Dave Sookhoo

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), more commonly called COVID-19, is exacting much unprecedented toll on the personal, social and economic levels globally, and it is not showing any sign of disappearing from the face of the planet any time soon. Since January 2020, the global community has been desperately trying to find health solutions to inform and act on prevention of transmission and spread of the virus, containing and averting high mortalities across nations (World Health Organisation, 2020). In the discourse about the impact of COVID-19 globally, comparisons have been drawn with the pandemics going back centuries, and in recent times the Spanish Flu (1918-1920), the Asian Flu (1957-1958), 2009 influenza pandemic (Petersen et al., 2020). Furthermore, among the many stark realities of the impact of the virus on humanity, one that has become a source of grave concern is the disproportionality of fatalities associated with COVID-19 among ethnic groups in European and western countries. This paper attempts to explore and report factors associated with ethnicity and its concomitants in the United Kingdom (UK). With daily changes in what is known about the spread of the virus, policies and practices, information and legal measures, the public response to the threats and human cost have been remarkable and courageous. In demographic terms, this paper focuses on the UK South Asian communities, who are often referred to as part of the Black, Asian and

Introduction

Minority Ethnic (BAME) groups. The purpose is to derive an understanding of the impact of COVID-19 on these groups against the backdrop of shifting evidence and guidance on minimising health and social effects on the population.

Responsiveness

The World Health Organisation (WHO) declared a global health emergency on 30 January 2020, followed by declaration of a global pandemic on 11 March 2020 (Cucinotta & Vanelli, 2020). The WHO Director General expressed his organisation's deep concern at 'both the alarming levels of spread and severity and by the alarming levels of inaction', asking countries to take measures to contain the virus and prevent its worldwide spread. The UK Government was preparing for the challenges by creating field hospitals and stockpiling medical supplies and equipment. With increasing numbers of cases being reported, with hospitalisations and deaths, the UK government imposed a lockdown on 23 March 2020. From containment to prevention of spread of the virus, staying at home, advocating hand washing and hand hygiene, self-isolation, these were measures designed to reduce the potential peak that could overwhelm hospitals. A delay phase was observed - containment plus social distancing, social isolation, quarantining; limiting travel and social gatherings; closing businesses and enforcing lockdowns. . With the rise in reported COVID-19 cases and mortality, the UK government imposed a lockdown on 23 March 2020. Many questions were being asked about the supplies of personal protective equipment (PPE) for frontline National Health Service (NHS) workers. When the extensive health, economic and social effects of the pandemic were felt across the UK, at its height between April and May 2020 in England, questions were being asked about the vulnerability of people across their lifespan and the implications of risk assessment for 'segments' of the population. Reassurance was given to the public about the availability and supplies of PPEs and equipment but public concerns grew with reports from the health and social care sectors about a lack of supplies which was putting staff and patients at increased risk of being infected.

Since early February 2020, the UK government was alert to the threats of the coronavirus, yet not much action was taken, even the scientific advice was, to be cautious about transmission and the precautions needed to be put in place to protect the population. Much noise was made in several administrative quarters, but not reflected on provision of resources and preparedness to deal with the pandemic, giving a clear and worrying series of kneejerk reactions. Stocking up of essential equipment (gloves, masks, sanitisers, respirators), preparing field hospitals to receive patients and protect the NHS, discharge of patients from hospitals to care homes without testing, ensuing lockdown, social distancing and advice about hand washing and hand hygiene, addressing the economical concerns etcetera became points of reference for commentators, on how proactive or reactive the political and healthcare professionals were on a daily basis. What was becoming clear was the lack of personal protective equipment, the strategy of herd immunity, with apparently little concern or respect for the large numbers of people dying in their homes, hospital or care homes as reported in the daily briefings and updates in the media. It can be argued that it was governance by neglect. The consequences of indecisiveness and poorly communicated guidance meant that prevarication cost people their lives, including those of healthcare professionals and public sector workers. The vulnerability of South Asians to COVID-19 became abundantly clear when BAME doctors working with patients at the beginning of the pandemic were the first mortalities reported (BMA, 2020). As the reported deaths were linked to people most vulnerable in society, and the lack of cohesive action and monitoring of what was happening with compliance, the focus was far more on 'led by the science' dismissing any dissenting voices. Many have argued that the steps taken by the government has been slow and not communicated clearly over the course of the pandemic.

