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JBIMA Editorial

Dr Sharif Kaf Al-Ghazal, *Editor in Chief*

Assalamo Alaikom

Everyone is aware of the elephant in the room, there's currently nothing else worthy of discussion; the COVID-19 pandemic. It has resulted in states being locked down, cities being quarantined and the closing of borders. The streets are empty as people remain indoors in their homes. Even Masjid al Haram in Makkah is closed. Before we really discuss this we need to understand that this pandemic is pre-destined by Allah swt. Allah says in the Quran:

“And We will surely test you with something of fear and hunger and a loss of wealth and lives and fruits, but give good tidings to the patient” (2:155).

So how do we respond to a calamity? Allah tells us immediately in the next verse:

“Who, when disaster strikes them, say, ‘Indeed we belong to Allah, and indeed to Him we will return’ (2:156).

A Muslim is patient in trials; he knows Allah will never forsake him, nor will Allah burden him with a trial that is more than what he can handle.

Over the last few weeks, life has drastically changed around the world. The coronavirus outbreak is not just an epidemic, it's also a global pandemic. People everywhere are being asked to stay home and stay away from others in order to reduce the risk of infection.

COVID-19 has brought with it a wave of negative outcomes, terrible illness and death, but it also highlighted some important life lessons.

We should be willing to temporarily trade some of our freedom for the greater good of the public. There's no doubt that it has been difficult staying home. Many people are complaining about feeling bored. Some might even feel that it's a breach of their individual right, being made to stay home. However, when it comes to the greater good, one should always be willing to sacrifice a little bit of that freedom. A balance between individual rights and public safety is an ever-changing thing. When not at work, we should remain at home.

Staying at home isn't necessarily solitary isolation, it offers us the chance to reconnect with family and spend time with them. As healthcare practitioners, we lead busy lives and can work unsociable hours so this is an opportunity worth maximizing. Self-isolation can give us an opportunity to strengthen our relationship with Allah and reflect on our actions and get closer to Him. Ramadan has now arrived, so now is the perfect time to ask Allah (swt) for forgiveness and ask his mercy.

We need to learn how to be content alone. It's hard for some people to just be still and do nothing. Social distancing can be very difficult, but it can also teach us a lot about ourselves. We need to learn how to keep ourselves busy. Time alone cannot simply be spent watching TV and we have to try doing something else. Our body and mind is our ultimate home and Amanah entrusted to us by Allah (swt); we have to learn how to love it and live with it.

Even as doctors, we need answers to the new challenges we are facing with this pandemic, whether in terms of prevention or treatment. Allah hasn't created a disease without a cure; we have been asked to search for the treatment of diseases as the prophet says in the hadith:

“O people! Be treated. For, there is no disease that Allah has created, except that He also has created its treatment.”

We also need to battle a variety of ethical challenges including the shortage of medical resources, triaging patients when ICU beds are limited and improving end of life and palliative care. The former two are novel struggles and are not simple to deal with. But during a pandemic as merciless and vicious as COVID-19, time is of the essence.

During this time, we should acknowledge what different teams in BIMA have been doing in leading a variety of community projects during this crisis. This includes providing medical guidelines to the public on COVID-19, webinars on the pandemic, liaising with scholars with regards to the suspension of congregational prayers in mosques as well as medical guidelines on ghusl and burial. Moreover, BIMA has been involved in supporting groups

working on mental health issues as well as providing guidelines on end of life scenarios and bereavements during this pandemic. We have also been involved in weekly online briefings coordinated by the Muslim Council of Britain on areas in which there is a gap in the community. Furthermore, volunteers from BIMA have also been planning and hosting online training for medical students who would like to join the frontline response. I would like to convey my thanks to team BIMA who have gone above and beyond in giving up their time to help run so many activities for the organization. The BIMA family is resilient and it has been heartwarming to see everyone rise to the occasion.

Pandemics are not new, the plague of Amawas took place during the time of the second caliph Omar ibn Al Khattab and killed tens of thousands in the Levant (including many of the companions of the prophet PBUH). A few major waves of this plague took place again during the Umayyad caliphate and hit different areas in Iraq and Syria but did not affect the advancement and progression of the state. The people followed the guidelines set by the prophet PBUH, one of which includes a hadith on not going to a land with a pandemic within it and this equates to modern day stay at home guidelines. The prophet Mohammed PBUH spoke about plagues more than 1,400 years ago and said ***“If you hear of a plague in a land, then do not go into it. If it happens in a land where you are, then do not go out of it”***. This is great modern principle of public health to prevent the spread of infectious diseases.

We pray that this crisis makes us even more resilient and that we bounce back stronger. Those who have given up their time, and have also risked their health in the war against COVID-19 deserve our utmost thanks and respect. Our colleagues in the NHS continue to go above and beyond; you are true heroes.

I would like to take the opportunity to pay tribute to all healthcare practitioners, who have lost their lives during COVID-19 and were working on the frontline. I would also like to offer particular condolences to the families of our fellow Muslim doctors who have passed away and we have their obituaries within the letter to editor section of this journal, including all their names. May Allah bless their souls and grant them paradise.

It would be appropriate to end by quoting another hadith of the prophet PBUH about being positive and patient when you are affected by any calamity. He said ***“wondrous is the affair of the believer for there is good for him in every matter and this is not the case with anyone except the believer. If he is happy, then he thanks Allah and thus there is good for him, and if he is harmed, then he shows patience and thus there is good for him”***. As doctors, as long as we take precautions and use all the required protection during this pandemic, we believe in the qadar of Allah. We remember the hadith of the prophet PBUH

on this issue in which he says: ***“Know that if the nations gathered together to benefit you, they will not benefit you unless Allah has decreed it for you. And if the nations gathered together to harm you, they will not harm you unless Allah has decreed it for you.”***

Although the doors of cafes, restaurants, shops and even mosques may be closed, the doors to Allah’s mercy are not so we need to take the opportunity of the blessed month of Ramadan to make Duaa asking Allah His forgiveness and guidance and above all to ease the calamity of this disease.

Very best wishes,

Wassalam.

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JBIMA, Editor in Chief

Islamic Ethical Perspectives on the Allocation of Limited Critical Care Resources During the COVID-19 Pandemic

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Note from author: It is to be noted that the published paper is part of a work in progress on a more detailed study. Because of the urgency of the topic, we wanted to share our thoughts with colleagues from different backgrounds. Their critical feedback will be of great help to further sharpen our arguments and to improve the prospective large-scale study.

Abstract

The current COVID-19 pandemic has placed overwhelming demands on healthcare systems globally necessitating guidelines for limited resource allocation to be developed. This paper examines the ethics of resource allocation from an Islamic perspective and proposes a pragmatic clinical algorithm for the allocation of critical care when resources are limited.

Introduction

Pandemics, and other mass casualty disasters, place overwhelming demands on healthcare systems with respect to supplies and equipment (such as N-95 masks and ventilators) as well as human resources such as healthy, trained staff. This creates the need to manage the available limited resources in a morally justified and consistent way. Most hospitals adopt the overall policy of directing essential resources, including ventilators, to patients who can benefit the most from treatment. The question remains: how should this loose guideline of “benefit the most” be practically implemented in the COVID-19 context? What algorithm should be in place for the consistent ethical management of scarce resources? The current COVID-19 pandemic has mandated these issues be addressed urgently to provide some form of guidance to health care providers, including those of Muslim background. For this main reason, the authors share their nascent ideas on these issues from an Islamic perspective, fully recognizing the need to receive critical feedback from various researchers and scholars who should see this paper as a work in progress. This paper limits the discussion to critical care resources only.

Islamic Bioethical Framework

Unlike the secular bioethical model, the Islamic bioethical framework is premised on a belief in a supreme moral authority assigned to God, the Creator, whose moral judgement about what is good/bad should always be respected.

What process did Muslim scholars develop to know that God judges a certain act as good or bad? The detailed nuances of this process are beyond the scope of this paper and mandate a more comprehensive study, but briefly, the process starts by consulting the foundational Scriptures (Quran and Sunnah). When the divine command/prohibition is categorical and not open for various interpretations, then Muslim scholars will consider it a straightforward case. Whenever the passage in the Quran or Sunnah is open to different interpretation but the community of scholars consensually agreed on a specific interpretation, then the agreed-upon position will be adopted. When there is no direct reference in the Scriptures to the new case under discussion, but there is a parallel paradigm mentioned in the Scriptures, then the evidence of analogy will be

employed. The difference in weight given to hermeneutical techniques and the ordering of tertiary sources resulted in different schools of jurisprudence.

By surveying the wide range of divine commandments and prohibitions in Islamic Scriptures, Muslim scholars developed a broad framework to help with judging novel issues commonly encountered by Muslim individuals. At the level of objectives, they concluded that the governing Islamic religio-moral system (Sharia) recognizes five main benefits, the actualization of which would make an act a good act, namely safeguarding faith, life, intellect, lineage and property. These are known as the Higher Objectives of Sharia (Maqāṣid al-Sharī'a). (1) At the level of maxims, they agreed on the following five governing maxims:

- Acts are judged by their goals and purposes
- Certainty is not to be removed by doubt
- Hardship begets ease ('necessity permits the prohibited' is part of this)
- Harm must be eliminated
- Custom is made arbitrator

Application of Islamic Bioethical Principles to Resource Management During the COVID-19 Pandemic:

A state of emergency, such as during a pandemic, is a dynamic state: the end is unknown, needs are constantly changing/ developing and swift action is often required. In general, the wellbeing of the community at large takes precedence over individual benefits and damage-control decisions must ethically balance between two harms (instead of the usual harm-benefit assessment). Since public resources are used to address the public health hazard, the resource allocation protocol should be made public to promote transparency and community trust in a uniformly fair process (2). Furthermore, community viewpoints, especially from those at greatest risk for morbidity and mortality, should inform decision makers. The Islamic bioethical framework provides the necessary flexibility to issue appropriate guidance responsive to the continual state of flux inherent in a pandemic:

1. Value of human life should indiscriminately be respected. In the context of life-threatening situations like the classical example of a drowning ship, Muslim scholars are of the opinion that saving inviolable life is a religious obligation that is indiscriminately applied to all individuals involved. One of the discriminatory criteria explicitly rejected in various sources is giving preference to free people over slaves or to Muslims over non-Muslims. They only accepted the rationale of starting with sacrificing money and then animals, if proven necessary for saving human lives on the drowning ship. This is because the higher value is accorded to human life (sharaf al-nafs). Against this background, giving higher

priority to certain individuals or groups, because of their social status, profession or health condition, would not be morally justified in principle. Vulnerable sectors of society must be protected against the bias within current clinical triage protocols which could (un)intentionally favour the advantaged.

2. Acts are judged by their goals and purposes. Normally, it is incumbent on Muslims to seek life-saving treatment. However, when resources are limited and the intention is altruistic, forgoing life-saving treatment is permitted.

3. Harm is not to be eliminated by an equal or greater harm. As an application of this maxim, religious scholars contend that in case of starvation, one is not permitted to take food owned by another person when the available food can only save one life. The harm of losing one's life cannot be eliminated by taking someone else's life, they explained. For this reason, it would not be permissible to remove a ventilator from one patient for the benefit of another, as long as the life of the first patient can be equally saved. Withdrawing life support is much more ethically problematic than withholding.

4. The lesser harm/evil principle. Muslim scholars agree that when two evils or harms exist, the lesser harm or evil can be tolerated if it is the only way to avoid the greater one. But would this principle apply to the abovementioned example of a drowning ship, when throwing some individuals into the sea (who would then imminently die) is the only way to save the remaining passengers? Some scholars argue that it has to do here with eliminating one harm by an equal one and thus conclude that no one should be sacrificed because their lives are not less valuable than the saved ones. Others view the case differently by comparing between saving some lives or losing all lives. For them, saving some lives would be the lesser evil but they struggle with the follow-up question: Which criteria should be used to choose those who would be thrown into the sea and those who would remain on the ship? The most recurrently suggested tool here is lottery (random allocation) because of its unbiased character, they argued.

5. Necessity overrides prohibition. When there is a shortage of frontline workers, it becomes permissible in principle to prioritise those with the required skill over others for the greater benefit of society.

Recent Fatwas

A number of fatwas have recently been issued on this topic. At this phase of our research, we will just mention two examples of these fatwas without further analysis or critical comments. We leave this to the prospective more detailed study.

The European Council for Fatwa and Research (ECFR)

issued a fatwa in Arabic (number 30/18) on managing scarce resources during this pandemic. The text of the fatwa reads:

“Muslim physicians should comply with the administrative and medical regulations adopted by the hospital in which they work. However, if the decision is assigned to them, then they must utilize medical, ethical and humane principles. Withdrawal of life-saving equipment in order to benefit a patient coming after is not permitted. If the physician has no choice but to choose between two patients, then the first patient should be chosen (unless their treatment is deemed futile) and the patient requiring emergency treatment (over the patient whose condition is not so critical) and the patient whose successful treatment is more likely (over the patient whose successful treatment is unlikely). This is in accordance with the fiqhi principle “ghalabatal-zunūn” and medical assessment.” (3)

The second example is the fatwa issued by the Assembly of Muslim Jurists of America. It is a very detailed and comprehensive Fatwa, dated 4 April 2020, on managing scarce medical resources and rationing during the COVID-19 pandemic. Here, we give some quotations of the text:

“Human beings have the same intrinsic value... it is not permissible to favor some individuals receiving scarce resources over others...What is to be considered in prioritizing some over others is the degree of need; so the one in greater need should be prioritized, and if they have the same need (i.e., requiring the intervention for survival), the one with a greater likelihood of recovery, based on evidence-based clinical decision tools, should be given precedence. If such likelihood is equal, then those with the longer life expectancy should be given precedence. This is all consistent with the principle of ‘procuring the greater good by forsaking the lesser.’...When applicable, service should be provided on a first come, first served basis...except when it may lead to stampedes or violence, or give unfair advantage to those capable of arriving early at a healthcare facility... If all previous considerations do not give precedence to some over the others, resorting to lottery is a principle that is endorsed...It is permissible for some people to decline placement on the ventilator, if it’s benefit is questionable...” (4)

Suggested Algorithm

In the eventuality that triage for limited critical care services becomes required, we argue that Islamic bioethical principles stress the need for rationing to follow clear, pre-specified, publicly transparent protocols. This would not only promote community trust but also relieve medical personnel of burdensome decisions. Figure 1 outlines our suggested decision tree for the rationing of limited life support resources consistent with Islamic bioethical

principles. *It must be emphasized that this decision tree is a provisional guideline to be utilized only during states of emergency when resources are severely limited and when all lives cannot be saved.*

As paramedics transport a critically ill patient to the Emergency Room, they may have an opportunity to ascertain whether that patient has shared advanced directives or wishes to forgo life supporting measures for the benefit of others (altruism). Advanced directives and altruism are permissible in this, if motivated by good intentions rather than suicidal thoughts. (3,4) To our mind, a patient who chooses to altruistically give up a ventilator for another, cannot select the recipient of that ventilator as this may lead to ethical complications, e.g., possible undue influence on aged people to sacrifice for their relatives. Paramedics may also be able to gather enough history to determine if this patient would meet the exclusion criteria, which are twofold: either the likelihood for survival is (almost) completely absent, or life supporting measures would be deemed futile to save his/her life. Exclusion criteria are required for appropriate resource allocation and must be based on clinical criteria made publicly transparent.

Unstable patients at risk of imminent death must receive immediate critical care. Whenever possible though, a brief discussion should be had with each patient regarding their end of life care wishes. This discussion should be guided by best practices identified in the literature. (5) Each patient should be reassured they will receive the highest level of care regardless of their decision to receive life support or not. If a patient wishes to proceed with life support measures, the physician should then clinically assess whether that patient’s likely quality of post-survival life would be “good” or “poor”, as judged from a clinical perspective. The hospital should have a pre-determined quota of critical care resources reserved for those expected to have a “poor quality” of life. Those patients expected to have a poor quality of life would be triaged separately from those expected to have a good quality. This step is needed so that the vulnerable are not disadvantaged by the suggested algorithm. In Islam, the vulnerable are highly valued for the religious, spiritual and social benefits they accord society. Without them, it would be difficult to show moral values such as compassion etc.

Within each of these categories (good or poor outcome), accepted clinical criteria would then be applied to determine the most severe cases and those most in need of life support (including those with multiple co-morbidities) to be prioritised first. In Islam, all lives are equal but if there was a shortage of a specific category of frontline workers (such as respiratory technicians or ICU doctors) and they would likely recover during the period of scarcity, then those specifically needed individuals would be prioritised next for the benefit of society as a whole as they, in turn, would

likely help save many other lives. Other recognised triage criteria would then follow in sequence: the likelihood of treatment success, the number of years to be saved and the estimated speed of recovery. (4) In the unlikely event that all these criteria fail to prioritize between patients, then critical care would be randomly assigned. All patients are continually assessed. If brain death occurs or if treatment is deemed futile, then a multidisciplinary ethics team would advise the clinical team that withdrawal of that patient's life support would be possible. The goal of treatment is not to prolong life, but to reverse any reversible conditions.

In the situation that a more urgent case, with a better likelihood of survival subsequently arrives, it is not permitted to remove the ventilator from the first person for the benefit of the other. (4) This is because performing an action which indirectly leads to death in one patient is, morally speaking, worse than allowing another to die due to insufficient critical care.

Conclusion

The Islamic bioethical framework provides the necessary flexibility to issue appropriate guidance throughout the dynamic state of a pandemic. The state of hardship a pandemic causes does allow certain things that are normally forbidden.

Clear pre-specified guidelines should be prepared as part of every disaster plan (6), publicly shared and instituted early to effectively manage limited resources throughout the pandemic with transparency and uniformity. The suggested algorithm is based on Islamic bioethical principles and balances utility with equity. It is designed to save the greatest number of lives without disadvantaging the vulnerable. Withdrawal is decided upon the consensus of a non-clinical team and is reserved for cases of brain death or futility.

