

The Impact of COVID-19 on Orthopaedic Surgeons of BAME Community.

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Abstract

Objectives: COVID-19 pandemic had a disproportionate effect on black, Asian and minority ethnic (BAME) community amongst the world population. BAME groups represent a large population of healthcare professionals in the National Health Service (NHS), UK. The aim of the present study was to [i] evaluate the impact of COVID-19 on black, Asian and minority ethnic (BAME) doctors working in orthopaedics in the NHS during the current pandemic. [ii] Assess the demographics, exposure to COVID-19, availability of personal protective equipments (PPEs), conditions in outpatient and inpatient areas, concerns and NHS response, and effect on education and training.

Design: An online questionnaire survey was distributed amongst BAME orthopaedic surgeons in the UK using various web-based platforms. The survey questionnaire consisted of 25 questions [single, multiple choice].

Results: A total number of 226 orthopaedic surgeons with BAME background took part in the survey. Diabetes was the commonest comorbidity found in the cohort. Approximately a quarter of the respondents had to take an average of 12 days off work due to COVID-19 related symptoms or self-isolation due to a family member. 92% of doctors continued to work with Covid patients. Half of the surgeons reported that there was no shortage of PPEs whereas the other half reported non-availability of mainly masks in general. Just over a quarter of the surgeons had to use non-standard PPEs whilst in the operating theatre due to perceived shortage. 65 % felt the NHS response could have been better.

Conclusion: Although COVID-19 has presented a significant challenge to orthopaedic surgeons with BAME background across the UK, the response from BAME orthopaedic surgeons was contradicting the media and popular beliefs. There was no discrimination regarding the availability and use of PPEs. Orthopaedic doctors with BAME backgrounds worked hard throughout the pandemic. The majority were satisfied with the NHS response but constructively criticized it.

Keywords: COVID-19; Corona virus; Pandemics; Orthopaedic surgeons; Minority groups; Ethnic groups

Introduction

As the new Coronavirus SARS-CoV-2 (COVID-19) pandemic reached the United Kingdom (UK), its effect on the National Health Service (NHS) and restrictions imposed to curb the spread of the disease have been widespread [1]. A highly contagious viral disease, it has now spread across the globe to more than 200 countries, in a short period of four months with more than ten million confirmed cases of COVID-19 individuals including more than half a million deaths as reported to the World Health Organization [2]. It has resulted in more than 43,550 of COVID-19 associated deaths in the UK [3]. To reduce the risk of person to person transmission of the virus, Public Health England (PHE) introduced measures such 'social distancing' and use of personal protective equipment's in health care environments [4].

The orthopaedic personnel working in the UK are remarkably different in their ethnic profile from the wider community. As at March 2019, the NHS employed over 1.2 million people. NHS staff whose ethnicity was known, 4 out of 5 (79.2%) were White (including White ethnic minorities), and 1 in 5 (20.7%) were from all other ethnic groups. There is a higher percentage of staff in medical roles from BAME (black, Asian and minority ethnic) backgrounds than in non-medical roles [5].

Ethnicity identifies a social group that share a distinctive culture, language, behaviors, genetic make-up, co-morbidities and risk profile. Response to infection with BAME communities noted to have increased worse outcomes in previous pandemics [6].

It has been acknowledged that there is disproportionate mortality and morbidity amongst black, Asian and minority ethnic (BAME) people, including our National Health Service (NHS) staff, who have contracted COVID-19 [7, 8]

The British Medical Association (BMA) surveyed frontline doctors battling COVID-19 and reported that doctors with BAME backgrounds have been disproportionately affected by the chronic shortages of PPE across the NHS. Moreover, the BMA indicated that almost double the proportion of BAME doctors (64 per cent) have felt pressured to work in settings with inadequate PPEs where aerosol-generating procedures (AGPs) are carried out exposing them to risk of infection. This compares with 33 percent of doctors who identified as white [9].