Psychological Impact of COVID-19

Fear is a common response when we are faced with uncertainties and threats.

The fear of being infected by coronavirus was very real for all, with uncertainties about the early symptoms and the excessive fear experienced, when triggered by

shielding and isolation. With self-isolation being advised, the effects of isolation on mental health and support were not made clear. However, local organisations and communities were mobilised with volunteers supporting the vulnerable. Local governments played their part in information sharing and guidance on mental health (LGA, 2020). Public Health England (2020a) put out guidance on mental health and well being with a range of information about what to do and the services available. However, it is questionable whether the public accessed this guidance and its impact on the mental health of individuals with the existing mental health conditions and those exposed to COVID-19.

Soon after lockdown was imposed, commentators observed how the public had shown restraint with high level of compliance but expressed concerns about risks of isolation, fears about the old and frail, the psychosocial impact on children missing out on schooling, possible rise in domestic abuse and the economy. In time, commentators expressed disappointment at the ambiguities in communication and the continued uncertainties about the implications of the strategies being followed to mitigate the effects of COVID-19 on individuals, families and businesses.

Measures taken to reduce risk of infection from coronavirus, such as self-isolation, social distancing and quarantine can trigger psychological distress, and this should be borne in mind when designing psychological interventions. A coordinated and interdisciplinary approach is needed (Hotopf et al., 2020).

Ethnicity and COVID-19

The point of reference for population data is commonly the 2011 UK census data for England and Wales. Asian ethnic groups made up 7.5% of the UK population (ONS 2011 Census). Self-ascribed as British Asian settled here by migration and by birth in the country, are people of Indian (2.5%), Pakistani (2.0%) and Bangladeshi (0.8%) origin.. The ethnic groups most likely to live in urban areas were Pakistani (99.1%) and Bangladeshi (98.7%). In England in 2013, it was estimated that around 262,247 South Asians lived in London, the largest group, followed by 37,2024 in Leicester,

27,206 in Birmingham, 15,190 in Sandwell and 14,955 in Wolverhampton. Other cities which have a sizeable South Asian population includeBlackburn 34.3%, Bradford 26.83%, Manchester 15%. The geographical demographics of the South Asian groups and the emerging patterning of COVID-19 cases and mortality can be referenced against this backdrop.

Aldridge et al (2020), showed that Black, Asian and minority ethnic groups were at higher risk of death than their white counterparts. In the data reported in April2020, (ONS, 2020a), out of the 16,272 deaths, the largest number of deaths in ethnic minority groups were among Indian (492 deaths) and Black Caribbean (460 deaths). The standard mortality rate (SMR) was 3.29 for Pakistanis, 2.41 for Bangladeshis 2.41 and 1.70 for Indians. Similarly, arguing for the disproportionate COVID-19 related deaths among critically ill patients, 34% were among minority ethnic groups, whilst they make up only 14% of the population (Bhala et al., 2020; Kings Fund, 2020). More recent data up to 15 May 2020 (ONS, 2020b) showed that COVID-19 related deaths was 1011 (2.7%) of all deaths, of which 551 (1.5%) were among Pakistanis and 222 (0.6%) among Bangladeshis, with more male deaths than female deaths. By religious group, the figures showed that among males aged 8-64 years, deaths were recorded as follows: 297 Muslim males and 125 females, 90 Hindu males and 43 females, and 42 Sikh males and 20 Sikh females. For recorded deaths for adults aged 65 years and above, the numbers were higher: Muslims, 584 males and 301 females; Hindus, 271 males and 190 females; and 119 Sikh men and 77 Sikh women.