Muslim physicians are advised to follow the policy of their institutions and regulating medical bodies. If religious conflict with withdrawing or withholding life support is perceived, conscious objection may be considered as the Prophet (saw) said, "Leave that which troubles the heart (and turn) towards that which brings it solace." (4)

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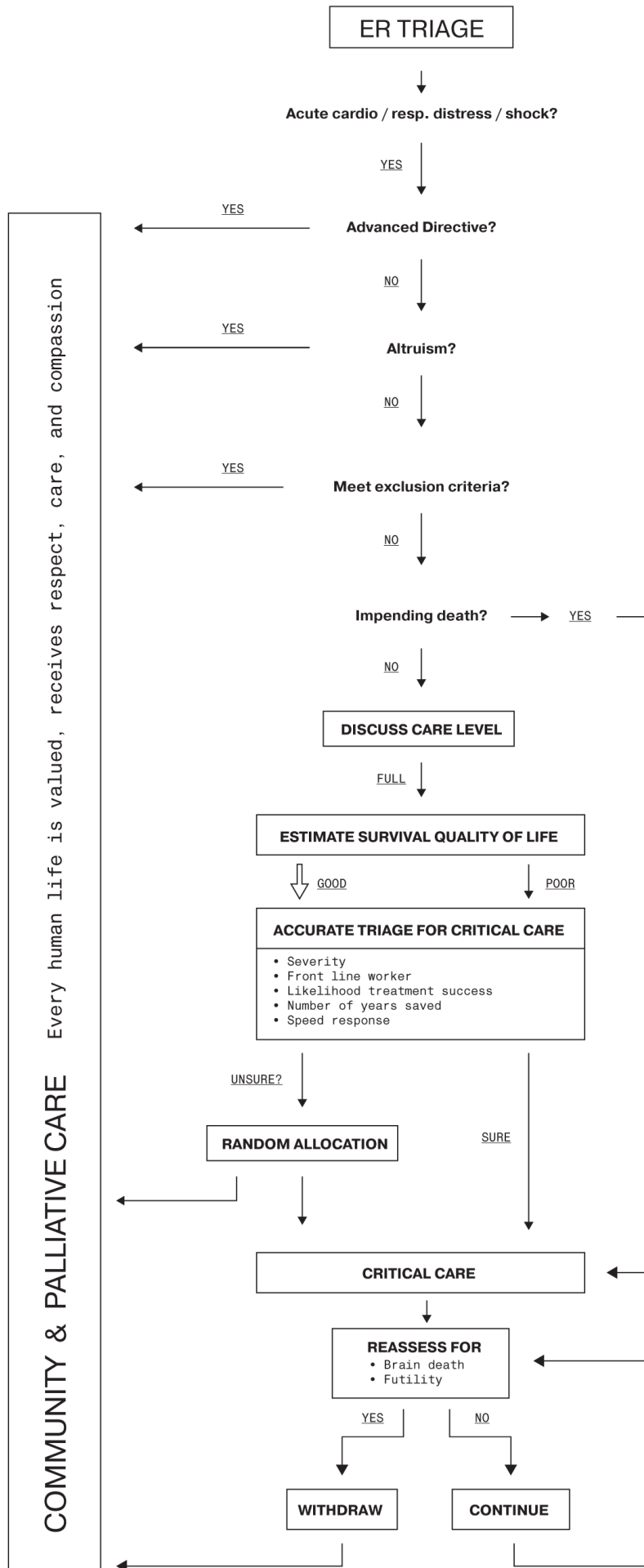
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FIG 1 Ethical Management of Triage



Practical issues for the UK Muslim community facing death and bereavement during the COVID-19 Pandemic

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Within the Islamic worldview, death is seen as a very natural part of the fragile human experience. It is a certainty that holds deep meaning and implications for how Muslims value and live their lives, and throws the relationship between Creator and His creation into sharp focus; “and do not call on any other god apart from God. There is no god but He. All things will perish save His magnificence. His is the judgement, and to Him will you be brought back in the end” (Holy Quran; 28:88).

And yet, the fear of death is deeply embedded within the human condition. Arguably, this lies at the heart of a modern Western culture that has been widely characterised as “death denying”, as well as driving advances in medical science and technology that have led to a prolongation of life that was previously inconceivable more than 50 years ago. As a result, modern generations have become accustomed to the concealment of death and grief, and where it cannot be concealed, strive to exert a sense of autonomous certainty, choice and control, manifested in its extremity by the assisted dying movement but also in other approaches within modern death-related behaviours, practices and rituals.

The coronavirus pandemic has served to fundamentally challenge this carefully constructed house of cards, both for individuals and in the collective psyche of countries and the global community at large. The 21st century UK Muslim community must now face a highly uncertain situation of unexpected and rapid health deterioration, death, loss and bereavement on an unprecedented scale. Whilst contending with the resultant generated anxiety and fear, there is also a need to understand how we may be able to work with and adapt existing practical, psychological and social frameworks in order to face the particular challenges intrinsic to death and dying in a viral pandemic.

The COVID-19 pandemic will likely strain the UK health care system beyond its capacity, despite the mitigating action being undertaken by the government, and many people are expected to die as a result. It is argued that those people who will be unable to access long-sustaining health care have a right to expect high-quality palliative care¹.

However, several complex challenges exist for this.

The philosophy of palliative care strives to normalise death and promote a shared decision-making approach in planning for the type of care that is most appropriate for the end of life. However, in the context of a pandemic, an individual or collective family’s ability to choose treatments or influence details of care, such as location or people present, may be significantly restricted as a result of resource availability, healthcare system logistical constraints and nature of the disease process itself. As the healthcare system becomes more stressed, well-recognised healthcare inequities that affect UK ethnic minority populations may well become more pronounced. Preexisting fears regarding barriers in access to life-sustaining treatments and discrimination in care, are likely to become amplified and impact on engagement with advance care planning measures such as do not resuscitate decisions. The lack of time to form therapeutic relationships and hold complex, nuanced communication with relatives is likely to compound the distress of a community that values collective familial decision-making and the default position of pursuing life-sustaining medical treatment, which is underpinned by a theological Islamic imperative. Muslim physicians may have an important role in bridging this highly consequential gap and drawing awareness of healthcare colleagues to proactively address concerns and issues, before potential breakdowns in trust and care relationships occur.

The requirement to isolate patients affected by COVID-19 is likely to have multiple, significant ramifications that are amplified for the UK Muslim population. Early anecdotal observations suggest that a disproportionately higher number of people from a black and ethnic minority population suffer worse outcomes² – biological and social determinants of health including overcrowding, socioeconomic inequalities and cultural behaviours have all been postulated. Communication barriers between elderly Muslim patients and stretched healthcare staff in hospital are likely to be compounded without the lack of family members to serve as translators and advocates. Healthcare staff will need to carefully consider how the

risks to early identification of medical complications, informed decision-making and emotional distress can be mitigated.

Social isolation in hospitals, juxtaposed with the unpredictable and often rapid decline in respiratory function, will unfortunately mean that individuals die alone. Hospital imams and chaplains, usually a source of comfort and spiritual support provision at the end of life, will need to review how such support may be provided in a way that can reach many more people whilst balancing the needs for service continuity. The inability to be present and care for a loved one in the last days of life, and enact the rites and rituals related to anticipated impending death such as Qur'an recitation at the bedside and encouraging final words to be the shahadah, will inevitably cause a great level of distress for younger Muslim family members and caregivers.

Whilst supporting a person deteriorating from COVID-19 to die at home may alleviate the above challenge, there are hurdles to contend with. Families consisting of 2nd or 3rd generations may not have previously cared for, or even experienced, family members approaching end of life. There may be a struggle with internalised, or community-held, perceptions that they are "giving up" or not discharging their duty of care owed by seeking hospital-based treatment. Fears around the use of comfort-care medication to relieve symptom distress remain prevalent- these center around concerns of over-sedation and a hastening of death, despite the established scholarly opinion that medication can be used to palliate symptoms causing harm in terminally unwell patient if given with such an intention and the lack of evidence that appropriately-used medication shortens life. These factors, alongside others, may contribute to the observation that Muslim communities tend to access less end of life care support from hospice services. A divergence in home end of life care uptake, and family satisfaction with support provided, may therefore become apparent between the Muslim ethnic minority communities and counterparts.

Death is, in part, a social construct – how the living make sense of death is a deeply social experience, shaped by cultural beliefs, language and ways of seeing the world, and norms that are interwoven within the interaction with others. Disruption of the collective rituals that form part of the meaning-making, and processing, of grief is in fact a disruption of a deep human connection that provides support, comfort and solace at a time where sadness and vulnerability are an overwhelming experience. The inability to come together for the burial preparation and janazah, and then subsequent gatherings for mourning and collective supplication, compounded by the closure of masajid risks creating yet another dense layer of loss sensed by the Muslim community.

The practical challenges ahead are great, and many

uncertainties lie in the weeks ahead around the consequences of the COVID-19 pandemic. What seems certain however is that Muslims in the UK will face shared loss and grief on an unprecedented level. In addition to high levels of compassion, patience and presence, Muslim healthcare professionals must aim to be emotionally and spiritually prepared for the requirement to give something of themselves above and beyond anything before– from the place where the noblest principles and duties of healer and Mu'min intersect.

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Rationale for Suspending Friday Prayers, Funerary Rites, and Fasting Ramadan during COVID-19: An analysis of the fatawa related to the Coronavirus

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Abstract

This article explains the rationale for why Muslim jurists decided to suspend the Friday prayers and funerary rites as well as the option for healthcare professionals to postpone their fasting in Ramadan during the COVID-19 pandemic. The explanation provides guidance for both Muslim jurists as well as medical professionals on how to advise their staff and communities in relation to the dispensations provided in the fatawa in the hope to curb further spread of the Coronavirus. The article highlights the issue of necessity during the Covid-19 pandemic and how the fatawa contribute to medical ethics.

Suspension of Friday prayers

In March 2020, Muslim jurists and councils from around the world including the Muslim World League (MWL) (1), the European Council for Fatawa and Research (ECFR) (2), Saudi Arabia's Hay'at al-Ulama (3); and the Supreme Religious Authority in Najaf (4) announced nationwide to suspend daily congregational prayers as well as the Friday prayers either temporarily or indefinitely to ensure that Muslims helped curb the spread of COVID-19. The jurists reached the conclusion by applying *ijtihad maqasidi*, or the theory of the objectives of the law to solve unprecedented situations. These objectives are believed to include the preservation of religion, life, wealth, and health; both physical and mental.

The necessity to take action was determined after the World Health Organisation characterised Coronavirus a pandemic on March 13 (5). The anticipated death toll was believed to be catastrophic and consequently the jurists deemed it necessary to temporarily suspend and discourage any action that would become a threat to life. As COVID-19 is known to spread by inhalation or touch, actions that require close contact such as congregating for prayers were deemed dangerous and therefore suspended. The maxim applied in relation to COVID-19 was '*al dharurat tubihu'l mahdhurat*', meaning 'necessity legalises

the prohibited'. However, the jurists maintained consensus that the daily prayers themselves were not waived because of the maxim '*al dharuraat tuqaddar bi qadriha*', which means that 'dispensations are provided according to need', and since prayers can still be observed individually or in pairs within one's home, the prayers should continue.

Suspension of funerary rites

Funeral rites also play a significant role for Muslims both theologically and socially. The Prophet of Islam instilled the value of honouring the deceased through set rituals which include: the *ghusl*, which is the washing of the body; the *takfeen* process which involves shrouding the deceased to ensure the body is not left exposed; the *janaza* or the prayer for the deceased; and *tadfeen* which is to bury the body in the ground, as opposed to other forms of burial such as cremation. Muslim jurists including Al-Sarakhsi (6), Ibn Nujaim (7), and Al-Babarti (8) highlight that the rites themselves, and not communal participation, are obligatory which means that even if one or two individuals observed the rites, the moral obligation is fulfilled on behalf of the Muslim community.

For a martyr however, the above-mentioned rites are waived and in place of the rites, the deceased is conferred the honorific title of '*al-Shahid*' or the one who will be

a witness to God's majesty in the afterlife. The Prophet said, 'The one who dies in a plague dies a shahid' (9). With regards the deceased due to COVID-19, the Dar al-Iftha al-Misriyya declared that the deceased are to be considered shahid (10). This view was also endorsed by the Vice President of the European Council for Fatwa and Research Sheikh Dr Abdullah Al-Judai as well as by the Federation of Mosques, Sheffield; South Yorkshire Council of Mosques; United Council of Mosques South Yorkshire; the Burnley Muslim Burial Trust, and the United Council of Mosques Pendle among other organisations (11). According to this opinion, the deceased is to be buried in the manner that they are prepared for the morgue by healthcare professionals, and that there is no need to wash the body or shroud it according to custom.

This approach is also important based on the maxim 'la darar wa la dirar' which ensures that no harm is brought to those preparing the funeral. Non-maleficence in the Shariah constitutes a commitment to strive to ensure individuals are not harmed. Although an action such as conducting the funerary rites is believed to benefit the deceased, it may also seriously impair the physical and mental health of the living, or in the case of COVID-19, possibly cause death. Due to these circumstances, the jurists applied the maxim of 'al mashaqqa tajlibu't taysir', which means 'hardship begets ease' and the funerary rites would be suspended to preserve the life and health of the living. The British Board of Imams & Scholars (BBSI) assures families that they should be comforted that 'their loved ones receive the deaths of martyrs, and that any short-comings in normal funerary rites will not affect this' (12).

Nevertheless, some families may still insist on observing the ritual of ghusl for cultural reasons. However, those involved in conducting the rites must read carefully the status of the body. If the morgue tags the body bag as 'DO NOT OPEN', then ghusl of the body must be avoided, however, using wet gloves, the body bag could be wiped head to toe. If there is no tag, then the BBSI emphatically exhorts that those who conduct the funerary rites take strong precautions in line with the guidance from Public Health England (PHE), the Royal College of Pathologists, and the National Burial Council. Shaykh Dr Asim Yusuf, chair of the BBSI, said: 'By combining religious and medical expertise, we hope to provide Muslims with an Islamically authentic way of navigating the outbreak in a socially responsible manner' (13).

For ghusl, only those trained in the use and disposal of Personal Protective Equipment (PPE) should be allowed to conduct the ghusl. PPE equipment includes gloves, eye protection, face masks, waterproof gowns and sleeves, and, in some cases, respiratory protective equipment (RPE). Appropriate training of PPE was also endorsed by the Fiqh Council of North America (14), the Canadian Council of Imams, the Muslim Medical Association of Canada (15)

as well as the Majlis-e-Ulama-e-Shia of Europe (16). A few healthy trained individuals from the family may be selected to give the ghusl, ideally of the same gender as the deceased. Furthermore, a few mosques should be designated for the ghusl to avoid the potential spread of any of infection. Under the circumstances, washing the entire body would not be required. In fact, removing the disinfectant from the face of the deceased must be avoided and pouring water neck-down would suffice (17).

Alternatively, if ghusl is not possible, then those conducting the service may employ tayammum, or symbolic cleansing, which involves the one observing the rites patting on a stone with both hands wearing gloves and then wiping the gloves over the face, hands, forearms, and elbows of the deceased according to Sunni jurisprudence (18) or simply the forehead and palms according to fiqh Ja'fariyya (19). In any case, proper disposal of PPE is paramount.

Whilst Muslims in the UK are still expecting the death toll to rise, Muslims in Italy have already begun to experience dilemmas in relation to the funerary rites of those who have died of COVID-19. The Associazione Islamica Italiana degli Imam e delle Guide Religiose, or the Italian Islamic Association of Imams and Religious Guides, stated that the safety of the living individual is a greater priority than the ghusl of the deceased and consequently, if neither ghusl nor tayammum is possible then both would be waived and the community need not feel shame or guilt for the Qur'an says: 'Allah does not burden any soul beyond its scope' (20)(21). Ustadha Rehanah Sadiq, Senior Muslim Chaplain for Birmingham Women and Children's Hospital, also emphasised that 'Now more than ever, we need to pull together as a nation, and do everything we can to prevent the spread of Covid-19' (22). According to Sayyad Ali Sistani, if a recommended act becomes harmful then it becomes discouraged and must be avoided (23).

As for takfeen, the purpose of the kafan, or shroud, is to ensure that the body is dignified by not leaving it exposed. A thick body bag serves this purpose. Furthermore, generally three pieces of clothing are used for males and five for females, with both of them sharing the lifafa, which is the large outer piece approximately four feet by eight feet and is tied on both ends. The lifafa may be placed open in the coffin and the body bag placed on the lifafa. The lifafa could then be closed and tied on both ends. Whilst this is also not necessary, the lifafa may allow families to find solace in what would appear as the customary kafan, or shroud, within a coffin.

Transporting the body must also be conducted safely and volunteers must ensure that the vehicles, trolleys, and other equipment used is decontaminated and disinfected. Jurists from Northwest England strongly advised that the janaza prayer must take place without delay (24) and in the cemeteries as far as possible rather than in a mosque,

and all forms of post-burial food events should likewise be avoided (25). Even if a select few conduct the janaza prayer, the communal obligation is fulfilled. However, individuals over 60 as well as those showing symptoms of COVID-19 must avoid attending the janaza prayer in person.

According to the Shafi'i and Hanbali schools of jurisprudence, al-janaza ala'l gha'ibin is an alternative whereby family members and friends who are unable to attend the janaza prayer may observe the prayer from their homes. This alternative was also endorsed by the Associazione Islamica Italiana and by the BBSI. Furthermore, according to reports from Iligan City and Marawi City, Philippines, the janaza of two Muslims who died of COVID-19 were performed by a Muslim burial team who wore hazmat suits (26). The Fiqh Council of North America (FCNA) also stated that the janaza prayer could be broadcasted live to family members (27). Ibn Uthaimen explained that anyone, who was of age at the time of death of a loved one, may offer the janaza prayer any time in the future. Accordingly, once the pandemic subsides, Muslims will have the opportunity to offer the janaza prayer at the resting place of their loved ones (28).

The above recommendations from Fiqh Councils around the world is what was stated in March 2020. By April 7, the death toll in the UK was 6,159 with 854 deaths occurring on Tuesday 7 April including a five-year-old child (29). With 55,242 confirmed cases in the UK, self-isolation is paramount as the Prophet said, 'A Muslim is one by whose hands and tongue others remain safe' (30), under the circumstances this literally means thoroughly washing the hands and avoiding coughing and sneezing into the open air. The Prophet also recommended keeping a spear's distance from an infected person; this distance is about two meters (31). The Muslim Council of Britain highlighted that in the worst-case scenario, up to 900,000 deaths are anticipated which includes an estimated 50,000 deaths of British Muslims. While all lives are equal in sanctity, the statistical prediction is worthy of note for burial purposes. Even if two bodies, separated by a barrier, were buried in one grave, still approximately 25,000 graves would be required, an amount which Muslim cemeteries would struggle to accommodate (32). The Associazione Islamica Italiana as well as the European Council for Fatwa and Research announced that Muslims can be buried in non-Muslim cemeteries (33). Furthermore, jurists may need to investigate rulings regarding mass graves and cremation and may also need to welcome non-Muslim burials in Muslim cemeteries.

