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Editorial

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JBIMA Editorial

Prof Sharif Kaf Al-Ghazal, Editor in Chief

Assalamo Alaikom

I thought I'd use this JBIMA editorial to reflect on the journey we have all been on as BIMA marks its 10-year anniversary this summer. Subhana Allah; What a 10 years it's been!

So many have dedicated countless hours in the service of BIMA, and ultimately, in the service of Allah, working only with the best of intentions. When I reflect and think of how far we've come, and the initial efforts of Dr Hammad Lodhi a decade ago, I'm exceptionally proud. What we have achieved together and the impact we've had on the Muslim and non-Muslim community alike has been astounding. From the lifesaver workshops we ran in mosques, to the work we did on organ donation and end of life care, we have so much to be proud about.

I must point out that if it weren't for the presence of BIMA - and for the work you all did as committed volunteers - I dread to think how much worse the covid pandemic would have been for the Muslim community. The guidance we offered mosques was crucial and our efforts in encouraging vaccine uptake were critical. This was a phenomenal achievement. The work that BIMA did during the pandemic was highlighted positively in the media and our collaborations with the MCB and other organisations was a great success.

As a former president I feel privileged to have been tasked with leading BIMA, developing it, and safeguarding the organisation for my successor, Dr Salman Waqar. You all taught me how to be an effective leader, and you offered your support when I needed it. This will never be forgotten.

Our mission, our vision and our unity has kept us strong. As Allah swt says in the Quran "And hold firmly to the rope of Allah all together and do not become divided". We have held together; we have progressed and moved forwards because of the work you have all put in and the dedication you have demonstrated, and ultimately, because Allah willed it to be. There is no reason why the next decade can't be even better; we've laid our foundations and now we need to continue developing and facing the challenges the next few years will bring.

May Allah always keep us on the right path. May he always bless us and grant us success, and May he accept all that we do in his service.

Very best wishes,

Wassalam.

Prof. Sharif Kaf Al-Ghazal
JBIMA, Editor in Chief

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Ethics

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Unstable Life: A Comprehensive Rebuttal Establishing the Legitimacy of Organ Retrieval in Brain Death Patients in Islamic Jurisprudence

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Abstract

This paper provides a comprehensive response to recent critiques surrounding the ethical permissibility of procuring vital organs from patients declared clinically brain-dead within Islamic jurisprudence. The author not only summarizes but also expands upon an in-depth analysis to effectively counter objections raised by Hussain and other critics. While acknowledging that 'unstable life' (*al-ḥayāt ghayr al-mustaqirrah*) does not equate to absolute biological death, the paper adeptly illustrates its applicability in cases where patients exhibit profound, irreversible unconsciousness alongside catastrophic brain injury leading to imminent demise. A crucial distinction is drawn between unstable life and the established medical criteria for brain death, while also acknowledging considerable overlaps within certain clinical contexts. By meticulously explaining the two fundamental conditions delineated by classical Muslim jurists, the paper firmly establishes unstable life as a unique biological state closely aligned with the early stages of dying. The argument hinges on the pivotal role of diminished consciousness in definitively characterizing unstable life, thereby making it applicable to clinically brain-dead patients who remain in a permanent state of unconsciousness. Through a jurisprudential analysis, the paper systematically builds a multi-faceted case that upholds the ethical and legal validity of organ retrieval from clinically brain-dead patients with proper consent. In doing so, it effectively refutes allegations of unethical homicide (qatl) and constructs a compelling argument in favour of the lawful retrieval of vital organs from clinically brain-dead patients, grounded in the jurisprudential concept of unstable life.

Introduction

The paper discusses some salient points from a much longer paper by the author [1] related to the nuanced concept of brain death or neurological death in light of "unstable life" (*al-ḥayāt ghayr al-mustaqirrah*) as interpreted and formulated by classical Muslim jurists. This has recently faced criticism by Hussain (2022) [2] and others [3], who forcefully argue the prohibition of retrieving organs from clinically brain-dead patients in Islamic jurisprudence. They add that reference to unstable life as a justification is not acceptable, as it merely represents a precautionary principle applied to homicide cases rather than a distinct biological state synonymous with the multifaceted process of dying. [3]

This paper provides a concise overview of a comprehensive and multi-faceted counterargument to

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such accusations and more, accomplishing this by clarifying the intricate prerequisites outlined by classical jurists that definitively establish unstable life as a unique biological state that is directly aligned with the intricate progression towards death. This establishment permits the application of rulings concerning the deceased, including the retrieval of organs for transplantation.

Of significant importance here is the ethical and legal perspective concerning the permissibility of medical interventions in and around death within the framework of Islamic sharīʿāh law. To grasp the legal or juridical standpoint of Islam, it is essential to consult classical Muslim jurists and legal scholars who provide principles and a conceptual structure derived from their authoritative interpretive method for Islamic sources. It is unnecessary to engage in metaphysical theological debates about the soul and its biomedical correlations. Instead, the focus should be on establishing a correlation between relevant Islamic jurisprudence on death by classical jurists and biomedical science.

Building upon this foundation, the paper will first address concerns that appear to blur the boundaries between language and semantics, encompassing physical, theological, and metaphysical events and processes associated with death. The choice of the terminology used by Hussain, particularly concerning 'biological death,' becomes entangled with the concept of 'social acceptance of death,' leading to a fusion of physical occurrences such as irreversible brain function loss (brain death) with metaphysical occurrences like the departure of the soul, indicative of 'religious death.'

Secondly, the paper will comprehensively expound upon the two essential conditions defined by jurists for unstable life, coupled with pertinent medical concepts. These conditions closely align unstable life with the intricate 'process of death,' albeit not precisely aligning with formal brain death criteria; instead, it represents a preceding stage. This alignment facilitates jurists' rational application of specific death-related judgments.

Furthermore, the paper will emphasize the derivation of unstable life in Islamic law rooted in revelations, supported by ample evidence. This underscores the necessity for a robust counter to opposing assertions that claim it to be a later construct confined to homicide or disconnected from contemporary realities.

Additionally, the paper will highlight the significance of permanently profound diminishment of consciousness as the pivotal factor in equating unstable life with proximity to actual death, thereby enabling the application of specific death-related rulings.

Lastly, the paper will analyse the relationship between unstable life, brain death criteria, and bioethical considerations for organ retrieval from the juridical standpoint. Any essential surgical intervention to retrieve organs from consenting individuals aims to preserve lives rather than constitute illicit unethical killing.

In conclusion, the paper aims to systematically present a scholarly response of authoritative stature to address prevalent misconceptions surrounding unstable life in classical Islamic law.

Language and Semantic Distinctions Associated with Death

Hussain contends, “As the definition of death has evolved over time this may indicate that death cannot be accurately defined, only stable definition may be “irreversible cessation of life.” Which would imply any signs of life precludes the diagnosis of death”.” [2]

The inquiry emerges: to which nuanced comprehension of death and life is Hussain alluding, one that allows for a distinct demarcation between the two? Is this pertaining to biological death, or is there a conflation with a socially accepted interpretation of death?

He goes on to acknowledge, that “whether or not the soul has departed from an individual declared brain dead is impossible to ascertain with certainty. The only statement anyone can make for certain on this issue is that no one knows for sure”, only to add that, “the traditional method used to determine this endpoint was the irreversible loss of heartbeat and breathing. These diagnostic criteria are still accepted by contemporary religious scholars as reliable signs of departure of the soul from the body (religious death).” [2]

Further to this he asserts, “labelling them “legally” dead does not change the reality. Legal death is not synonymous with actual death”.” [2]

These various intricate interpretations of death are erroneously merged into a singular concept. It is imperative to discern between 'biological death' or 'death proper', 'religious death', and 'legal death' when viewed from secular, scientific, and Islamic standpoints. Hussain, in his analysis, lacks proper differentiation, especially concerning the Islamic comprehension of legal death (*al-*

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mawt al-ḥukmī) in comparison to death proper (*al-mawt al-ḥaqīqī*). [1]

From a secular and scientific perspective, 'biological death' represents a transitional process, a fact, and is an inherent value-neutral change in an individual's biology. Inherently, it holds no moral significance as the reality is that it is unrelated to secular or theological viewpoints. Biological death can either be the final biological event or a significant change already occurring as part of the dying process.However, the social interpretation of biological death as an event is far from neutral. Socially, it can be understood as a dying biological state, death proper, religious death, or legal death, all of which carry moral implications and are therefore significant in terms of the perspective from which they are viewed.

Death proper is 'socially', universally accepted as referring to the point at which irreversible loss of cardio-respiratory function occurs, and there is no chance of revival or recovery. It signifies the permanent and final cessation of all vital functions necessary for sustaining life. Once death proper has occurred, there is no possibility of resuscitation or reversal. It represents the end of biological life and the process of decomposition.

Regardless of the perspective, one certainty is that death is a biological fact representing the inevitable impermanence of human life. In the impartial scientific language of biological changes, death may be temporarily reversible in some instances but ultimately remains unavoidable. This temporal reversibility should be differentiated from efforts to establish clear legal standards or definitions of death, where standard definitions strive to simplify biological death by marking it as the definitive end of an individual's life and narrative to serve a particular purpose.

For instance, a standard definition of a person's death may involve the individual sustaining either (1) irreversible cessation of circulatory and respiratory functions or (2) irreversible cessation of all functions of the entire brain. The first part serves a broader purpose in legal, cultural, and societal matters, requiring societal acceptance to implement all ethico-legal death-related behaviours including burial, culminating in a death declaration signifying a state synonymous with death proper. In contrast, the latter part is more reserved, allowing for the possibility of medical intervention in some procedures that may typically be ethically unacceptable if the person were alive. This state does not represent death proper, but rather moral or legal death though may be designated the broader understanding of death proper dependent on social acceptance.

Biological death, therefore, entails understanding the intrinsic or real changes to the material essence of existence, while social death involves comprehending the narrative shift in our identity, hereafter referred to as death proper when a person is ready to be buried. Legal precedents anticipate the social death of a person before their physical biological life has truly ended, at which point some, but not necessarily all death behaviours are enacted; this is referred to as legal death and is not to be confused with death proper as has been by Hussain. Confusion arises when the three concepts of death—biological, death proper, and legal death—are mistakenly regarded as one. Each concept serves its own purpose.

Hussain extensively discusses the history of the neurological death standard and how death determined through the brain death standard is not identical to actual death, which he conflates with religious death as he perceives it.

He employs a strictly medical or scientific construct of death to make a case against organ retrieval from brain-dead donors while presenting it from an Islamic standpoint. However, the Islamic legal tradition extensively discusses the ethical acceptability of actions involving the human body in individuals nearing death with significantly reduced consciousness. This is the context where these inquiries should be addressed, rather than solely from a medical perspective.

Classical Muslim jurists describe a death process that exists as a liminal state between stable life (*ḥayāt al-mustaqirrah)* and death. This biological state is referred to as *ʿaysh al-madhbūḥ* (life of a sacrificed animal) or *ḥayāt ghayr al-mustaqirrah* (unstable life), which creates confusion due to its similarities and differences with both life and death proper. [1]

This state must be distinguished from life-related rulings, even though its biological characteristics closely resemble those of life, and it must also be differentiated from the biological state of death proper, even though its rulings are akin to those pertaining to death proper. This subtle biological and ethico-legal overlap can cause confusion, making the transition from life to death appear seamless or as a singular physical event rather than a process. This transition carries significant implications for the legality of medical interventions. This in-between state is tantamount to legal death or *al-mawt al-ḥukmī*,

which is quite different to death proper, and is based on the premise that its rulings closely resemble those associated with death. [4]

The paper intends to propose that the intermediary condition recognized by classical Muslim scholars as 'unstable life,' situated between life and death, aligns with the concept of the "death process." This state, characterized as a separate biological condition defined by revelation, is considered in various rulings to be akin to death in its normative aspects, thus leading to analogous legal decisions and behaviours related to death. The argument will demonstrate that this state of unstable life holds significance as a form of Islamic legal death, separate from the notion of death proper or the secular understanding of legal death. This distinction is derived from what is permissible within this state, while its determination is rooted in biological processes.

Conditions for Unstable Life

Classical Muslim jurists had precisely outlined two essential conditions for the state of unstable life: (1) unequivocal certainty of impending death,within a day, due to a catastrophically severe injury causing overwhelming trauma, and (2) definite somatic signs indicating universal loss of higher integrated cognitive processing and purposeful voluntary motor activity.
The first vital sign mandates that the exact nature of the injury or trauma must be clearly devastating enough to lead to death directly and shortly. An evaluation of the precise nature and medical severity of the incurred bodily injury or trauma allows learned jurists to prognosticate with reasonable certainty the direct linear trajectory towards death and dying. For instance, directly slitting the throat, crushing damage to the cervical spine, or profound penetrating abdominal trauma leading to the expulsion of internal organs are regarded as unequivocally and acutely fatal. Moreover, the imminent rapidity of predicted death following the catastrophic injury indicates its singular role as the proximate causative factor of inevitable demise. [5] [6]

The second cardinal condition entails the observable presence of decisive somatic signs that confirm objectively the overt loss of integrated neurological functioning and purposeful voluntary motor activity. Specific indicators delineated by jurists such as absolute loss of intelligible coherent speech, vision and hearing represent the irreversible onset of deep unconsciousness. Similarly, the permanent loss of spontaneous wilful movement and instead only purposeless reflexive or agonal movements are regarded as corroborative proof that higher neurological function has been catastrophically compromised. This understanding aligns closely with the modern biomedical concepts of profoundly diminished central nervous system functionality secondary to incurable structural damage at multiple levels.[6] [7] [8] [9] [10]

Therefore, unstable life positively indicates the initiation of the irrevocable process of dying where brain functioning is critically and irreversibly impaired immediately following devastating trauma, though not necessarily amounting precisely to formal medical criteria for brain death determination, rather, a state even prior to it. The enduring vegetative unconscious state accompanied by appropriate confirmatory somatic signs signifies the decisive commencement of the complex process of death or unstable life, thereby allowing jurists to apply certain death-related rulings with reasonable certainty. [3]

Table 1. Conditions of Unstable Life

Conditions of Unstable Life		
1	Certainty of death	Nature of injury is certain to cause death
		Death is certain to occur within a day
2	Somatic signs	Permanent severely diminished or absent cognition and volition
		Permanent severely diminished or absent voluntary capacity for physical functioning

Application of Unstable Life to the Sick Patient

The concept of "unstable life" in classical Islamic jurisprudence is explored in relation to sick patients. Classical jurists assert that somatic signs resembling unstable life due to illness do not qualify for legal death rulings. [1] If someone is sick, exhibiting such signs, and is subsequently assaulted and dies, the assailant is considered the murderer and faces punishment. The distinction lies in the certainty of death between direct assault and illness-related death. Direct assault results in clear evidence of imminent death, while illness-related death is less certain. [4] [6] [8] [11]
During medieval times, distinguishing between illness-induced unconsciousness leading directly to death and assault-induced death while unconscious was challenging. Physical signs resembling unstable life did not fulfil criteria for rulings related to unstable life or the death process. Severe injuries clearly predicting

imminent death differ from unconsciousness due to illness, which lacks certain indications of impending death.

