	67.4
Wellbeing support from University	57.6	73.7	20.8	50.0	68.8	50.0	50.0	77.8	18.8	30.8	72.0
Met regularly with colleagues	78.3	78.9	75.0	77.8	68.8	57.1	83.3	83.3	93.8	80.8	89.4
Feel supported by colleagues and leaders	76.0	78.9	62.5	77.8	56.3	64.3	66.7	83.3	62.5	76.9	81.7
Effective self-care strategies	69.4	83.3	66.7	64.7	58.8	71.4	66.7	66.7	68.8	88.5	61.1
Opportunities developed in new ways of learning and teaching	95.2	100.0	95.8	94.4	94.1	85.7	100.0	94.4	81.3	100.0	98.5

Table 6 outlines the themes, which emerged from the open questions relating to the challenges and coping strategies. The challenges covered most areas of academic practice, with some sub-themes relating to work-life balance, time management and pay. The pay sub theme is likely to represent those who had a mandatory or voluntary pay reduction due to the pandemic.

Despite the challenges, radiographers reported a wide range of coping strategies to manage their work-related stress and workload. Communication with others was important to many and keeping in touch with family and friends helped many cope. Leisure time, including physical exercise and a self-care routine was also important. A few did not report a strategy for coping, but this study did not explore whether these contributors had higher burnout scores than others.

Discussion

The results from this survey demonstrates a similar pattern of the impact of COVID-19 on the experiences of academic radiographers participating in this survey. The markers indicating the risk of burnout based on the Oldenburg burnout inventory demonstrated the majority of countries had mean scores classified in the medium risk category for both disengagement and exhaustion. The UK and Ireland means scores were above the threshold for high risk of burnout in the exhaustion category. The mean disengagement scores were lower than the exhaustion scores, with the UK, Ireland and France reporting the highest disengagement. McConnell et al. raised the potential of academic and clinical staff burnout impacting on student education and considers the need for resilience plans to

Table 5
The impact of COVID-19 on activities related to the challenges in radiography academic practice for the total dataset and individual countries above the threshold number of responses.

Challenges	Total dataset (n = 533)	Australia (n = 19)	France (n = 27)	Germany (n = 24)	Ireland (n = 20)	Italy (n = 36)	Malta (n = 12)	Netherlands (n = 18)	Norway (n = 17)	Portugal (n = 30)	UK (n = 148)
	% Agree/strongly agree										
Challenges juggling education and research	85.0	73.7	85.7	70.6	93.8	92.6	90.0	77.8	80.0	92.3	84.9
Hard to manage uncertainties during COVID-19	86.6	68.4	87.5	72.2	93.8	86.4	100.0	66.7	93.8	92.3	90.9
Considered leaving academia	34.7	21.1	38.9	27.8	31.3	35.7	16.7	33.3	31.3	23.1	45.5
Considered returning to clinical practice	34.3	15.8	34.8	22.2	31.3	40.7	50.0	16.7	12.5	38.5	32.8

Table 6
Thematic analysis codes.

Survey question	Main theme	Sub-themes
Q13 Top three challenges you have experienced with your academic role during the COVID-19 pandemic	Clinical practice Communication with colleagues Lack of face to face interaction Managing change Research Staff support Students Teaching and remote learning Workload	Work life balance Time-management Pay
Q14. Self-care, well-being, and coping strategies you have utilised during the COVID-19 pandemic	Communication with Colleagues/others Family and friends Lack of strategy Leisure time Physical exercise Self-care and wellbeing	

maintain professional and service resilience.[22] The impact of COVID-19, on clinical radiography staff has been well documented since the beginning of the pandemic, with feelings of exhaustion, anxiety around catching the virus, a lack of personal protective equipment (PPE) in the early days, the increased burden of high numbers of mobile radiographic examinations, dealing with uncertainty, new shift patterns and a high workload all cited as concerns.[10,16–18,23–25] Student radiographers were impacted by COVID-19 with placements disrupted, the additional need for training to use PPE and the need to move to online learning and assessment, which caused anxiety in around a quarter of students studied.[4,26]