With number of cases and deaths rising during March, April and May 2020, concerns were raised about the likelihood of people from ethnic minority background being exposed to coronavirus and death among health care professionals working in frontline services. A large percentage of doctors and other health care workers are from BAME groups. Reportedly, 21% of all staff are from BAME groups (BMA, 2020), made up of about 20% of nursing staff and 44% of medical staff. There was an outcry about the lack of action, being directed into examining the factors underpinning this emerging pattern in the deaths of frontline health professionals. Questions were raised about the lack of concern about possible contributing factors such as racial discrimination, bullying and lack of risk assessment and testing. In response under pressure to act, Public

Health England (PHE) subsequentlylaunched a review in May and the report was published in June 2020(PHE, 2020b) but it was disappointing that the report did not make any recommendations on how to reduce disparities (Science Media Centre, 2020), even with questions asked in parliament about the failure to make recommendations.

Underlying health conditions make the South Asian communities more susceptible and vulnerable to COVID-19, consequently requiring hospitalisation and medical interventions, including life-saving artificial ventilation (Pan et al., 2020). It is known that severe cases of COVID-19 were associated with comorbidities such as cardiovascular disease (CVD), hypertension and diabetes. Evidence suggests that having non-communicable diseases such as these increases the risk of hospitalisation. South Asians have high rates of diabetes (GOV.UK, 2016) and cardiovascular diseases which make them more vulnerable to COVID-19.Moreover, help-seeking behaviour and adherence to treatment have been shown to be associated with patients' beliefs about illness, medicines, stigma, and communication barriers (Kumar et al., 2016). Diversity in beliefs about infections and transmission, lack of understanding of the seriousness of COVID-19, working in confined spaces, language and communication barriers need further exploration in future.

Health Inequalities

COVID-19 related health inequalities in UK are not recent phenomena. Health inequalities have been documented for decades. Marmot (2020) deplored the policy of the UK government since 2010, when the publication of 'Fair Society Healthy Lives', the report of an independent review chaired by Marmot, had identified six policy objectives that required action in combating health inequalities (Marmot, Allen, Goldblatt, Boyce, McNeish, Grady & Geddes, 2010). About the response of the UK Government to the health crisis brought about by the COVID-19 pandemic, Marmot (2020, p.1414) has argued that the UK Government made a political choice then, and 'one that failed to take seriously a national crisis of a slower more fundamental and enduring kind: health and health inequalities. The government

was prepared to do what it takes to deal with the conflagration of the pandemic but not, a decade ago, with the slow burning injustice of health inequalities.' Referring to the findings of 'Health Equity in England: the Marmot Review 10 years on' (Marmot et al., 2020), Marmot concluded that life expectancy has stalled, inequalities in health have continued to increase and life expectancy for women living in the poorest areas of England outside London has declined. Given the austerity years following the 2008 financial crisis, it is not surprising that generally health disparities and inequalities have widened.

Long-standing structural inequalities, related socio-economic factors such as deprivation and poverty may account for disproportionate effects and poor health outcomes among South Asian groups in England. Previous studies have shown that 11% of South Asian households are overcrowded (more people than bedrooms), the highest among this group were Bangladeshi (30%) and Pakistani (26%) households (English Housing Survey, 2018). Multigenerational living is not uncommon and given that Bangladeshis and Pakistanis are more likely to live in deprived neighbourhoods, social distancing and isolation could be more difficult, thus possibly increasing the vulnerability of older adults and those with comorbidities, to the risk of COVID-19.

Mental Health in the times of COVID-19

Mental health has in the recent past been under sharp focus nationally. Mental health has been associated with underlying long-term conditions such as diabetes and cardiovascular diseases (Chaddha et al., 2016).