Some jurists consider a poisoned person analogous to a severely assaulted person, attributing unstable life to them if they show signs. This is due to the clear trajectory toward death caused by poisoning, similar to severe injuries. Advances in imaging and diagnostics now allow accurate determination of brain injury severity and subsequent death certainty. If certain through diagnostics that a person will die within a day due to trauma and underlying illness, accompanied by signs of unstable life, it can be classified as a death process. [7] [13] [14]

Somatic signs described by classical jurists relate to loss of physical and cognitive abilities. These states can apply to patients in a persistent vegetative state (PVS) or minimally conscious state (MCS) if the injury cause is clearly identified through diagnostics and death is certain without artificial support. However, distinctions exist between PVS and MCS, where MCS patients may still show minor signs of stable life and not be considered in an unstable life state.

Hussain contends that consciousness is not an all-or-nothing state and lacks a universally accepted definition. Adopting the higher-brain standard would categorize individuals in a persistent vegetative state (PVS) as deceased, despite their ability to breathe spontaneously and retain brainstem functions. Some individuals can remain in this state for extended periods, including years. Similarly, infants born with anencephaly, lacking consciousness but capable of independent breathing, would also meet this criterion for death. The general public would likely find procedures like dissection, post-mortem examinations, or burials unacceptable for unconscious individuals who can still breathe independently. Additionally, Hussain challenges the concept of unstable life in patients on life-sustaining treatment (LST), arguing that patients with ongoing vital functions should be considered alive. Such patients might even grow and develop while brain-dead, and their organs may not experience necrosis or heart failure within days. Thus, this state should not be considered the process of death or unstable life. [2]

The point of contention here stems from the conflation of unstable life with true death. While it's acknowledged that individuals removed from life support who can breathe independently, even those in a PVS, might continue to show signs of life, it's crucial to distinguish this scenario from the unstable life concept. Unstable life, as defined, refers to a state where the person's self-sustaining life is absent after an injury, potentially leading to compromised or lost spontaneous breathing, ultimately resulting in death within a day without artificial life support. This definition encapsulates not just the capacity for spontaneous breathing, but also the trajectory of impending death within a short timeframe. [15]

Regarding patients on life-sustaining treatment (LST), the notion that ongoing vital functions imply life in a stable state is indeed relevant. However, the crucial factor is the predictability of survival. In cases where patients with ongoing vital functions are expected to face imminent death shortly after the withdrawal of LST, this aligns with the concept of unstable life. The intent behind such considerations is to accurately determine a point where death is inevitable, rather than merely delaying the process of death.

Hussain clarifies that there are instances where patients suffer a lasting loss of their ability to breathe due to a severe cervical cord lesion. In these cases, individuals remain awake and mentally aware but rely on a ventilator to sustain their life. The situation of Christopher Reeve, who experienced paralysis from a C1-2 injury, exemplifies this scenario. Additionally, there are rare occurrences of Total Locke Syndrome, wherein patients are conscious and alert yet lack integrated functioning beyond that seen in a brain-dead patient. Such patients necessitate intensive care similar to brain-dead individuals to maintain their vital functions. [2]

Addressing this dilemma is relatively straightforward. The conditions mentioned do not align with the concept of unstable life. Unstable life involves a permanent loss of cognition, voluntary physical activity, and volition. Therefore, if an individual retains cognition, awareness, and wakefulness, their state cannot be categorized as unstable life.

In the case of Total Locke Syndrome, even though externally they exhibit signs similar to unstable life, their consciousness remains intact. Their paralysis impedes them from acting on their intentions, which results in a loss of voluntary physical actions while their cognition remains mostly undamaged. It's important to note that their condition is attributed not to brain injury but rather to brainstem injury, indicating that they aren't in the process of dying. Due to the presence of uncertainty and

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out of caution, classical Muslim jurists refrained from categorizing patients with underlying illnesses in this state as being in unstable life.

For a state to be classified as the death process, diagnostic evaluations must confirm severe brain damage as the cause and ascertain that death will occur within a day. Irrespective of brain electrical activity, the presence or absence of voluntary functional activity, cognition, and volition hold paramount importance. These factors decisively determine whether the state is characterized as stable life or unstable life.

Revelation-Based Legal Theory

The intricate theory of unstable life has its origins in revealed Islamic teachings and the authoritative scholarly consensus of the Prophet Muhammad(ﷺ)'s companions and eminent early Muslim jurists. The special significance given to a newborn's loud lusty cry (*istahall*) at birth is derived directly from an authenticated Prophetic statement specifying: "If a newborn cries audibly [at birth], it inherits" (Ibn Mājah). The conspicuous absence of this cardinal evidentiary sign of stable independent life compels the application of unstable life rulings instead. This is because a newborn exhibiting only reflexive breathing movements without a spontaneous forceful cry was considered legally equivalent to being dead, for matters related to inheritance rights and other sharīʿah rulings as this was seen as a state synonymous with unstable life. [5] [16] [17] [18] [19]

Moreover, there was scholarly consensus between classical jurists and Prophetic companions concerning the legitimacy of the concept of unstable life, based on authentic scriptural sources and the authoritative acceptance of companions regarding the fatal abdominal injury and subsequent death process of the eminent Caliph Umar ibn al-Khattab. The companions of the Prophet (ﷺ), acknowledged the death of the companion and Caliph, Umar, based on the announcement of his death by the attending physician based on the severity of his injury, and his overall condition before actual death. [5] [15] [16] [20]This permitted the companions to initiate death-related practices such as fulfilling his bequests and making decisions regarding the next caliph. Therefore, unstable life is not an arbitrary cautious precaution but a bonafide revelation-based biological state with origins in primary revealed texts and juristic exegesis, necessitating a robust response to opposing claims of it being a later construct specific to homicide.

Hussain underscores the necessity for the legal judgments of classical Muslim scholars to synchronize with present realities. To illustrate, he highlights their past endorsement of a gestation period of 2-7 years, which contemporary scientific insights no longer substantiate. [2]
Classical scholars founded their principles on revelation, an aspect widely accepted. Nonetheless, the application of these principles can evolve alongside biomedical progress. Current knowledge confirms the observable maximum gestation period through imaging, rendering the speculative 2-7-year range irrelevant. This range's basis lies in application, not the core principle. It was shaped by medieval medical understanding and expert input, influenced by probability rather than certainty. This distinction highlights how principles were employed within the context of less advanced medical awareness in their era.

The same principle extends to the adjustment of past scholars' legal decisions by contemporary scholars, particularly concerning matters like fast invalidation due to medical interventions, rooted in human anatomy understanding. Classical scholars devised fundamental principles for invalidating fasts, which they applied according to the prevailing comprehension of human anatomy. They expressly acknowledged that these judgments hinged on the biomedical knowledge accessible in their era.[21] [22]

Conversely, the concept of unstable life aligns harmoniously with modern biomedical understanding, endorsing the proposals of classical scholars. Their criteria centred on diminished neurological signs seamlessly integrating with current knowledge and are even refined by it. Similarly, contemporary scholars adapt past rulings based on the progressing insights of medical science. The underlying principles originating from revelation remain valid, with their application tailored to the most recent medical advancements.

The relevance of how the US, Australia, and Europe regard individuals declared dead according to brainstem criteria is inconsequential in the context of an Islamic viewpoint. The Islamic perspective necessitates an exploration of the matter through the lens of unstable life's transitional states between existence and death, along with how contemporary medical comprehension interfaces with and enhances this perspective. [2]

The notion of the death process within the realm of unstable life isn't contingent upon scientific knowledge or discoveries, but rather hinges on two fundamental

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conditions: the certainty of death and somatic indicators of unstable life derived from sacred sources. It's pertinent to recognize that existing neurological standards for establishing death, whether predicated on whole-brain or brainstem criteria, harmonize with this interpretation, signifying the concept of unstable life. Ultimately, it's the alignment with this understanding that holds significance.

In his fatwa, Butt elaborates that the Sunni Islamic schools propose a 2-3 day delay in declaring death when uncertainty is present, a practice that extends to cases of unstable life. This approach is founded on the principle of confirming death for burial purposes, ensuring accurate identification. [2] [23]

The concept of putrefaction isn't aimed at pinpointing the exact time of death; it pertains to determining the timing of burial. Jurists engaged in discussions on this matter primarily concerning obscured deaths such as sudden fatalities from various causes like battles falls, or animal attacks. Their recommendations centred on waiting for unmistakable signs of death in such situations. Ibn Qudāma suggested a period of 3 days, while al-Baṣrī, al-Nawawī, and Ibn al-Rushd differed in their stances based on factors like doubt or specific causes like drowning. [18][24][25][26]

Advanced medical technology has mitigated concerns about premature burial. Delaying burial solely based on this apprehension appears unwarranted. The classical accounts aimed at confirming suitable conditions for burial, not the determination of the death process or unstable life.

These historical accounts offer clarity regarding the timing of burials as outlined in Islamic jurisprudence. It's vital to differentiate between death proper and legal death. While they do share certain death-related rulings, they diverge in context and shouldn't be conflated.

Profound Diminishment of Consciousness

The extreme depth of diminished consciousness is the single most important defining hallmark of the unstable life state, which distinguishes it from formal medical criteria required for the diagnosis of brain death.

Individuals who meet the complex clinical and technological criteria for brain death no longer possess any consciousness or voluntary function. However, some residual brain stem activity driving basic reflexes may still be present. On the other hand, unstable life indicates that consciousness, cognitive awareness, understanding, and purposeful behaviour are completely lost, confirming permanent profound unconsciousness. However, some basic brain stem reflexes allowing dysfunctional organ function may remain for a short period. Hence, loss of higher mental functions and consciousness are key for determining both brain death and unstable life. Brain-dead patients who lose all consciousness but retain reflexive activity satisfy the prerequisites of unconsciousness stipulated for unstable life. Therefore, organ donation is permissible in unconscious brain-dead patients under unstable life conditions before total brain function cessation.

Patients in very low-awareness neurological states such as persistent vegetative or minimally conscious conditions exhibit substantial impairment of higher cognitive abilities and purposeful volition. Although incapable of independent living, their neurological status does not necessarily match the strict thresholds set for clinical brain death determination.

Nonetheless, classical Muslim jurists considered the overt and enduring profound unconsciousness seen in unstable life as reasonable grounds for applying certain death-related rulings due to its close proximity to actual death if death was to ensue shortly after.

The unequivocal loss of higher integrated cognition and wilful purposeful volition, not just primitive brainstem reflexes alone, is the most crucial factor in definitively determining the state of unstable life. This singular state of severely diminished consciousness carries enormous consequences for complex deliberations regarding controversial end-of-life decisions within the framework of Islamic law such as withdrawing life-sustaining treatments.

It has been asserted that in 1985, the Islamic Organisation for Medical Sciences (IOMS) linked brain death with unstable life, permitting the withdrawal of life support. Hussain, however, contends that IOMS didn't explicitly designate this as legal death. Nonetheless, its endorsement of discontinuing life support for unstable life implies an acknowledgement of its ethical and legal differentiation from stable life. [2]

The confusion arises from conflating the Islamic concept of "al-mawt al-ḥukmī," which signifies legal death, with the Western medical interpretation of death that held more significance for IOMS. Western legal death aligns with biological death when resuscitation is unfeasible or

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ethically unjustifiable. In contrast, Islamic legal death is concerned with implementing death-related regulations within the parameters of unstable life's criteria.

"Unstable life" denotes a state of biological instability that approaches death due to preceding events in the process of dying. During this phase, the death process unfolds concurrently with the application of death-related rulings established by classical scholars. While the departure of the soul is not explicitly addressed, the loss of rational control over the body legitimizes the application of death rulings, even if the soul has not yet departed. [10] [27]

It is crucial to understand that the IOMS's scope was not to explore the permissibility of organ transplantation within the context of unstable life. Instead, their focus was on ascertaining whether brain death aligned with death proper. This distinction highlights the varied objectives of IOMS and the discussion around unstable life within the Islamic framework.

In conclusion, equating unstable life and legal death within the Islamic paradigm remains distinct from Western interpretations of biological or legal death. To avoid confusion, it is essential to differentiate between these concepts and recognize their individual contexts.

Relationship to Brain Death Criteria and Organ Retrieval

From the perspective of Islamic jurisprudential principles, patients exhibiting both medical certainty of rapidly ensuing death due to catastrophic injury as well as the somatic signs of permanent deep unconsciousness associated with unstable life can be reasonably considered as legally dead, though not biologically deceased. Hence, any necessary surgical intervention to retrieve organs from such individuals done with appropriate consent solely aims to save lives and does not constitute unlawful unethical killing (*qatl al-ʿamd*). This is because their organs are of no conceivable benefit to them in the state of unstable life as their consciousness is permanently and irreversibly lost. Thus, retrieving their organs for transplantation represents a legitimate act of necessity (*ḍarūrah*) permitted by Islamic law to uphold the sanctity of life.

Some of the most common arguments against organ retrieval in such patients, put forward by Hussain tend to relate to the following three concerns. That (1) vital organs can only be retrieved from the dead and this is not death, but hastening death, that (2) the patient may be alive and sense the pain of removal of their vital organs and that (3) diagnostic tests to determine that the patient is dead are not certain enough. [2]

Vital organs from such patients cannot be retrieved in cases of necessity until there is certainty that the patient is dead. The removal of vital organs before this is hastening death and akin to killing.

The position posited in this paper suggests that organ retrieval from individuals in an unstable life state is permissible with appropriate safeguards. The concept of death is presented as a process, and the criteria for determining proper death are elucidated in terms of the "permanent" cessation of vital functions.

