



## SHORT COMMUNICATION

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# Differential Impact of COVID-19 on Junior Doctors

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## ABSTRACT

The COVID-19 pandemic had a significant impact on the working circumstances for doctors. To cope with increased workload, hospitals had to increase working hours, reallocate vacation and study leaves and rotations. This impacted the physical and mental well-being of all doctors, particularly International Medical Graduates (IMGs). We explored the differential impact on junior doctors working in a district general hospital. In a mixed methods study, we evaluated the experience and perception of junior doctors in a United Kingdom district Hospital in the south of England during the first wave of COVID-19 between March - September 2020. The study was conducted in two phases: creating a questionnaire followed by an evaluation of qualitative and quantitative content. 74/89 (83%) doctors in non-consultant grades responded. 37.8% were International medical graduates (IMGs). The study found that IMGs were significantly more likely to experience stress when compared to UK medical graduates ( $p=0.008$ ). They were also more worried about contracting the virus when compared to UK medical graduates ( $p=0.004$ ). Both groups felt that their training and career progression had been adversely affected. Various factors could play a role in increased stress in IMGs when compared to UK medical graduates. These factors included: adjusting to a new system, being away from family, exams and interviews being cancelled, and reports suggesting that members of the the Black, Asian and Minority Ethnic (BAME) community were more likely to be affected by serious illness if contracted COVID -19. This highlights the need for additional support for IMGs.

## CORRESPONDING

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## BACKGROUND

The first wave of the global pandemic caused by COVID-19 had a profound effect on the medical work force and delivery of medical education. With no definite cure identified (1), countries were forced to adopt social distancing measures and enforce various stages of lockdown. Working from home was not an option for most health care workers who were needed to work on the front line. Hospitals had to reorganise their work schedules to be well prepared for the expected rise in patient numbers. However, on an individual level, this led to the staff working more unsocial hours and longer shifts, which increased anxiety amongst doctors. Not only did some doctors contract the virus, but the uncertainty also took a deep toll on their mental well-being especially affecting junior doctors and international medical graduates (IMGs) (2). A survey done by the British Medical Association

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found that 41% of doctors were going through various kinds of stress related to their work, and 29% of them felt that this had exacerbated due to the pandemic (3). With flights being cancelled, and annual leaves being re-allocated, several doctors were unsure of when they would be able to fly back to their home country to see their loved ones. Statistics showed that the mortality rates of COVID-19 were 10-50% greater among other ethnic groups in comparison with white British people, (4) which led to greater anxiety amongst IMGs. To better support junior doctors, we aimed to explore the needs of a cohort of junior doctors working in a UK general hospital.

## Methods

In a mixed methods study we evaluated the experience and perception of junior doctors working in the Royal Bournemouth Hospital, a general hospital in the United Kingdom during the COVID-19 first wave between March 2020- September 2020. As there were no pre-validated questionnaires, we created our own questionnaire based on areas identified by the junior doctors themselves. Although we did not conduct a formal systematic review, to support this discussion we identified from literature factors affecting the wellbeing of junior doctors (2,3). We also reviewed factors that were considered important in improving the experience of hospital doctors in previous research carried out in our department. (5)

Phase 1: The questionnaire was created after a series of meetings between the lead investigators (first authors) and various junior doctors individually or in groups exploring areas of importance.

Phase 2: The questionnaire was circulated amongst the junior doctors via Google Forms. There were free text areas for comments and suggestions. More direct questions were designed to examine specific experiences and opinions. To avoid acquiescence bias we purposefully chose positively and negatively worded questions. Levels of agreement or disagreement were rated using a 5-point Likert scale (1 indicating low agreement and, 5 indicating high agreement). The questionnaire concluded by inviting participants to comment on what was done well and what could be improved. Data were stored on an encrypted data drive and are non-identifiable.

We conducted a thematic analysis on the comments based on the Braun and Clarke (6) approach of a six-step process: familiarization coding, generating themes, reviewing themes, defining, and naming themes and writing. For a comment to qualify for being considered as a theme there needed to be at least two similar comments relating to it. Differences in categorical data were analysed using Fisher's Exact Probability Test and continuous data was analysed using the Mann-Whitney U test. For the latter two tests a  $P$  value of  $\leq 0.05$  was taken as significant. Analysis was carried out using SPSS Version 24.

Consent was taken from each participant and responses were anonymous. The study was approved by the hospital research and development department.

## Findings

74/89 (83%) doctors in non-consultant grades [Female 38(51.4%),  $P=.81$ ; mean age 29.4 years (SD 4.03)] responded. Demographic characteristics are summarised in table 1. 28/74 (37.8%) were IMGs, with 45% identifying themselves as English, Welsh, Scottish, Northern Irish, British, and the remaining classified as minority ethnicities or mixed race. IMGs were significantly more likely to be employed in stand-alone non-training posts.