Depression is prevalent among South Asian individuals and is a comorbidity of diabetes. Anxiety and depression have been found in South Asianpatients with diabetes to be higher compared to their white European counterparts (Razieh et al., 2019). The complexities of comorbidities and mental health cannot be underestimated, given that existing mental health problems could be accentuated by the lack of support and health care interventions during isolation and lockdown. Accessing services and help-seeking behaviours among South Asian individuals

have been shown to be predicated by cultural beliefs about mental illness, shame and guilt. Cultural beliefs about causation of diseases and the effectiveness of treatment, the use of alternative interventions are well documented issues in the acceptance of mental illness. However, there is a need to address mental health and illness in the South Asian communities for change and to remove the stigma with approaches that reflect cultural congruity and competence. With COVID-19, the complexities around mental health are compounded because of reactions to unexpected death, inability to mourn loss and grief, no time for customary rituals and absence of physical and psychological support.

Fear of contagion, psychological distress and stressors have hardly been given the attention they should generally have and even less has been observed in relation to South Asian communities. As usual, it would not be inaccurate to surmise that amidst the chaos, psychological health and well being get relegated to the side lines. In contrast, however, optimism in the resilience of common people, hope, support and compassion for each other invariably confounds those who are quick to judge and apportion blame on others. The South Asian communities have had much to bear, living in deprived inner-city areas, actively supporting themselves and, like many, trying to make sense of the contradictions in messages from administrators in the last few months.

Cultural Stigma of Mental Illness

It is known that there are underlying factors such as poor housing, cohabiting and larger families living in poorer parts of cities. Unemployment with disability is likely to be higher among Bangladeshis and Pakistanis (13%) (GOV.UK, 2020). Mental health and well-being among South Asian adults with comorbidities, physical and mental health disorders related to social environment, cultural values and practices are also factors. Notwithstanding the enormity of the task in terms of interventions and community actions, challenges posed by social distancing, isolation and social inequalities have implications for how well COVID-19 can be prevented among overcrowded households in densely populated towns and cities.

Stigmatisation is a pervasive phenomenon, inflicted more on the already harmed and at risk of further psychological distress. Fear of stigmatisation prevents South Asian patients from seeking help and treatment for mental illness. Stigma of mental illness can lead to delay in seeking treatment, breakdown in social relationships and performance in the workplace (Jorm& Reavley, 2013). South Asian individuals do not come forward to access mental health services (Karasz et al., 2019). Stigma as a consequence of having COVID-19, in addition to blame targeted at communities affected by the outbreak, could have long-term detrimental socio-cultural effects and impact on health outcomes. Due care needs to be taken to erase the stigma associated with disease, racism, religious propaganda and psychosocial impact and needs to be implemented by regular discussion with trained and specialist health care personnel by making task force and execution teams who are directly engaged in health care delivery systems without creating any communication gaps between policy makers and ground level workers (Bruns et al.,2020). Furthermore, tailored interventions have been suggested to address the psychosocial impact of COVID-19 on different strata of society, including marginalised communities and psychiatric patients (Dubey et al., 2020).

In pursuance of targeted local lockdown strategy, Leicester became the first city in the UK to remain in lockdown. The reason given was the second spike in COVID-19. A closer look at the 2011 Census households shows Leicester, with 15% overcrowded households, has one of the highest levels of overcrowding outside London (Leicester.gov.uk). According to Nazareth et al. (2020) the new cases in Leicester were concentrated in an area where 72.5% of the population are from BAME backgrounds, mostly South Asian communities. Nazareth et al. (2020) went on to argue that 'the opportunity to escalate interventions locally have been stymied by the inadequacy of information sharing.' (p.e4) Not unlike Marston, Renedo and Miles (2020) who argued that participation of vulnerable and marginalised communities can help identify solutions with possibilities of greater compliance, Nazareth et al. (2020) have called for 'effective community engagement' as a strategy to enhance adherence to measures, which otherwise seem to be imposed and risk being unpopular or misunderstood.