The ongoing discourse between "irreversible" and "permanent" is explored in the more detailed paper, with emphasis placed on the logical validity of permanence as a standard. The notion of permanence is subsequently linked to Islamic principles, as the pivotal consideration pertains to the initiation of the death process (unstable life), rather than exclusively irreversible cessation. Justifying the adoption of the permanence standard for death determination within Islam is warranted.[1]

Drawing an analogy, organ retrieval from individuals in unstable life is likened to the act of discontinuing life-supporting apparatuses, as the organs retain limited value in this context. The principle of necessity is invoked, permitting organ retrieval in these circumstances. Additionally, a comparison is drawn to legal consequences for assault in Islamic jurisprudence, underscoring the differentiation between scenarios involving stable life and those involving unstable life. [1]

In essence, the discourse advances the perspective that organ retrieval from those in an unstable life state adheres to Islamic principles when examined through the lens of permanence, necessity, and comparisons with established legal precedents within the Islamic legal framework.

Retrieving organs from such patients may potentially harm the patient and in Islam, no act of necessity is permissible if it involves harming or taking the life of one for the benefit of another.

The argument posits that physical harm could result only if there exists retained brain function within the patient,

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allowing for the perception of pain, or if the act accelerates the demise of a living individual.

The implementation of safeguards during organ retrieval procedures effectively precludes any possibility of reversing brain function. Organs are extracted following the discontinuation of life-sustaining treatment, adhering to specific timeframes where circulatory and respiratory functions cease. The declaration of death is carried out post the designated "no-touch period," adhering to the criteria of unstable life or proper death. Current practices align seamlessly with the Islamic principle of necessity, as they seek to benefit others through organ transplantation, provided there is consent, thus advancing higher Islamic interests.

In essence, the contention asserts that the apprehension surrounding potential harm during organ retrieval is addressed by the existence of safeguards, adherence to established timeframes, and alignment with principles of necessity and consent in Islam. [1]

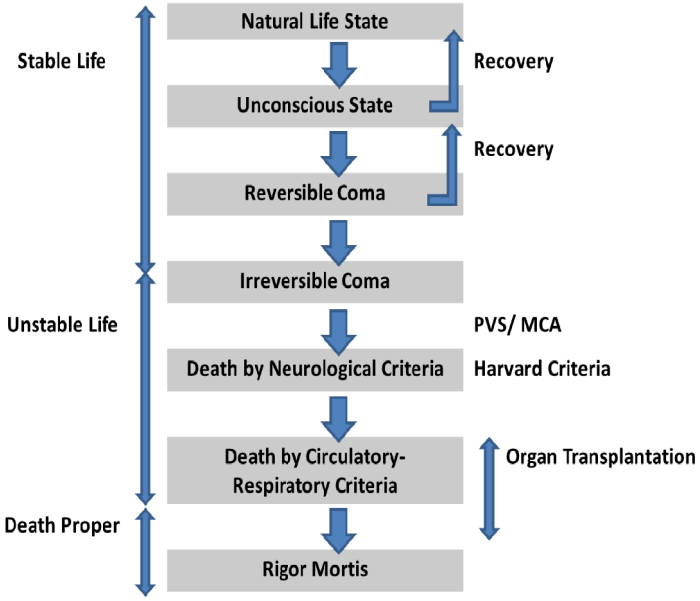
There have been cases where certain patients have had their neurological functioning reversed and hence there is uncertainty in the accuracy of the diagnostics related to the neurological death standard.

The argument contends that the gold standard for ascertaining death based on neurological criteria involves a clinical neurologic assessment. From the standpoint of the Islamic perspective, the assurance offered by these diagnostics is substantial. The indispensable requirement for permanent brain function loss holds a unanimous consensus within the field. While the matter of consciousness holds significance, it's noteworthy that there are no documented cases that contradict the established criteria.

In the context of ancillary testing, its utility emerges in specific situations. Islamic law embraces a sense of approximation rather than absolute certainty when establishing death. Legal certainty corresponds to a high dominant probability, denoted as "*ghalabat al-ẓann*." The determination of death can be made post cardio-respiratory collapse or the confirmed cessation of brain stem function.

Moreover, the verification of brain stem death renders the need for confirming the absence of brain circulation redundant. The response underscores that the clinical approach towards determining death by neurological criteria is robustly grounded, with emphasis placed on the permanent loss of brain function and the significant role of ancillary testing in certain scenarios. [1]

The visual depiction in the table underneath illustrates the Islamic notions of stable life, unstable life, and death proper, juxtaposed with contemporary terms and interventions, along with their permissibility.



Conclusion

This paper is a summary of the more extensive paper which offers a multifaceted yet authoritative point-by-point rebuttal to the major recent criticisms related to the concept of unstable life in traditional Islamic jurisprudence being a justification to permit retrieval of vital organs in the brain dead. It has comprehensively demonstrated that unstable life represents a distinct revelation-based biological state that is positively identified with the early stages of the irreversible dying process, distinguishable through explicit somatic signs and absolute certainty of impending demise. The paper also underscored the paramount role of profoundly diminished higher consciousness as the single most important factor in conclusively determining the state of unstable life, with significant implications for complex end-of-life decision-making. While noteworthy associations exist between unstable life states and formal

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criteria for brain death, establishing their full jurisprudential equivalence requires additional painstaking analysis by modern scholars. Overall, this

paper aimed to present a broad-based yet cogent scholarly repudiation to systematically address salient misconceptions associated with the multifaceted state of unstable life and its key determinants in Islamic law.

References

[1] Rashid, R. (2023). *Unstable life: The Death process in Classical Islamic Jurisprudence and its Implications for End-of-Life Decisions*. Available https://independent.academia.edu/RafaqatRashid

[2] Hussain, A. (2022). Is the 'Concept' of Brain Death Compatible with the 'Reality' of Religious Death? *Journal of the British Islamic Medical Association*, 10(4), 12-29.

[3] ʿAnqāwī, T. (2018). *Aḥkām Qarārāt al-ʿIlājāt al-Musanidātl'il-Ḥayāt*. Dar Atlas al-Khadra', al-Riyad.

[4] IOMS (The Islamic Organization of Medical Sciences). (1986). Nadwat al-ḥayāh al-insāniyyah bidāyatu hāwanihāya tuhāfī al-mafhūm al-islāmī al-munaqidah. *Majallat Majmaʿ al-Fiqh al-Islāmī*, 1986(3), 239. Kuwait.

[5] al-Buhūtī, Manṣūr b. Yūnus. (2003). *Kashshāf al-Qinā' ʿanMatn al-Iqnāʿ*. Dar Alam al-Kutub, al-Riyad, 5(516).

[6] Al-Haythamī. (2020). *Tuḥfat al-Muḥtājfī Sharḥ al-Minhāj*, al-Kuwayt : Dār al-Ḍiyā'lil-Nashrwa-al-Tawzī', 8(393).

[7] al-Jamal, Sulaymān. (n.d.) *Hāshiya al-Jamal ʿalāSharḥ al-Minhāj*, Beirut: DārIḥyā' al-Turāth al-ʿArabī,5(16).

[8] Al-Anṣārī. (n.d.). *Asnā al-Maṭālib fī Sharḥ Rawḍ al-Ṭālib*, Dār al-Kitāb al-Islāmī, 4(10).

[9] Al-Ḥadādī. (2006). *al-Jawhurat al-Nayirahʿalā Mukhtaṣār al-Quḍūrī*,Beirut: Dār al-kutub al-ʿIlmiyyah, 1(110).

[10] Ibn ʿĀbidīn. (2000). *Ḥāshiyah Ibn ʿĀbidīn*, Beirut: Dār al-Fikr, 2(227).

[11] Al-Ramlī. (2003) *Nihāyat al-Muḥtājwa Hāshiyat al-Shibrāmalsī*, Beirut: Dār al-kutub al-ʿIlmiyyah,8(15).

[12] al-Shirbīnī (1997),*Mughnī al-Muḥtājilā Maʿrifa Ma'ānī Alfāẓ al-Minhāj* (Muḥammad Khalīlʿ Aytānī ed, Beirut: Dār al-Maʿrifa. 5(227).

[13] al-Qalyūbī, and ʿUmayra (1956). *Ḥāshiyatā Qalyūbīwa ʿUmayrah*, Cairo: Muṣṭafā al-Babī al-Ḥalabī, 4(105)

[14] Al-Zuḥaylī. (1997). *al-Fiqh al-Islāmīwa Adillatuh*, Damascus: Dār al-Fikr,4(2785).

[15] Al-Zarkashī. (2000). *Al-Manthūr f'īl-Qawā'id*, Beirut: Dār al-Kutubalʿ Ilmiyyah, 2(406).

[16] Al-Mawsūʿat al-Fiqhiyya. (1982)Wizārat al-Awqāf wa al-Shaūn al-Islāmiyyah, Kuwait,. 18(269).

[17] Al-Zurqānī. (2002). *Sharḥ Zurqānīʿ alaMuktaṣaral-Khalīl*, Beirut: Dār al-kutub al-ʿIlmiyyah2(112).

[18] Ibn al-Qudāmah. (n.d.). *al-Mughnī Sharḥ Mukhtaṣar al-Khirqī*, (ʿAbdallah b. ʿAbd al-Muḥsin al-Turkī and ʿAbd al-Fatāḥ Muḥammad al-Ḥalw eds, Riyadh: Dārʿ Ālim al-Kutub6(384).

[19] Al-Mardāwī. (1956). *al-Inṣāffī Maʿrifat al-Rājiḥ min al-Khilāf*, DārIḥyāʾ al-'Arabi7(331).

[20] al-Jaṣṣāṣ. (2010). Sharḥ Muhtaṣār al-Ṭaḥāwī, Dār al-Bashā'ir al-Islāmiyyah, 5(134).

[21] Ibn Nujaym. (1997). *Al-Baḥr al-Rā'iqSharḥ Kanz al-Daqā'iq*, Zakariyyāʿ Umayrāt ed, Beirut: Dār al-Kutub al-ʿIlmīyyah,2(278).

[22] Al-Marghinānī. (2010*). al-Ḥidāyah*, Beirut, Dār al-Iḥyā al-Turāth, 2(268).

[23] Butt, Z. (Date not provided). Organ Donation and Transplantation in Islam - An Opinion. An Islamic perspective on organ donation can be downloaded at https://www.organdonation.nhs.uk/helping-you-to-decide/your-faith-and-beliefs/islam/ (accessed May 2020).

[24] Qalʿah-Jī, Muḥammad. (2017). *Mawsū'atFiqh al-Ḥasan al-Basrī*, Dār al-Nafā's, 1(852).

[25] Al-Nawawī. (2008*). al-Majmūʿ Sharḥ al-Muhadhdhab*, Maktabat al-Irshād, 5(110).

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[26] Ibn Rushd. (2007). *Bidāyat al-Mujtahid wa Niḥāyat al-Muqtaṣid*, (Abū Aws Yūsuf b. Aḥmad al-Bakrī ed), Amman: Bayt al-Afkār al-Dawliyya,1(164).

[27] al-Shaykh Niẓām and a group of Indian scholars (2010)., *al-Fatāwā al-Hindiyya: Fī Madhhab al-Imām al-Aʿẓam Abī Ḥanīfa al-Nuʿmān*, Beirut: Dār al-Kutub al-ʿIlmiyyah, 6(6).

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Considerations related to Sanofi Pasteur Covid-19 vaccine VidPrevtyn Beta®: use of the adjuvant squalene from an Islamic jurisprudential viewpoint: an independent research

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In relation to COVID-19, from April 3rd onward, 'People aged 75 years and older, residents in care homes for older people, and those aged 5 years and over with a weakened immune system [were] offered a booster of coronavirus (COVID-19) vaccine [in] spring'.[1] A dose of Sanofi's VidPrevtyn Beta COVID-19 vaccine is being offered by the NHS for free.[2] The elderly in our communities who face language barriers with regard to the details of the vaccine are likely to seek the opinion of their children and grandchildren. There are nearly 12 million (11,989,322) people aged 65 and above in the UK of which 5.4 million people are aged 75+; 1.6 million are aged 85+; Over 500,000 people are 90+ (579,776); and 14,430 are centenarians.[3] Family members consequently might consult medical and Islamic sources. For all parties involved in the decision-making process, an informed decision is crucial.

As the VidPrevtyn Beta vaccine is intramuscular, receiving it is not considered to affect the validity of one's fast.[4] The vaccine is taken to strengthen immunisation; its contents neither reach the stomach nor provide any significant amount of nutrition. A single vial contains 0.5 ml which includes the colourless antigen and the whitish milky adjuvant emulsion.[5] One must bear in mind, however, that receiving a vaccine could cause minor short-lasting (less than 3 days) side effects of mild to moderate severity such as fever.[5] The side effects might affect one's ability to fast for the next few days.[4] Potential side effects could include injection site pain, headache, myalgia (muscle aches and pain), arthralgia (pain in a joint), and chills.[5]

The NHS is patient-centred and as such, individuals are being offered a choice to either accept the VidPrevtyn Beta vaccine or choose the Pfizer BA.4/5 or Moderna vaccines. The AstraZeneca vaccine is no longer being supplied for routine use in the UK due to the high risk of myocarditis.[6]

The main reason for the MHRA to supply the nation with the VidPrevtyn Beta vaccine is that it would trigger a better immune response in patients over 75 years of age and lead to stronger immunity.[7] This vaccine, therefore, is hoped to be more effective than the Pfizer and Moderna vaccines. The key ingredient added to this vaccine is the adjuvant squalene. An adjuvant is an ingredient used in some vaccines that helps create a stronger immune response in immune-compromised populations; the inclusion of an adjuvant would help to boost the inherently weak immune response[8,9] and has shown to be effective in the very young and the very old.[10,11] As such, adjuvants help the vaccines to be more effective. The adjuvant used in the VidPrevtyn Beta vaccine is the organic compound squalene.