The effects of COVID-19 on the health of racial and ethnic minority groups are still emerging; there is paucity of evidence on the impact of COVID-19 on the BAME orthopaedic community currently on the coronavirus frontline.

Material and Methods

Study design this cross-sectional study (online survey) was conducted from 27th of May 2020 to 7th of June 2020 to assess the impact of COVID 19 on BAME Orthopaedic doctors working in the UK during the current pandemic. A questionnaire of 25 multiple choice questions including one free text comment slot at the end was created and distributed anonymously to approximately 600 orthopaedic members with BAME background in the UK using online website <https://www.surveymonkey.com/> by email and other social media platforms. Two to three reminders were sent out during the period when the survey was active.

Inclusion and exclusion criteria: The target audience were orthopaedic surgeons practicing in the UK with BAME background. The focus of the BAME survey was on the following points: [i] Impact of COVID-19 on BAME Orthopaedics Practice in the UK, [ii] Find out associated comorbidities in BAME surgeons, [iii] Changes in Working patterns and instances of sickness due to COVID-19, [iv] Availability of Personal Protective Equipments (PPEs) [v] Predicted impact on professional life, satisfaction and support of NHS response in relation to COVID-19.

Statistical analysis: Continuous data was summarised as median [range] and Frequencies/percentages were used for categorical data entered in SPSS [Statistical product and service solutions [version 16 [IBM Corp] and Microsoft excel for statistical analysis.

Results

We received 226 responses giving us a response rate of 37.6%. The majority of the respondents had a median age of 37.39 years (range 45-54) with only 2.7% of respondents being above the age of 65. Males were 213 and 13 were females. Consultant orthopaedic surgeons comprised the majority of the respondents as 52.4% [Figure 1]. The Asian cohort formed the bulk of respondents at 74.44% followed by doctors of Arab descent at 14.80% [Figure 2]. Almost 66.67% of surgeons had no health issues at the time of the survey. Co-morbidities were present in 33.33% [Figure 3]. 97.94% had worked 3 years or more in orthopaedics and amongst this about 33.58% had more than 21 years of orthopaedic experience. 82.88%

worked for more than 30 hours per week during the COVID-19 peak. Only a few respondents have been shielding and working from home [Table 1]. Approximately 50% of the respondents did not know the infection status of COVID-19 in their department. Out of 226 responses we received, approximately 16.5% (37 respondents) were COVID-19 positive.

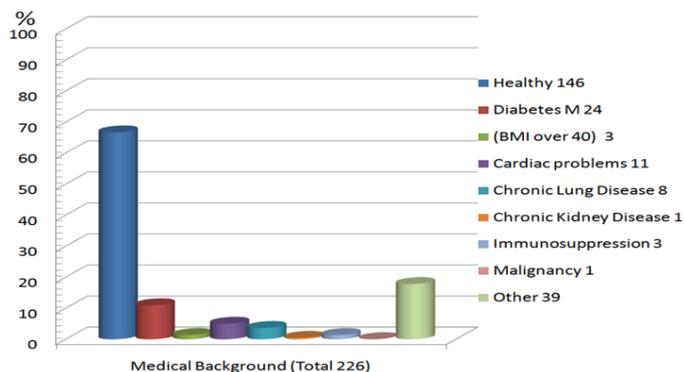


Figure 1: Showing Professional Title of the Respondents (Numbers and Percentages).

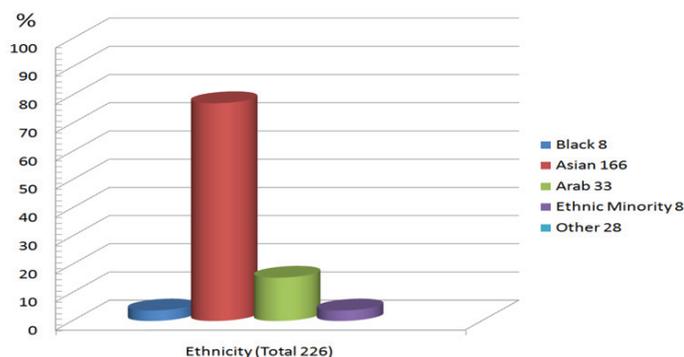


Figure 2: Ethnicity (Numbers and Percentages).