At the end of July 2020, a similar targeted lockdown was imposed on north west counties, cities and towns, with a high percentage of South Asian population. Implicit in the action taken was the notion that people were not adhering to the strict guidance, mixing socially, and therefore, contributing to the spike in cases. Scapegoating and stigmatisation of South Asian communities across the northwest cities and towns could not be dismissed as non-consequential as these communities felt unfairly treated compared to others.It is important that sections of the population are not made to feel ostracised, humiliated, and alienated to compound the concerns about 'othering' in society which can have detrimental effects on the health and wellbeing of everyone concerned. Logie and Turan (2020) have suggested that much has been learned about stigma-reduction through the decades of dealing with and researching HIV/AIDS and suggested that applying an intersectional perspective can enhance our understanding of how COVID-19 stigma intersects with race, housing security and health. Taking the prevention of stigmatisation forward, Bruns and colleagues (2020) have suggested the implementation of timely and culturally appropriate interventions along with proper screening, treatment and follow up of affected individuals. It is expected that evidence of the effectiveness of any psychosocial interventions applied in the management of mental health issues associated with COVID-19 will emerge soon.

Conclusion

COVID-19 is having worldwide devastating effects on nations and South Asian communities in Europe. South Asian communities are just as vulnerable to COVID-19as others but have a higher rate of infections and related mortality. The underlying comorbidities such as diabetes and cardiovascular diseases contribute to the risk of hospitalisation and interventions that include artificial ventilation in intensive care units. Affected South Asian communities live in cities and towns with high levels of deprivation and overcrowding. Strategies adopted and the lack of consistency in communication have placed these communities at further risk from COVID-19 given that comorbidities known to heighten vulnerability are also high among them. Furthermore, the psychosocial impact of COVID-19

could be overwhelming, with increasing experiences and feelings of stigma and exacerbation of crippling mental health problems. To address the already deep impact of COVID-19 amongst South Asian communities there is a profound need to ensure strategies that reflect engagement and support in addition to clear communication of strategies at local level. As COVID-19 is not showing any sign of being driven down any time soon, and with a third wave being expected, the South Asian communities need to play their part in full to mitigate the effects of comorbidities (cardiovascular diseases, diabetes, obesity) and COVID-19 on their physical and psychosocial health outcomes with healthcare and community measures. Social and physical distancing must always be adhered to and messages concerning prevention of COVID-19 should be clear and culturally compatible.

References

Aldridge, R.W., Lewer, D., Katikireddi. S.V., Mathur, R., Pathak, N., Burns, R., Fragaszy, E.B., Johnson, A.M., Devakumar, D., Abubakar, I. & Hayward, A. 2020 Black, Asian and Minority Ethnic groups in England are at increased risk of death from COVID-19: indirect standardisation of NHS mortality data. Wellcome Open Research, 5:88, https://doi.org/10.12688/wellcomepenres.15922.1 [accessed 6 June 20]

British Medical Association (BMA) 2020 COVID-19: the risk to BAME doctors. Available at: https://www.bma.org.uk/advice-and-support/COVID-19/your-health/COVID-19-the-risk-to-bame-doctors(Accessed 2 Jul 2020)

Bhala, N., Curry, G., Martineau, A.R., Agyemang, C. & Bhopal, R. Sharpening the global focus on ethnicity and race in the time of COVID-19. 2020 The Lancet, 395, 1673-1675. www.thelancet.com (accessed on 26 Jun 2020)

Bruns, D.P., Kraguljac, N.V. & Bruns, T.R. 2020 COVID-19: Facts, Cultural Considerations, and Risk of Stigmatisation. J Transcul Nurs, 31;4:326-332.

Chaddha, A., Robinson, E.A., Kline-Rogers, E., Alexandris-Souphis, T. & Rubenfire, M. 2016 Mental health and cardiovascular disease. Am J Med. 129, 11: 1145-1148.

Cucinotta, D. & Vanelli, M. 2020 WHO Declares COVID-19 a Pandemic. Acta Biomed, 91(1):157-160. doi:10.23750/abm. v91i1.9397

Department of Health, 2020 Number of coronavirus (COVID-19) cases and risk in the UK. GOV.UK

Dubey, S., Biswas, P., Ghosh, T., Chatterjee, S., Dubey, A.J., Chatterjee, S., Lahiri, D. & Lavie, C.J. 2020 Psychosocial impact of COVID-19. Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14, 779-788.