A variety of sources produce squalene such as olives and rice, however, shark liver produces an oil that is most effective as an adjuvant.[12] Whilst squalene from these sources would pose no objections concerning permissibility in terms of ingredients, its use in vaccines is limited. Yielding an amount of 50 kg of phytosqualene would require a hectare of land planted with olive trees[13] The extensive and laborious oil refining processing also involves high financial costs.[14,15] On the other hand, extracting squalene from shark liver oil is a process that is much simpler and cheaper. Over 98% of pure squalene can be extracted from shark liver oil in a single distillation.[13]

Synthetic squalene is another alternative, however, when high demand is required for a vaccine, a bottleneck could form as a result of the uncertainty of the quantity as well as unavailability.[16] If squalene from other sources is to be used, extraction methods would need to ensure that the purity level matches the purity level of squalene from

shark liver oil, which is 99% pure. As such, due to its stability-enhancing properties and biocompatibility, a national drive is in effect to promote the squalene-based COVID-19 vaccines for the elderly and immune-compromised populations. Nevertheless, with growing concerns around the depletion of wild sharks,[13,17] industries are likely to move toward squalene from genetically engineered organisms, such as yeast and bacteria.[18]

The VidPrevtyn Beta vaccine is also the recommended vaccine for patients that are allergic to mRNA vaccines such as Pfizer and Moderna. An allergic reaction to mRNA vaccines could result in anaphylactic reactions such as experiencing abdominal cramps, fast heart rate, swollen eyes and face, red itchy rashes, wheezing, and fainting. VidPrevtyn Beta has shown efficacy as a primary and as a booster vaccine in adults who had received primary vaccination with either mRNA.[5]

If a patient wishes to have the Nuvaxovid COVID-19 vaccine then specific clinical criteria must be fulfilled before a healthcare professional can recommend that the patient is given the Nuvaxovid vaccine. Moreover, the Nuvaxovid vaccine would be in a controlled environment; after consultation with a health expert at a hospital. A post-vaccination observation of the patient would also be required by a health expert for 30 minutes.[19] Moreover, patients wishing to have alternative vaccines would be expected to make their own arrangements to reach designated locations where the vaccines are offered. Patients also need to bear in mind that alternative vaccines are now also limited. Moreover, the PHE has stated that 'From the end of the spring 2023 campaign, the primary course of COVID-19 vaccine becomes a targeted offer to those at higher risk and only during seasonal campaigns. The main exception to this would be unvaccinated individuals aged five years and above who become or have recently become severely immunosuppressed'.[5]

With regards to the shark oil squalene in the vaccine, patients might have questions from an Islamic jurisprudential viewpoint with regard to its permissibility. According to the majority of Sunni schools (Maliki, Shafi, and Hanbali), all marine creatures are permitted for consumption including sharks from the genus squalus. The Sunni Hanafi school, on the other hand, consider fish to be permissible for consumption whereas the Shia Ja'fari school permit only scaled fish.[20] Nevertheless, a pertinent point to note in relation to consumption is that omega tablets are not the same as vaccines. Whereas the former is consumed for nutritional purposes, vaccines are injected for immunisation. For patients with weak systems who require the vaccine to help strengthen their immunity, and for whom squalene is the best medical option, the vaccine would be permitted due to necessity. The necessity to resort to shark-derived squalene in vaccines, hopefully, is temporary.

Nevertheless, for Muslims who are concerned about squalene's nutritional value,[21] receiving the vaccine could arguably invalidate the fast. Patients with weak immune systems, however, are advised by the Qur'an (2:185) to postpone fasting until they can fast healthily. The nutritional value of theVidPrevtyn Beta vaccine and its impact on the validity of fasting are points that patients and Muslim jurists might want to discuss further. As such, rulings related to consumption are inapplicable to vaccines. On that note, Seqirus's flu vaccine Fluad, which is offered to the elderly over the age of 65 also contains squalene[22,23,24,25] and has been received by Muslim patients. The percentage of patients aged 65 years and over of South Asian ethnicity in England who received the seasonal influenza vaccine in 2022-2023 include 72% Asian or British Asian Indian, 55% Asian or British Asian Pakistani, and 68% of Asian or Asian British Bangladeshi.[26]

Returning to the point of providing advice to the elderly, Rasulullah *(Salla Allahu alayhi waalihi wasallam)* reminded us that the one whose advice is sought is accountable. As such, Muslim jurists are advised to be fully informed regarding the details of the vaccines by consulting health care professionals or to signpost questioners to the best source of medical advice. Due to fears around fertility, whilst males have enjoyed the benefits of vaccination, by contrast, females have been deprived. As such, the autonomy of female patients is also crucial.

Muslim families and Muslim faith leaders are advised to educate themselves and the community concerning the VidPrevtyn Beta vaccine. When the NHS offers the vaccine to the elderly, with accurate information, patients would be able to make an informed decision. The elderly in our communities are vulnerable. *Alhamdulillah*, through the means of the NHS COVID-19 vaccination programme, we are fortunate to continue enjoying the company of the elderly in our community. According to PHE, 'approximately 46,500 admissions were prevented in those aged 65 to 74, 73,800 in those aged 75 to 84, and 58,600 in those aged 85 and over'.[27]With the next step in the vaccination programme, we pray that our elders remain safe and healthy *bi'idhnillah*.

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References

[1] NHS. A guide to the COVID-19 spring booster 2023 [Internet]; 2023, Mar 9 [cited 2023, Mar 26]. Available from: https://www.gov.uk/government/publications/covid-19-vaccination-spring-booster-resources/a-guide-to-the-covid-19-spring-booster-2023

[2] NHS England. Preparing for a successful spring 2023 COVID-19 booster campaign [Internet]; 2023, Feb 24 [cited 2023, Mar 26]. Available from: https://www.england.nhs.uk/long-read/preparing-for-a-successful-spring-2023-covid-19-booster-campaign/

[3] Age UK. Later Life in the United Kingdom 2019 [pdf]. 2019, May [cited 2023, Mar 29]. Available from: https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/later_life_uk_factsheet.pdf

[4] Maravia, U. COVID-19 Intra-muscular vaccinations during Ramadan: Vaccines whilst fasting. Journal of the British Islamic Medical Association. 2021, 7(3), 3-11.

[5] UK Health Security Agency. The Green Book: Chapter 14a - COVID-19 - SARS-CoV-2 [pdf] 2023, Mar 9 [cited 2023, Mar 29]. Available from: http://media.dh.gov.uk/network/211/files/2012/09/Green-Book-updated-140313.pdf

[6] GOV UK. Myocarditis and pericarditis after COVID-19 vaccination: clinical management guidance for healthcare professionals [Internet]; 2023, Jan 09 [cited 2023, Mar 26]. Available from: https://www.gov.uk/government/publications/myocarditis-and-pericarditis-after-covid-19-vaccination/myocarditis-and-pericarditis-after-covid-19-vaccination-guidance-for-healthcare-professionals

[7] GOV UK. Sanofi Pasteur COVID-19 vaccine authorised by MHRA [Internet]; 2022, Dec 21 [cited 2023, Mar 26]. Available from: https://www.gov.uk/government/news/sanofi-pasteur-covid-19-vaccine-authorised-by-mhra

[8] Centers for Disease Control and Prevention What is an adjuvant and why is it added to a vaccine [Internet]; 2022, Sep 27 [cited 2023, Mar 26]. Available from: https://www.cdc.gov/vaccinesafety/concerns/adjuvants.html

[9] Soema, P., Kompier, R., Amorij, J. and Kersten, G. Current and next generation influenza vaccines: formulation and production strategies. European Journal of Pharmaceutics and Biopharmaceutics. 2015, 94, 251-63.

[10] Dikow, R., Eckerle, I., Ksoll-Rudek, D., Hampel, H., Schwenger, V., Zeier, M., Schnitzler, P. and Sommerer, C. Immunogenicity and Efficacy in Hemodialysis Patients of an AS03(A)-Adjuvanted Vaccine for 2009 Pandemic Influenza A(H1N1): A Nonrandomized Trial.Original Investigation Dialysis. 2011, 57(5), 716-723.

[11]Siegrist, C-A. and Aspinall, R. B-Cell Responses to Vaccination at the Extremes of Age. Nature Reviews Immunology. 2009, 9, 185-94.

[12] Nguyen-Contant, P., Sangster, M.Y. and Topham, D.J. Squalene-Based Influenza Vaccine Adjuvants and Their Impact on the Hemagglutinin-Specific B Cell Response. Pathogens. 2021, 10(3),355, 1-13.

[13] Ciriminna, R., Pandarus, V., Béland, F. and Pagliaro, M. Catalytic Hydrogenation of Squalene to Squalane [pdf]; 2014, August 29 [cited 2023, March 28]. Available from: http://www.qualitas1998.net/Pagliaro/op5002337.pdf

[14] Lozano-Grande, M.A., Gorinstein, S., Espitia-Rangel, E., Dávila-Ortiz, G. and Martínez-Ayala, A.L. Plant Sources, Extraction Methods, and Uses of Squalene [Internet]; 2018, Aug 01 [cited 2023, Mar 28]. Available from: https://www.hindawi.com/journals/ija/2018/1829160/

[15] Popa, O., Bəbeanu, N.E., Popa, I., Niţə, S. and Dinu-Pârvu, C.E. Methods for Obtaining and Determination of Squalene from Natural Sources. BioMed Research International. 2015, 1-16.

ISSN 2634 8071

[16] Chatterjee, S., Dey, S., Nandy, A. and Basak, S.C. A Computational Search for Peptide Vaccines Using Novel Mathematical Descriptors of Sequences of Emerging Pathogens. In: Anil K.S. (ed.). Biophysical and Computational Tools in Drug Discovery. Cham, Switzerland: Springer Nature; 2020. pp.194-220.

[17] Gohil, N., Bhattacharjee, G., Khambhati, K., Braddick, D. and Singh, V. Engineering Strategies in Microorganisms for the Enhanced Production of Squalene: Advances, Challenges and Opportunities. Frontiers in Bioengineering and Biotechnology. 2019, 7(50), 1-24.

[18] McPhee, D., Pin, A., Kizer, L. and Perelman, L. Deriving Renewable Squalane from Sugarcane [Internet]; 2014, Jul 17 [cited 2023, Mar 29]. Available from: https://www.cosmeticsandtoiletries.com/research/methods-tools/article/21835220/deriving-renewable-squalane-from-sugarcane

[19] MHRA. Decision: Last updated 11/2022 - Product Information Leaflet (PIL) for Nuvaxovid dispersion for injection [Internet] 2022, Nov 9 [cited 2023, Mar 29]. Available from: https://www.gov.uk/government/publications/regulatory-approval-of-covid-19-vaccine-nuvaxovid/product-information-leaflet-pil-for-nuvaxovid-dispersion-for-injection

[20] Khamenei, A. 9320-7: Permissibility of eating crab, clams, and mussels [Internet]; 1999 [cited 2023, Mar 28]. Available from: http://www.khamenei.de/imam_gb/fatwas/12quesions.htm

[21] University of Oxford. Vaccine ingredient. [Internet]; 2022, May 26 [cited 2023, Mar 29]. Available from: https://vk.ovg.ox.ac.uk/vaccine-ingredients#Added-ingredients

[22] Dupuis, M., McDonald, D.M. and Ott, G. Distribution of Adjuvant MF59 and Antigen GD2 after Intramuscular Injection in Mice. Vaccine. 1999, 18(5-6), 434-93.

[23] Ko, E.J., Lee, Y.T., Kim, K.H , Jung, Y.J., Lee, Y., Denning, T.L and Kang, S.M. Effects of MF59 Adjuvant on Induction of Isotype-Switched IgG Antibodies and Protection after Immunization with T-Dependent Influenza Virus Vaccine in the Absence of CD4+ T Cells. Journal of Virology. 2016, 90(15), 6976-88.

[24] Seubert, A., Monaci, E., Pizza, M., O'Hagan, D.T. and Wack, A. The Adjuvants Aluminum Hydroxide and MF59 Induce Monocyte and Granulocyte Chemoattractants and Enhance Monocyte Differentiation toward Dendritic Cells. Journal of Immunology. 2008, 180(8), 5402-12.

[25] Vono, M., Taccone, M., Caccin, P., Gallotta, M., Donvito, G., Falzoni, S., Palmieri, E., Pallaoro, M., Rappuoli, R., Di Virgilio, F. and De Gregorio, E. The Adjuvant MF59 Induces ATP Release from Muscle That Potentiates Response to Vaccination. The Proceedings of the National Academy of Sciences. 2013, 110(52), 21095-100.

[26] GOV UK. Seasonal influenza vaccine uptake amongst GP patients in England 2022 to 2023 [Spreadsheet] 2023, Feb 28 [cited 2023, Feb 29]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1145013/UKHSA_seasonal_influenza_vaccine_uptake_ICB_February2223.ods

[27] Public Health England. COVID-19 vaccine surveillance report published [Internet]; 2021, May 14 [cited 2023, Mar 28]. Available from: https://www.gov.uk/government/news/covid-19-vaccine-surveillance-report-published

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Ethics of Hijama or cupping Practice

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Keywords: *Hijama, Cupping, Ethics, Aora, Islamic biomedical ethics*

There is no doubt that the oath of Hippocrates, born between 864 or 865, is considered to be one of the first landmarks in the ethics of the practice in medicine.
It is disheartening and surprising that literature about the ethics of the practice of medicine leave a large gap between the Greek and the Roman civilization and jumps a few centuries to the time of renaissance. It looks like human civilization paused for a few centuries, however it is obvious that the Islamic civilization in Andalusia, Sicily in the west and in Baghdad in the east was thriving for at least six centuries. There must have been other contributions from the ancient Indian and Chinese civilizations as well, but that is not the scope of our article here.

This topic was addressed before in this journal in a more comprehensive way four years ago (1).

More references are listed below (2,3).

This short article will stress on the ethics of Hijama practice especially as it is practised by many non-doctors such as physiotherapists and lay persons with little medical training. This required some guidelines or at least raising the awareness towards the ethical aspect of such practice.

The main two concepts that will be addressed is the concept of (Aora), which can be translated as parts of the body that are not allowed to be seen by others according to Islamic law (sharia) and not only private parts. More details later.

The other point is the attributes of the (Hakeem), which is the Arabic terminology of what is known as a doctor or practitioner now.

One of the books written in ethics of the practiced of medicine is kitab al-hawi (4) (Meaning: the one that concluded lots of knowledge) by Al-Razi (Al-Razi, Fakhr al-Din (1149-1209), which included a specific book about the manners of the doctor. It's about 95 pages. It contains very useful tips which are valid today.

He advised doctors to have modesty when dealing with all kind of patients and when it comes to dealing with VIPs, kings and princes or very highly intellectual persons; the doctor who may have to deal with these people have to have more knowledge to be able to persuade them and to be modest to be able to protect himself/herself from desires and lust.

The general medical council (GMC) in the UK have recently published guidelines on what makes a good doctor. They have to have good standards during assessment, diagnosis and to treat patients as individuals and to respect their dignity and privacy.

Ethics in history taking from basic Islamic teachings include confidentiality, consent, privacy and asking relevant questions. Respecting age, gender, and level of knowledge of each patient are all basic Islamic teachings for doctors and lay people too. The weak, the elderly, the needy and the poor have always been given a supportive status in many Islamic rulings starting from charity distribution to even helping them crossing the road.

Respecting people and particularly patients' dignity go without saying. The Arabic word (Aora), which cannot be translated in one word in English is more than just guarding private parts. For instance, a lady who is wearing hijab; it is a must to ask her permission to remove her hair cover as it is considered to be (Aora) for her to show her hair.The doctor must ask what is he/she going to uncover or which part of the body and why and for how long is it going to be exposed and then when finishes it need to be covered before exposing another part. This is even more important while teaching

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students. Patients' consent must be taken even if examining them in front of their relatives as in Islamic teaching not all relatives are supposed to watch this Aora.