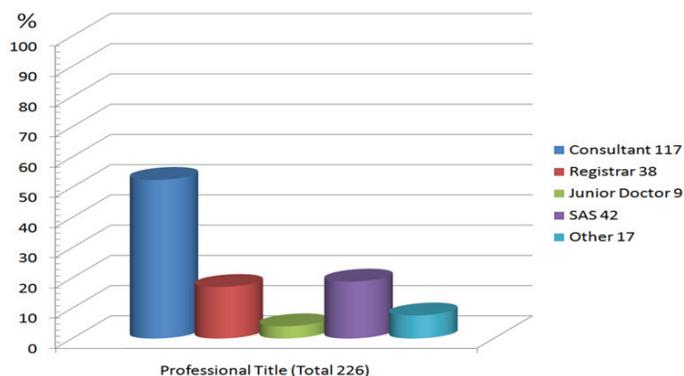


Figure 3: Medical Background of the Respondents (Numbers and Percentages).

However, 26.3% (59 respondents) had to take time off with an average of 12 days due to COVID-19 related symptoms or were self-isolating due to a family member having signs of Covid-19. Three quarters of the surgeons were not redeployed to perform duties outside of their specialty, although they dealt with COVID-19 patients in their ward. None of the respondents performed routine elective surgeries during this period due to suspension of non-urgent services to conserve resources and prevent spread of the virus. Most undertook trauma and other urgent orthopaedic surgeries. Nearly half of (45%) of the respondents were able to perform only 2 major surgeries per day. Of the respondents, 71.3% responding as performing only trauma surgeries and 18.3% were performing trauma and urgent elective surgeries. [Table 1].

Half of the surgeons reported that there was no shortage of PPE in the trust. The other half reported a shortage of mainly masks in general ease of availability [Table 2]. Almost three quarters used full PPE during operative procedures. Just over a quarter used non-standard protection (PPEs) due to shortage. Nearly all continued to see acute trauma and patients with urgent need to be seen for a face-to-face consultation, though there was a significant reduction in footfall of patients. Majority (90.45%) used ordinary surgical mask while assessing patients in the out-patient department [Table 2]. Most of the surgeons (93.72%) who responded were involved in self-learning through online webinars and teaching programmes. COVID-19 has given an opportunity to the majority of the surgeons (71.43%) to complete their previous research work and consider new research work related to COVID-19 and non COVID areas. Nearly 70% of respondents were able to undertake Supportive Programmed Activity (SPA) either from home (57.73%) or in-hospital site (12.27%). Regarding the predicted effect of COVID-19 on professional life, 20% of the respondents thought professional life would never be back to normal. 33.7% thought it will be difficult to recover and about 40% were optimistic that professional life will return to normal but will take a few months. Majority of the respondents were satisfied with NHS response to the pandemic but 65.04% felt the NHS response could have been better.