British Muslims face unprecedented times, however, the Sunnah of the Prophet continues to be a precedence for resilience and faith. The Prophet, who established the funerary rites, due to dire circumstances and necessity was himself unable to conduct funerary rites for his own family

members (34). During the three-year boycott in the Valley of Abu Talib, his noble wife Khadija died and the Muslims struggled to provide a shroud. Before even returning from the battle of Badr, his daughter Ruqayya had been buried. At the Battle of Uhud, the body of his uncle Hamza was grossly mutilated. The body of his grandson Husain bin Ali was also inhumanely mutilated and left exposed. Husain's son, Ali Zain al-Abideen after being freed from captivity from Damascus returned to bury the remains at a later date. Alongside these unbearable experiences, when the Prophet's baby Ibrahim died, he embraced the reality and being mindful of how anyone would feel under the circumstances encouraged the people to stay in high spirits by saying: 'our eyes weep and our hearts are in mourning, yet we will continue to glorify the will of our lord' (35).

Postponement of Fasting during Ramadan

Based on the principles of preserving life and avoiding non-maleficence, healthcare professionals will require reflecting over fasting during Ramadan. The Qur'an explicitly states that God wishes no unnecessary hardship (36) and consequently allows those who are sick or travelling to postpone their fast until a later date. Furthermore, jurists agree that it is not prohibited to travel during fasting even if that means having to postpone the fast until after Ramadan. According to the Permanent Committee for Scholarly Research and Ifta (al-Lajnah al-Da'imah li'l-Buhuth al-'Ilmiyyah wa'l-Ifta) occupations and professions that involve hard labour should also be offered the same dispensation to postpone fasting such as for agricultural workers and bakers working in extreme heat in order to preserve their source of income as well as to protect their produce (37).

The responsibility of healthcare professionals towards COVID-19 patients is of utmost importance and requires greater care than preserving food produce. Several fatawa, therefore, have been offered to ensure healthcare professionals are able to fulfil their duties. Shaykh Abd al-Aziz ibn Baz, Shaykh Salih al-Fawzan, Shaykh Abd al-'Aziz Aal ash-Shaykh, and Shaykh Bakr Abu Zayd (38) state that doctors may terminate their fast to provide the best care for their patients. The Fiqh Council of Birmingham (39) endorse this position to ensure that patient care is not compromised. Jurists and chaplains from across the UK including Mufti Muhammad Zubair Butt and Sheikh Yunus Dudhwala also endorsed this view due to 'the strong likelihood of dehydration and severe thirst along with the risk of making clinical errors which could potentially affect lives' (40). A healthcare professional may continue to fast until there is fear that continuing to fast will affect attention and work. Accordingly, healthcare professionals are to ensure they maintain a healthy balance with regards to sleep and ensure having a healthy breakfast before sunrise. As each day progresses, each individual healthcare worker is advised to use discretion and continue fasting

and if there is fear that the fast will affect one's ability to care for the patients then the fast may be terminated and made up at a later date.

With regards to making up the fast, some jurists argue that some countries, where daylight hours are exceedingly long compared to Mecca, require dispensations with regards to rulings on fasting. The longest fast of the year in Mecca is estimated at around 15 hours. Jurists have, therefore, examined what Muslims are expected to do if the fast terminates or requires termination after the fifteenth hour. According to Ali Gomoa (41) and Sayyad Sadiq al-Shirazi (42), an 18-hour fast is complete as according to the maxim 'al-thuluthu kathir', a fast that has been kept for two-thirds of the day is considered sufficient because no fast is longer than this duration in Mecca, which according to the Qur'an is the Umm al-Qura, or the centre of all places. The shortest fast in the UK, during Ramadan 2020 will be no less than 16 hours and according to the 18-degree calculation, no less than 17 hours. Furthermore, towards the end of Ramadan, this will increase to 17 to 18 hours respectively. Accordingly, any healthcare professional who has already fasted 15 hours and feels that they are unable to continue and, therefore, decides to end the fast, the fast will be complete without the need to make up for it at a later date.

Conclusion

The fatawa that strongly emphasised suspension of Friday prayers as well as funerary rites were based on the preservation of life, which is one of the objectives of the Shariah. The decision to implement this fatwa was made after consultation with leading virologists and medical professionals. At the time of writing this article, no vaccine was available and the best course of action as instructed by virologists was to socially distance ourselves to curb the spread of the Coronavirus. Based on this necessity, dispensations were offered in the fatawa whereby Friday prayers as well as funerary rites were modified; Zuhr prayers could be offered as an alternative to Friday prayers and the janaza prayer could be offered from home. A positive mindset as exemplified by the Prophet also provides a precedence for how to maintain a healthy mental state during dire circumstances. Fasting may be postponed until a later date for healthcare professionals to ensure optimal patient treatment. Muslim healthcare professionals and jurists play a crucial role in advising and giving confidence to their communities by understanding that the decisions stated in the fatawa are rooted in the Shariah with the aim to save as many lives as possible.

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Plastic Surgery in daily practice: Islamic Perspective

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Abstract

Plastic surgery is concerned with the correction or restoration of form and function. There are two types of plastic surgery, cosmetic or aesthetic and reconstructive. The purpose of “reconstructive” plastic surgery is to correct physical features, which are grossly deformed or abnormal by accepted standards, either as a result of a birth defect, illness, or trauma. Reconstructive surgery aims to reconstruct a part of the body or improve its functioning, while cosmetic surgery aims at improving its appearance. Islam welcomes plastic surgery, if performed for the patient’s benefit. Islam prohibits the cosmetic surgery that has the intention of changing the creation of God.

Introduction

The word “plastic” in plastic surgery, is a Greek word meaning “to form”. Plastic surgery involves the restoration, reconstruction, or alteration of the human body. Plastic surgery is divided into two sections, cosmetic surgery and reconstructive surgery. The former seeks to improve the patient’s features on a purely aesthetic level, where there is no deformity or trauma. The goal of reconstructive surgery, on the other hand, is restoring functional disorders resulting from trauma, accidents, diseases and congenital defects.¹

In cosmetic surgery, an often-overlooked aspect of a patient’s cultural is his and her religious beliefs. There is a paucity of resources for cosmetic surgeons to enable them to properly service their religious patients. Specific patient concerns should be addressed with the patient’s own religious advisor.² Based on Islamic Law, Muslim Jurists have categorized plastic surgery into two types: a) Plastic surgery that is permissible. b) Plastic surgery that is not permissible.

Islamic law (Shari’ah) is based on 2 foundations: The Qur’an (the holy book of all Muslims) and the Sunna (the aspects of Islamic law based on the Prophet Muhammad’s words or acts). The development of Shari’ah in the Sunni branch of Islam over the ages has also required “Ijmaa” (consensus of all competent jurists after the death of the Prophet) and “Qiyas” (analogy) using the human reason when no clear rule is found in the Quran or Sunna, resulting in 4 major Sunni schools of jurisprudence. Where appropriate, consideration is also given to “Maslaha” (public interest) and “Urf” (local customary precedent).^{3,4}

Objectives of Islamic Law (Maqasid al-Shariah)

The objectives of Islamic law could be divided into three parts:

(1) Necessities (daruriyat): These include preservation of faith, life, mind, progeny, and property. They are essential for life, religion, and community.

(2) Needed Things (hajiyat): these are needed for the community, or for persons. They can live without procuring them, but they are recognized needs for the welfare of society and individuals.

(3) Recommended (tahsiniyat): They are also needed by the society or individuals to make life more comfortable and, more beautiful, and try to reach the level of satisfaction and happiness for both the individual and society.^{5, 6} The objectives of Islamic law were discussed fully by Muslim scholars over 1,000 years ago. Knowledge of these objectives is an important prerequisite in the formulation of any fatwa (decree) through the process of (ijtihad) which is a self-exertion by a scholar to deduce fatwa (decree) on any issue that does not have direct guidance in the primary sources of the Quran and the Prophetic traditions.⁷ These objectives can be viewed as a useful tool in Islamic law to discuss issues pertaining to bioethics. It is an approach originally brought forth by Imam al-Shafii, the founder of the Shafii School. Al-Juwayni (d 478 H/1085 CE) was the first to classify the objectives of Islamic law (Maqasid al-Shariah) into three categories, beginning with dharuriyyat (essentials), hajiyyat (necessities), and tahsiniyyat (desirables). Of these, the most critical is “essentials” (dharuriyyat) where “five” matters are given prominence for protection and preservation, namely the protection and preservation of faith, life, intellect, progeny, and property. These five aspects are collectively known as (the five essentials), and are important in protecting and preserving the dignity of mankind.^{5, 8}

Al Izz ibn Abdul Salam, a renowned Islamic jurist (d 660H/1243 CE) in his book “Qawa'id al Ahkam (Basics of Rulings) said: “The aim of medicine, like the aim of Shari'ah (Islamic law), is to procure the “maslaha” (utility or benefit) of human beings, bringing safety and health to them and warding off the harm of injuries and ailments, as much as possible.” He also said: “The aim of medicine is to preserve health; restore it when it is lost; remove ailment or reduce its effects. To reach that goal it may be essential to accept the lesser harm, in order to ward off a greater one; or lose a certain benefit to procure a greater one.” This is a very pragmatic attitude, which is widely accepted in Islamic jurisprudence, and it is frequently applied in daily practice in all fields including medicine.^{9, 10} It is important to emphasize that intention (niyya) is very important in any deed in Islam. The Prophet said: “Deeds are judged by intention.”¹¹ An action though may be good apparently, but done with bad intention will be judged by God on the Day of Judgement, and will be punished. On the contrary, if someone intends to do a good deed, but when performing it, he unintentionally produced some harm, then he will be pardoned. The prayer in the Qur'an touches upon this theme: “Our Lord do not impose blame upon us if we have forgotten or erred” (Quran, 2: 286).

The Principle of intention comprises several subprinciples.

The sub principle “each action is judged by the intention behind it” calls upon the physician to consult his inner conscience and make sure that his actions, seen or not seen, are based on good intentions.¹²

Islamic view of Plastic surgery

Contemporary Muslim scholars seem to be in agreement that a plastic surgery is allowed when there is a real necessity or need, such as removing congenital defects (for example, removing an extra digit), or to treat defects caused by sickness, traffic accidents, burns, etc.¹³ This view applies to the reconstructive plastic surgery. This ruling is deduced from the incident where the Prophet (Peace be upon Him) (PBUH) allowed a companion called Arfajah ibn Saad, whose nose was cut in a battle, to wear a nose made of gold.¹⁴ Besides, conducting such surgeries is not intended to what is termed as “taghyir khalq Allah” (changing God's creation), which is the essential factor why many scholars forbid many types of modern plastic surgeries. In reality, the main reason for allowing such surgeries is to remove harm, and relieve the person concerned from physical and psychological suffering.¹⁵

Medical intervention is justified on the basic principle is that injury, if it occurs, should be relieved. An injury should not be relieved by a medical procedure that leads to an injury of the same magnitude as a side effect and this will be decided by trustworthy specialist. This issue comes under the ruling which says: (an injury should not be removed by another injury).^{15, 16}

The desire to undertake plastic surgery arises out of dissatisfaction with defects and the associated embarrassing appearance. Thus technology to remove or correct defects is not opposing or changing God's creation.

The purpose of surgery on congenital malformations is restoration of the normal appearance, to relieve psychological pressure or embarrassment, and restore function. These purposes do not involve change of “fitra” (primordial human nature) but restoration to its state before the injury. A surgical operation to reveal the true gender of an apparent hermaphrodite is not change of human nature, but an attempt to restore the altered structure by hormonal or chromosomal damage, to its normal shape and function. Such operations have another objective of trying to preserve or restore the reproductive function.¹²

Similarly, scars left by skin diseases, or caused by accidents and burns can induce physical and psychological pain and harm. Islam allows people afflicted with such deformities to rectify them by surgical means.¹⁷

Several biomaterials, either alone or in combination with cultured cellular products, have been introduced to compensate for the scarcity of autologous donor tissue or to

improve healing in a variety of surgical specialties such as abdominal and plastic surgery. Many of these biomaterials are of porcine origin. It is well known that Islam has prohibited the use of porcine or any of its products. In life-threatening conditions as well as severe diseases, the use of porcine-derived products is permissible if similar non-porcine-derived materials are not available. In this case, the use of porcine-derived products represents a necessity and is allowed.¹⁸

Cosmetic (Aesthetic) surgery

Seeking beautification is encouraged by Islam in the first place. The Prophetic hadith says: “God is beautiful and He likes beauty”.¹⁹ Therefore, intending more beautification is generally lawful. In addition, seeking beautification in one’s body, according to many traditional jurists, can also be a way to remove psychological harm and stress. Removal of harm, be it material or psychological, is intended by Islam, as the universal rule indicates “Harm should be removed”.¹⁵

Beautification used to reshape a significantly deformed part of the body is generally permitted in Islam, as long as it is used for a valid reason. Some scholars, on the other hand, report that surgeries for beautification are the result of the materialistic design followed by Western civilization, primarily focusing on the body and its desires. Standards set by Hollywood or sport stars, and the media are the main reason behind their increasing popularity. People preoccupied with the body than with soul, indulge in excessive beautification and reshaping of their bodies, unnecessarily changing what God has created and subjecting themselves to pain, torture and waste of money. Mutilation of the body is clearly prohibited in Islam. Cosmetic surgery may be considered as deliberate self-mutilation, which is indeed what happens when some cosmetic surgeries fail.²⁰

Cosmetic surgery is not permissible when the purpose of this procedure is to take a normal body structure and improve it to make it look better and improve the person’s self-esteem or appear more attractive; for example, breast augmentation, tummy tucks (abdominoplasty), face lifts, etc.^{13, 17} This kind of surgery has been condemned in the Qur’an and Hadith as it entails interfering with the natural way God has created a person without a valid reason. The intention behind these types of surgeries is just seeking beautification, which does not stand alone as a suitable reason for permitting them. Rather, intending mere beautification was the reason for the cursing by the Prophet (PBUH) of those women, who pluck their eyebrows and file their teeth for the purpose of beautification and change the creation of God”.²¹ Therefore, it is unlawful for a Muslim surgeon to carry out surgery in order to merely make someone look better or to improve their appearance.¹⁵

Carrying out a cosmetic operation for ill-intentions is totally prohibited. For example, the surgeries carried out to deceive other people (such as a woman or a man doing face lifts to look younger with an intention to deceive a marriage candidate), or the surgeries meant to disguise criminals to avoid detection. Sex reassignment surgery (Sex change) is definitely prohibited. However, operations to decide the sex in cases of pseudo hermaphroditism are permitted.^{15, 17}

Some scholars state that every type of cosmetic surgery should be examined individually, since each has its own features and motivations, which should be the base for extracting the proper legal ruling. The motivation for many modern plastic surgeries is not always just seeking mere beautification. Rather, they can be for other reasons, which can place them under the category of hajiyyat (necessities), or even under the category of dharuriyyat (essentials), both of which can render what is unlawful lawful. For examples, breast augmentation is prohibited when the breasts are in the normal size and carrying on a cosmetic surgery on them has no real demand; but it can be permissible in some circumstances where the breasts are extremely flabby, in a sense they cause the person concerned great psychological and physical suffering. Likewise, tummy tucks are permissible when they are intended, for example, for medical treatment to protect from serious diseases, or to restore a woman’s significantly enlarged abdomen to its natural shape after multiple pregnancies and childbirth.^{15, 22}

Legal liability in cosmetic surgery is distinctly different from general principles of professionalism, because the objectives in cosmetic surgery are different from common therapeutic targets. The cosmetic surgeon may not encounter a “patient”, but may face a “healthy person” who is seeking beauty. The results of surgery are not always in accordance with the patients’ expectations, so surgeons should make the patient fully aware of the risks and complications, both expected and potential, of the operation.^{1, 23}

Islamic Fiqh Academy Resolution on Plastic Surgery

One of the most influential bodies of Islamic ethico-legal deliberation is the Organization of Islamic Conferences’ Islamic Fiqh Academy (OIC-IFA) which brings together scholars of Islam and medicine for Islamic ethico-legal deliberation around bioethical challenges faced in the Muslim and non-Muslim world. The International Islamic Fiqh Academy discussed the issue of plastic surgery in 2007 and issued the following resolution:

- (1) It is permissible to perform the necessary plastic surgery, which is intended to:
 - (A) Restore the shape of the body organs to the situation in which man was created according to God saying: (We

have certainly created man in the best of stature) [Quran: 95:4].

(B) Restoring the normal function of the body,

(C) To repair congenital defects such as: cleft lip, severe nose deformities, nevus, excess fingers and teeth and finger adhesion, if their presence causes physical or moral harm.

(D) Repair of acquired defects caused by burns, accidents, diseases, etc., such as: skin grafting, full reconstitution of the breast if removed, or in part if it is large or small, causing a medical problem.

(E) Removal of “ugliness” causing a person psychological or organ damage.

(2) It is not permissible to perform cosmetic plastic surgery which is not considered a medical treatment and is intended to change the creation of the normal person, according to his/her desires, and desires of the tradition of others, such as changing the face shape to appear with a certain appearance, or with the intention of deceiving and misleading justice, or change the shape of the nose or eyes, or enlarge or reduce lips, or cheeks.

(3) The body weight may be reduced by the approved scientific means, including surgery (Liposuction), if the obesity poses a medical problem, and there was no way other than surgery, provided there is no damage.

(4) It is not permissible to remove wrinkles by surgery or injection, unless it is a medical problem, provided there is no damage”²⁴.

Conclusion

Islam permits plastic surgery for the purpose of treating the disease and to save or preserve the function of the body organs. It is not permissible to undergo cosmetic surgery when the purpose is merely to beautify oneself or improve one’s appearance as it entails altering the creation of God without a valid reason. It will only be permissible to undergo cosmetic surgery when it is needed due to a health issue or some type of deformity on the body.

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An Islamic Perspective on the Dead Donor Rule in the UK

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It has been known for a number of years that the UK Asian community is over-represented on the organ transplant list (17%) and under-represented on the organ donor register (3.3%)(1). In the NHSBT report for 2018-19 only 4% of all deceased organ donors were Asian while this group was responsible for 13% of all deceased transplants. This imbalance between the organ transplant list and organ donor register translates into longer waiting times for Asian patients waiting for an organ transplant. For instance, the average waiting time for an Asian patient for a kidney transplant is 830 days compared to 640 days for white patients (1).