Examination consent is usually taken verbally;however, it needs to be documented adding the name of the person assisting (relative and/or nurse).

It is a very common mistake that doctors help patients to undress, and this sometimes become an insult to the patient. If a doctor needs them to be undressed, they need to give them the time to take off their clothes themselves, and maybe the chaperone or the nurse can assist in that only after having the permission of the patient and they need to be wearing a gown or so. And a patient must be allowed to dress themselves in private behind a curtain for example.

One of the issues not covered a lot by ethics literature is the honesty regarding the success of the treatment and the incidence of complications.

The official title of a doctor in Arabic is (Hakeem)means the wise man so part of the wisdom of the doctor are not to release secrets, when to talk, when to stop talking and when to listen, when to share the information, when to ask for help, when to stop offering help and so on.

Other attributes of the (Hakeem) is trying to help the needy and the poor as the wealthy, to be modest and not to insult any patient, to talk to the patient in the language that they can understand, to be smiling (a charitable act in Islam is just to smile to others). One of the known practices of the prophet Mohammed, peace and blessings be upon him, is that when he used to talk to someone he would turn to him/her with all his body, not just with his eyes, as a sign of complete dedication. To be welcoming, making the patient feel comfortable, not to reveal any secrets not only aboutthepatients'health, but about their house cleanness or state of their children etc.

Going back to Al-Razi; he was enumerating five attributes specific to doctors only:

1. All mankind from all religions and different background agree on the nobility of their role.
2. Both kings and lay people are in desperate need for them when no friends or relatives can help.
3. They always try to see what others cannot see (always looking for clues in symptoms and signs).
4. They are always seeking to make their patients happy and content as well as enabling him/her to cope with the illness at hand (empowering them). (Not just do no harm as per some logos of Royal colleges).
5. One attribute that is derived from one of the divine attributes of God. This needs further explanation. As part of Muslims' belief that they are longing to God (Allah) and they find comfort in remembering him, his mercy, blessings, the paradise and the reward that he promised them for being believers. The patient has this feeling towards the doctor, so he/she is eager to his/her visit, wisdom and support when others even closest relatives and friends cannot help or may be a burden on the patient.

May these words be remembered by all of us as sometimes during the quick turnover of patience and under work conditions pressure we, sometimes, become short tempered and forget one or two of these attributes.

References:

1.Introduction to Islamic Medical Ethics, by Alexander Woodman, Mohammed Ali Albar, Hassan Chamsi-Pasha | Aug 16, 2019.

2.Medical ethics and Islam: principles and practice, A R Gatrada, A Sheikhb. BMJ, ArchDisChild2001;84:72±75.

ISSN 2634 8071

3.Western and Islamic bioethics: How close is the gap?HassanChamsi-Pasha and Mohammed Ali AlbarAvicenna J Med. 2013 Jan-Mar; 3(1): 814.doi: 10.4103/2231-0770.112788

4. ***Al-Hawi*** or ***Kitāb al-Ḥāwīfī al-ṭibb*** translated as *The Comprehensive Book on Medicine* is a medical composition authored by Rhazes in the 10th century.

It was first translated into Latin in 1279 under the title *Continens* by *Faraj ben Salīm*, a physician of Sicilian-Jewish origin employed by Charles of Anjou.[1]

The oldest partial remaining copy of this work belongs to the National Library of Medicine in Bethesda, Maryland dated 1094 CE.[2]

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Original Pioneering Medical Islamic Discoveries and/or Inventions (Plagiarized by The West) – A continuation

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In our Critique, we mentioned that most if not all of the Islamic Medical history in literature is**disconnected focused snapshots of individual biographies and/or a limited review based on a book or a chapter of a book** written by one of the prominent figures in Islamic Medicine during **a very specified period of time** (Table).

Giant Muslim and Arab Doctors with their famous Books in Medicine and/or Surgery(1)
Ishac Ibn Hunain (830-910) إسحاق بن حُنين العبادي (مفقود) كتاب صنعة العلاج بالحديد San'at Al-IlajBilHadeed (craft of treatment with iron)
Abu Bakr Rhazes (865-935) أبو بكر الرازي Liber Continens (23 Volumes) الحاوي في الطب
Galen of Arabs جالينوس العرب
Hali Abbas (died 994) علي بن عباس Kamil Al-Sina'at or Al-Kitab Al-Malaki
Liber Regius (20 Articles) الكتاب الملكي
Albucasis (936-1013) أبو القاسم الزهراوي كتاب التصريف لمن عجز عن التأليف (كتاب واحد من أصل 30 جزء) Father of modern surgery and Surgeon of Arabs أبو الجراحة الحديثة وجراح العرب
(Al-Tasreef Liman Ajaza An Al-Ta'leef) (30 Vol. encyclopedia)or 'The Clearance of Medical Science For Those Who Can Not Compile It'
Ibn Al-Haytham (Alhazen, 965–1040) ابن الهيثم Book of Optics (7 Volumes)
كتاب المناظر
Ammar al-Mawsili (996-1020) عمار الموصلي (The book of choice in ophthalmology)
كتاب المنتخب في علاج أمراض العين
Avicenna (980-1037) ابن سينا Al-Qanon Fil Tibb (Canon in Medicine 3 Volumes)
Prince of Physicians القانون في الطب أمير الأطباء
Avenzoar (1094-1062) ابن زهر Al-Taisir Fil Mudawat Wal Tadbir (2 Volumes)
التيسير في المداواة والتدبير
Averros (1126- 1198) ابن رشد Kitab Al-Kulleyyat Fil Tibb (1 Volume)
Philosopher of Arabs فيلسوف العرب كتاب الكليات في الطب
Ibn Al-Nasfis (1288 -1213) ابن النفيس Shar'h Tashreeh Al-Qanon (1 Volume)
مكتشف الدورة الموية الصغرى (الرئوية) شرح تشريح القانون
Ibn Al-Quff (1286-1233) ابن القف Al-Omda Fi Sina'at Al-Jiraha (2 Volumes)

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العمدة في صناعة الجراحة
Ibn Abi Usaybia (1269-1303) ابن أبي أصيبعةUyun Al-Anba' Fi Tabaqat Al-Atibba' (1 Volume)
عيون الأنباء في طبقات الأطباء

There is therefore, a major hiatus or lacuna (gap) in our knowledge and understanding of the history of Arab/Islamic Medicine. This original article therefore, aims to bridge this serious gap, for it is **thefirst thorough in-depth analysis and comprehensive review of collectivepioneering discoveries/inventionsin the field of Medical Islamic history,highlighting the major achievements that changed the World, putting things holistically in a complete picture, through an interconnected perspective throughout the various periods of the history[(1)].**

The consecutive series of this subject when completed and taken in its entirety,will reveal a panoramic picture with a skeleton background of Islamic Medicine, and provides a springboard for future meaningful and focused research in this fertile field of Islamic Medicine.

The World's First Qualifying Medical Examination in Medical/Surgical Practice 931AD (319 AH)

Institution of theHisbah(an Islamic invention):

The initial attempt to regulate the practice of medicine was during the reign of the Abbasid Caliph, ***Al-Ma'mum***, via the **institution of theHisbah**. This, essentially, was a religious office enforced by a government officer, the **Muhtasib**, who replaced the older office of *Sahib-al-suq*. **Hidbah** is equivalent to our current **Audit**; the **Muhtasib**was appointed by a ruler or judge, and was the modern-day equivalent of the **Ombudsman**. He protected the citizenry from unethical practices in business and other public transactions. As citizens could also be deceived by the doctor and the pharmacist, they too were under his jurisdiction. The Hisbah, therefore, sought to regulate and supervise the dealings between doctor, pharmacist and patient. In Arabic, the term ***hisbah*** means an act performed for the common good, or with the intention of seeking a reward from God. The concept of ***hisbah*** in Islam originates from Qur'anic verses and Hadith. It is an obligation placed on every Muslim to call for what is good or right and to prevent or denounce what is bad or wrong الأمر بالمعروف والنهي عن المنكر. The Qur'an states: ***"Let there arise from you a group calling to all that is good, enjoining what is right and forbidding what is wrong. It is these who are successful."*** (Qur'an3:104). The Hadith states: ***"Whosoever among you sees an act of wrong should change it with his hands. If he is not able to do so, then he should change it with his tongue. If he is not able to do so, then with his heart, and this is the weakest of faith''.***The Hisbah is an important institution that is in charge of commanding good and forbidding evil, as well as monitoring the marketplace, craftsmanship and manufacturing concerns to make sure that business ethics are upheld by these entities and quality standards are maintained.The 11th century physician, Ibn-Ridwan, described two distinct types of doctors: those devoted to the art of medicine; and those practising purely for financial gain, often establishing surgeries by theroadside or travelling door to door in search of patients [(9)].

In 931 during the era of the Abbasid Caliph ***Al-Muqtadir*** **بالله المقتدر**(908-932 AD) following the death of one of his subjects from malpractice, ordered his ***muhtasib*** to prevent doctors from practising medicine until they had passed a qualifying examination. Thus, all practicing doctors in the vast Islamic Empire were ordered to stop practising, and to come down to Baghdad in order to be examined by the Caliph's own Court Physician: ***Sinan Ibn Thabit Ibn Qurrah***(880–943 AD), a Sabian convert to Islam, who served as the Court Physician of Abbasid Caliphs ***Al-Muqtadir*** (reigned 908–934), ***Al-Qahir*** بالله القاهر (r. 932–934), and ***Al-Radhi*** بالله الراضي(r. 934–940). Although Sinan ibn Thabit was primarily a Courtphysician, having supervised building several hospitals in Baghdad and having overseen a licensing system for physicians, he himself, was apparently,too busy to write anything on medicine!

Crowds of practising doctors arrived at Baghdad from everywhere in consecutive groups, preparing themselves for the medical examination (only those in the service of the Caliph or of distinguished reputation were exempt). Doctor ***Sinan Ibn Thabit IbnQurrah*****examineda total of 860** practising doctors in ***Al-Sayyeda Teaching Hospital in Baghdad***(named after ***Al-Sayyedashaghab***, the Caliph's motherand the wife of his father Caliph ***Al-Mu'tadhid***). Obviously, such examination must have involved an oral examination in addition to a clinical examination (being conducted in a hospital environment). Those who passed the examination were given a piece of parchment paper as a**license *(ijazah)*** or a***Certificate***

carrying Doctor Sinan's signature, allowing them to practice Medicine and Surgery[3].

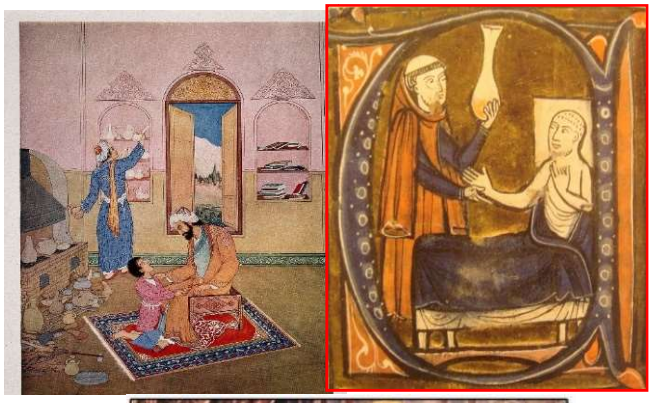
This is the first organized medical examination with a certificate in the World; it was the prototype forerunner and predecessor, preceding the current MB,ChB, (or MD), FRCS, MRCP, MRCOG, and American Boards in Medicine and Surgery.Furthermore, the qualifying Medical examination became a necessity for appointment and selection of new doctors staffing newly founded hospitals.

As original pioneering achievements, the qualifying medical examinations go hand-in-hand with the establishment of hospitals (***double Islamic inventions – See Hospitals in a separate future article***).

Obviously, these hospitals were established for patient care as well as for medical teaching and training; these were the precursors for Medical Schools and Colleges.

The clinical methods adopted and used at that time by Arab/Muslim doctors to examine patients were very similar to our currently employed methods eliciting vital signs and clinical examination (photos).

In Islamic Hospitals, Muslim doctors were the first to perform the initial bed checkup diagnosis on a patient's entry to Hospital. The temperature is checked using the palm, the pulse is measured using fingertips, the liver and abdomen are checked by hand and hollow tube (the first stethoscope), and a patient flask of urine is inspected (see below) to make such a diagnosis. Europe adopted this system of clinical examination after 6 centuries.



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(1) Al-Razi examining the oral cavity, head and neck of a patient(Persian miniature painting by *Hossein Behzad* died 1968).
(2) European depiction of Rhazes (Muhammad bin Zakariya Al-Razi) in Gerard of Cremona's "Recueil des traités de médecine" circa 1250-1260. **He is holding a flask of urine in the left hand and examining a patient's pulse with the right hand.**
(3) As the chief physician of Baghdad hospital, Al-Razi treated many patients, writing the first known description of smallpox. His book: '*al-Judariwa al-Hasbah*' الجدري والحصبة(On Smallpox and Measles) was the first book to differentiate Smallpox from Measles as two distinct diseases. Also, His book ('what is the difference'؟كتاب ما الفارق) makes him the father of Differential Diagnosis in Medicine.

There is another way for granting **license *(ijazah)*** in Medicine, ie, on a completion of educational course by a famous physician (see below).During the reign of Saladin, a physician working in Aleppo by the name of ***al-Shayzari***wrote a manual in which he discussed the supervising of the medical community; he explained that**theInspector was to administer the Hippocratic oath to physicians.** The oculists (ie, ophthalmologists)were to be qualified,based on the book ***Ten Treatises on the Eye*** written by ***Hunayn ibn Ishaq***; bonesetters were to be tested with the Arabic translation of a portion of Greek books.

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The Eye, according to a manuscript in Hunain ibn Ishaq's book 'Matters of the eye' المسائل في العين (From National Library - Cairo, dated circa 1200).

It has sometimes been asserted that a physician in the medieval Islamic world was granted a **license *(ijazah)*** following the completion of his education[4].There are isolated examples of students being given a signed statement that they successfully read and mastered a particular treatise.