The impact of COVID-19 on academic radiographers creates a risk for the development of the future workforce worldwide. The modal time in academia across the whole dataset was zero to four years, which suggests a relatively inexperienced workforce, with either a high turnover or a recent expansion. Considering the full dataset, 34.7% of academic radiographers had considered leaving academia within the previous 12 months since the COVID-19 pandemic started. The highest number of staff considering leaving came from the UK with 45.5% of those who responded to the survey admitting that they had considered leaving. The number of UK academics responding to the survey accounted for an estimated two-thirds of all those currently working in the UK, so this provides a real risk to the workforce if levels of exhaustion and disengagement are not reduced. Thirty-four percent of respondents to the survey had considered returning to clinical practice. However, it was not recorded whether this was because staff were disengaged with their roles in academia or because they felt a duty to assist on the frontline with patients. In 2017, Knapp et al. identified the vulnerability in the UK academic workforce, with 30% of academics due to retire over the next decade and a commensurate loss of highly qualified and experienced staff. The potential of the risk of burnout in academic radiographers may act as a catalyst for staff attrition, not only from those nearing retirement, but from younger staff as well.[27] The vulnerabilities of radiography to staff leaving the profession has also been documented by Nightingale et al. and it is essential that measures are taken to retain staff and ensure their wellbeing.[28]

A recent American study surveyed 5550 academic medical staff with a mix of clinical and academic backgrounds and found that women were more likely to report experiencing anxiety, work exhaustion, and decreased well-being. Not surprisingly having a high number of family/home based stressors impacted on the study outcomes for all categories investigated however it was found that having children at home was associated with a lower prevalence of anxiety and depression.[29] In our study home schooling and achieving an acceptable work/life balance were noted as challenges by participants, with 45.2% of participants identifying themselves as responsible for home schooling, these findings are consistent with other articles.

Lou et al. (2021) found that low supervisor support was strongly associated with all mental health and well-being outcomes for both clinical and non-clinical workers. In a further study, focus group radiographer responses identified that clinical radiographers perceived support as coming from the whole clinical team, particularly so at the start of the pandemic however the importance of manager support in facilitating work/life balance was indicated as important, but not always achieved.[24] An international study performed by Rijs and Fenter identified that the support provided to academic faculty varied by country location which are comparable to this study.[30] The importance of connectivity was included in several study findings and is evident in several of the themes drawn from responses to the challenges and strategies to support personal well-being (Table 7[24]). Interestingly there was agreement across all countries that the frequency of meetings had risen however despite this contact a number of countries indicated reduced levels of agreement that they were fully supported in their work. The nature

of connectivity therefore appears important. For example, clinical radiographers indicated the importance of WhatsApp messaging to support each other but even with this in place line management was perceived as not always supportive.[24] Circa 20% of respondents in our study declared as having clinical responsibilities, 54% declared full academic roles, therefore the support referred to may have been from colleagues, line management or institutional management in either the clinical or academic setting and further research is warranted to optimize responsive actions.

The rapid move to on-line education delivery, learning new technologies and modifying teaching methods to suit on-line delivery have been noted by researchers as the principal causal agents for increased workload. Despite this all countries indicated positively to opportunities that have arisen during the COVID-19 pandemic with respect to developing new ways of learning and teaching.[30,31]

Limitations

There was no pre-pandemic baseline for comparison, so it is possible that academic radiographers had a high risk of burnout prior to COVID-19. However, the indications of increased workload and challenges suggests that at least some of the burnout scores are likely to be related to the COVID-19 pandemic. The survey did not include consideration of COVID-19 might impact radiography academics and their ability to gain promotion. This is one consideration which merits further investigation following the report by Kisely (2020) that identified significant impacts upon academic faculty with respect to publication output, research funding opportunities and delays in current research.[32]

Conclusion

The study has provided a snapshot of radiography academic faculty opinions on personal wellbeing shortly after the second wave of the pandemic in Europe. The prevalence of participants displaying signs of academic burnout is high and key factors must be identified with respect to the radiography profession, which bears striking similarity across academia and the clinical radiography, to reduce burnout. Our increased awareness and acknowledgement of the impact of burnout of staff is a positive outcome of the research and by evidencing this, action can be taken to alleviate stress and improve the academic working environment. How best to reduce academic burnout warrants further research as we remain within a pandemic, which continues to impact and will continue to do so in the near future.

Conflict of interest statement

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