**The impact of the risk of COVID-19 on Black, Asian and Minority Ethnic (BAME) members of the UK dental profession.**

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**Key points**

- Review the impact of COVID-19 infections for the dental profession
- Highlight potential challenges faced by BAME members of the dental profession in light of the COVID-19 pandemic
- Develop a call for action for dental governing bodies and policy makers to urgently address these risks and support the dental profession in delivering high quality patient care whilst safeguarding the health and welfare of the dental team.

**Abstract**

There is growing evidence that Black, Asian and Minority Ethnic (BAME) groups in the UK are at increased risk of death from corona virus (COVID-19). With Black Afro- Caribbean, Indian, Pakistani and Bangladeshi populations being particularly at risk. Although the reasons are unclear it is likely to be a combination of cultural,

socioeconomic as well the higher prevalence of co-morbidities such as high blood pressure , cardiovascular disease, raised body mass index (BMI) and type 2 diabetes in these populations. The NHS is advising that frontline staff of BAME origin should be risk assessed regarding their safety in working in clinical areas which are at risk of COVID-19. There is, however, little evidence on the risks posed to the BAME community within the dental profession. This paper outlines some of the challenges that may affect the dental profession and advocates that urgent action needs to be taken to mitigate the risks of COVID-19 and ensure their safety when they return to work.

**Background**

An article published in the Guardian newspaper on the 30th April highlighted that the NHS was providing specific advice for frontline staff from BAME groups to undergo a risk assessment for their fitness to work in regard to the coronavirus (COVID-19) pandemic[1].The UK which has one of the highest rates of COVID-19 related deaths globally reported 276,322 confirmed cases and 39,045 deaths as of the 2nd of June 2020 However the UK has also registered more than 59,000 more deaths then expected since March 20th 2020 suggesting the direct and indirect impact of COVID-19 may be significantly higher [2,3].

There is a view that BAME groups are at increased risk of death from COVID-19 and there is growing evidence to suggest that Black Afro- Caribbean people and those from the Indian subcontinent (India/Pakistan/Bangladesh/Sri Lanka) are particularly at risk. A recent rapid data and evidence review from the Centre for Evidence-Based Medicine (CEBM) found that excess hospital deaths due to COVID-19 were 1.5 times higher than expected for Indians living in the UK, 2.8 for the Pakistani population and 3 times higher for the Bangladeshi population[4]. The Black communities' figures were

even higher with the black African population having 4.3 higher hospital deaths than expected. For the black Caribbean group, it was 2.5 times higher and for other BAME groups it was 1.6 times higher. This finding has also been corroborated by the Office of National statistics (ONS). Figure 1 shows the odds ratio of the chances of dying of COVID-19 for the BAME group compared to the White British population. It is interesting to note that Indian females appear to be at higher risk than their male counterparts whereas the reverse is true for Bangladeshi/Pakistani and Chinese populations[5]. Data from the Intensive Care National Audit and Research Centre (ICNARC) has also confirmed increased number of COVID-19 related admissions to intensive care from BAME groups in critical care units across the UK during the pandemic[6]. These findings have also been supported by a recent report (COVID-19: review of disparities in risks and outcomes) published by Public Health England (PHE) which stated those of Bangladeshi ethnicity had twice the risk of death from COVID-19 when compared to those of White British ethnicity and people from other ethnicities (Chinese, Indian, Pakistani, other Asian, Caribbean and Other Black ethnicity had between 10-50% higher risk of death when compared to White British[7]. Given that the 2011 UK census estimated that 13% of the population which represents 8.65 million people are from a BAME background this represents a significant percentage of the population which may at risk from COVID-19.[8]

Figure 1: The odds ratio (risk) of death from COVID-19 according to ethnicity (reproduced with permission from the UK office of national statistics May 2020)[5]