The National Library of Medicine (NLM) has one of these very rare documents. The certificate is written at the end of a commentary on the Hippocratic treatise ***On the Nature of Man*** by the Damascene physician ***Ibn al-Nafis***, who spent much of his life in Cairo, where he became **`Chief of Physicians'**, dying there in 1288 (687 H) and bequeathing his house and library to the recently constructed **Mansuri hospital**. The certificate occurs at the end of the manuscript in the handwriting of ***Ibn al-Nafis*** himself, and reads as follows:

*[In the name of] God the Provider of Good Fortune. The wise, the learned, the excellent **shaykh Shams al-Dawlah Abu al-Fadl ibn al-shaykh Abi al-Hasan al-Masihi**, may God make long lasting his good fortune, studied with me this entire book of mine -- that is, the commentary on the book by the imam Hippocrates, which is to say his book known as **`On the Nature of Man'** -- by which he demonstrated the clarity of his intellect and the correctness of his thought, may God grant him benefit and may he make use of it. Certified by the poor in need of God, **`Ali ibn Abi al-Hazm al-Qurashi**[known as **Ibn al-Nafis**] the physician. Praise be to God for his perfection and prayers for the best of His prophets, Muhammad, and his family. And that is on the twenty-ninth of Jumada I [in the] year six hundred and sixty eight [= AD 25 January 1270].*

The signed statement made by Ibn al-Nafis (d. 1288/687 H) that his student,a Christian namedShams al-Dawlah Abu al-Fadl ibn Abi al-Hasan al-Masihi, had read and mastered Ibn al-Nafis's commentary on a Hippocratic treatise.
The certificate is in the handwriting of Ibn al-Nafis himself anddated the 29th of Jumada I in 668 H (25 January 1270). NLM MS A69, fol. 67b.

In another recorded example, also from the 13th century, the physician ***Muwaffaq al-Din Ya`qub al-Samiri***wrote at the back of a copy of a commentary on a treatise by Hunayn ibn Ishaq that a student named ***Amin al-DawlahTadrus*** had read the text before him with the purpose of understanding, questioning and verifying its contents.

These individual cases of the certified completion of a reading course, as important as they are for the history of medical education, are not, however, equivalent to the licensing of physicians upon completion of an approved period of training. In addition, the term ***ijazah,*** often translated as ***`license,'*** is not entirely applicable to medicine, for an *ijazah* was traditionally also, given in the fields of law and theology (especially ***fiqh* and *hadith***) and were recorded in medieval bio-bibliographical registers for those fields in order to establish chains of authorities[4].

The newly graduatedphysicians or the junior fully-fledged doctors in the Abbasid Bagdad centre of education of the Islamic World were dressed in**Abbasid Black Aba with Black Turban; this Abbasid dress became the Standard Graduation Black Gown and black cap Worldwide.**

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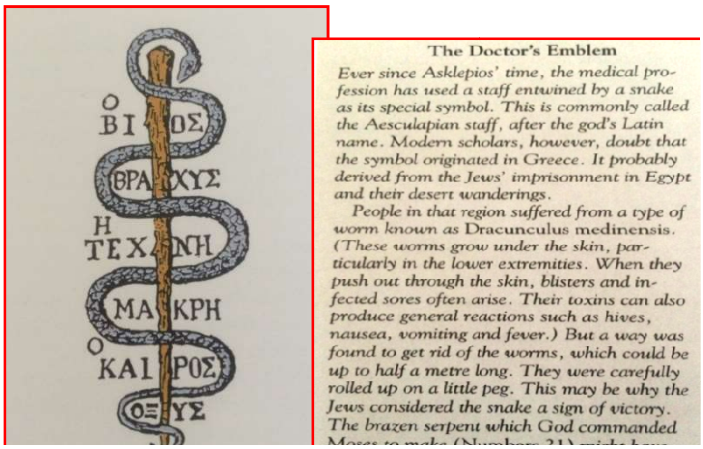
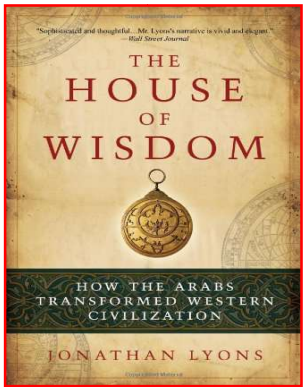
First Proper Anatomical Body Dissection

Western scholarship belittles the contribution of the physicians of the Islamic world. They are usually perceived as students of their Greek masters, and projected as mere conveyors and simple purveyors of Greek science to the scholars of European Renaissance! Historical evidence provedthat this was a***bigWestern fallacy***!While students sometimes outsmart their masters, they can be creative with achievements far above and beyond their masters abilities.

As for Medicine's purpose and ethics, the **Hippocratic oath** (as translated from Greek) was administered to the physicians. The **Greek Asklepion medical emblem** of a snake and a staff or a goblet is hotly debated. It is in fact an **Arabic (possible Jewish) emblem based on a careful extraction of *Dracunculus medinensis* on a peg of wood; complete extraction of the worm from the skin, denotes a skilful doctor**(see **photos**).***Dracunculus medinensis*** ("**little dragon from Medina**"), derives its name from its one-time high incidence in the **city of Medina** (in Saudi Arabia); its other common name, **Guinea worm**, is due to a similar past high incidence along the **Guinea coast of West Africa** (It is no longer endemic in either location)[5].





Jonathan Lyonswrote a brilliant, evocative book (**The House of Wisdom, Bloomsbury Press published 2010**),which reveals the story of how Europe drank from the well of Muslim learning; he restores credit to the Arab thinkers of the past in this riveting history of science - from its earliest and most thrilling days[6].

For centuries following the fall of Rome, Western Europe was a benighted backwater, a world of subsistence farming, minimal literacy, and violent conflict. Meanwhile Arab culture was thriving, and had become a powerhouse of intellectual exploration and discussion that dazzled the likes of British adventurer *Adelard* of Bath(who translated many Greekscientific works from Arabic versions into Latin, which were then introduced to Western Europe). It dazzledmany Europeans fortunate

enough to visit cities like ***Baghdad or Antioch***. There, philosophers, physicians, mathematicians, and astronomers were steadily advancing the frontiers of knowledge, as well as keeping alive the works of Plato and Aristotle. Arabs could measure the earth's circumference (a feat not matched in the West for eight hundred years); they advanced medicine; discovered algebra; were adept at astronomy and navigation, developed the astrolabe, translated all the Greek scientific and philosophical texts. When the best libraries in Europe held several dozen books, Baghdad's great library, the **House of Wisdom**, housed 400,000 (***four hundred thousand)*** *books*. ***Jonathan Lyons*****shows just how much "Western" ideas owe to the Golden Age of Arab civilization.** Even while their countrymen waged **bloody Crusades** against Muslims, a handful of intrepid Christian scholars, hungry for knowledge, travelled East and returned with priceless jewels of science, medicine, and philosophy that **laid the foundation for the Renaissance.** Without Muslims, and the knowledge that travellers (like *Adelard*) brought back to the West, Europe would have been a very different place over the last millennium.

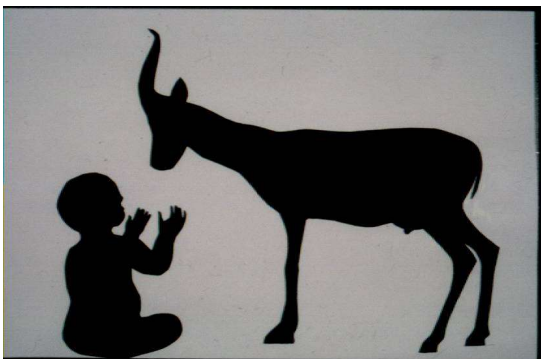
Indeed, the hard factual evidence speaks louder than words.In Anatomy, the assertion that Islam forbids dissection is untenable; the Qur'an states: ***"And in yourselves, Can ye then not see?***" Al-Thari'at, verse 21. The Andalusian (now Spain) 10th-century physician ***Abu 'l-Qasim al-Zahrawi*** (***Albucasis*** in Latin and the ***Father of Modern Surgery***), in the introduction to his book, al-Zahrawi expounded that ***'good practice in surgery requires a sound knowledge of anatomy'*** (will be discussed in future). **There is plenty of evidence for Dissection by Arab/Muslim physicians[7]:**

- **Monkeys and apes** were dissected by ***Yuhannah Ibn Masawayh***in a special institute which he erected on the banks of the Tigris, and that a certain species of ape, considered closely to resemble man, was supplied to him by the ruler of Nubia in AD 836 by the command of Caliph ***Al-Mu'tasim***.

Monkeys and Apes (eg. Gorillas,chimpanzees, orangutan, and gibbons) were brought specifically from Nubia (Sudan) on the personal order of Abbasid Caliph Al-Mu'tasimBillah to his Court doctor Yuhannah Ibn Masawayh in order to be dissected in his own laboratory/hall on Tigris River circa 836

- Deers were dissected by ***Ibn Tufail*** in 1185.
- Dead pregnant mothers and dead foeti were dissected by ***Rhazes*** and ***Albucasis***.
- Dead human bodies were dissected by ***Avicenna*** (circa 1020) and by ***Ibn Al-Nafis*** (1288).
- Dead human bodies and skeletons were carefully studied by ***Abd al-Latif al-Baghdadi*** (1200 AD).
- Dead and wounded bodies of disbelievers were probably, a matter for anatomical exploration too.

Dissection of deers by Ibn Tufail as revealed in his book ***"Hai Ibn Yakthan"*** (1185 AD) revealed his deep practical knowledge in animal dissection; his book was translated into Latin as "***PhilosophusAutodidactus"*** by Mirandola (1494 AD) and Pocock (1671 AD) and appeared in many languages:



- **DanielDofoe's*"Robinson Crusoe"*,**
- **Edger Rice Burroughs' *"Tarzan"*[Notice similarity between Tarzan=Yakzan],**
- **Rudyard Kipling's "Jungle Book"**

were all corruptions of **the Original 'Hai Ibn Yakzan' story (or *PhilosophusAutodidactus*)**.

Based on animal observations, **Galen** stated that the blood was produced in the liver, charged with ***natural spirit*** and taken by way of the veins into lower limbs and the right ventricle of the heart. From the latter, it was filtered through **small invisible pores** into the left ventricle, mixed with ***vital spirits*(lungs).**The resulting blood in the pulmonary veins does not reach the left ventricle, but is used by the lungs as nourishment. In other words, **there is no pulmonary circuit.** Instead, blood in the left ventricle (and hence the systemic arteries) is derived directly from the right ventricle, through invisible pores in the interventricular septum. Blood reaching the brain became charged with the third and noblest spirit, the ***animal spirit***. Having given up the vital spirit to the tissues, the blood returned into the heart through the same channels by a process similar to *theebb and tide of the sea*! Galen's authority forced generations of doctors to apply his knowledge of animal anatomy to human beings. When the seats of learning fell into hands of the Church, his writings became like Gospels and bore the stamp of Church's authority and infallibility[8].

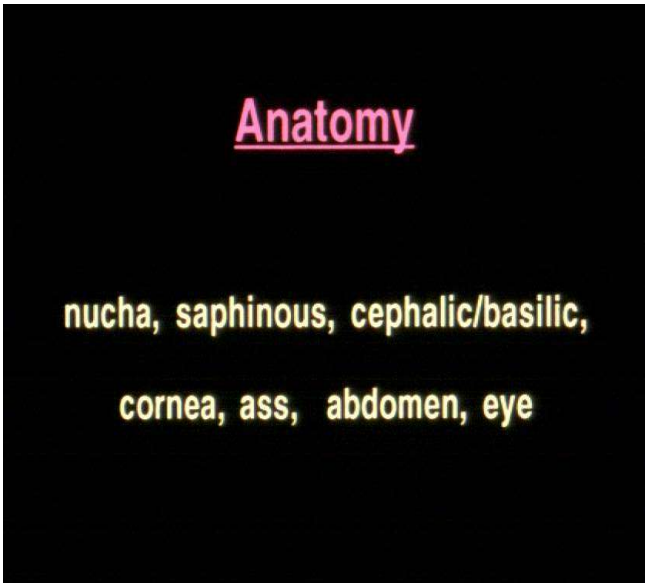
Ibn al-Nafis, (Damascus-Syria) in 1288 AD, however, opposed both Avicenna and Galen vehemently on their concept of blood passage through invisible pores; he re-addressed the question of blood movement in the human body. The authoritative (wrong) explanation had been given by the Greek physicians more than 1000 years earlier. But the problem was how the blood flowed from the right ventricle of the heart to the left, prior to being pumped out into the body. According to Galen (2nd century), blood reached the left ventricle through invisible pores in the inter-ventricular septum. Based on human dissection, ***Ibn al-Nafis*** described the firm, impenetrable nature of the inter-ventricular septum and made it clear that there were no pores or passages in it. Instead, he concluded, the blood in the right ventricle must be carried to the left by way of the lungs. He described the circulation of blood from the right ventricle into the lungs for purification prior to its return to the heart for redistribution. The **description of the pulmonary circulation by Ibn al-Nafis was a breakthrough in the understanding of human anatomy and physiology.**

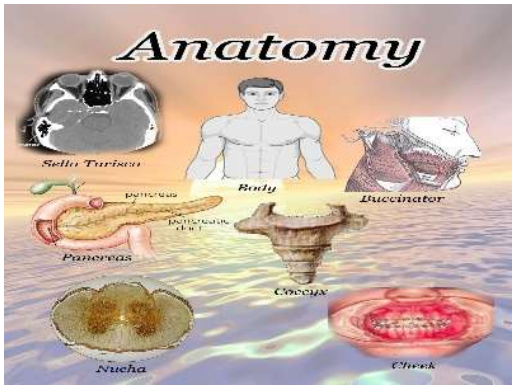
Galen stated in his book ***De ossibusadtirones***, that the lower jaw consists of two pieces, which can be proven when cooked; it is divided from the middle. However, ***Doctor Muwaffaq al-Din Abd al-Latif al-Baghdadi*** (1162 –1231 born and died in Baghdad) and while visiting Egypt, he came across several skeletal remains of people who had died of starvation due to a famine near Cairo caused by the Nile failing to overflow its banks in **597 AH (1200 AD)** . ***Al-Baghdadi*** examined the skeletons and concluded that the lower jaw consisted of one piece, not two, as Galen wrongly believed. He documented that in his book (***Testimony and Consideration in Matters Observed and Accidents Observed in the Land of Egypt*** ***الإفادة والاعتبار في الأمور المشاهدة والحوادث المعاينة بأرض مصر***):

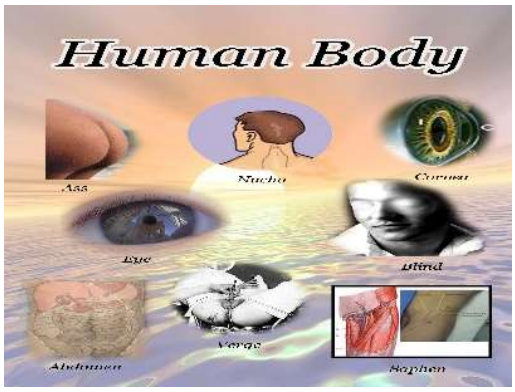
(What I saw in this part of the corpses convinced me that the bones of the lower jaw are one piece, without a break or a link. I have re-examined more than two thousand heads... and many have helped me repeat the same tests both in my absence and under my supervising eyes).