Table 1: Demographic Characteristics

	International Medical Graduate (n= 28)	United Kingdom Graduate (n=46)	<i>P</i>
Age Mean (SD) Median	31.5 (3.4) 31	28.1 (3.8) 28	0.000
Gender Female (%)	15 (53.5)	23 (50.0)	0.814
In Formal Training post	6 (21.4%)	39 (84.7%)	0.000
Time in hosp. Months Mean (SD) Median	13.4 (11.8) 11.5	26.2 (26.5) 17.0	0.004
Time in UK since qualification (Months) Mean (SD) Median	19.6 (18.5) 12.0	35.2 (31.9) 24.0	0.009

Table 2 highlights the responses to the various questions from IMGs and UK graduates. International graduates were significantly more likely to report experiencing stress. Other statements that showed significant difference between IMGs and UK graduates included “I am worried about contracting the virus”, “I feel I received adequate support from colleagues during COVID-19”, “I feel anxious in regards to when I will be able to travel to see my loved ones” and “I feel burned out due to the current working hours” Both IMGs and UK graduates did not feel that the COVID-19 period benefitted career progression although IMGs were significantly more likely to feel that career progression/training had been adversely affected. Both groups felt marginally optimistic about future career and demonstrated worry about transmitting the infection to family and other people, the impact of different work patterns that resulted in longer shifts and not been able to spend a lot of time with family.

Table 2: Differential Impact of COVID-19 on International Medical Graduates vs Local UK graduates

	IMG Y/N	N	Mean	Std. Deviation	<i>P</i>
I feel more stressed over the last few months	Y	28	3.86	1.239	0.008
	N	46	3.04	1.299	
I feel I have gained a lot during COVID-19 in terms of career progression	Y	28	2.36	1.162	0.792
	N	46	2.52	1.362	
I feel very positive in regards to the future of my career	Y	28	3.04	1.290	0.123
	N	46	3.50	1.006	
I am worried about contracting the virus	Y	28	3.32	1.307	0.004
	N	46	2.46	1.149	
I am worried about transmitting the infection to my family/ other people	Y	28	3.75	1.555	0.972
	N	46	3.96	1.154	
Due to longer shifts I have not been able to spend a lot of time with family/ friends	Y	28	4.00	1.155	0.948
	N	46	3.89	1.386	
I feel I received adequate support from the hospital during COVID-19	Y	28	3.18	.945	0.141
	N	46	3.50	.983	
I feel I received adequate support from my colleagues during COVID-19	Y	28	3.89	1.031	0.04
	N	46	4.37	.711	
I feel anxious in regards to when I will be able to travel to see my loved ones (leave blank if does not apply)	Y	27	4.67	.832	0.000
	N	31	3.29	1.039	
I feel my career progression/training has been adversely affected due to COVID-19	Y	28	3.93	1.052	0.038
	N	46	3.26	1.357	
I feel burned out due to the current working hours	Y	28	4.00	.903	0.007
	N	46	3.13	1.343	

Table 3 highlights free text comments in relation to physical or mental wellbeing. Themes of importance that had a negative impact on this were, long hours (12 hours compared to usual 8 hours), uncertain shifts, impact of disease, poor nutrition and exercise, career progression uncertainty and family absence including childcare difficulties. Changing protective personal equipment guidance,

annual leaves cancellation and not been able to carry over leave to the next rotation and risk assessment delays were areas of concern. On the other hand, good teamwork and additional staffing levels at nights and weekends made the service safer and improved team spirit. More involvement of junior doctors in setting rotas and allocation of staffing as well as continuing teaching were highlighted as could have been done better.

Table 3: Factors impacting on Mental and Physical Health  
(Is there anything you would like to add in regards to your physical or mental wellbeing?)