**COVID-19 related deaths in UK health care workers**

|A disproportionate number of deaths attributed to COVID-19 in BAME health care workers (HCW) has also been reported. The latest figure at the time of writing (2/6/2020) confirmed at least 243 known deaths of health and social care workers since the lockdown began on the 25th March 2020[9]. The analysis of 106 (35 nurses/midwives, 27 HCW, 19 doctors/dentists and 25 'other staff') published in the Health Service Journal found that of the staff who died 71% were nurses and midwives, 56% HCW, 94% doctors and dentists (the actual number of dentists in this group was not specified) and 29% of other staff, were from a BAME background[10]. The data confirms that even in the health sector BAME HCWs appear to be at a higher risk of a COVID-19 related death. Although the authors noted that it was not possible to determine if the COVID-19 infection was contracted during work it stated that all of the subjects were currently working during the pandemic at the time of testing positive for COVID-19. Additionally, although the numbers were small, they felt doctors who died tended to be older males. Several theories have been proposed for the higher BAME associated deaths including cultural factors like living in extended families, social inequalities and increased co-morbidities such as high blood pressure, diabetes, cardiovascular disease, renal disease, and obesity all of which are more prevalent in BAME groups. The answers are likely to be multifactorial, but there is now widespread acknowledgement that BAME health care workers are at a higher risk of COVID-19 related deaths.[11,12]

**Impact on COVID-19 on the BAME dental professionals**

NHS data from March 2019 suggests that of the 1.2 million NHS workers approximately 20.7% were from BAME groups. Specifically, in relation to doctors, 45% of all doctors across the grades were from a BAME background[13]. In comparison the British Dental Association (BDA) quote that 28% of the UK dentists are of BAME origin[14]. It could be that a significant number of doctors and dentists working in the UK are already at increased risk of dying of COVID-19 as a part of the general population and that is even before consideration of any work-related activity in the dental setting.

It is therefore critical that the government, including Public Health England (PHE), NHS England, and professional bodies prioritise research in this area and in the meantime provide robust guidance and measures focussing on risk stratification to mitigate the risk. One recent proposal has been to risk assess health care workers , who may be high risk and potentially in terms of age, sex, ethnicity and other health considerations[15]. Although it may be feasible and practical for some members of the medical profession who are deemed to be too high risk to have patient facing roles and can be either redeployed or work from home, it is a completely different situation for the dental profession. Virtually all aspects of clinical dentistry involve face to face close contact work with patients and working from home or having non patient facing roles is not feasible. Additionally those working in primary care will be self-employed, either performing within a target remunerated NHS contract or in private practice where fees are sourced from the patient. In either system, the dental practice is a small business with the cost of staffing, materials, consumables, facility costs and mortgages or rent on the premises. Many dentists will have significant borrowing on premises and items of equipment, and such outgoings need to be serviced to keep the business solvent.

It is important to recognise that many dental care professionals (DCPs) will face the same risks as the dentist. Indeed, in terms of the routine work undertaken, dental hygienists may be at greater risk in view of the frequent use of ultrasonic scalers which may be considered as a significant aerosol generating procedure (AGP). DCPs are likely to be employees and this may pose a challenge for both the employer and the DCP, should the employee be from a BAME group. Consideration will need to be given as to the risk and how this can be minimised within the clinical environment. It would be prudent to perform a risk assessment and seek specialist advice and there are a number of risk assessment tools which may support the dental team facilitate this process [16-18]

**Mitigating aerosol generating procedures (AGP) and aerosol generated exposure (AGE)**

The issue around risk has been further compounded by confusion over guidance and the use of personal protective equipment (PPE) for the dental profession. There is growing concern amongst many medical professionals that clinical work in the proximity of the aero-digestive tract (mouth /nose/pharynx/airways) creates a higher risk for COVID-19. ResusUK[19] and the British Association of Maxillofacial Surgery (BAOMS) / ENT UK[20] suggest that in addition to aerosol generating procedures (AGP) produced during dental treatment, practitioners must also consider the impact of an aerosol generated exposure (AGE). AGE results from exposure to the aerosol related secretions that are produced as a result of activities such as coughing, talking, retching, sneezing by the generation of droplets and aerosols when working in close proximity to the oral and nasal cavity. This is clearly an occupational risk for dental professionals who often work within 50 centimetres of the oral and nasal cavity. It is