Working Conditions (Total number of responses 226)						
Work experience (years)	< 3 years	3 -10	11 -20	21 or more		
No. of responses (%)	5 (2.26%)	52 (23.53%)	92 (41.63%)	72 (32.58%)		
Working hours (per week)	<30	30-40	41 – 50	51 -60	>60	Shielding
No. of responses (%)	32 (14.41%)	92 (41.44%)	77 (34.68%)	12 (5.41%)	3 (1.35%)	6 (2.7%)
Type of Surgeries performed	Trauma	Trauma and Urgent electives	Trauma and routine electives	None	All as normal	
No. of responses (%)	159 (71.3%)	41 (18.39%)	0 (0%)	23 (10.31%)	0 (0%)	
No. of major surgeries daily	One	Two	Three	Four	Other	
No. of responses (%)	10 (4.46%)	101 (45.09%)	69 (30.8%)	12 (5.36%)	32 (14.29%)	
Outpatients	Trauma	Elective follow up	Elective New	Any Urgent	All as normal	
No. of responses (%)	132 (60.55%)	29 (13.3%)	7 (3.21%)	136 (62.39%)	7(3.21%)	
No. of outpatients	< 10	10 – 15	15- 20	>20	Other	
No. of responses (%)	92 (41.82%)	79 (35.91%)	30 (13.64%)	9 (4.09%)	10 (4.55%)	
SPA* during lockdown	In hospital	Home or flexible	No SPA			
No. of responses (%)	27 (12.27%)	127 (57.73%)	57 (25.91%)			

*SPA (Supportive Programmed Activity session)

Table 1: (Working Conditions for BAME Orthopaedic Doctors between March – May 2020).

Personal Protective Equipments (PPEs) (Total number of responses 226)					
Shortages	Masks	Gowns	Gloves	None	Other
No. of responses (%)	69 (31.08%)	57 (25.68%)	6 (2.7%)	113 (50.9%)	27 (12.16%)
PPEs during surgery	Ordinary	N 95	N95 & Disposable gowns	Full PPEs	
No. of responses (%)	8 (3.64%)	3 (1.36%)	47 (21.36%)	162 (73.64%)	
PPEs during OPD	Ordinary	N 95	N95 & Disposable gowns	Full PPEs	
No. of responses (%)	199 (90.45%)	5 (2.27%)	6 (2.73%)	10 (4.55%)	

Table 2: (Personal Protective Equipments): Shortages, Usage in surgery and outpatients.

Discussion

It has been noted that the cohort of doctors working in the United Kingdom differs in race and ethnicity profile compared to the wider population. A net importer of doctors, the UK health systems appears to be employing increasingly number of overseas doctors, many of whom are from non-white non-ethnic background⁷. In addition, more British ethnic minority students are entering medicine. It is non-negotiable that a diverse group of orthopaedic doctors would address the concerns of the population better. Although recent UK data from intensive care units indicate that over a third of patients are from BAME backgrounds, UK mortality reporting does

not require information on ethnicity [10]. An analysis of deaths in healthcare workers due to COVID-19 revealed that 63% were from the BAME communities. In addition, with specific reference to doctors' deaths, 94% had BAME background [10]. These deaths have been a trigger across the UK to find out if there is a plausible link between being of a BAME background and a higher morbidity and mortality related to COVID-19.

The highest risk groups from COVID-19 were considered to be men aged >65 with significant co-morbidities. However, as the pandemic reached its peak, younger patients than anticipated were more severely affected. Orthopaedic specialty lacks gender diversity with only 4.8% of orthopaedic surgeons in the UK being females [11,12], which theoretically means relatively higher risk for orthopaedic surgeons. In our survey, the majority of respondents were males aged 35-54. This alludes to the fact that male sex and age >65 are not the only culprit for higher morbidity and mortality in the BAME group.

More than two thirds of the respondents had no health issues at the time of the survey. 41.6% had more than 10 years of experience and 32.5% had more than 20 years of experience. This suggests that any off sick days or reduction in the workforce was purely due to COVID-19. There was 16.5 % respondent actually infected with COVID-19. However, 26.3 %, not necessarily sick themselves, had off sick days with an average of 12 days in relation to COVID-19. We believe that, earlier mass testing could have significantly reduced that extra 10% off sick. In addition, individual risk assessments and consideration of redeployments or amendment of duties were needed earlier in the pandemic to ensure vulnerable staff groups were well protected.

The majority of the respondents were Asian 74.44%. Black responded with a 3.59% rate and other ethnic minorities including Arab had an 18.3% response rate. The black community might be underrepresented in our target group. Arabs' response was 14.8%. This might indicate that there is a relatively higher percentage of Arabs in the Orthopaedic field in the United Kingdom. However, there is no data in the literature to support the percentage of Black or Arab communities in the orthopaedic field in the UK.