English Housing Survey (2018) Overcrowded households. Available at:

https://www.ethnicity-facts-figures.service.gov.uk/housing/housing-conditions/overcrowded-households/latest (Accessed on 14 July 2020)

GOV.UK 2016 PDP model.Chapter 3: trends in morbidity and risk factors - [Internet]. 2016 Available from: https://www.gov.uk/government/publications/health-profile-forengland-2018/chapter-3-trends-in-morbidity-and-risk-factors#diabetes (Accessed 25 June 2020)

GOV.UK 2020 People living in deprived neighbourhoods. Available at: https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/people-living-in-deprived-neighbourhood/latest#title (Accessed on 28 July 2020)

Hotopf, M., Bullmore, E., O'Connor, R.C. & Holmes, E.A. 2020 The scope of mental health research during COVID-19 pandemic and its aftermath. The British Journal of Psychiatry, 1-3. Doi:10.1192/bjp.2020.125

Jorm, A.F. & Reavley, N.J.2013 Depression and stigma: from attitudes to discrimination. The Lancet, 381, 10–11. http://dx.doi.org/10.1016/

Karasz, A., Gany, F., Escobar, J. Flores, C., Prasad, L., Inman, A., Kalasapudi, V., Kosi, R., Murthy, M., Leng, J. & Diwan, S. 2019Mental Health and Stress Among South Asians. J Immigrant Minority Health 21, 7–14. https://doi.org/10.1007/s10903-016-0501-4

Kings Fund (2020) Ethnic minoritydeaths and COVID-19: what are we to do? Available at: https://www.kingsfund.org.uk/blog/2020/04/ethnic-minority-deaths-covid-19(Accessed on 26 June 2020)

Kumar, K., Greenfield, S., Raza, K., Gill, P. & Stack, R. 2016 Understanding adherence-related beliefs about medicine amongst patients of South Asian origin with diabetes and cardiovascular disease patient: a qualitative synthesis.BMC Endocrine Disorder 16:24 https://bmcendocrdisord.biomedcentral.com/articles/10.1186/s12902-016-0103-0

Leicester.Gov.UK 2011 Population comparison between England and Leicester Census 2011. Available at: https://www.leicester.gov.uk/media/177362/comparison-of-2011-census-findings.pdf(Accessed on 4 July 2020)

Local Government Association (LGA) Loneliness, social isolation and COVID-19.Available at:

https://www.local.gov.uk/sites/default/files/documents/Loneliness%20social%20isolation%20and%20 COVID-19%20WEB.pdf (Accessed on 27 June 2020)

Logie, C.H.& Turan, J.M. 2020 How do we balance tensions between COVID-19 public health responses and stigma mitigation? Learning from HIV research. AIDS and Behaviour,

Marmot, M. 2020 Society and the slow burn of inequality. The Lancet, 395, 2 May 1413-1414.

Marmot, M., Allan, J., Boyce, T., Goldblatt, P. & Morrison, J. 2020. Health equity in England: the Marmot Review 10 years on. London: Institute of Health Equity.

Marmot, M., Allen, J., Goldblatt, P., Boyce, T., McNeish, D., Grady, M. & Geddes, I. 2010Fair Society, Healthy Lives. The Marmot Review. Available at: http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf (Accessed on 24 June 2020)

Marston, C., Renedo, A. & Miles, S. 2020 Community participation is crucial in a pandemic. The Lancet, 395. 1676-1678.