These statistics make a compelling case for the NHSBT to try to increase the organ donation rates amongst Asians and perhaps Muslims in particular. Many Muslim health care professionals working in the NHS including Muslim chaplains as well as some Islamic organisations in conjunction with or with funding from NHSBT have been actively educating and promoting organ donation amongst UK Muslims (2). While the motive of these individuals and organisations may be admirable, on occasions they fail to provide the Muslim public with a complete picture of what the organ donation process actually involves. Many merely present the statistics highlighted above together with blanket statements to the effect that cadaveric organ donation is permissible within Islam or that there is a plurality of opinions on the issue within the Islamic world. Some of these advocates for organ donation place great emphasis on the plurality of opinions amongst the Muslim jurists implying individuals can pick and choose whichever opinion is to their liking. However, the vast majority of Islamic scholars encourage their followers to remain within the confinements of one particular Islamic school of jurisprudence (fiqh or madhhab) rather than picking and choosing rulings from different Islamic school of jurisprudence. Muslim health care professionals imparting information to potential Muslim donors must try to understand the beliefs of potential donors and then provide clear and accurate information in a balanced manner to allow potential donors to make a truly informed decision, in a similar manner to consenting for a major operation, providing details for and against the procedure.

While some Muslim jurists and Islamic fiqh (jurisprudence) academies have given conditional permissibility for organ donation from the dead, one of these conditions is that the donor must be dead from an Islamic perspective. This is the real crux of the debate. The dead donor rule (DDR) takes a centre place in western bioethics for organ donation and it should be even more so in the case of Islamic bioethics. The DDR states that no vital organs should be removed from a donor until the donor is dead and that removal of organs in itself should not be the cause of death of the donor. Islamic definition of death is when the angel of death, referred to as malk-ul-maut, removes the soul, referred to as the ruh, from the body (3). Death in Islam is truly irreversible barring an act of God Himself.

In the UK organs can be donated either after declaration of death by neurological criteria, referred to as donation after brainstem death (DBD), or after declaration of death by cardio-respiratory criteria, referred to as donation after circulatory death (DCD). The criteria for brainstem death in UK was established in the 1976 (4), while the criteria for DCD came much later in 2008 (5) in effort to try to increase the supply of cadaveric organ donation rates to meet the high demands.

If we examine the legal opinions (fataawa, singular fatwa) which have been directed specifically at the UK Sunni Muslim population regarding organ donation we find that there are three such fataawa.

1995 Muslim Law Council fatwa (6).

2000 European Council for Fatwa and Research (ECFR). Decision 2/6 (7).

2019 Organ Donation and Transplantation in Islam, An opinion (fatwa) by Mufti M. Zubair Butt (8).

Regarding brainstem death (DBD) both the ECFR and Mufti M. Zubair Butt fataawa reject the UK criteria for determining death. The ECFR only recognises whole brain death when all functions of the brain have stopped⁶ and Mufti M. Zubair Butt even rejects that as not conforming to the definition of Islamic death. The Muslim Law Council fatwa of 1995 is the only one of the three fataawa

which recognises brainstem death as legal death allowing for organ donation. However, the 18-member committee mentioned in the final ruling had no medical experts and the fatwa mentioned no details of the competing arguments for and against brainstem death.

With regards to donation after circulatory death (DCD) the Muslim Law Council committee members would have been oblivious as what this entails as the guidelines were only established in 2008. Both the fataawa of the ECFR and of Mufti M. Zubair Butt require actual irreversibility of the heart which cannot be said to have been achieved after only 5 minutes of asystole as happens in DCD in the UK. In fact, no medical doctor will testify that the heart cannot be restarted after 5 minutes of asystole.

Fig. 1 showing if the criteria used in DBD and DCD in U.K. satisfy the criteria for an Islamic death according to fataawa issued by Islamic bodies for U.K. Muslims

	Donation after brainstem death (DBD)	Donation after circulatory death (DCD)
1995 Muslim Law Council fatwa	Yes	No
2000 ECFR fatwa	No	No
Mufti M. Zubair Butt	No	No

If the organ donor is not truly dead from an Islamic perspective, as the fataawa above appear to indicate, then it has serious implications not just for consent, but permissibility of the donation itself and the type of anaesthetic that should be administered to the donor to remove the organs.

It is important that these facts are mentioned to potential donors and family members or a proxy giving consent for organ donation on behalf of their loved ones. Many individuals do not wish to bring up these issues surrounding declaration of death in case it may lead to a refusal to donate but for Muslims truth and transparency should be the starting point rather than worrying about the consequences of telling the whole truth. It would be ethically objectionable if advocates of organ donation choose to selectively present the 1995 Muslim Law Council fatwa and fail to mention the rulings of the other two fataawa. For Muslims it is not just a mere case of legal permissibility to donate organs but perhaps just as importantly what is morally good and what will help them to get to Paradise on the Day of Judgment.

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FACULTY OF RESPONSIBILITY: A Key Concept to Cope with The Ethical Challenges Medical Students Face

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Abstract

During their educational life, medical students encounter several challenges, the origins and causes of which vary. This paper explores and attempts to scrutinize two of these challenges, before eventually introducing the concept of responsibility. First, this paper describes the general characteristics of medical schools, medical students, and medical education. Second, two different ethical challenges that medical students confront are then delineated: the anxiety of continuously questioning ‘while being trained, do I cause patients to receive suboptimal health care?’ and occasionally feeling obligated, consequently, to breach the ethical boundaries to practice procedures on patients. Finally, the faculty of responsibility and its components are introduced and discussed as a model that can overcome these ethical challenges.

Introduction

Medical schools are one of the most prestigious and sought after schools in the world, and getting into them is arduous. In order for a student to get into medicine, they must be hardworking and assiduous. Only those who competing for it at the highest levels can access it.

Medical students, being a chosen few among all students, endeavor to be good students, and they mostly maintain their prior attitudes and habits e.g. striving for higher grades. Given that medical knowledge is complex and not easy to acquire, this can lead to peer-competition between students. (1)

At the graduate level, medical education is traditionally divided between preclinical and clinical studies. In the preclinical part, students attend classes and learn requisite

basic sciences such as biochemistry, pathology, histology, etc. In the clinical part, students attend rotations in different inpatient and outpatient clinics. They learn skills such as history taking, physical examinations, and surgical preparations as well as more specialized interventions, such as intubation, suturing, and prostate examinations. They have rotations in different departments to develop their practical abilities in that field.

When students advance through medical school, they face several challenges. (2) Although medical students typically become more resilient over time, intervening in the human body is an inherently demanding task. (3) The combination of the competitive structure of medical education, students’ aspiration to achieve the highest scores, and the rigor of the field make challenges inevitable. A remarkable number of studies have examined the various such challenges that students face. (2)

This article aims to analyze two interrelated challenges that most medical students confront: the anxiety of continually questioning ‘while being trained, do I cause patients to receive suboptimal health care?’ and occasionally feeling obligated, consequently, to breach the ethical boundaries to do as much practice as others. In particular, the article highlights the commonalities between the two dilemmas. Ultimately, the faculty of responsibility is presented as a key concept to cope with the ethical challenges medical students face.

Being trained, do I cause patients to receive suboptimal health care?

The first of the challenges that we are looking into relates to the involvement of patients in medical education. Throughout their education, and especially in the clinical part, students have to frequently deal with patients. The interventional clinical practices occasionally urge medical students to ask this question to themselves: Being trained, do I cause patients to receive suboptimal health care?

Medicine as a deep-rooted tradition is inherited from generation to generation. Patients take part in its transmission. In order for this noble art to be transferred and improved, humankind disregarded a fair amount of physical integrity, privacy, and confidentiality. Through such concessions, medical arts were able to make substantial progress. Mastering this art was not straightforward for physicians from the age of Asclepius to the present day. The fact remains that many people have paid the costs of this learning. Some people deemed themselves responsible and aspired for this duty. It is therefore important to keep in mind that medicine is an institutionalized sphere with professionals and trainees but also the essential component of patients.

In clinical practice, medical students are usually accompanied by a supervisor during bedside training or interventions. However, sometimes a suitable environment for education cannot be established due to technical shortcomings, forcing a student or a group of students to engage with the patient alone. (4) For instance, in the Emergency Department (ED) rotation, taking the blood gas (arterial blood) is the students’ duty, after they have learned how to do so. Since students are not well-experienced, on some occasions the procedure is not successful. Unsuccessful attempts of this sort discourage the students under training. The chaotic ambiance of the ED also hinders the optimum learning environment. (5) Actions such as inserting a needle into someone’s artery and causing it to bleed create a sense of giving harm despite the intent being the opposite. Moreover, equally stressful is that the learning environment for students –which is a workplace for healthcare providers and the route to seek remedy for patients- possesses more competent and adept masters.

Yet, students are not aware of the responsibility that they shoulder and the accumulation of such minor traumatic experiences precipitates the question: During the process of learning, do I cause patients to receive suboptimal health care?

Exacerbation of breaches: competitive structure

As seen in the aforementioned challenge, acquiring medical knowledge and practical abilities are burdensome. However, overly ambitious and tactless students triumph over such situations by pushing the ethical boundaries of training. These students permit themselves into all type of interventions on behalf of the medical experts, citing “the right to education,” and act as if they are the competent authority. Since control of that kind of behavior is not feasible in hospitals, many continue acting unethically, causing inequality of opportunity.

The second challenge that students face is thus the feeling of obligation to breach the ethical boundaries to do as much practice as others. To reiterate, the competitive atmosphere of medical faculties compels students to behave improperly. Few students remain strictly within ethical bounds; most others tend to breach boundaries either intentionally or unintentionally. A considerable number of medical students complain about the harm caused by their colleagues through the general atmosphere of the education. As one medical student narrates: “When I come back to the resuscitation room, the patient had died and some of my friends were performing iv cannulation. I asked why they were torturing the dead body, and my best friend’s answer hit me like ton of bricks: ‘I will see you when you fail the practical exam’”.

Many students confess to such experiences when questioned. Given the time spent in the hospital and the many years of education, such episodes are increasing in frequency and this type of attitude is becoming common among students.

A number of articles have studied the depreciation of values and the decline of ethical sensitivity among medical students. For example, a study conducted in Philadelphia medical schools showed that as students advance in their training, they are less likely to tell patients they are students, despite it being an established ethical rule taught early on. (6) Peer-competition, among various other causes, encourages an increase of ethical violations gradually over the course of medical education.

Responsibility

Responsibility is an innate faculty that every human being possesses. It is a given tool that provides people to apprehend their duties and obligations. Different statuses

assign us different duties. Every human being becomes aware of these duties, in a given situation, and faculty of responsibility is a natural skill that enables people to find out when they have an obligation to do something or have control over/care for someone, as part of one's job/role. However, its improvement is crucial for using it full capacity. While its simplest function is to apprehend responsibilities to protect the self, the more sophisticated function of the faculty is for instance taking care of the environment for the posterity. At the ultimate level, it is to apprise one's responsibilities towards God.

Most can utilize this ability at the lowest degree and it can be improved just like every other skill. It is important to note that its employment at the most basic level is essential to maintain daily activities. However, in different occupations, this may not be sufficient. Though its employment is very crucial during occupational life and may help to compass the assignments as well as to deal with everyday challenges, in the medical profession, having such a skill improved is vital since the main subject is human-life.

Improving the faculty of responsibility is essential not only for physicians' practice but also for the time they are being educated as they need to utilize the faculty during educational years. (7) For the sake of example; apprehending the responsibility of protecting patient's privacy and confidentiality is important for medical students, since they can achieve patient's information. As the medical school is a period that their path cross with the patients for the first time, it is the most substantial period for doctors to improve their faculty of responsibility. (8)

On the other hand, medical education, the development of medical sciences, and its transmission necessarily invade the patient's integrity. Some regulations apply to the form of these invasions to protect patient rights and to legitimize the breaches (e.g. informed consent) correspondingly. To implement such regulations and their entailments throughout medical education, student participation is critical. (9) In order for medical students to take part, improvement of the faculty is again necessary.

When a student switches role from a patient to a doctor, they need to develop sensitivities that go beyond technical knowledge. During this transition, the crucial achievement, in my view, is improvement of the faculty to be able to fully utilize it towards responsibilities. The responsibilities of a medical student are principally twofold.

The first is the responsibility towards patients who waived their integrity and made sacrifices for education. Students should admit that patients are the sine qua non of medical education and are generous to a fault by their waiver. With this attitude, students will be grateful to patients, which will lead them to proper conduct. This eventually decreases the harm and protects the best interest of patients. Once a

student achieves the faculty of responsibility, s/he protects current and future patients.

The second is the responsibility towards the transmission of credible medical knowledge that has survived over centuries. As a link in the chain of transmission, medical students should acknowledge the responsibility and maintain the sense of mission to the noble art. The fidelity and dedication to the profession should be established during education years.

In daily practice, the prioritization of the two components is necessary. The first component should be prioritized in most cases not only because the primary aim of medicine is to promote and maintain the wellbeing of patients but also because the duty of transmission of medical knowledge is shared by all existing members of the profession.

Untying the knot

This paper has thus far explored two interrelated challenges from different perspectives and explained the faculty of responsibility. Here we should expand by looking at each case and the likely base from which challenges arise, and illuminate how the faculty of responsibility overcomes such challenges.

The first challenge which is to a large extent sentimental, seems to derive from the nature of medical intervention. When external factors related to the learning environment such as the chaotic atmosphere of ED, are added, oppression and inquiry are inevitable for students.

In the second case, the competitive atmosphere and corresponding depreciation of values may exacerbate ethical violations. However, the challenge is again related to the nature of the field and the missing sensitivity of some students to ethical boundaries. In other words, the blurriness of red lines and their insufficient perception by students cause unjustified breaches.

The common ground of the two at a glance is the nature of medical interventions. The ethical quandary concerning medical interventions is giving harm in appearance while trying to be beneficial. Justification of the harm is provided by the ultimate goal: to bring patients to a state of wellbeing. The dilemma of medical education is between the possibility to increase the harm given versus the benefit of future patients. (10) Preference between the two constitutes the basis of daunting challenges for students. The faculty of responsibility as a key concept is a functional instrument to cope with ethical challenges. It is detailed below, the implementation of faculty of responsibility for cases respectively.

The adoption of the faculty of responsibility by students, for the former challenge, will lead students first and foremost

to protect the patient's interests by not intervening without a supervisor when they are not well-trained. They will always bear in mind by virtue of the faculty that medicine is the art of science of restoring or preserving health. This awareness will prompt them to preserve the requisites of the science ab initio.

Second, difficulties that arise during training will not discourage students: with an eye to responsibility, students' commitment to the field will be well-entrenched and they will not succumb to failures. Because they are au fait with the load they intent to shoulder, and are well aware of that even though the obstacles never end, endeavoring for the noble is virtuous.

For the latter challenge, those who adopt the faculty will not perform improper conduct since the right to education is balanced by the responsibility towards patients and the field at the intellectual and moral levels. Imbuing the faculty to medical students will decrease the number of tactless student. As a result, the inequality of opportunity and the atmosphere that exacerbate breaches will pose less of a challenge.

As to competition, although it is shown in some studies that the peer-competition is one of the leading causes of stress among medical students, it is considered as an effective teaching method in medical education. (1) If the competitive atmosphere is set properly through the faculty of responsibility, it will improve the permeation of virtues instead of exacerbation of breaches. Furthermore, it will motivate students to take responsibility and compete in good deeds.

The faculty of responsibility would relieve the discomfort and anxiety that students live with due to the interventions and the learning environment. Internalizing this faculty would help students to find their inner stability. While the faculty rationalizes the suboptimal healthcare that is presented to patients, it would obviate the misemployment of responsibility e.g. over-amplifying it to be better trained.

Conclusion

This paper first offered general characteristics of medical faculties, medical students, and medical education are compendiously given. The interrelated ethical challenges of unending questioning 'being trained, do I cause patients to have less access to proper health care?' and the feeling of obligation to breach the ethical boundaries to do as much practice as others were then discussed. The faculty of responsibility was offered as a way out of these ethical challenges because of its ability to remind students of their duties and to present an ontological ground.

Likely results of such challenges i.e. anxiety, depression, burnout and moral injury are not examined. Although there are many challenges that medical students face, only two

interrelated challenges are included so as to not to digress from the main purpose. Methods of imbuing medical students with the faculty of responsibility are not proposed and are left for the experts.

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How can Medical Students help support the NHS and the Community through the current COVID-19 Crisis?

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Abstract

As a result of the current outbreak of the COVID-19 pandemic, there has been an increase on the load on hospitals throughout the UK, with the introduction to more severe cases that require oxygen and ventilatory support in hospitals. Eventually, all hospitals will be rapidly experiencing an increase in hospitalisation in due time. As a result, new hospitals are being established to accommodate the shortage of beds and space, for this increasing number of patients. These hospitals will require a large amount of manpower to support the care of these patients and help them to recover swiftly and effectively.

This is an important time of national crisis where medical students can aid in serving the nation, and therefore I have tried to enumerate and enlist the ways that medical students throughout the UK, could step up and fill this gap of manpower shortage in the National Health Service. I have also begun to explore the many possibilities medical students can undertake to support the team of doctors and nurses, by also touching upon the recommendations given by the National Regulatory Bodies on the recruitment of medical students into the NHS workforce.

Introduction

On the 30 January 2020, WHO (World Health Organization) announced the outbreak of COVID-19 as a Public Health Emergency of International Concern (1). Currently the growth of COVID-19 cases are exponentially increasing day by day reaching a total of 14,543 cases and 759 patient deaths in the UK as of the 27th March (2). This virus will lead to a detrimental impact on the NHS, having already been overworked with an increasing shortage of healthcare staff. Recently, the 'ExCeL centre' in East London have devoted a makeshift field hospital providing between 4,000-5000 hospital beds equipped with oxygen and ventilators (3). We must raise the question:

Who will be able to look after the patients occupying the extra beds, providing the NHS are short on staff?

This is where medical students come in and serve as the second line to helping the NHS tackle the current global crisis. Not only working for the NHS but also, they may have a role in educating and spreading awareness in local communities and volunteering in the social services.

In this article, we will explore the different ways medical students can help reduce the load on the NHS and support the local community:

How can pre-clinical students help the NHS? (Year 1-2)

Most UK Medical Students in pre-clinical years are able to take a comprehensive history and carry out basic examinations covering majority of the body systems. Some students are able to use their history taking skills to come up with a differential diagnosis and report the positive findings to the senior doctors in-charge. Although they may lack more advanced clinical skills that can be carried out by senior medical students, they are still able to offer a fair amount of support under careful supervision:

In the hospital, students are able to give updates to the patients' relatives on the telephone. They can explain how the patient is progressing with their COVID19 infection where arrangements can be made to speak to the senior

doctors in-charge, as they are not usually allowed to come in to the hospital at this time. Furthermore, they can help out with the nursing team in collecting and tabulating the blood results to present any findings from the blood results to the senior doctors. Some students can also assist the medical team in the process of clerking new patients, providing they wear the appropriate protective equipment. During the consultation, they can help out with note-taking with the doctor and relay any positive findings to the supervising clinicians. However, some patients may not be comfortable in these tasks and so it is important that if students are placed in a situation that they are not competent in or are unsure on what to do, they must discuss this with their supervisor.