Unfortunately, none of those who wrote on the history of medicine were interested in Baghdadi's discovery, perhaps because he wrote it in a book on the geography of Egypt, and perhaps the reason for ignoring such discovery was that scientists at the time did not accept the idea that ancient authors were mistaken [8][9].

Indeed, Arabs left indelible imprints in Anatomical terms e.g.***nucha*** (from Arabic nucha'a, pertaining to spinal cord), ***saphenous*** (safin, the conspicuous), ***cephalic and basilic veins*** (al bazili, the draining) and cephalic vein (kafili, the sponsoring), ***cornea*** (carania), and ***ass*** (asst), ***mesentery*** (mesareeq), ***cornea*** (cara'nia), ***abdomen*** (albadan/albatan), ***pupil, eye***, and ***blind*** (bila Ain) – (see **photos**)[10].







First Understanding of Proper Physiology

The blood circulation preoccupied Arabo-Islamic physiciansin the 8th century AD, (and particularly during Golden Islamic era), when Europe was sinking in dark medievalages(between the fall of Rome 476 AD and the beginning of the Renaissance in the 14th century); Arabo-Islamic medicine flourished and contributed to the evolution of concepts in cardiovascular system[11].

The work of famous Arabo-Islamic physicians reflects their knowledge of heart function and heart disease. ***Rhazes*** (864-925), claims that heart has two ventricles, while ***Hally Abbas*** علي عباس المجوسي (930-994), was one of the first to deny the existence of communication between the right and the left cavities. ***Avicenna***(980-1037) observed that there are three valves in the aorta's outflow, which open when the volume of blood is ejected from the heart during contraction and close during the expansion of the heart. Avicenna was a pioneer in examining and studying **pulse and its wave**. According to him, each pulse beat consists of two movements and two pauses. So, the normal pulse wave is: *dilation, pause, constriction, pause*. Thus, he rejected the ideas of Galen about a particular kind of pulse for each organ separately andfor each disease. The symptoms, effects and treatment of cardiac flutter are also explained in detail in his work. As he mentions, flutter is caused by heart trauma, pericardial or neighbouring organ injury. All kinds of heart failure led to flutter due to its inconsistent operation. Avicenna supported the view that acute flutter leads to loss of sensation, while acute and prolonged flutter leads to death. He described the faint pressures following carotid stress and provided the first description of carotid body hypersensitivity and syncope. In an attempt to describe vascular stenosis, he mentioned that it was provoked by the local concentration of 'abnormal juices' in vessels which eventually lead to obstruction.

So far as the cardiological drugs are concerned, Avicenna devoted a special treatise called ***Kitabal Adviyt al Qalbiye*** (Book of Medicines of Heart Disease كتاب الأدوية القلبية). This treatise has a physiological-philosophical character and was first translated into Latin at the beginning of the 14th century by ***Arnaud de Villeneuve*** (1238–1314) titled ***De Medicines Cordialibus***. The book describes simple and complex cardiological drugs divided into stimulants, diuretics and inhibitors. Altogether, 83 simple and 17 complex drugs are mentioned in the form of elixirs, mortars, pills and syrups derived from plants, animals and minerals, and their mode of action in the heart is extensively explained. In addition, the strength and dosage of each drug is described. One of the drugs mentioned in the book is the ***'zarnab'*** (*Taxusbaccata L.)* which provided 'relaxation of the heart'. Currently we know that ***Taxus baccata***, also known as ***common yew***, contains poisonous toxin alkaloids and it has been shown to have ***calcium channel blocker activity***. It can be said that Avicenna used such a type of medicine long before the use of synthetic drugs, although it remains unclear in which cases he prescribed this drug[11].

Avicenna and the 10th-century Arabo-Islamic doctors claimed that blood circulation is made in two directions: firstly, much of the blood in the heart is transported to the lungs for **'purification'**. Secondly, the pure blood is mixed with the inhaled air and returns with breathing to the left ventricle of the heart for **redistribution**. They were convinced that two vessels were leaving the left heart, a vessel called the venous artery and carrying blood to the lungs and a second largest artery known as aorta. Aorta was divided into two arteries: one to the head and the cervix, and the other to the other organs, transferring them to the 'vital spirit' and natural heat. Finally, the vein over the liver transported the blood fromthe viscera and by ejecting into the lower cavity it reached the right heart cavity. However, ***Ibn Al-Nafis*** (1213-1288) was the first to describe pulmonary circulation, or the pulmonary passage of blood, thus defying Galen's theory of **no pulmonary circuit**.***Ibn Al-Nafis,*** wrote that blood **does not permeate the**

interventricular septum, but rather circulates in the lungs via invisible connections between the pulmonary arteries and veins.In his work, he mentioned: ***(the heart has only two ventricles .... and between them there is absolutely no opening, because the septum is too thick. The advantage of this blood of the right cavities is that it mixes with air in the lungs and then goes to the left cavity, from the two that has the heart ...)***. But also, in the pulse issue he had his own view: ***(pulse is the result of both physical and forced movements of the arteries ... the forced movement must be the contraction of the arteries and it comes from the heart, while the physical movement that characterizes them must be their dilation... The heart and arteries do not contract and expel simultaneously. Rather, the opposite happens when one organ contracts the other expands and vice versa).*** Ibn-an-Nafis, studied in Damascus and practiced medicine at Al Mansouri Hospital in Cairo. An admirer of Hippocrates and Avicenna, he was particularly interested in commenting on their works and he did not hesitate to break completely with the erroneous ideas of the earlier medical scholars. Ibn Al-Nafis's fundamental changes to the misconceptions of Galen and Avicenna were as follows:

1) He rejected the existence of pores in the interventricular septum of the heart.
2) Blood from right ventricle goes to lungs, where part of it is filtered into pulmonary vein with air.
3) The idea that the blood or the spirit from the mixture of blood and air passes from the lung to the left ventricle, and not in the opposite direction.
4) The claim that there are only two ventricles, not three as claimed by Avicenna.
5) The statement that the ventricle takes its nourishment from the blood flow to its wall (the coronary arteries) and not as Avicenna says of the right ventricle blood.
6) A premonition of capillary circulation, with the claim that the pulmonary vein receives the blood coming out of the pulmonary artery, means there are some passages between the two.

Ibn al-Nafis in his Commentary on Anatomy of Avicenna's Canon makes the first description of pulmonary circulation. Initially, he says that the blood after being cleansed in the right ventricle must then be channelled somehow into the left cavities where the vital spirits are created. In contrast to Galen and Avicenna, who supported the existence of communication between right and left ventricles, Ibn-an-Nafis makes clear that the septum is compact with no interventricular pores or communication. He then clarifies that blood from the right ventricle ispumped to the lungs to mix with the air and then return to the left cavities. He also analyzes the composition of the vessel walls (arteries and veins) and observes the difference of the pulmonary arteries and veins from the opposite vessels of the rest of the body, so far as the anatomy of the lungs is concerned[11].

Finally,***Ibn al-Nafis***(1213-1288) was the first to describe the **"Pulmonary Circulation"** in his book (***Commentary on the anatomy in the canon of Ibn Sina***);and for this reason, he is considered as a true father of cardiology.His approach to the study of medicine was exemplary for a scientist of his time, as he demonstrated the need to evaluate the existing knowledge and reject those concepts that were inaccurate as shown by his own observations [6]. Thus, he was able through dissection of human bodies, to further and rectify the medical knowledge inherited wrongly from the Greeks. He also discussed systemic circulation vaguely in his book ***"The Synopsis of The Law in Medicine"*** (**Al-Mougiz Fi Al-Canon**).

Ibn Al-Nafis' contemporary ***Ibn Al-Quff*** (1233-1286 AD), in his manual on the surgical art, gave the most comprehensive description of surgical operations and treatment of bodily injuries ever contained in any Arabic text of its kind. ***He explained the function of the capillaries for the first time and discussed the uni-directional action of valves in veins and in heart chambers.*** He also made the first appeal for uniformity of standards for weights and measures used in Medicine, Pharmacy and Surgery[10]. Therefore, in physiology:

- **Systemic blood movement was described by Haly Abbas Al-Majusi (prior to 994) 6.5 centuries before Harvey's description in 1628.**
- **Capillaries discovery by Haly Abbas and Ibn Al-Quff (1233-1286) 4 centuries prior to M. Malpighi's discovery in 1661.**
- One of the greatest Islamic achievements still remains the comprehensive and detailed description of pulmonary circulation, centuries before Michael Servetus (1511-1553), Realdo Colombo (1516-1559), and William Harvey's (1578-1657) leading contribution. Indeed, **Pulmonary circulation was described by Ibn Al-Nafis (1211-1288) 3 centuries before Michael Servetus (1511-1553) reporting in 1553.** Whether the Spanish**Servetus**(1511-1553)was influenced by ***Ibn Nafis*** (1210–88 AD) or by Italian***Realdo Colombo*** (1516–1559 AD), is open for discussion and further research.However, some claimed that Ibn al-Nafis's work was translated into Latinin 1547;therefore, there is no evidence that his ideas were known to Servetus and Colombo, who rediscovered the pulmonary circulation in the 1500s, unless there is a personal ability of either authors to

read the Arabic text directly (prior to formal translation into Latin).

Interesting Comment by William Harvey on Islamic Equality of men and women:

For a thousand years before the Western impact began, Muslims (like the Romans before them) were aware that northern European males had peculiar attitudes towards their womenfolk. They did not adequately wrap them up, and paid excessive attention to their opinions.This cultural idiosyncrasy was a cause of occasional concern to the males of northern Europe themselves; the Englishman William Harvey (d. 1657), better known for his work on circulation of the blood, was of the view that:

(We Europaeans knew not how to order or governe our woemen, and that the Turkes were the only people used them wisely). (Source:Michael Cook's 'THE KORAN', Oxford 200, page 37).

Blood supply in the human Body.(illustration attributed to Avicenna.

Furthermore, the 11th-century Iraqi scientist ***Ibn al-Haytham***, (***Alhazen*** in Latin), developed a radically new concept of human vision. Ancient Greek notions of a visual spirit emanating from the eyes and allowing an object to be perceived, were replaced by a straightforward account on the eye as an optical instrument. ***Ibn al-Haytham***'s detailed description of ocular anatomy forms the basis for his theory of image formation, which is explained through the refraction of light rays passing between 2 media of different densities. ***Ibn al-Haytham*** derived this fundamentally new theory from experimental investigations. His ***Book of Optics*** was translated into Latin in the 12th century and continued to be studied both in the Islamic world and in Europe until the 17th century[12].

Additionally, in his book ***al-Quadi wa al-muqtadi*** كتابه الغادي والمقتدي circa 959 AD,***Ahmad ibn Abi al-Ash'ath***(أحمد بن بن أبي الأشعث died 975 AD in Mosul, Iraq) described the physiology of the stomach in a live lion.He wrote: (When food enters the stomach, especially when it is full, the stomach dilates and its layers get stretched... The onlookers thought the stomach was rather small, so I proceeded to pour jug after jug in its entry opening…the inner layer of the distended stomach became as smooth as the external peritoneal layer. I then cut open the stomach and let the water out. The stomach shrank and I could see the pylorus opening…)

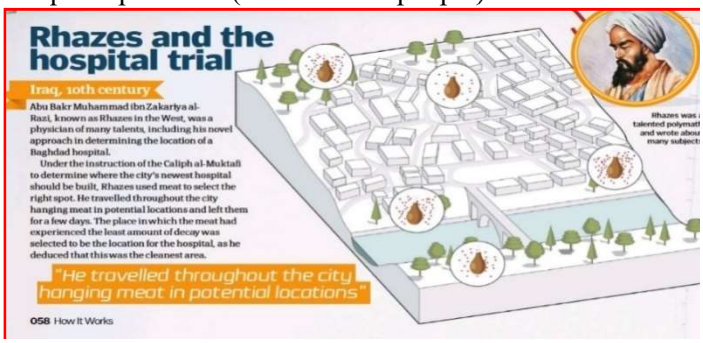
Ibn Abi al-Ash'ath,thus observed the physiology of the stomach;this description preceded the American William Beaumont(1853 – 1785) '***Beaumont's Experiments and Observations on the Gastric Juice and the Physiology of Digestion, 1838'***by almost 900 years, making ***Ahmad ibn Abi al-Ash'ath*** the first person to initiate pioneering experiment on gastric physiology[13].

Infectivity and Infectious Diseases

- In Arabic language, ***gerthoma or germs*** were mentioned (***Aroma*** and ***Gerthoma***, being the origin of beings and disease, respectively).Germs or (Gerthoma) flourishing in bad air with poor hygiene was recognized by Rhazes during his selection of hospital's site of predilection (see below).
- In Microbiology, **Islam considered leprosy and plague as infective diseases and advised the quarantine principle for the control of plague and pandemics.**Prophet Muhammad documented the infectivity of Leprosy **"Flee from the leper as you would from the lion."**and regading Plague**"If you hear of an outbreak of plague in a land, do not enter it; and if the plague breaks out in a place while you are in it, do not leave that place."** (*Sahih al-Bukhari*).
- The rule of isolation (**Quarantine Principle**) is purely Islamic; for details, see the reference [14]. Furthermore, Muslims built Quarantines for infected diseases in distant locations (remote from people).
- Arabs named **influenza**(and ***related common cold***) as ***Anf-alanza*** (goatrunny nose) and as ***Anf-alwazzah*** (sneezing goose nose); they also used the crushed rotten bread spray for Tonsillitis, thus unwittingly discovered antibiotics before Alexander Fleming.
- **Methods for skin cleansing** in trauma, in compound fracture and prior to surgery included the use of Alcohol (discovered by Rhazes); soap and water (Initially, Arabs discovered cleaning power of frothy Christ's thorn leaves with water); cotton, rose oil and egg white for compound fractures (before reduction);

Water and Honey; and used Vinegar for skin cleansing.

- Muslims established Hospitals on healthy sites of principal cities (accessible to people).