National Health Service (NHS) 2018 Health Profile for England. Available at: https://www.gov.uk/

government/publications/health-profile-for-england-2018/ (Accessed on 14 July 2020)

Office of National Statistics (ONS) 2011 Census analysis: Ethnicity and religion of the non-UK born population in England and Wales: 2011. Available at:

https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/2011cens usanalysisethnicityandreligionofthenonukbornpopulationinenglandandwales/ (Accessed on 20 June 2020)

Office of National Statistics (ONS) 2020a Coronavirus (COVID-19) related deaths by ethnic group. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronaviruscovid19relateddeathsbyethnicgroupenglandandwales/2march20 20to15may2020#ethnic-group-differences-in-deaths-involving-covid-19-adjusted-for-sociodemographic-factors(Accessed 14 June 2020)

Office of National Statistics (ONS) 2020b Coronavirus (COVID-19) related deaths by ethnic group, England and Wales: 2 March 2020 to 15 May 2020. Available at:

https://www.ons.org/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronoviruscovid19relateddeathsbyethnicgroupenglandandwales/2march2020to15may2020. (Accessed on 28 July 2020)

Office of National Statistics (ONS) 2020c Coronavirus (Covid-19) related deaths by religious group, England and Wales: 2 March to 15 May 2020. Available at:

https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronaviruscovid19relateddeathsbyreligiousgroupenglandandwales/2marchto15may2020(Accessed 7 August 2020)

Pan,D., Sze, S., Minhas, J.S., Bangash, M.N., Pareek, N., Divall, P., Williams, C.M.L., Oggioni, M.R., Squire, I.B., Nellums, L.B., Hanif, W., Khunti, K. & Pareek, M. 2020 The impact of ethnicity on clinical outcomes in COVID-19: A systematic review.https://doi.org/10.1016/j.eclinm.2020.100404

Available at: file:///E:/COVID-19%202020/Pan%202020%201-s2.0-S2589537020301486-main%20(1).pdf (Accessed on 20 July 2020)

Nazareth, J., Minhas, J.S., Jenkins, D.R., Sahota, A., Khunti, K., Haldar, P. & Pareek, M. 2020 Early lessons from a second COVID-19 lockdown in Leicester, UK. Lancet, 396, e4.

Petersen, E., Koopmans, M., Go, U., Hamer, D.H., Petrosillo, N., Castelli, F., Stogaard, M. & Al Khalili, S. 2020 Comparing SARS-CoV-2 with SARS-CoV and influenza pandemics. The Lancet. https://doi.org/10.1016/S1473-3099(20)30484-9

Available at: https://www.thelancet.com/action/showPdf?pii=\$1473-3099%2820%2930484-9 (Accessed on 14 July 2020)

Public Health England (PHE) 2020aGuidance for the public on the mental health and wellbeing aspects of coronavirus (COVID-19) Available at: https://www.gov.uk/government/publications/COVID-19-guidance-for-the-public-on-mental-health-and-wellbeing/guidance-for-the-public-on-the-mental-health-and-wellbeing-aspects-of-coronavirus-COVID-19. (Accessed on 2 July 2020)

Public Health England (PHE) 2020bDisparities in the risks and outcomes of COVID-19. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/892085/disparities_review.pdf(Accessed 10 June 2020)

Razieh, C., Khunti, K., Davies, M.J., Edwardson, C.L., Henson, J., Darko, N., Comber, A., Jones, A. & Yates, T.

2019 Research: Educational and psychological aspects of association of depression and anxiety with clinical, sociodemographic, lifestyle and environmental factors in South Asian and white European individuals at high risk of diabetes. Diabet. Med. 36, 1158–1167. DOI: 10.1111/dme.13986

Science Media Centre. 2020 expert reactions to PHE review of disparities in risks and outcomes in COVID-19. 2 June. Available at: https://www.sciencemediacentre.org/expert-reaction-to-phe-review-of-disparities-in-risks-and-outcomes-in-covid-19/ (Accessed on 20 June 2020)

Office of National Statistics (ONS) 2011 Census analysis: Ethnicity and religion of the non-UK born population in England and Wales: 2011. Available at:

https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/2011cens usanalysisethnicityandreligionofthenonukbornpopulationinenglandandwales/ (Accessed on 20 June 2020)

REVIEWS