Apart from the hospital, they can get involved in the current research that is taking place to find more about how the virus works and the potential treatment options we can use for COVID19 patients e.g. helping run clinical drug trials.

How can clinical students help the NHS? (Year 3-5)

These students are able to take on more duties in the clinical setting as they are closer to completing their training of becoming a doctor. It has been reported that already some final year medical students at the University of Liverpool have volunteered in the hospital to lend a helping hand to the doctors in the wards (5). This could potentially mean that the more experienced doctors can focus on working in the busier wards whilst the medical students under supervision, can manage those patients that are not suffering from coronavirus-related illnesses. However, “students must be supervised to be safe, act within their competence and not undertake any duties of a doctor” (6).

In the hospital, depending on the roles they have been trained for, they can get involved in many different ways. They can see patients presenting to the emergency department and direct them to the correct areas of specialty where the specialist doctors can manage them. In addition, they can work alongside the nursing team in roles that don't require registration such as Healthcare Assistants (HCA). HCA can help perform diagnostic investigations such as ECGs, putting up drips or taking blood (7). They can also facilitate the process of discharging patients who have recovered to free up more beds and helping out with the department reception carrying out administrative work. Students are also able to assist with the Pathology team including virus testing in the labs. Along with this, they may assist the hospital pharmacists in dispensing medication and discharging patients. Since the NHS have now received an increase in online calls as COVID19 suspected patients cannot come in, these students can volunteer in helping out with the NHS 111 call handlers' team (8). This involves taking incoming calls from people who are suspected to have COVID19, providing them

with the appropriate guidance and to arrange testing if necessary, within the short timeframe (8).

How can medical students help in the community?

As there are limitations into what support the medical students can offer in the hospital, there are opportunities to help out in the wider community:

Recently UCL (University College of London) and Edinburgh medical students have launched a Facebook support group to create a network of medical students that can volunteer to babysit the children of doctors and nurses who are currently working in the frontline of the NHS, providing they have the appropriate DBS checks and babysitting/tutoring experience (9). Furthermore, students can help those who fit in the high-risk criteria of catching the virus by doing their groceries or something as simple as walking their dog. For those students who have carried out paramedic training, they can then support the team in transporting patients to other hospitals, if necessary. Students can also help run the local care homes by volunteering to work at the reception or help out in the kitchen serving food and drink to patients, where the workers themselves may also be elderly and are now self-isolating.

Conclusion

The BMA (British Medical Association) have supported the ideas of introducing medical students into the workforce. Although they outline that students must be aware of employment that have ‘unclear arrangements’ (10). The idea of working as an ‘pre-FY1’ allowed by some medical schools still needs to be revised as BMA outline that this role may be available to take up in due time (10).

The GMC and BMA have both agreed that by moving graduation earlier for final year medical students they can work on introducing a short term F1 LAT (locum appointment for training) contract, working near their medical school (10). However, there is ‘no obligation to serve in the NHS’ because of this early provisional registration (10).

The Medical Schools Council have recently set out their guidelines on medical students volunteering to work in the NHS (11). It is important that medical students adhere to these and notify their medical school on their role.

As of 24 March 2020, Matt Hancock, UK Health Secretary, has recently called out for 250,000 volunteers to help fight the UK's coronavirus outbreak (12). This is the time for medical students to unite and give an extra helping hand with the currently overworked NHS to fight the COVID-19 crisis.

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The use of porcine mesh implants in the repair of abdominal wall hernia: An Islamic perspective for an informed consent

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Abstract

The use of porcine derived mesh for the repair of abdominal wall hernia is increasing in surgical practice in recent years. Dietary consumption of porcine containing products is prohibited in Islam and Muslim patients would not accept it in usual circumstances. However, the majority of Muslims would only use forbidden material in life saving conditions. The Islamic jurists allow it in dire need and in the absence of any other suitable alternative. This study employs a review of the literature about the use of porcine derived mesh for the repair of incisional hernia and also comprising historical evidences from Qur'an, traditions of Islamic Prophet Muhammad and views according to Islamic Jurisprudence. The findings explicate the religious and legal basis of using porcine mesh for the use of repair of abdominal wall hernia in Muslim patients. This study will provide a guidance on the understanding of its use to obtain a formal informed consent.

Introduction

Incisional hernia represents a significant problem representing up to 20% of patient at some stage postoperatively. It results in causing pain, strangulation of bowel, skin erosions, poor cosmesis, social embarrassment and impaired quality of life. New techniques like component separation and laparoscopic approaches have provided significant benefits to the patients effected with these problems. Introduction of new techniques and surgical products like meshes for reinforcement has revolutionized the results of abdominal wall reconstructive surgery. Patients, even with former hopeless abdominal wall conditions, can be offered a new life gained from these developments. There is a huge variety of mesh available which are made of absorbable synthetic, non-absorbable synthetic material, pure biological and the composite mesh which is a combination of both the synthetic and biological components.

Method

This study addresses three key areas. Firstly, current evidence and practice of use of biologic mesh for the repair

of abdominal wall hernia. Secondly, the Islamic medico-ethical deliberations are examined in light of modern knowledge and finally the concept and components of an informed consent which are reviewed in the light of a recent judgment by the Supreme Court of United Kingdom and its impact on the use of porcine derived mesh for the Muslim patients.

Biological tissue grafts

The ultimate goal of biological meshes (tissue graft) is to support the abdominal wall until new healthy collagen tissue, produced by the patient, has replaced the mesh and resulted in a stable abdominal wall [1]. The biological mesh may be harvested from human, porcine, bovine, or equine hosts and from skin, pericardium, small intestine submucosa and urinary bladder mucosa. This is a relatively recent advancement in the world of surgery and has a beneficial role in abdominal wall reconstruction especially in contaminated fields [2]. Human cadaveric grafts and other non-cross-linked grafts show initial success due to rapid tissue remodelling. The porcine dermal collagen implant has been developed and recently its use has increased widely. During manufacture into biologic scaffolds, these matrices undergo a variety of chemical and mechanical

processes including de-cellularization, sterilization, and preservation for storage to render the scaffold free of immunogenic agents and safe for therapeutic application. Many of these processes remain proprietary, deterring further scientific investigation of their potential impact on clinical outcomes [3].

The studies of incisional hernia repair with various types of biological mesh have shown that the failure rate of mesh containing small bowel mucosa is 8% at 19 months and 15% at 12 months with acellular human dermis graft. Whereas its 8% at 15 months with cross-linked porcine dermis graft [4]. Because of many variables involved, it is very difficult to perform a randomized control trial on this subject [5].

There is a variety of biological mesh available to surgeons and many of these contain porcine derived material. Some of the examples are given in Table 1 [3, 6]. A study in 2014 has shown that porcine dermal meshes have come to dominate the market of biological mesh. There is an increasing evidence to support their safety. However, the long term follow-up studies to support their efficacy are lacking. Several factors must have to be considered in deciding which mesh to use for a ventral/ incisional hernia repair. The United States Food and Drug Administrating agency (FDA) reported that complications of these materials warrant caution and sound surgical judgment. At present clinical trials evaluating the comparative effectiveness of available biologic implants in ventral hernia repair are limited and on-going trials may help to elucidate their precise role in future [1, 7-10].

Islamic Bioethics deliberations (Shari'ah and Fiqh)

When Muslims are faced with an ethical dilemma of permissible (Halal) and forbidden (Haram) they will look for the rulings in Islamic law (Shari'ah) and deliberation in jurisprudential understanding (Fiqh). It is important to understand the basis of the Shari'ah and the, "Fiqh "before understanding this subject.

The Qur'an and the traditions of the Prophet (known as the Hadith and Sunnah) are the principal sources of Shari'ah. In Islam, the Qur'an occupies a unique and singular status as the literal word of God. The Sunnah is the orally transmitted record of what the Prophet said or did during his lifetime, as well as various reports about the Prophets' companions. Traditional purporting to quote the Prophet verbatim on any matter are known as Hadith. Hadith are second only to the Quran in developing Islamic jurisprudence and regarded as important tools for understanding the Quran and commentaries written on it. The "Fiqh" is an Arabic word. It literally means knowledge or understanding especially of that which is not self-evident and requires a certain degree of intellectual

exertion to comprehend. It is defined as knowledge of the practical rules of shari'ah which are deduced from their particular evidence in the sources. The revealed sources of Shari'ah, are the Quran and Sunnah, which provide the basic evidence from which the rules of fiqh are deduced. It not only legislates but also assign moral values. In Islamic teaching, Shari'ah is the source of Muslim existence as it represents 'the correct path of action as determined by God'. The Shari'ah, not only separates actions into required and forbidden, but also the intermediate categories of recommended, discouraged and permitted [11]. The science that identifies the sources of Fiqh and also lays down rules for weighing these sources against each other in case of conflict is *usul-ul- fiqh*, literally the roots of law. It expounds the indications and method by which the rule of fiqh are deduced from their sources.

Human consumption of porcine derived material and its permissibility in Islam

Evidence from the Quran:

There are four verses in the Quran where it has been clearly mentioned that eating flesh of swine is forbidden [12-15]. "Forbidden to you (to eat) : dead meat, blood, the flesh of swine, and that on which hath been invoked the name of other than Allah;...[15] (Al-Maeda).

According to three of these verses of Qur'an, a concession has been granted in case of "dire" needs. In the Quran as it says in the following verses. "He hath only forbidden you dead meat, and blood, and the flesh of swine, and that on which any other name hath been invoked besides that of Allah. But if one is forced by necessity, without wilful disobedience, nor transgressing due limits, - then he is guiltless. For Allah is Oft-forgiving Most Merciful." [13] (Al-Baqara). "He has only forbidden you dead meat and blood and the flesh of swine and any (food) over which the name of other than Allah has been invoked. But if one is forced by necessity, without wilful disobedience, nor transgressing due limits,- then Allah is Oft-forgiving Most Merciful." [14]. (An-Nahl). Say "I find not in the message received by me by inspiration any (meat) forbidden to be eaten by one who wishes to eat it, unless it be dead meat, or blood poured forth, or the flesh of swine, - for it is an abomination - or, what is impious, (meat) on which a name has been invoked, other than Allah's. But (even so), if a person is forced by necessity, without wilful disobedience, nor transgressing due limits, - thy Lord id Oft-forgiving. Most Merciful" [12] (Al-Anaam).

As a general agreement, "necessity overrule prohibition", a concession has been granted in case of "dire" needs, which has been recognized by the Sharia. Permissibility is granted for impermissible for life saving and health care need. Muslim faith allows the dietary consumption of pig flesh and use of porcine surgical products in dire

situation known as “darrurah”, where all other options are exhausted, “dire necessity renders the impermissible to be permissible”.

Evidence from the Hadith:

According to one verse in Quran, the flesh of swine has been described “rijs” means “filthy”, “abomination” [12]. However, there is evidence from the Hadith which indicates that impure skins are rendered pure through tanning. [16-18]. In a narration once Prophet Muhammad passed by a dead sheep and said (to the people), “why don’t you use its hide? They said, “But it is dead, “He said, “Only eating it, is prohibited.”[19].

Concept of Tanning (Dibagh) in Islam

Tanning means a process of removing fat and dirt from animal skin. It can be done by any material reachable to the meaning and purpose of tanning. It preserves the skin from being damage and demolished. According to Hadith mentioned above, skins whether obtained from carcass will become purified after they have undergone tanning process [19]. In general, skin from halal animals which has been slaughtered based on Islamic way with or without tanning, is purified. However, there is a dispute among Muslim scholars in this issue is on whether the skin from non- slaughtered animal is purified even after undergoing tanning process. Some scholars are of the opinion that tanning purifies all types of animal skins. Some scholars made exemption of two types of skin i.e. the skin of dog and pig. Whereas, other scholars only exclude the skins of pig [20].

According to many jurists’ pig skin cannot be purified, this is due to the fact that a pig is considered essentially filthy (“rijs”, or “najas al-ayn”), in that the essence of a pig with all its body-components is filthy, whether dead or alive. Hence, the filthiness is not because of the blood that is contained in its body like other non-pure animals.

Use of other forbidden material

Maintaining good health is an important aspect of Islam. Muslims are expected to keep their bodies healthy in order to perform their duties towards God (Allah). According to one Hadith “The Prophet said: Allah has sent down both the disease and the cure, and He has appointed a cure for every disease, so treat yourselves medically, but use nothing unlawful”[21].

There are few examples from the life of Prophet Muhammad, where forbidden materials were allowed for better healthcare of individuals [22]. There is a tradition narrated where Prophet used to permit the use of camel’s milk and urine to cure the sickness in stomach [23], and in another narration wearing silk which is generally Haram

for men was allowed for skin itch treatment [24, 25]. At present there is no blanket rule of prohibition or permission despite their adherence to the religious and legal aspects of the Islamic law as promulgated by the jurists [22].

The religious and legal basis of forbidden material can be used to make a case for their use for healthcare. In cases where there are alternatives to the forbidden materials, the permission is only given to the use of the Halal alternatives.

Use of Porcine derivatives and controversy among Muslims

Some Muslim Jurists allow the dietary and non-dietary consumption and use of porcine derived material like gelatine and skin for health and non-healthcare reasons if it has gone through a process of “complete transformation” called in Arabic “Istihala”.

Istihala:

Literally, Istihala means transformation and conversion of one material to other material [26]. Istihala has been defined as the “changing the nature of the defiled or forbidden substance to produce a different substance in name, properties and characteristics. Istihala can be divided in three types. First, Istihala includes the transformation of physical appearances, secondly transformation of chemical substances and thirdly the transformation occurred both in physical and chemical. Physical transformation includes odour, taste and colour. While chemical transformation is the changes of chemical substances in materials. At the same time, transformation of physical and chemical of one substance involve complete changes hence produce new materials [27].

The process of Istihala has three elements namely the raw material, conversion agents and finish products. The mixing process occurred as a result of interaction between raw material and conversion agent, naturally or artificially. Then the finish product will undergo conversion process which is different physically and chemically from the original material. [27]

Some scholars believe that changes have to be in the material nature into a new nature, not only the characteristics. Some people believe that not only the nature and characteristics but the properties must change as well and it must have a new independent nature, another characteristics and a new name.

A meeting of 112 jurisprudents and eminent scholars held in Kuwait in 1995 under the auspicious of the Islamic Organization for Medical Sciences (IOMS) recommended that “Transformation which means the conversion of a substance into another substance, differ in characteristics, changes substances that are judicially impure or are found

in an impure environment, into pure substances, and changes substances that are prohibited into lawful and permissible substances". Accordingly the Gelatine formed as a result of the transformation of the bones, skin and tendons of a judicially impure animal are pure, and it is judicially permissible to eat it" [28].

However, according to another group of Muslim jurist's opinion pig has been declared as "rijs" or "najas al-ayn, that means essential filthy. Therefore, every part of it be it meat, hair, bones or skin is considered impure and strictly do not allow its use for any purpose except lifesaving situation where there is no alternative available [29].

Istihala and Porcine Dermal implant

The process by which the porcine skin goes through to make it suitable for the implantation involves removal of cells, cell debris, DNA and RNA in a gentle process that is not damaging to the 3D collagen matrix. The resulting acellular collagen matrix may then be cross-linked for enhanced durability in complex repairs. This acellular porcine dermis is used as a dermal scaffold, which eventually becomes vascularized and remodelled to reconstruct the abdominal wall in complex patients [30].

Collagen molecules are composed of three alpha chains intertwined in the so-called collagen triple helix. This particular structure, which mainly stabilized by intra and inter chain hydrogen bonding, is the product of an almost continuous repeating of the Gly-X-Y – sequence, where X is mostly proline and Y is mostly hydroxyproline [31].

Gelatine is an irreversibly hydrolysed form of collagen obtained from various animal by-products. The amino acid composition and sequence in gelatine are different from one source to another source but always consists of large amount of glycine, proline and hydroxyproline. The molecular composition of collagen and gelatine are almost identical [32]. The composition of collagen encompasses all 20 amino acids [33]. Glycine, proline and hydroxyproline are the largest numbers of amino acid that exist in gelatin. The chemical properties of gelatine are affected by amino acid composition, which is similar to that of the parent collagen, thus influence by animal species and type of tissues. [34-36]

If the gelatine of porcine origin cannot be accepted as permissible product, then the pure porcine mesh which physically looks like porcine skin cannot be permissible. The question remains that the process by which the porcine skin is made suitable for its use as mesh results in a complete transformation of the original product, and the ruling of "Istihala" applies? Whether it is a istihala sahahah (acceptable change) or istihala fasidah (unacceptable change).

If we apply the true concept of Istihala then as it has been

described that gelatine obtained from any animal sources is transformed physically but not chemically. Therefore, the Istihala method cannot be fully applied [27]. The collagen is a less processed product than gelatine, therefore the process which has been described for a porcine skin to make it suitable for the human use as a non-dietary health care product i.e. mesh or an implant, is not transformed in a state where it can be declared Halal, i.e. permissible per se in ordinary circumstances, unless there are other justifications under the rule of Fiqh which allow its use. If the argument is made that it would provide better result hence quality of life after implanting such a mesh which is derived from porcine skin compares to acellular human dermis or bovine tissues, then at present there is no significant data which can support this argument.

The informed consent

Surgeons, in general, like to follow recommendations by their respective specialised recognised associations and/or authorities in their surgical practice. However, There is an insufficient level of high-quality evidence in the literature on the value of biologic mesh for the incisional hernia repair [10]. It is fair to state that in the light of current literature for the effectiveness of use of porcine mesh for the repair of abdominal wall hernia, the option of the use of a biological mesh given to a patient by a surgeon largely depends on the surgeon's interpretation of the available data and personal experience.