In contrast to what the BMA [9] indicated that 64% of BAME doctors were exposed to risk of infection due to lack of PPEs, half of our BAME respondents reported no shortage of PPEs in their trusts. However, there were reports of shortage of masks or gowns or gloves in various trusts as 31%, 25.6% and 2.7% respectively. This comes with almost 82% of the respondents continued to perform their role as orthopaedic surgeons, working in excess of 30-50 hours per week. Three quarters of BAME surgeons continued to perform trauma and urgent elective surgeries. Almost 45% of surgeons were only able to perform two major cases in theatre daily as during the period following 'lockdown', elective orthopaedic surgery fell by 94%, leaving only urgent cancer work ongoing, while

there was a lesser fall in trauma operating of 23.2% [13]. This has been equally reflected in the response from BAME orthopaedic doctors proving that they worked as hard as their peers did. Moreover, >92% continued professional developments via online webinars and online teaching and >71% were involved in research activities including COVID 19 related research.

UK Public Health England (PHE) released guidance on 27th of March 2020 recommending specific PPEs for aerosol generating procedures with amendments in April and May 2020 [4]. The recommended PPE for orthopaedic surgeons, working in a COVID19 environment, should consist of level four surgical gowns, face shields or goggles, double gloves, and FFP3 masks with an air-purifying respirator mask to be used as an alternative [14]. Besides PPEs, other measures were implemented to minimize aerosol generation during orthopaedic procedures [14-17]. There was a high level of awareness amongst BAME orthopaedic surgeons with almost three quarters surveyed used enhanced PPE during operative procedures and just over one quarter using non-standard PPEs due to shortages.

The changes to the professional landscape because of the current pandemic will have long lasting effects. Many established work practices surrounding structuring of care, clinical leadership and resource management have been completely changed. Professional development milestones have been affected for some doctors with a likely backlog of formal examinations for assessing professional competence as well as countless missed training and experience opportunities because of service pressures and rationalization of service. 20% of the doctors completing this survey felt that professional life may never return to the previous 'normal' with ~40% optimistic that things would return to normal but conceded that this would likely take both significant time and effort. It is difficult to predict exactly how the NHS as a whole and Trauma & Orthopaedics as a specialty go about recovering and planning for the future; but it is already evident that this will not be a straightforward process. Although overall, BAME doctors surveyed were satisfied by the response of the NHS to the pandemic, >65% felt that it could have been better managed.

The COVID-19 outbreak was an unprecedented challenge in the lifetime of the many working professionals currently in the NHS. Responding to a novel and emerging disease was never going to be easy; but now, months since the first case was reported in Wuhan, even in hindsight it may be too critical to claim that we could have

been better prepared. As this study alludes to, many of constructive criticism was focused on some shortages of PPE, risk assessment and support of vulnerable staff groups (including BAME healthcare workers), early staff testing and better management of resources. The NHS continues to develop its response to this global pandemic and it is important that lessons be learned from the difficulties thus far as well as to draw from the experiences of other countries and indeed previous pandemics.

Conclusion

Our survey results are contradicting what is circulating in the media and some medical journals about the impact of COVID-19 on BAME doctors with reference to the lack of PPEs and work pressure. Orthopaedic doctors with BAME backgrounds were not discriminated against when it came to the availability or use of personal protective equipments. There was not a noticeable difference in the rate of COVID-19 infection among BAME orthopaedic doctors in comparison with their peers. 92% of orthopaedic doctors with BAME backgrounds worked hard throughout the peak of the pandemic and continued professional developments. The majority of BAME orthopaedic doctors were satisfied with the NHS response but constructively criticized that it could have been better.

Declaration of Conflict of Interest: The Authors declare 'that there is no conflict of interest'.

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