therefore important to note that a dental extraction or oral examination, which may not necessarily constitute an AGP, is likely to have some risk from AGE. It remains to be determined how significant this may be, but is supported by a report published by the ONS which suggests that the dental profession has the highest potential occupational exposure to the coronavirus (COVID-19) due to close and frequent patient contact involving both AGP and AGE related activities[21]. The Faculty of General Dental Practice (UK) have produced clinical guidance on supporting a return to practice for the primary care dental team[22]. They support the use of the term AGE and advocate that this is considered in terms of low risk or high risk. A risk assessment is undertaken based on a number of factors including National Alert Level, risk of procedure and personal risk. At present there is no data to show how much extra risk is posed by the triad of ethnicity, co-morbidities in the presence of AGP/AGE risks when compared to the general population. We have to be mindful that since the lockdown, the routine practice of clinical dentistry in the UK has ceased. It may be some time before dentists return to normal working in sufficient numbers to enable these risks to be measured. However, a recent report found that 6 dentists have recently died from COVID-19 in Indonesia as well as a dental nurse from the UK[9,23]. It is important to acknowledge however that it is unclear whether transmission was related to occupational risks. Other studies from China and Italy have also confirmed the risks to the dental profession from COVID-19.[24,25]

**Potential pitfalls in identifying COVID-19 patients in the dental surgery**

Recent data from the Centre for Evidence Based Medicine (CEBM) suggests that between 5-80% of COVID-19 infections maybe asymptomatic, which makes any risk assessments based on key symptoms such as temperature or a cough potentially unreliable[26]. As a consequence, there is a potential risk that a patient presenting with

a dental infection, who may have a low-grade fever, may be denied treatment on the basis of having an active COVID-19 symptoms. As a result we advise that each patient is risk assessed on a case by case basis taking their medical history, social history and potential exposure to COVID-19 into consideration.

**Responding to the concerns of the dental profession**

It is essential that the UK government, regulatory bodies and professional bodies come together and respond to the needs of their membership. This is particularly important for the dental profession as a majority of them will be independent practitioners with self-employed status who will not have the option of re-deployment or being able to shield until a vaccine or cure becomes available.

**The applicability of global guidance to the UK COVID-19 scenario**

Evidence from other countries should be considered, albeit with caution as other countries have a different rate of exposure to COVID-19. As national policies and guidance will be made in accordance to exposure to COVID-19, care has to be taken when extrapolating guidance from other countries who have a significantly lower population exposure to COVID-19. It is also important to note that each country may be on a different trajectory from the UK in terms of its exposure to COVID-19 and have taken different measures to control the pandemic, making direct comparisons more difficult.

**Inequalities for dental professionals**

It is imperative that any guidance is fit for purpose for all members of the dental team as some will have co-morbidities that will put them at higher risk even if they are not BAME and guidance should ensure all stake holders in the dental profession are

supported to make a safe and effective transition back to clinical work. Some dental professionals due to their religious beliefs, for example Sikh dental professionals who are required to keep their beards may find it harder to wear certain types of PPE which may compromise their safety in terms of exposure to COVID-19. Although solutions such as the use of a powered air purifying respirator (PAPR) exist, this also demonstrates why risk assessments should be individualised in order to ensure that all

**Geographical variation to COVID-19 infection rates**

The risk to dental professionals will vary according to geographical locations with London, East of England and Birmingham and the Black Country having some of the highest rates of COVID-19 related critical care hospital admissions[5]. Also, there is no guarantee that we will not be exposed to further waves of COVID-19 as the lockdown rules are relaxed. As a result, dental professionals will need to plan realistic timelines regarding what is feasible and how additional treatments may need to be phased in.

**Summary**

The urgency of forward planning cannot be overemphasised given that it the short timescale before practices open up for patient care. We have to acknowledge the paucity of high quality evidence to support policy making, and it is vital that this issue is addressed as a matter of urgency. Research funding must be made available and directed towards projects which aim to address the evidence gap which exist within COVID-19 and dentistry. This will not only allow the dental profession to shape the immediate response to the practice of safe dentistry but also help generate a blueprint for any future pandemics.