The information on the details of the contents of the products used are either not always easily available to health care practitioners or they seem to have very little knowledge about the correct composition of the biological surgical products or they do not fully understand the properties of the available prosthetics which can result in unintentional harm to patient [37-40]. Moreover, the vast majority of people, even Muslims, in general, have very poor knowledge about Istihala [41-43]. The knowledge of religious and cultural preferences regarding biologic mesh assists the surgeon in obtaining a culturally sensitive informed consent for procedures involving acellular allogeneic or xenogeneic grafts [44]. Also the patients do prefer their doctors to ask them about their spiritual and religious belief if are seriously ill and they would like their spiritual needs to be taken care. There is an anecdotal report that a Muslim women has refused the porcine skin collagen implant for pelvic surgery [45]. If the information from the manufacturers about any animal content in surgical meshes is very clearly provided and meshes are labelled appropriately then it would help doctors to choose the treatment according to patient's wishes and priorities [46].

Providing the options of alternative treatment is the part of informed consent [47]. The age of "medical Paternalism" is over and healthcare is now a partnership between patients

and professionals. [48]. According to a historic judgment by the UK Supreme Court, doctors should no longer decide what information a patient should be given before agreeing to treatment [49]. If the options of treatment are not presented, and the patients are not given their right to refuse the offered treatment then this act can create serious medico-legal issues, though it may well be all in good faith and unintentional [50]. In light of a judgment in *Montgomery v Lanarkshire Health board* by the Supreme Court of the United Kingdom, given in March 2015 [49], the popular “Bolam” test for the clinical negligence, whether a doctor’s actions would have been acceptable to a responsible body of medical opinion, applies to the information given as well as the treatment chosen and the method of it carrying out, can be challenged by an offended patient.

The knowledge of the cultural and religious belief of patients is an important factor in doctor-patient interaction to obtain an informed consent. The understanding or misunderstanding of a belief, wrong assumption about a patient’s belief and or difference in the religious belief of the doctor and patient may result in conflicts of opinions regarding the choice of available and alternative treatment and an offer provided to an individual patient. Muslims in the West come from various cultural backgrounds. There are varying degree of observance of traditional Muslim beliefs and practices. It is important to recognize this sensitivity and avoid a stereotype approach towards all the patients. Each individual should be treated according to his or her belief [51]. The General Medical Council of the United Kingdom advises doctors to tailor their approach to discussions with patients according to their needs, wishes and priorities. Doctors should not make assumptions about the information a patient might want or need and a patient’s level of knowledge or understanding of what is proposed. Doctors should listen to patients concerns, ask for and respect their views, and encourage them to ask questions [52, 53] and cannot cherry pick what information to give to patients [48].

Conclusion

There are 1.57 billion Muslims in the world, representing 23% of an estimated 2009 world population of 6.8 billion [54]. It is important to consider religious belief of all the patients and their choice for treatment should be respected. At present there is no high quality scientific research evidence justifying the use of abdominal wall implant containing porcine derivatives for the better quality of life for the abdominal wall reconstruction. Muslim patients and various Jurists might have various views for the use of porcine derived products for their use in the quality of life issue.

It is very important for healthcare providers to keep themselves aware with up to date knowledge of the subject

in order to provide appropriate information and choice of implant to their patients to fulfil all the criterion of a valid informed consent. It will help to provide a satisfactory care to individual patient according to their belief and failure to do so can result in medico- legal implications. Medical Councils should consider introducing a practice of a separate consent form for the biological implant. This will not only protect doctors and patients but also will also bring the informed consent in line with the Good Medical Practice as described by the General Medical Council of United Kingdom. [55].

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Table 1: Biologic/bioresorbable graft comparison [6]

Brand Name	Company	Type		Additionally Crosslinked?	Sterilized?
Alloderm®	LifeCell	Dermis	Human	No	No
Allomax™	CR Bard	Dermis	Human	No	Yes
Collamend™	CR Bard	Dermis	Porcine	Yes	Yes
FlexHD™	MTF	Dermis	Human	No	No
Periguard®	Synovis	Pericardium	Bovine	Yes	Yes
Permacol™	Covidien	Dermis	Porcine	Yes	Yes
Strattice®	LifeCell	Dermis	Porcine	No	Yes
Surgimend®	TEI	Dermis	Bovine fetal	No	Yes
Surgisis®	Cook	Intestinal submucosa	Porcine	No	Yes
Tutopatch®	Tutogen	Pericardium	Bovine	No	Yes
Veritas®	Synovis	Pericardium	Bovine	No	Yes
XenMatrix™	CR Bard	Dermis	Porcine	No	Yes
BioA®	WL Gore	Synthetic bioabsorbable		N/A	Yes
TIGR®	Novus Scientific	Synthetic bioabsorbable		N/A	Yes

Immunity and Infection Risk: COVID-19 Ramadan Rapid Review

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Keywords: *Ramadan, fasting, immune, infection, Covid19, corona virus*

Background

As Ramadan approaches, it is clear that there will be little evidence to accurately assess how fasting will affect the immune response to, and the susceptibility of contracting COVID-19. However, there is a growing corpus of literature looking at the biochemical and clinical effects of fasting on the immune system which informs the following discussion. It must be noted here that the literature explores various definitions of fasting; this review focuses on studies looking at Ramadan fasting and generally excludes others unless directly relevant.

Current Evidence

Fasting and the Immune System

Wang et al (2016) demonstrated that oral administration of glucose increased mortality in mice systemically infected with *Listeria*, whereas the administration of 2-deoxy-D-glucose, which competes with glucose utilisation, promoted survival of the mice. By contrast, the authors found that glucose availability and utilisation are critical for surviving influenza infection. They explained this by demonstrating that in bacterial infection, glucose utilisation inhibited ketogenesis, leading to impaired tolerance of reactive oxygen species mediated brain damage and death. On the other hand, glucose availability and utilisation in viral inflammation promoted cellular adaptation to stress caused by the unfolded protein response.

Latifnya et al (2007) investigated the influence of Ramadan fasting on the innate immune system (part of the body's defence against pathogens) - specifically examining neutrophil respiratory burst and circulating immune complexes. They did not identify any statistically significant changes on neutrophil activity in patients undertaking Ramadan fasting. The same authors (2008) studied the effect of Ramadan fasting on C3 and C4 levels

(another part of the body's defence against pathogens) and likewise found no significant alterations in their levels as a result of Ramadan fasting. These findings were echoed by Lahdimawan et al (2014), who also demonstrated Ramadan fasting decreases oxidative stress on macrophages. This is in conflict with Bahammam et al (2016), Delpazir et al (2015) and Asgary et al (2000) who demonstrate a lack of significant change in oxidative stress after Ramadan fasting.

Faris et al (2012) demonstrated that the pro-inflammatory cytokines IL-1B, IL-6 and TNF-alpha showed a significant decrease during Ramadan fasting. Mohammed et al (2010) and Chennaoui et al (2009) (25) demonstrated similar results, although not reaching significance. On the other hand, Lahdimawan et al (2013) found significantly increased levels of TNF-alpha levels during fasting and Feizollahzadeh et al (2014) demonstrated that TNF-alpha levels remained unchanged.

Develioglu et al (2013) demonstrated that serum IgG and serum IgA concentrations decreased significantly during Ramadan fasting, but still remained within normal limits. Serum IgM levels remained stable however. These findings were echoed by Bahijri et al (2015).

Collins et al (2019) discovered enhanced T cell protection against infections and tumors when an animal's caloric intake was reduced by 50 percent.

Nagai et al (2019) demonstrated that while short-term fasting (less than 24 hours) did not compromise an animal's ability to heal a wound or fight off infection, longer fasts did indeed begin to cause problems. When starved for 48 hours before skin injury or infection, significant immune response impairments were noticed.

In a systematic review on the immunomodulatory effects of Ramadan fasting, Adawi et al (2017) state that Ramadan

fasting has been shown to “only mildly influence the immune system and the alterations induced are transient, returning to basal pre-Ramadan status shortly afterward.” The evidence upon which this is based consists of observational studies with small sample sizes however based on the available evidence, this conclusion appears appropriate. There is some evidence to suggest the fasting may be detrimental in viral infections and beneficial in bacterial infections, but the evidence upon which this is based largely consists of animal studies.

Fasting and Infection Risk

Brazzagi et al (2015) performed a narrative review on 51 articles that covered a variety of infections, in particular HIV, where they conclude from 3 studies that fasting “might not be detrimental for those suffering from stable HIV”. They also quote the following works:

Leung et al (2014), whose retrospective analysis of 3,485 Bangladeshi patients with diarrheal illness in a single centre from 1996-2012, found no statistical difference in illness and diarrheal pathogens between Ramadan and the control period of 30 days prior to Ramadan. There was a higher incidence of severe thirst and longer duration of hospitalization for those who presented in Ramadan than the control period, but rates of other variables including duration of diarrhea, drowsiness, severe dehydration, and use of intravenous rehydration were not significantly different.

Davoudabadi, Akbari and Rasoulnezhad (2005) performed a retrospective study of histologically diagnosed acute appendicitis in a single centre in Iran between 2000-2002 in the months before, during and after Ramadan. They identified 1,773 patients and found the incidence of acute appendicitis to be significantly lower in Ramadan. They postulated this could be due to bowel-rest that occurs in Ramadan. Sulu et al (2010) carried out a retrospective study in 2 centres in Turkey on acute appendicitis, again diagnosed by histology. They found no significant difference in outcomes or patient characteristics as a result of Ramadan.

Salahuddin (2015) writes in an opinion piece that dehydration during Ramadan fasting may impair the flushing effect that normally clears the bladder of debris, preventing stagnation and bacterial colonization.

In an observational study Sari, Varasteh and Sajedi (2010) compared the tear protein content of 60 healthy volunteers before and during Ramadan. They found the activity of lysozyme, lactoferrin and alpha amylase enzymes decreased in fasting samples.

Sacko et al (1999) performed a randomized, single-blind, placebo-controlled trial to investigate Ramadan fasting

and the efficacy of single-dose anti-helminth medication. They reported no significant difference with the efficacy of pyrantel, mebendazole and albendazole in treating *Necator americanus* hookworm infections 10 days post treatment during Ramadan.

Halasa (2014) writes in another opinion piece on the effect of Ramadan fasting on emergency clinic attendances in Jordan, comparing data of 7,770 attendances in Ramadan (September) 2010 with a sample of 10,000 attendances in May 2010. She found that the reasons for attendance were similar - young patients with upper respiratory tract infection and acute simple gastroenteritis - but patients modified the timing of their presentation towards the later half of the day.

These are similar to the findings of Pekdemir et al (2008), who looked at 2079 patients in Turkey and found no significant difference in the clinical or demographic features of patients admitted to the emergency department in Ramadan, compared with the 30-days immediately after as a control. Elbarsha et al (2018) looked at 186 diabetic patients who were admitted at a single center during Ramadan in Libya, and were compared with 216 diabetic admissions 2 months later as a control group. This analysis showed no difference in infectious disease being the reason for admission.

Summary of evidence

Most studies on the effect of fasting and immunity are on animal models and are inconclusive. The mainstay of studies looking at infection in Ramadan are retrospective analyses which are difficult to generalise, though one RCT showed no difference in anti-helminth drug activity during Ramadan. Overall, existing evidence is poor and of limited use in basing recommendations.

Recommendations

Data regarding COVID-19 is emerging and the role of dehydration and caloric restriction in disease progression are uncertain. From clinical experience, immunocompetent individuals without comorbidities who are adequately hydrated, nourished and rested, are capable of fasting the month of Ramadan without increased risks of infection. Patients with comorbidities and/or immune suppression are strongly advised to seek timely medical advice before fasting. Unwell patients must give strong consideration to breaking their fast, especially if they display COVID-19 symptoms. Patients who are prone to urinary tract infections are advised to intensely hydrate during non-fasting hours.

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COVID-19: A Calamity or A Blessing, Despair or Hope

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We currently live in uncertain and unprecedented times. As the pandemic sweeps across the world, the disruptive effects are causing widespread concern, fear and stress. These are all natural and normal reactions to the changing and uncertain situation but we need to ensure we recognize and manage the possible pandemic of mental ill health early. As the infection doesn't discriminate, neither does its psychological impact. From infants to the elderly, professors to students, professionals to labourers, all are affected and many will be living with increased anxiety and stress¹. Everyone reacts differently to stressful situations, what's important is to be in tune with your emotions and mental well-being, and as Muslims to turn to Allah.

The symptoms of mental ill health can manifest themselves in many ways and can vary in severity. Far too often people ignore their symptoms until they are debilitating in nature, and thus more difficult to manage. It is important to be mindful of our mental health, particularly in difficult times. Our anxiety and fears should be acknowledged and not be ignored. They should be better understood and addressed as early as possible².

One of the major challenges of these times has been the effect the media has had with the volume of news, misinformation and propaganda³. It is important to stay updated on current affairs but being inundated with information from all media outlets, including social media as well as family and friends can make it overwhelming. As a consequence many are feeling anxious in this crisis situation but not recognizing this or letting it build up unchecked can lead to more severe symptoms including fear and panic attacks. It is thus important to moderate the amount of news that is taken in and to only focus on credible sources. There have been so many well-meaning professionals who are deluded in giving "expert" advice on topics out with their specialty, and also ill meaning people who spread angst for their own pleasure while some also try to benefit financially from the uncertainty by preying on the vulnerable. It is important to ensure the information available to the public is moderated and accurate, and thus

it is our duty to verify any information before spreading it and clamp down on misinformation.

To try and control the spread of the infection public spaces have gradually been closed. The impact of closing mosques locally and the gradual shutdown of major Islamic organizations around the world⁴ has had a profound effect on the population, both spiritually and psychologically. The loss of community can cause feelings of loneliness which fuel symptoms of anxiety and depression. That is why it is so important for the public to focus on what they can actually influence and create that community feeling in other ways. Many of the institutions have set up events online⁵ to benefit those who would have normally attended physically. Getting involved in helping facilitate these events contributes to the sense of community and continues to give people a purpose while isolating.

It is important to stay connected with the community and reach out to family and friends, either to talk to them or lend a listening ear, bottling it up make feelings of loneliness worse. Most people are now willing to try video calls instead of emails, phone calls instead of messages. Some even meeting up virtually for a coffee. It is important that we check on each other, particularly the most vulnerable and the elderly, and not just Muslims but people of every race, religion, and belief. Just as this virus doesn't discriminate, neither should we. Islam teaches us about equality with the only thing separating us in the eyes of Allah being taqwa. Hierarchy is thrown out, racism, nationalism, classes, ethnicities, all socioeconomic privileges are gone in the eyes of this virus.

Parents and families will be under a great deal of stress⁶ with the isolation and social distancing measures as well as the lack of schooling and financial impact. There will be significant difficulty in trying to maintain a structure while working from home, looking after children and arranging time for home schooling. This may become overwhelming for some so it is important to recognize this early and take steps to remedy this.

Practically maintaining a structure would involve ensuring separate spaces are kept for work, sleep, and a separate space for relaxation & ibadah. This helps maintain a focus and to be more productive through the day. Relaxation is just as important as work when considering productivity so it is important to set aside time to do things that are enjoyable. This can be time spent with children, keeping them busy with fun activities or hobbies, or even spending time going through the seerah and other Islamic teachings.

Children are resilient but are likely to be experiencing anxiety and fear very similar to that experienced by adults. They are often very perceptive and so may very well have a fear of dying, a fear of their relatives dying or a fear of needing to go to hospital. Some may express this with irritability and anger, or may want to be closer to their parents, making more demands on them⁷. It is important to recognize these behaviours and respond by giving young people the love and attention that they need to resolve their concerns⁸. Islam teaches us the importance of the strong family structure and these difficult times highlight the need for family and friends. A human being needs to love and be loved and needs to be part of a good society.

It's the simple things that are needed to ensure we maintain our mental health. To look after yourself and keep healthy is not only a Sunnah but also triggers feelings of positivity. By maintaining a routine, sleeping at the same time, waking up at the same time, getting ready as you normally would, we find people feel less tired, more refreshed and are able to concentrate better through the day. A personal routine helps to lessen anxiety.

There should be an emphasis on eating a healthy diet & staying hydrated as this has a direct effect on mental health⁹. The Prophet ﷺ enjoyed eating dates, turnip, olives and honey as some of his favourite foods. The Prophet ﷺ said, "Honey is a remedy for every illness and the Qur'an is a remedy for all illness of the mind, therefore I recommend to you both remedies, the Qur'an and honey." [Sahih Bukhari].

Exercise is even more important now as our physical health is adversely affected by isolation measures and reduced social contact. Trying simple exercises at home is important, supported by a rapidly expanding library of online exercise videos. If able to then going out for a walk and getting fresh air & sunshine should be encouraged¹⁰.

We appreciate things more when we are restricted from them, we should reflect on the beauty of Allah's creation all around us. One thing that this pandemic has done is give people the chance to stop. It's given many people time that they didn't previously have. If we waste our time or let our imagination wander then our levels of anxiety and low mood can significantly worsen¹¹. If we spend the time to reflect, to reflect on our values, to reflect on what

we want to stand for, we'll find that we will gain meaning, purpose and direction. It is important to be able to reflect on the good around us, the good that we have achieved, the positive people around us, and being grateful for this. It is important to be conscious of Allah in this time and engage in muraqabah. There is benefit in spending time sitting in a quiet place, clearing your mind and reflecting on Allah. Establishing a daily routine of engaging in dhikr and reciting Qur'an can be very relaxing and beneficial. If not reciting then listening to the Qur'an, but not only listening to the beauty of the voice of the qari but also the words, the un-inimitable speech of Allah.

When we are stressed and have spare time our worries can seem amplified. Allocating a time of day as a 'worry time' and avoiding worrying about these things the rest of the day often helps. Spend this time speaking to Allah through du'a, as in times of fear we are told to not lose hope but turn to Allah.

With the mosques closing and this pandemic projected to effect Ramadan and possibly even Hajj this year, there can be a significant impact on peoples' sense of faith¹². For those who would attend the mosque regularly, not being able to do so could exacerbate symptoms of anxiety and low mood. It is important to recognize this and ensure that they are able to maintain that connection with their faith and a connection with the religious community. Those with faith will believe that there is wisdom in whatever Allah wills even though we may not always understand it. With the understanding that Allah sends down these calamities when sin becomes prevalent and open, leading to the understanding it has not been a random act and there must be a higher power. Everything that happens is by His will so "we tie our camel and trust in Allah" [al-Tirmidhī 2517] as "nothing shall ever happen to us except what Allah has ordained for us" [Qur'an 9:51]. People rediscover their faith at times of calamity and stress. One of the most blessed wisdoms of a perceived calamity. This may very well protect them from mental ill health.