<p><b>Long Hours and uncertain shifts</b></p> <ul style="list-style-type: none"> <li>• The long hours have been mentally and physically exhausting. Even with a few days off after every shift I am still increasing tired and fatigued. It is increasingly difficult to concentrate and feel you are doing a good job when you are so tired</li> <li>• If it were not for the reduction in patient numbers in the early stages of the pandemic. My mental and physical would be far worse if I had to sustain this rota continuously with high acuity such as now for 6 months.</li> <li>• Although I would not say I have burnt out, due to the repetitive long hours trying to accomplish regular specialty work, now services have largely resumed, I have struggled to remain enthusiastic and fully involved in the ward work</li> <li>• Mental health has been adversely affected by constant uncertainty about where I would be working and for how long. Routine change/ random shift patterns have adversely affected mental and to some extent physical health</li> <li>• I am always tired and think I live to work</li> <li>• covid rota has made everyone more stressed, on edge. It has also increased team spirit - this however has ebbed over time due to the persistently long shifts</li> </ul>
<p><b>Nutrition and Exercise</b></p> <ul style="list-style-type: none"> <li>• Weight loss due to increased hours being unable to cook and eat meals properly</li> <li>• The long hours do not allow for consistency of healthy eating/regular exercise.</li> <li>• It has become more difficult to exercise regularly. I don't have time to exercise during the same day I am working as the shifts are longer.</li> </ul>
<p><b>Impact of disease</b></p> <ul style="list-style-type: none"> <li>• A lot of these impacts are related to the pandemic itself, not necessarily the specifics of working</li> <li>• I started to see world and life from a different view and got more "spiritual"</li> </ul>
<p><b>Family absence</b></p> <ul style="list-style-type: none"> <li>• These last few months have significantly worsened my mental well-being and now I feel demotivated and unkeen to continue in my chosen career especially with the lack of ability to see my family and the unreasonable rota we have been sequestered on unnecessarily for the last few months</li> <li>• Mentally has been stressful time and not been able to see family. Difficult with managing childcare.</li> </ul>
<p><b>Career</b></p> <ul style="list-style-type: none"> <li>• Due to covid-19, taster weeks, exams, courses and pretty much all educational opportunities were cancelled which makes me in a hard position now not able to apply for training and stressing me out on how to move forward in my career for the next year to come. It's more of a mental strain rather than a physical one.</li> <li>• Mental- stressed due to unexpected changes in training programme applications</li> </ul>
<p><b>Staffing</b></p> <ul style="list-style-type: none"> <li>• My mental wellbeing has been good because of the support provided by colleagues at work.</li> <li>• I feel the increased teamwork has made me happier</li> </ul>

## Discussion

This study gives new insights into the needs of Junior Doctors including common areas of concern but also additional information and how the needs of IMGs differ from those of local graduates.

Many IMGs were older and in non-training positions (78.6%) compared to UK graduates. They were significantly more likely to feel that career progression and training had been adversely affected due to COVID-19. Many factors can contribute to this including the need to pass exams as well as adjusting to a new culture and style of teaching and learning (7). Uncertainty about recruitment, cancellation of exams, changes in recruitment, disruption of regular teaching as well as contractual uncertainty, as most IMGs were in stand-alone posts that did not offer statutory protections as training posts do, were also highlighted. Cancellation of examinations and interviews that are essential for progression into training, further increased anxiety amongst IMGs.

The British, Asian and Minority Ethnic (BAME) community was more susceptible to develop serious illness from COVID 19 (8) and inconsistent guidelines on PPE at the beginning of the pandemic could have contributed to the higher stress levels (9). IMGs were significantly more concerned about contracting the virus than UK medical graduates as IMGs were more likely to have a BAME background. In the context of international travel restrictions it is also not surprising that IMGs felt anxious in relation to uncertainty when they will be able to travel to see loved ones abroad. Such anxiety would have been compounded however not only by international uncertainty but also by a lack of clarity about leave entitlement and quarantine requirements.

All the above factors as well as unpredictable long and often unsociable hours are likely to have contributed to the overall significantly higher self-reported stress and burnout in IMGs. A lack of awareness about these issues may have contributed to the finding that IMGs were less likely to feel supported by colleagues. Our data would be consistent with data on well-being and retention of doctors published by the General Medical Council (10)

In 2019, a precedent was set where the number of IMGs who registered for a license to practice exceeded the number of local medical graduates. (11) There is also strong ethnic diversity evident in this field; as the percentage of BAME doctors joining the register increased by 23% in 2019 relative to a 12% recorded in 2012. (11) This highlights the need for more awareness into the unique issues faced by IMGs and the presence of robust support networks. More involvement of junior doctors in setting rotas and allocation of staffing as well as continuing teaching were highlighted as areas for improvement in an event of another wave of COVID-19 .

We used our local International Doctor's Support Initiative (IDSI) group to provide support to the junior doctors working at Royal Bournemouth Hospital. This group was created by fellow junior doctors to help IMGs settle into the NHS (National Health Service) and the United Kingdom. We ensured regular junior doctor forum meetings were carried out, and support was provided to junior doctors needing support.

Studies carried out in other parts of the world, like United States, revealed similar issues faced by doctors belonging to a minority group. A survey was conducted by the AMA (American Medical

Association) in June and July 2020 comprising 747 physicians. This survey showed that highest frequency of burnout was seen in doctors belonging to a multi-racial background (45%), and in African- Americans (37%). (12) Hence, we feel that doctors worldwide would benefit from similar support groups.

## Conclusion

The results of this study highlight the need for support groups across health systems worldwide to ensure the physical and mental wellbeing of all doctors. As the pandemic is still not over, it is essential that all junior doctors are looked after and measures are taken to improve their wellbeing. Additional support needs to be provided to certain groups of doctors, like International Medical Graduates.

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