Any additional risks to staff from COVID-19, whether that is due to ethnicity, health or risk of exposure to COVID-19, should be carefully assessed and factored in when planning a return to work for the dental profession. The dental team should be provided with the most relevant and appropriate guidance and resources such as PPE, as well as the training to facilitate this into clinical practice. The dental profession must be supported in its drive to return to work to provide ongoing oral health care which the population desperately needs. However, safety must continue to take priority, and we must ensure that every risk is considered diligently and mitigated wherever possible. This must include the risk related to ethnicity, and it is important that there is adequate BAME representation when developing any monitoring or policy development relating to this topic.

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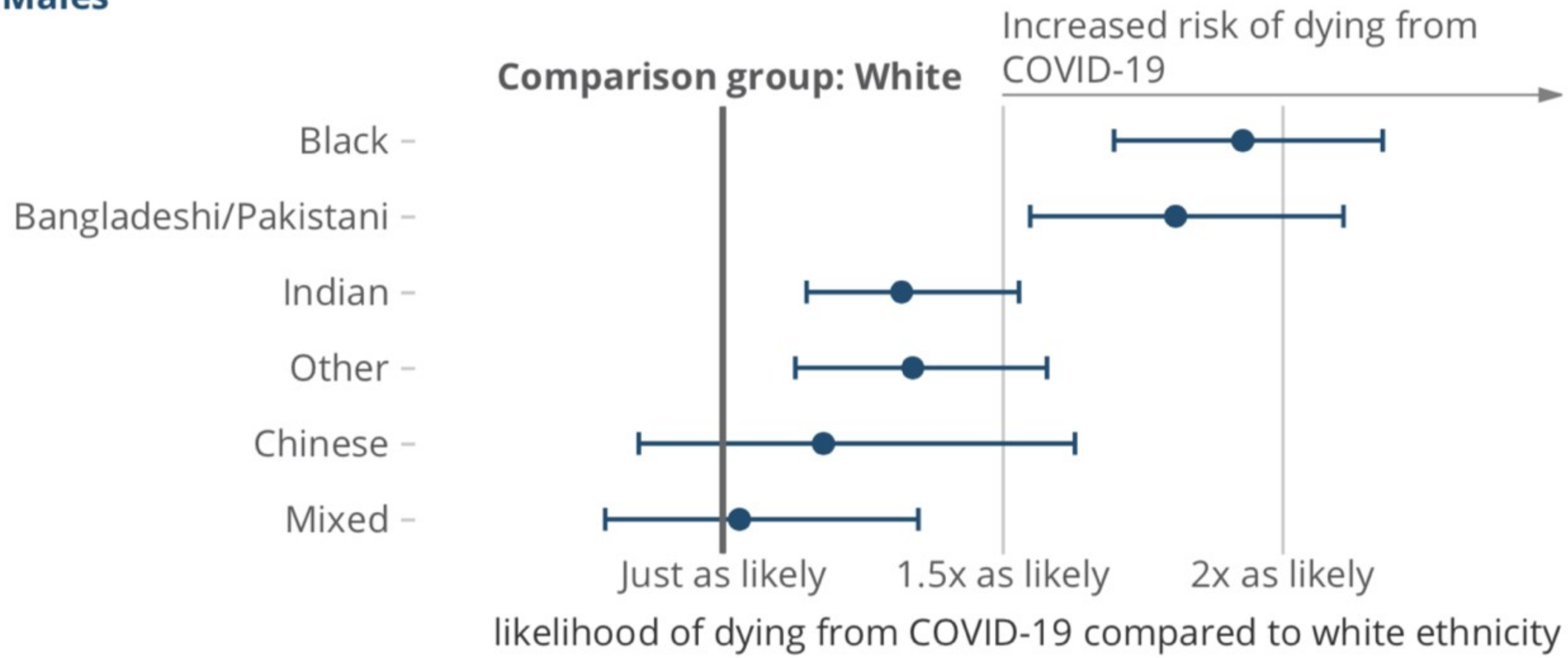
**Males**




**Females**