Bereavement is difficult but a normal and healthy process. Unfortunately, many who pass away from COVID-19 will have become unwell very quickly, and may very well have passed away without having their loved ones around them due to strict isolation measures. Many bereaved family members will be unable to attend the funeral due to being in isolation and the funeral may also be delayed. Islam teaches us how to deal with these difficult times. We can take comfort in that everything that happens is only by the will of Allah and so there will be wisdom in it. Remaining patient at this time is likely the most difficult thing to do but know that "Allah does not burden a soul beyond that it can bear" [Qur'an 2:286]. It is important that we look after ourselves by being even more vigilant with the measures already discussed. We should also know that spending time doing du'a and giving sadaqa on behalf of

the deceased will benefit them in the afterlife in'sha'Allah, and this can still easily be done while physically isolating due to the virus. Being aware of our mental wellbeing and seeking formal help early is important as there is likely to be a higher prevalence of atypical bereavement reactions and PTSD.

These are trying times for everybody but we need to ensure that we are looking after our own mental health and that of those around us. Whether someone develops psychological injury or psychological growth from the experience will be influenced by the support they receive. Humanity will survive this pandemic, but we need to ensure we transform and grow from this rather than be damaged. Fear brings out the worst in us, we should control this, but generosity makes us think of our common survival. We should see this as a different period of time in our life, and not necessarily a bad one. We need to tackle it physically and metaphysically, ensuring we don't observe one without the other. At the time of anxiety and fear, one of the most hopeful verses to hold onto is that "nothing shall ever happen to us except what Allah has ordained for us" [Qur'an 9:51]. Many however, despite taking appropriate measures, will continue to struggle with symptoms of anxiety and depression. It is important that they seek professional help in these circumstances and it is important that we ensure that these services are available. The psychological ramifications are likely to last long after the pandemic has ended.

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The prevention and treatment of pandemics from a religious standpoint – is cleanliness a cure or a way of life?

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As science undergoes significant developments and mankind has found new cures for various diseases on earth, we are still no closer to discovering the mysteries of life and its secrets. There are many complexities that shock mankind and push them to search for an all-powerful creator. Humanity has been stopped in its tracks by the smallest and apparently weakest of creations, and even after the advanced civilisation we inhabit and the technological resources we possess we have no answer to the Coronavirus. This goes to show the difference in strength between the creation and the creator: “[It is] the work of Allah, who perfected all things” (Surat al Naml 88).

This virus is a microorganism that cannot be seen by the naked eye; it is all around us however. It is part of a larger family of pathogens, some beneficial and some harmful that come in different shapes and sizes and play differing roles in the ecosystem. These pathogens live in different places in the human body, with some occupying the digestive system, others the respiratory system and so on. Some pathogens enjoy symbiotic relationships in the human body and are found naturally within it. Some however invade the body which leads to a battle with the immune system which can lead to illness and in the worst case scenario, death.

The spread of pandemics amongst humanity depends on a variety of factors. Amongst them is the presence of animals which carry said diseases, and other factors include the ability of the pathogen to spread in the air and in fluids. Moreover, the strength of a person’s immune system must be borne in mind as this can play a large part in the severity of a disease (1). The Islamic faith has focussed on the importance of taking care of one’s health; in the first instance this involves preserving the natural environment and eating only what Allah has made permissible and following the Sunnah of the prophet PBUH as this relates back to the cleanliness of the individual and the good of society as a whole and prevents the spread of diseases.

1. Individual cleanliness in Islam

Islam has honed in on the importance of cleanliness and has emphasised its link to general health. From the Shariah perspective this is focussed on in terms of wudu and ghusl and their importance for prayer but these activities go beyond rituals before praying. If practised generally on a daily basis they can go some way to combatting diseases through the spread of good hygiene practises. As the hadith of the prophet PBUH narrated by Muslim says “cleanliness is half of faith”. Cleanliness is explained in detail in books on fiqh and this underlines its importance in faith. Below are more detailed examples in the Shariah on individual cleanliness:

Wudu

Prayer is obligatory upon every Muslim five times per day - “O you who have believed, when you rise to [perform] prayer, wash your faces and your forearms to the elbows and wipe over your heads and wash your feet to the ankles” (Surat Maida verse 6). For one’s prayer to be permissible, a Muslim has to perform wudu and part of this is cleaning areas of one’s body which tend to be exposed like the hands and the face for example. The Sunnah of the prophet PBUH was to clean every exposed area three times. This continuous washing on a daily basis helps clean the exposed areas of an individual’s skin which are in constant contact with pathogens which could include up to ten million pathogens per square centimeter. The washing of the nose and mouth as part of wudu helps protect the internal organs as they are the gateways to pathogens entering the body.

The Miswak and oral hygiene

The mouth contains huge numbers of pathogens and the plaque on one’s teeth can contain up to 100 billion of them. Some of these pathogens feed on the remnants of food in the mouth, they then release secretions which can result in mouth odor. Some pathogens gather even after tooth whitening takes place (2). Therefore, the prophet PBUH spoke of using the miswak to complement the act of wudu

to protect against the plethora of pathogens in the mouth. He even went as far as to say “Were I not afraid that it would be hard on my followers, I would order them to use the miswak (as obligatory, for cleaning the teeth)” (3). If the Prophet PBUH prayed at night, he used the miswak prior. The use of the miswak is not simply connected to eating and drinking only, it should be used at all times and even when fasting and it was narrated by Bukhari that the Prophet PBUH stated that “The miswak is cleansing for the mouth and pleasing to the Lord.”

Ghusl

Our religion has obligated the cleaning of the entire body with water, in some parts of the body this is obligatory and in some this is preferred. As the prophet PBUH stated “It is a duty for Allah upon every Muslim to perform a ritual bath at least once every seven days, washing his head and his body.” Ghusl from janabah is obligatory as prayer is not permissible in this state. An individual who undergoes ghusl then washes away any pathogens from his skin. Studies have indicated that bathing can get rid of up to 90% of these pathogens from one’s skin.

Natural benefits mentioned in the Sunnah

It was narrated by Bukhari that the prophet PBUH said “Ten acts are part of natural instinct: trimming the moustache, letting the beard grow, using the miswak, sniffing water into the nose, clipping the nails, washing the knuckles, removing hair from the underarms, shaving the pubic hair, and cleaning the private parts with water”. This hadith lists various actions that our beloved prophet tells us to do and he mentions them a natural instincts and not necessarily Muslim actions. A plethora of publications have been written about this hadith and the importance of cleanliness from guarding against diseases. During the Coronavirus crisis, lots of people have enquired about the lack of interest amongst Muslims on the issues of the toilet roll shortage. Muslims use a more hygienic method to clean and that is via instinja which uses water. The use of water instead of tissues is also better for the environment as less trees are cut down to produce toilet paper (4).

Cleanliness of the orifices

Islam has stressed the importance of hygiene of the bodily orifices for prayer. Cleanliness from excrement is of vital importance and the body and clothes of an individual should be free from it. This is so important that the prophet said that a man experienced punishment in the grave due to leaving remnants of excrement on his clothes.

2. The cleanliness of society as a whole

Islam is concerned with hygiene in all forms; purity of the individual and purity in terms of hygiene and cleanliness. Spiritual diseases affect the faith of an individual and subsequently impact society too. In terms of physical

diseases, there are various modern methods to guard our society against them.

The cleanliness of mosques and streets

The mosque is the primary location for the congregation of Muslims hence should be clean at all times and should always smell good. Cleanliness doesn’t stop at the personal level, or that of mosques and houses but reaches to streets and the surroundings. It was said that when Abu Musa Al-Ashari reached Basra, he told its people that “I was sent by the caliph to teach you from the book, teach you the tradition of your prophet and to clean your roads for you”. Amongst the most beautiful hadith is when the prophet PBUH was asked about what would benefit others and replied “Remove harmful things from the roads of the Muslims.”

The cleanliness before congregations

Islam emphasizes the importance of personal hygiene and washing prior to being in congregations. This includes any of the five daily prayers or the Friday prayer and it is required that one wears clean clothes to stop the spread of disease.

Sneezing

The prophet PBUH also made recommendations regarding sneezing. It was narrated by Tirmidhi that he said “When one of you sneezes and praises Allah, it is a duty on every Muslim to say to him: May Allah have mercy on you. “ As we know, airborne droplets contribute to the spread of infectious diseases including influenza, polio, rubella and many others. This is why the prophet PBUH warned against breathing on food and it was narrated by Muslim that he also said, “When one of you yawns, he should hold his hand over his mouth”.

Self-isolation and quarantine

Scholars have spoken of various methods to prevent the spread of pandemics and infectious diseases though the prophet PBUH spoke of this centuries earlier. He established two main principles in the prevention of infectious diseases, one was isolation and the other was quarantine. For the first it was narrated by Bukhari that the prophet once said “do not mix the sick with the healthy.” For the second, it was narrated by Bukhari he said, “If you hear of a plague in a land, then do not go into it. If it happens in land where you are, then do not go out of it.” In that way, Islam has advised on dealing with pandemics for more than a millennium. The wisdom of isolation and quarantine are now clear to see. Scientists understand that some people may be carriers of a disease and be asymptomatic or suffer very mild symptoms but could spread it to others who may become very ill. It was Amr ibn an Aas who introduced isolation measures during the Plague of Emmaus in the year 18th post-hijra. He said “O’people, this pain is like fire, so avoid it in the mountains (social distancing) so spread” they did so and there are

close parallels with today's social distancing and ensuring that people are not close together to spread disease (5).

This is a brief summary on what Islam has advised us to do more than 1,400 years ago, when pandemics arrive. Unfortunately, some still do not heed the advice even though what Islam has advised is for the common good. The preservation of life is a crucial aspect of the Shariah. It is beyond the scope of this article to delve into other issues which may affect one's health and which Islam has advised us against such as drinking alcohol or eating pork. The researcher in this area will be pleasantly surprised to learn that the daily life of a Muslim and their attempts to remain healthy and in good spirits to continue contributing to their society keeps making a positive impact and helps ward against diseases.

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Foods of the Quran and Sunnah, that ensure good nutrition to support the normal functioning of the immune system

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Introduction

The relationship between food and health including the function of immune system has been known for centuries. Vital nutrition is present in many foods that play a crucial role in promoting good health and a stronger immune system. Many fruits and vegetables contain rich dietary vitamins, minerals, fibre and large amounts of phytochemicals which are proven to have health benefits. In addition, food plays a crucial role in the management of countless illnesses including bacterial and viral infections and hence they are natural healing treatments. Many of these foods have been used as a means of healing. This has been clearly illustrated in the Islamic teachings and recommendations for health benefits since the time of Prophet Muhammad (PBUH) (1,2). We will be looking at some of these foods that are mentioned in the Quran and Sunnah and shed light on their health benefits.

Dates

Dates are staple foods for people in the Middle East and North Africa and other places.

Dates were the most favoured food of Prophet Muhammad (PBUH) who said ‘If anyone is fasting let him break his fast with dates. In case he does not have them, then with water’.

Their health benefits and rich nutritional value are well known across the world due to the presence of rich nutrients and their health-promoting properties. Dates are regarded as one of the richest foods in carbohydrate containing 75-87% of sugar, in addition to proteins, minerals including Zinc, and vitamins A, B1, B2, B3, B5, B6, B9, B12, C, E. All the vitamins inside dates play an important role in metabolism. These minerals and vitamins do have a calming effect as well.

The minerals play a fundamental role in the formation of some important enzymes needed in most functions of the human body. They also play a very important role in contraction and relaxing of muscles and normalizing the acid base levels in the body. In addition to the vitamins and minerals, dates contain fibre which is regarded as an important element for bowel function and movement, so can act as a natural laxative (3).

The dates have also been mentioned in the Holy Quran in surat Mariam. “And shake the trunk of date-palm towards you, it will let fall fresh ripe-dates upon you”. (Holy Quran 19:25). Due to high level of nutrients, dates would be considered a good food for a new mother. Evidence from trials has shown that consuming dates could help in the ripening of cervix and reducing the need for oxytocin and prostaglandins to induce labour (4).

Figs

‘By the fig, and the olive’ Al Tin 1-2 (Holy Quran).

Figs are regarded as vitamin rich fruit. These fruits contain vitamins B1, B2, C, A and carotene. Figs also contain a high level of nutritional substances that build the cells of the body and make haemoglobin, so they are of benefit to those with anaemia. Due to significant contents of calcium and phosphate, Figs may help in preventing general weakness and improve bone health. According to some experts, these fruits are rich in Vitamin K which helps the balance of blood ability to clot and reduces the risk of bleeding. People who take warfarin or new novel anticoagulants may need to avoid figs. Antioxidants are also found in figs and play a good role in good general health and wellness. Like dates, Figs contain good amount of fibre that help bowel movements.

It is also believed that drinking fig infused water is beneficial as a natural remedy for respiratory infections, such as bronchitis or throat infections, and may help easing the cough. Dried figs contain nutrients, minerals and vitamins which are essential for the function of our nerves (5). The B6 in these fruits may help our brains to produce neurotransmitters such as serotonin and dopamine which help regulating our mood.

Honey

‘There comes forth from their bellies, a drink of varying colour wherein is healing for people. Verily, in this indeed a sign for people who think’ Al-Nahl 16:69 (Holy Quran).

Honey has high levels of monosaccharides like fructose and glucose which form 70-80% of its nutritional contents. This is a very good source of energy. It also contains antibacterial, antiviral, anti-inflammatory, and antioxidant properties. These, in turn, imbue the honey with great wound-healing properties. Honey is used as a sterilizing substance, applied onto affected wounds and prevents ulcers from developing. It is trialled and tested and available in many Arab countries such as Syria, Egypt and Saudi Arabia (6). It also helps the immune response to infection whereby honey induces the generation of antibodies. The Antioxidants that are contained in it clean up free radicals that are linked to disease including immunological ones. For example, honey contains flavonoids, polyphenolics, Vitamin C, and monophenolics which may be associated with a reduced risk of cardiovascular diseases. Flavonoids as an antioxidant help coronary vasodilatation, reducing the ability of platelets in the blood to clot, and inhibiting low-density lipoproteins from oxidizing. Many investigations showed that certain honey polyphenols have a hopeful pharmacological function in reducing the chance of cardiovascular disorders (needs reference please). Honey also has many minerals such as calcium, phosphate, potassium, and magnesium which are essential for wellness and a healthy immune system.

It was also found to have anti cough properties. Honey might play a beneficial role in helping treatment for various allergic conditions such as allergy to pollens. This was explained by the desensitisation principle where local honey has small amounts of pollens or allergens. And one treatment for allergies is repeated exposure to small amounts of allergens.

Bananas

‘And those of the right hand- how fortunate will those be on the right hand? Among thornless lote trees, and among banana trees with fruits piled one above another, And in shade long extended’ Surah Al-Waqi’ah (Holy Quran).

These verses are reminders to us that bananas will be

amongst the fruits of paradise. Bananas contain carbohydrates which give the body heat and energy. These fruits also contain a good level of vitamin C which treats and prevents diseases like scurvy and help fighting infections such as flu. In addition to Vitamin C, bananas contain several types of potent antioxidant which are linked to the reduction of the risk of heart disease and degenerative illnesses. They also contain many B vitamins, such as B1, B2, B6 and B12. These vitamins are important for the function of the nerves and reduce nerves inflammation. Vitamin B in general is good for production of haemoglobins and reducing risk of anaemia. Bananas are well known for having high level of potassium (358mg per 100g), but they are low in sodium and free of cholesterol, hence they may help to lower high blood pressure, to reduce the burden on the kidneys and to protect against atherosclerosis (5).

Olive oil

‘Allah is the Light of the heavens and the earth. The example of His light is like a niche within which is a lamp, the lamp is within glass, the glass as if it were a pearly [white] star lit from [the oil of] a blessed olive tree, neither of the east nor of the west, whose oil would almost glow even if untouched by fire. Light upon light. Allah guides to His light whom He wills. And Allah presents examples for the people, and Allah is Knowing of all things’. Al-Nour 24:35 (Holy Quran).

This shows the blessing from the tree and the oil, but many are unaware that olive oil is a gift for mankind. Olive oil is rich in monounsaturated oleic acid which has strong anti-inflammatory effect and may have beneficial effects on genes linked to cancer. Due to anti-inflammatory effects and high levels of antioxidants, olive oil does help in reducing the incidence of cardiovascular disease, strokes and Alzheimer’s. It also complements treatment of chronic inflammatory diseases such as Rheumatoid Arthritis. It also has antimicrobial effects due to nutrients that inhibit or kills harmful bacteria such as Helicobacter Pylori that lives in the stomach and is responsible for peptic ulcers and gastric cancer (7).

Black Seed

It was narrated that Khalid Ibn Sa’d said: We went out and Ghalib Ibn Jabir was with us. He fell sick on the way, and we came to Madinah while he was still sick. Ibn Abi Ateeq visited him and said to us. ‘You should use this black seed, take five or seven seeds and crush them and then drop them into the nose with a few drops of oil, on this side and on this side, because I heard A’isha may Allah be pleased with her tell me that she heard the prophet, blessing and peace of Allah be upon him say: ‘this black seed is a healing of all diseases except Al-Sam. I said what is Al-Sam, he said death’’. (narrated by Al Bukhari).

It is proven that that black seeds and their active constituent TQ (thymoquinone) have useful effects in treating chronic inflammatory and auto-immune diseases (8). This effect is due to antioxidant properties that black seeds have. Black seed oil has shown good results in treating asthma and hypertension as well. The oil derived from black seeds was found to have anti cancerous effects such as skin and pancreatic cancers. However, it should not be used as an alternative to conventional cancer treatments. It was also used to reduce the tissue damage from radiation therapy. Black seed oil was used for other inflammatory skin conditions such as acne and psoriasis in addition to its use in skin care products. Historically, Ibn Sina (Avicenna) prescribed black seed for the treatment of headaches and migraines. He noted that black seed should be crushed and mixed with honey and hot water, to treat and destroy kidney stones and help the flow of urine. Heating the seeds can cause them to lose their essential oil, and thereby lose a great deal of their medicinal properties. Eating them in their natural state without crushing may reduce the chance of benefiting from them, because if they are not chewed well and enter the body as a whole they will pass through the digestive system.

Conclusion

In summary, the relationship between food and health is well established in Islamic medical literature. Evidence based medicine has proved a great deal of this connection. It's vital to maintain a healthy balanced diet in order to have a healthy wellbeing and strong functioning immune system. The British Dietetic Association do not recommend any one food over another, but instead recommend eating a variety of foods and following the Eat Well Guide, to maintain a health balanced diet (9).

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The House of Wisdom: How the Arabs transformed Western Civilization (By Jonathan Lyons, 2009)

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We are forever indebted to the lack of credit offered towards the contribution of Islam's golden age to modern day life. As we find ourselves educated in the west, little mention of great intellectuals during the middle age is ever made. This was the time of the Muslim world as an intellectual, cultural and economic superpower.

Built by Caliph Al-Mansur in the eighth century during the Abbasid caliph, The House of Wisdom (Beit al-Hikmah) in Baghdad formed an incubator for the development of the region as a powerhouse. During this time, it developed a reputation as a translation bureau, think tank and book repository of over four hundred thousand books. Here, the early triumphs of the Greek, Persian, Indian and Chinese thinkers were translated into Arabic in the first department where they formed the foundations of the great works of this era. In translating these texts, astronomical leaps in science were achieved via the work of Al-Khwarizmi, who developed the astrolabe, algebra and star tables, Ibn-Sina and Al-Razi whom permanently changed the perception and approach of Medicine, Pharmacy and apothecary, contributing significantly to their respective fields and Abu al-Walid ibn Rushd (Averroes), the Muslim philosopher who's commentary on Aristotle contributed to the shaping of western thought.

In a passionate and sophisticated discussion regarding The House of Wisdom, Jonathan Lyon's book walks the reader through the fascinating journey of time and the transfer of knowledge to the West. During this empowering and emotional journey, he also especially mentions key figures including Adelard of Bath, the early pioneer of Arab teaching whom dedicated many years learning the prestigious Arabic language in Antioch, modern-day Turkey, to translate the work of Al-Khwarizmi and other great philosophers to bring geometry, astrology, astronomy and other fields to the medieval west. Michael Scot is also mentioned, one of the greatest intellectuals of his time, serving as court astrologer and science advisor to the Emperor Frederick II as he translated the work of Aristotle and Averroes from Arabic back to English.

Lyons dedicates this publication to his father and introduces the reader to the West's debt to medieval Arab civilisations. Lyons' tribute also honours his father's introduction to the 'power of ideas', carrying through as the underlying narrative throughout the piece. In paying homage to the success of the Arab scholars in their ability to determine the times of the five Muslim daily prayers via the continuously changing pattern of night and day, the book follows the structure of the Islamic day. The book begins at al-Maghrib prayer (sunset) as the start of the day and relevant time period, then continues to walk the reader through the history of time until al-Asr (afternoon) where he marks the "end of the Age of Faith in the West and the seemingly unstoppable triumph of reason" in the 17th century.

Given the dense history discussed in the book, Lyons introduces and reminds the reader of several key facts, definitions and distinctions. In his note to readers, given that Arabic was the global language for science, and cultural labels were much more fluid during this magnificent era, Lyons establishes his reasoning behind describing developments of the time as 'Arab science' rather than 'Islamic Science'. In addition, in order to further establish the need to avoid the term 'Islamic sciences', Lyons highlights the immediate connotation with Hadith and Sunnah in this section and devotes an entire chapter to the relationship between faith and reason. Though seemingly unnecessary, his distinctions allow the reader to appreciate the contributions of those whom were not ethnically Arab nor Muslim, highlighting the cultural movement as a force of gravity at the time.

The book is to present the enormous impact of Arab learning on the west – that is, on the lands of medieval Christendom and the states and societies they later produced. As a result – he deemed it sensible to use the Latinised forms instead of the Arabic names in the case of the figures widely known to the western world thereby catering for the western world to understand the history and context of this era.

Further support to the novice and expert reader is offered through the mention of two short but significant sections; A chain of significant events and leading figures. Considering the level of detail in this book, these two sections were by the far the most referred to throughout reading. In the former section, Lyons outlines the most important events surrounding and including the House of Wisdom, though some of the dates are approximate in this section, the details are to be found in the narrative that follows. Ultimately the scene is set in this four page section. The scene setting begins well before the beginning of this era starting with the Prophet Muhammad (Peace be upon him) leading the migration (Hijra) in 622, proceeding to present the series of conquests and collaborations that led to the formation of the House of Wisdom and its downfall. The book then continues until 1687 when Isaac Newton's theory of gravitation 'completes' the Copernican revolution, establishing the pre-eminence of science in the western world. Whilst this section provides a mere synopsis, it provides a clear picture of how "The House of Wisdom" fits in time. Complementary to the former section, is the latter, whereby figures central to the rise of Arab science and its reception in the west are listed, from Adelard of Bath to Abdullah Al-Mamun. Here, the clarity to the stories within this book is further emphasized.

In the first main section of the book - prologue (Al-Maghrib), Lyons provides further background to the story prior to the start of Part 1. Though the author seems to jump between various time points, he provides an insight into the development of a great struggle between faith and reason in Europe crashing down on an unsuspecting Europe, all whilst the arrival of Arab science and philosophy empowered the Arab region and propelled their contribution to the world we know today. For it was the ability of great philosophers and thought leaders such as Avicenna, Al-Khawarizmi and Al-Idrisi that enabled such a formation of a scientific and technological superpower. The passionate introduction of key concepts is followed by the admiration of the adventurer, Adelard of Bath whom harnessed the power of Arab learning to shape the intellectual landscape in Europe which carried well beyond his time and ultimately the ground-breaking work of Copernicus and Galileo in the 16th Century. Finally, a reference to medieval English philosopher Roger Bacon is made, who whilst was a proponent of the scientific method and praised the Muslims for their intellectual innovations, also denounced various aspects of Muslim life without much real knowledge or experience. Some aspects of his opinions planted the seed for the shift away from recognition of the significant contributions of the Arab science. These opinions unfortunately gained further currency in the renaissance when the west were increasingly idealising notions of classical Greece allowing for greater focus on the works of Aristotle, Pythagoras and Archimedes. Much of which is the same in modern day education.

Once the scene is set, the book structures itself in four parts. As the reader is taken through the day in Part 1 (Al-Isha/nightfall), Lyons discusses the potent Christian propaganda reflected by the First Crusade as a display of poor western knowledge of Islam and its teachings. This imbalance between the portrayals of Islam compared to its reality in the Middle East ultimately led Adelard of Bath to begin his voyage alone into the Arab region, capitalising on the knowledge of the Abbasid scientists in the House of Wisdom. Such opportunistic perspectives differentiated the views of the Western elite to Pope Urban II in Rome whom initiated and led the First Crusade, considering it a Holy war against the Muslims.

By part two of this book, the authors detailed description of the stories involved in the creation of The House of Wisdom truly inspires, starting the chapter by laying the foundations of its story with Abu Jaffar Al-Mansur, the second Abbasid caliph. This was then followed by the reign of Caliph Al-Mamun, the enthusiastic promoter of science and arguably one of the most central figures in the propulsion of the House of Wisdom into the powerhouse it became, investing significant financial means and resources. The incredible developments are countless though a notable mention should be made towards the development of the map of the world and the efforts towards guiding Muslims to the correct Qibla. Using the work of Ptolemy, an Egyptian astronomer, geographer and mathematician of Greek descent, his table of eight thousand city coordinates complemented Al-Mamun's astronomers and geographers whom unlike medieval Christendom, noted that Islam provided no resistance towards the notion of the Earth being spherical in shape. Using the newly acquired direction, Al-Mamun's geodetic survey of the desert plains of Sinjar, Ptolemy's work, geometry and trigonometry, determination of the Qibla was achieved with extraordinary accuracy, especially for this era. Undoubtedly, this incredible feat contributed to one of Al-Mamun's greatest scientific triumphs, the development of the spherical world map.

In part three and four, the author shifts the focus towards the West's discovery of great Arab accomplishments, in the process discussing thought provoking theological and philosophical ideas. In his recognition for impacts the Arab had on the west, Ibn Al-Haytham emerges as a key figure in the conflict between Arab thought and Medieval Christendom methodologies. Though well known for his accolade within optics, he is widely recognised as the forefather of the modern scientific method, this was defined as the approach to investigating phenomena, acquiring new knowledge or correcting and integrating previous knowledge based on the gathering of data through observation and measurement followed by the formulation and testing of a hypothesis to explain the data. Sadly, the modern scientific method wasn't adopted nor established in the west until philosophers such as Francis Bacon during the renaissance, almost 700 years later.

Examples of the late adoption of Arab science into the West are seen countless times in the book, though it's incredibly important to note that the seeds of knowledge are continuously planted. Thus when the book is read, one notices the blossoming of each seed and the contribution made to modern civilisation.

Through thought-provoking and inspiring discussions by Lyons, the reader is enlightened by the underappreciated history of the Arab and Islamic science. This review merely provides a glimpse of the content in this book and though *The House of Wisdom* is a dense read, opportunities to further understand the characters and stories are provided throughout, aiding the reader through the history surrounding the Arabs' ability to transform the western civilisation. However, for the novice reader, background reading may still be required.

In this incredibly evocative piece, Jonathan Lyons leaves you with speculation; if the Arabic era of scientific magnificence had not come to an end, would the technological civilisation we live in today have existed several centuries ago?

Bringing Unity to the Response Against Covid-19

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The Muslim community is riven with disunity. This is not news to anyone. Whether we look at it from an organisational level, community perspective, the mosques or even the scholars - disunity is so prevalent that it is seen as a fact of life by all of us.

This situation is intolerable and unacceptable at the best of times, but during a medical emergency - it becomes the cause of mass deaths and suffering. This is exactly the situation we found ourselves in as this pandemic spread.

Key medical messages were being drowned out by voices online who felt that an expertise in religious or political sciences meant they could also extrapolate to medical situations. Others felt that the Government advice must be strictly followed not factoring in that Governments could miscalculate badly or have other imperatives such economic and public order.

Along with this, there was genuine misinformation being spread and scare-mongering was leading to a situation where we were all collectively panicking and only a few were actively doing something proactive about it.

It was in this situation that we felt it necessary to run the Muslim communities response to the pandemic as you would any medical emergency or resus. With clear delineation of activities according to speciality, with clear leadership based on merit and with clear communication between all parties working to an agreed plan and protocol. Only then would we have a chance.

This is how the COVID Response Groups (CRG) were born. There is one for the Medical community to provide clear expert medical and clinical advice that is specific to our community. There is a Mental Health CRG that brings together organisations that focus on psychological well being like Inspired Minds, Muslim Youth Helpline and the MCAPN.

Other CRG's included the Burial CRG, the Economic Impact CRG, the Charities CRG, Publicity CRG and finally a National level CRG lead by the major umbrella body of the Muslim community in the UK - the MCB.

By allowing all specialist organisations to focus on their speciality, we were able to build on our strengths and mitigate our weaknesses. In short, we were able to start functioning as a team rather than individual players.

This is a medical disaster and it needs to be run with the clinical skill and surgical precision of one. Pandemics kill, but disunity in the response to it kills more.

Nightingale Mosque – Another function for the mosque in the time of Covid19

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Over the past month I have frequently heard that we are going through ‘unprecedented times’ and you can dispute that. We have been exposed to an invisible enemy who without distinction affects all ages, races and sexes without discrimination and is now a real threat to healthcare workers with many of our colleagues now falling on the front line. As communities struggle with the lock down we find prominent buildings around the country now left abandoned which were until recently the hub of their communities.

At Masjid E Ghosia in Deane, Bolton we have decided to explore how we can still utilise our mosque as the hub of our community. As COVID 19 spreads across the country and the morbidity and mortality rate rises on a daily basis we find ourselves heading for a crisis seen across the world with healthcare services struggling to managing demand. The frail and elderly alongside those with long standing severe chronic conditions will be in competition with those of a younger usually healthier disposition as the ventilator beds become scarcer.

At our mosque with the support of the mosque committee we have decided to explore the possibility of using the premises to support the local community who need healthcare support but may struggle to access main stream NHS services due to their illness, age or likelihood of recovery. The premises possess 12 side rooms to utilise for 22 beds. As a community project with volunteers and donations from interested parties we intend to support the local residents of all faiths where they struggle to manage their ailments at home or may have family complications of family members being quarantined due to a COVID 19 positive patient at home. The project is concentrating on the end of life cohort and with this being a mosque facility we have the necessary wash facilities (Ghusl) for the deceased on site making this more convenient to facilitate the burial process.

As I mentioned at the beginning we are in ‘unprecedented times’ and we have an opportunity when communities for once cannot solely rely on the health and social care system

to meet the needs of all residents of our communities. This is a time for mosques (and other religious dwellings) to show how they can support their communities and abandon segregation to adopt a united approach to a war we are currently engaged in with no imminent sight of a cure.

Obituary

By Dr Amer Hamed, *Cardiology Consultant, Stockport, UK; Council member of BIMA*

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The British healthcare system's loss of seventeen of its Muslim healthcare professionals (fourteen doctors and three nurses as of the 28th April) speaks for itself about the tremendous sacrifice that this community has made during this pandemic. The impact of their passing on their families and local communities has been devastating and we mourn their loss. The British Islamic Medical Association (BIMA) pay tribute to the sacrifice & heroism of these amazing health care professional who lost their lives in the fight against the COVID-19 pandemic in the UK.

Dr Habib Zaidi originally from Pakistan is a GP who worked for around 50 years in Essex. He was well loved by his local community and was known as a fixture in the area. He had been a GP longer than many others had even been alive. He passed away after displaying textbook symptoms of COVID-19 and his death as one of the first in the medical community, sent shockwaves amongst his colleagues and fellow healthcare practitioners. His family and local community mourn his death. He passed away on 25.3.2020.

Dr Adil Al-Tayar was an Organ Transplant Surgeon of Sudanese origin. He was volunteering at the emergency department of Hereford Hospital at West of England when he starts feeling ill & self-isolate before getting worse to require admission & later on ventilation. In the space of 12 days, he went from working at the emergency department to passing away. His death was mourned by his family and local community and he will be remembered for his generosity and humour. He passed away on 25.3.2020.

Dr Amged El-Hawrani was an eminent front-line ENT surgeon at Queen's Hospital, Burton in Derbyshire originally from Sudan. He was instrumental in helping the Sudanese doctors in different stages of training in the UK & Sudan. He was known for being extremely hard-working and dedicated to his patients and even took part in a trek to the Himalayas to raise money for his local NHS Trust. His family and local community mourn his death. He passed away on 28.3.2020.

Dr Alfa Sa'adu was a Geriatrician of Nigerian Origin who started his career in London at 1976. He was previously medical director of Princess Alexandra Hospital in Harlow and medical director and consultant physician at Ealing Hospital before retiring. He came out of retirement to help assist in the fight against the pandemic which sadly resulted in his death. His various management positions speak volume about his leadership team working traits and he will be sorely missed by those in both the UK and Nigeria who knew him. He passed away on 28.3.2020.

Professor Sami Shousha was a Consultant Histopathologist at Charing Cross Hospital managing the breast Histopathology service. He was honorary professor at Imperial College London and worked at UK Cancer Research laboratories at Hammersmith Hospital since 1978. His longevity in working for the NHS is astounding and his family spoke of how much they would miss him. Previous tutees and students spoke of the way in which Professor Shousha's supervision touched their lives and helped them progress in their research areas. He will be sorely missed. He passed away on 2.4.2020.

Areema Nasreen was an enthusiastic young nurse at Walsall Manor Hospital; mother of three who started her career as a housekeeper the year she got married. She then studied to be nurse and graduated only last January. Unfortunately, her time in practice was short and she succumbed to COVID-19 leaving her family shocked and raw with grief. Her age at 36 meant that her family and friends were particularly surprised which deepened their anguish but spoke of how well loved and respected she was by her patients and colleagues. She will be missed. She passed away on 2.4.2020.

Dr Syed Zishan Haider was a British Pakistani GP who was working at the Valence Medical Centre in Dagenham before he passed away from COVID-19. He was known as a selfless man, driven by the need to help others. Even as he was struggling in his final hours from the disease he was urging doctors and nurses to pay attention to other patients and not him, underlying his selflessness. His death was a tragedy and we will be sorely missed by his family

and local community. He was 79 when he passed away on 6.4.2020.

Dr Fayez Ayache was born in Syria but had been living in the UK since the 1970s. He retired a couple of years ago but was back to working a few days a week as a GP with North Clacton Medical Group. He was well known for assisting Syria refugees in the local area over the last few years. His work as a rural GP touched the lives of the local community and his death shook the area. His family and local community mourn his passing as a heroic figure moves on. He passed away on 8.4.2020.

Dr Abdul Mabud Chowdhury was born in Bangladesh but and was urologist based in east London. He is well known for demanding the UK government to supply better PPE for medical workers in hospitals two weeks before his admission as a COVID-19 and wrote to the Prime Minister himself. In a sickly ironic twist, he ended up a patient due to lack of PPE and passed away from the disease. His legacy will not be forgotten as his message gains urgency and his family and local community mourn the loving and selfless doctor. He passed away on 8.4.2020.

Abdul Gellaledin came from Sudan to the UK 30 years ago, and worked transporting elderly patients to and from Kingston hospital in London. He was working as ambulance health care assistant before he died of Covid-19 on 9.4.2020.

Rahima Bibi Sidhanee was a midwife and nurse after she moved to thr UK from Trinidad in the late 1960s. She was working in Sutton, south London at the Grennell Lodge nursing home, for 20 years and refused to retire when she died of Covid19 on 20.4.2020 (she was 68).

Dr Muhanad Nowar Eltayib was a cardiac surgeon working at Royal Victoria Hospital in Belfast and was of Sudanese descent, having studied medicine in Sudan. He had been self-isolating with coronavirus symptoms and was found dead in his apartment. Colleagues at the hospital in which he worked called him a beautiful human being and he will be sorely missed. He passed away on the 20th of April.

Dr Sadeq Elhowsh was an orthopaedic surgeon who worked for St Helens and Knowsley Teaching Hospital in Merseyside and was of Libyan descent. He had been working at St Helens for more than 17 years and was a much loved colleague to all who knew him. He will be sorely missed. He passed away on the 20th of April.

Dr Yusuf Patel was a GP who worked in Woodgrange Medical Practice East London and was well known for providing assistance and care within the local community and beyond. He was held in high esteem by his colleagues and patients who spoke of their sadness on his passing. He passed away on the 20th of April.

Dr Yunes Ramadan Teinaz, a public health doctor of Libyan descent and was working in London passed away on the 21st of April. He will be sorely missed.

Dr Medhat Atalla was a consultant geriatrician at Doncaster Royal Infirmary. He was born in Egypt and studied there before coming to the UK in the early 2000s. He was cherished by his patients and colleagues who described him as gentle and caring. He will be greatly missed. He passed away on the 22nd of April.

Dr Nasir Khan was a consultant in acute medicine in Bolton hospital. He was 48 years of age and originated from Pakistan. He will be sorely missed by his family, friends and colleagues. He contracted Covid-19 and was admitted to the ICU before he passed away on 28.4.2020.