Rhazes and the hospital trial(for a congenial establishment site with fresh air). (From: Iraq, 10th century, Abu Bakr, Baghdad, 17 May 2018 - Pressreader.com)

In the 10th century five more hospitals were built in Baghdad. The earliest was established in the late ninth century by the Abbasid Caliph***'Al-Mu'tadhid'***(892-902 AD; he is the father of Caliph***Al-Muqtadir***) المعتضد بالله هو أبو الخليفة المقتدر بالله, who asked Rhazes(865–935AD) to oversee its siting, construction and operations of the newly founded ***Al-Mu'tadhidi Hospital*** (after the Caliph's name).

To start, Al-Razi wanted to determine the most salubrious hygienic place in the city: He travelled around the city, hanging pieces of fresh meat placed in various potential places and left them for few days. Latterly, he checked to determine which piece of meat had rotted the least. **The place in which the meat had experienced the least amount of rot and decay was selected to be the best location for the hospital, as he deduced that this was the cleanest area with fresh air and congenial atmosphere.**When it opened, it had 25 doctors, including **oculists**(ie,ophthalmologists),**physician/surgeons** (borderland was sometimes non-existent at the time), and **bonesetters**[15].

Portraits of Rhazes depicting him as a Doctor, a Chemist, and a Philosopher. As the chief physician of Baghdad hospital, Al-Razi used hospital as a clinical base for treating patients, but also as an academic institution for writing his original observations and experimentation as well as teaching juniors and colleagues.

References:

1. See the references for this table in the preceding issue:
M. A. R. Al-Fallouji.**Original Pioneering Medical Islamic Discoveries and/or Inventions. General Introduction.** JBIMA. Vol. 12. - No 4.December 2022.Journal of the British Islamic Medical J Association BIMA www.jbima.com

2. Nigel J Shanks and Dawshe Al-Kalai.**Arabian medicine in the Middle Ages**. Journal of the Royal Society of Medicine Volume 77 January 1984. Pages 60-65.

3. Ibn Abi Usaybia. Uyun Al-Anba' Fi Tabaqat Al-Atibba'عيون الأنباء في طبقات الأطباء**The Best Accounts of the Classes of Physicians.** Under Sinan ibn Thabit ibn Qurrah.

4. NIH. U.S. National Library of Medicine (History of Medicine). **Islamic Culture and the Medical Arts: The Art as a Profession.**

5. Knute Haeger**. The illustrated History of Surgery.** Harold Starke (London) 1988. Page 39.

6. Jonathan Lyons. **The House of Wisdom- how the Arabs transformed Western civilizatiom.**Bloomsbury Press. **2010.**

7. Al-Fallouji M A R: **History of Surgery of the Abdominal Cavity: Arabic Contributions. (The First Large Bowel Anastomosis in the Literature).** International Surgery. September 1993; 78:3:236-8.

8. M A R Al-Fallouji. **COLORECTAL VASCULAR PATTERNS IN HEALTH AND DISEASE (An Applied Anatomy, Physiology, and Pharmacology At Microcirculation Level).** A thesis submitted in the fulfilment of the requirements of Doctor of Philosophy. University of London 1988. See the link: ***file:///C:/Users/USER/Desktop/PhD%20Thesis%20Al-Fallouji-MAR-1988.pdf***

9. **Wikipedia:الطب والصيدلة في عصر الحضارة الإسلامية**

10. Al-Fallouji M A R. **'Paradise Dictionary'** of English words of Arabic Etymology (1500 pages in two volumes). 2012.

    MAR Al-Fallouji. Arab-Islamic Origin of Modern Medicine. Vol. 1 - No. 1 | April 2019 | Journal of the British Islamic Medical J Association BIMA www.jbima.com

11. G PAPASTAVROU, M KARAMANOU , T PAPAIOANNOU, *et al.***THE ARABO-ISLAMIC CONTRIBUTION TO THE EVOLUTION OF CARDIOLOGY (Review Aerticle).** Archives of the Balkan Medical Union. vol. 53, no. 2, pp. 268-271 (June 2018).

12. Ingrid Hehmeyer and Aliya Khan. **Islam's forgotten contributions to medical science.** CMAJ • May 8, 2007. Vol. 176(10). pages 1467-1468.

13. Wikipedia. **Medicine in the medieval Islamic world.**

14. M A R Al-Fallouji. **The Divine wisdom behind Disease – Medical and Islamic Philosophy of Pain and Suffering. JBIMA, vol. 8,** Sep 3, 2021.

15. David W. Tschanz.**The Islamic Roots of the Modern Hospital.**AramcoWorld, March/April 2017

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The impact of the film 'Organ Donation and You' on public perception of organ donation

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Aim: To assess the impact of the film 'Organ Donation and You' on public attitudes towards organ donation, specifically within minority groups.

Method: A film exploring personal experiences of organ donation (from both a donor and recipient perspective) in members of the Muslim community was created by the British Islamic Medical Association (BIMA), using funding from NHSBT. Film viewings with a subsequent panel discussion were organised in Cardiff and Glasgow in March 2023. Pre and post-viewing questionnaires were conducted. Fisher's exact test was used to statistically assess the change in perceptions following viewing of the film.

Results: 9 individuals completed the pre-film questionnaire in Cardiff, whilst 15 completed it in Glasgow. 58% of the participants were female, most of the participants were in the 30-39 age range and from South Asian backgrounds. 29% of the participants described themselves as extremely religious, and 38% described themselves as moderately religious. 83% of respondents were aware of the organ shortage. 79% had thought about donating their organs after death, but only 42% had thought about living organ donation. Only 58% of respondents had discussed organ donation with their family. 50% of respondents agreed that their opinions on organ donation had changed after watching the film. When comparing responses prior to watching the film and post the film viewing 12% more of the respondents agreed that organ donation was compatible in Islam (p-value 0.5). 37% more participants agreed that they would be an organ donor assuming organ donation was permissible in Islam (p-value 0.018). Following the film, 100% of respondents pledged to share their wishes on organ donation with their loved ones.

Conclusion: Although the respondents had some understanding of the topic of organ donation, viewing an educational film containing experiences of organ donors and recipients allowed them to gain a better grasp of the topic and its permissibility in Islam. Following the film, the respondents were more likely to donate their organs and discuss their wishes with their loved ones. We hope to conduct film screenings across other UK cities to continue the organ donation conversation across the BAME community.

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Towards a culturally competent framework for healthcare translation

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Introduction

The COVID-19 Pandemic has highlighted severe health inequalities due to ethnicity, culture, religion or language 1, particularly for refugees, migrants and diaspora communities 2. Physical Activity is an important independent risk factor for several health conditions. Availability of evidence-based, culturally competent Physical Activity promotion can significantly impact ethnic minority population health 3 but remains elusive as translation is often ignored, with interpretation services taking precedence. Most written information translation in healthcare is either done in a resource rich setting (research, pharmaceuticals) or done in an ad hoc way with little governance or quality control: Our aim was to develop a practical translation framework and quality testing standards for patient information material which could be reproduced by most healthcare provider services whilst maintaining standard and effectiveness in a resource efficient way.

Methods

Our multi-disciplinary team evaluated evidence from several databases including, healthcare and Linguistics, and developed a multi-disciplinary translation pathway using input from Healthcare Translation Specialist Linguists. We tested our framework by translating a single motivational leaflet and compared it with the standard approach (solo translator) commonly adopted by most healthcare service providers.

We recommend two focus groups one including bilingual clinicians and the other including patients and created a protocol for their optimum functioning. We designed an assessment framework for reliable comparison of translations, to aid reconciliation using focus group scoring. Results: The assessment framework was divided into sections addressing different aspects, including assessor competence, health literacy and cultural appropriateness. The scores suggest overall better translation quality for Multi-disciplinary over solo translation.

Conclusion

We find that a Multi-disciplinary translation protocol improves healthcare translation quality, in a time efficient and resource efficient way; and a scoring system helps engage non-speakers of the target language to engage in reconciliation, and evaluation. We identified training opportunities for bilingual staff, and potential to scale the model for a steady production of quality translations.

References:

1. Bambra C, Riordan R, Ford J, Matthews F. The COVID-19 pandemic and health inequalities. J Epidemiol Community Health. 2020 Nov 1;74(11):964-8.

2. Anthias F. Evaluating ‘diaspora’: beyond ethnicity?. Sociology. 1998 Aug;32(3):557-80.

3. Koshoedo SA, Paul-Ebhohimhen VA, Jepson RG, Watson MC. Understanding the complex interplay of barriers to physical activity amongst black and minority ethnic groups in the United Kingdom: a qualitative synthesis using meta-ethnography.BMCpublic health. 2015 Dec;15(1):1-6.

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10 Years of BIMA Lifesavers - a reflective piece

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The BIMA Lifesavers program, initiated in 2013, has undergone significant evolution and progress over the course of a decade. This transformative initiative aims to impart basic life support skills within mosques.

During its inception, the BIMA Lifesavers program focused primarily on providing basic life support training in mosques. However, over the years and now in its 10th year, the program has evolved into a comprehensive and multifaceted initiative that not only teaches life-saving skills, but also emphasises community engagement and the establishment of sustainable education.

One of the noteworthy changes observed within the program is the expansion of its scope. Recognising the need to reach a broader audience, the BIMA Lifesavers program gradually extended its reach beyond local communities to encompass mosques worldwide. By forging partnerships with international organisations and leveraging digital platforms, the program has been able to transcend geographical boundaries and bring life-saving knowledge to diverse populations. Over the course of a decade, we have advanced from 3 mosques and 15 volunteers in the UK to 125 mosques and over 400 volunteers in over 12 countries worldwide.

The programme has managed to successfully deliver the event virtually for the first time during the COVID-19 pandemic, the first of its kind. In an attempt to become more feasible and accessible, Lifesavers successfully incorporated the use of 'pillow partners' instead of mannequins - apparatus developed by The Yorkshire Ambulance NHS Service, in conjunction with Resus Council UK. As a further collaboration with Resus Council UK, Lifesavers have recently finished the development of videos demonstrating basic life support in languages like Urdu to reach an even bigger population set.

This progress is a testament of the sheer dedication and commitment of all the volunteers involved. Looking forward, the BIMA Lifesavers program continues to evolve. Through continuous improvement and adaptability, we anticipate that the BIMA Lifesavers program will continue to make a profound and lasting impact on healthcare within a wide range of communities worldwide.

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Digitising diabetes education for a safer Ramadan: Design, delivery, and evaluation of massive open online courses in Ramadan-focused diabetes education

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Background:

Ramadan-focused diabetes education is critical to facilitate safer Ramadan fasting amongst Muslim people with diabetes (1). However, access to and engagement with education is variable, and many healthcare professionals (HCPs) are inadequately equipped to deliver it (2,3). Digitisation can democratise high-quality diabetes education at low-cost (4). We present the design, delivery, and evaluation of two massive open online courses (MOOCs) in Ramadan-focused diabetes education for people with diabetes and HCPs.

Methods:

Two Ramadan-focused diabetes education MOOCs were developed and delivered for Ramadan 2023 by a multidisciplinary group of clinicians, academics, and technologists: one for HCPs in English, and another for people with diabetes in English, Arabic and Malay.

A user-centred iterative design process was adopted, informed by user feedback from a 2022 pilot MOOC. The MOOCs featured interactive elements, videos, patient stories, and live multilingual Q&A sessions.

The MOOC was delivered on a custom platform from 7th March–24th April 2023 and promotion occurred through diabetes organisations, health authorities, and media outlets.

Evaluation included platform usage analysis and mixed-methods evaluation of pre- and post-course user surveys.

Results:

A total of 1531 users registered for the platform from >50 countries, 809 started a course (549 HCPs MOOC; 260 patients MOOC), and 387 completed a course (defined as ≥60% of course steps; 48% completion rate among course starters). 571 pre-course and 267 post-course survey responses were collected from consenting users. HCPs worked in varied, mostly (60%) non-diabetes specialist roles, 55% identified as Muslim and most self-reported high baseline levels of diabetes and Ramadan awareness. Users found the course informative and useful. In the HCP MOOC, users reported improved post-MOOC Ramadan awareness, associated diabetes knowledge and ability to assess and advise patients in relation to their diabetes during Ramadan ($p<0.01$). Among a small group of patients with paired survey responses (n=51–55), self-reported Ramadan-related diabetes management knowledge and confidence improved after the course ($p<0.01$).

Discussion:

We demonstrate the potential of MOOCs to deliver culturally tailored, high-quality, low-cost, multilingual Ramadan-focused diabetes education to HCPs and people with diabetes. Evaluation demonstrated MOOCs to be useful and educational among a diverse cohort of worldwide learners.

References:

1. Hassanein M, Afandi B, Ahmedani MY, Alamoudi RM, Alawadi F, Bajaj HS, Basit A, Bennakhi A, El Sayed AA, Hamdy O, Hanif W. Diabetes and Ramadan: practical guidelines 2021. Diabetes research and clinical practice. 2022 Jan 8:109185.

2. Hassanein M, Alamoudi RM, Kallash MA, Aljohani NJ, Alfadhli EM, El Tony L, Khogeer GS, Alfadhly AF, Khater AE, Ahmedani MY, Buyukbese MA. Ramadan fasting in people with type 1 diabetes during COVID-19 pandemic: The DaR Global survey. Diabetes research and clinical practice. 2021 Feb 1;172:108626.

3. Almansour HA, Chaar B, Saini B. Fasting, diabetes, and optimizing health outcomes for Ramadan observers: a literature review. Diabetes Therapy. 2017 Apr; 8:227-49.

4. Mackenzie SC, Cumming KM, Mehar S, Wilson L, Cunningham SG, Bickerton A, Wake DJ. Education at scale: Improvements in type 1 diabetes self-management following a massive open online course. Diabetic Medicine. 2022 Aug;39(8): e14842.

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Assessing the effectiveness of community basic life support training in faith based settings

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Introduction

This research set out to collect both qualitative and quantitative data regarding the effectiveness of teaching basic life support to the local community in faith-based settings. Data was collected following a BIMA Lifesavers event, in the form of feedback forms to determine the effectiveness of the training given. Overall the data showed the vast majority of participants found the teaching to be of high benefit.

Methods:

Data was collected in the form of handwritten feedback forms from 47 participants who attended the full training. Training was targeted at the Muslim community in both the local faith-basedcentre and mosque. Both male, female and child participants were included in the data. Participants could provide a score of one to five for subcategories including content, delivery, visual aids, usefulness and a score for the overall event. Qualitative research was also collected in the form of written feedback allowing for positive comments or areas for improvement. The feedback was then collated and analysed by a medical member of the volunteer team.

Results:

Of the 47 responses collected, 91.5% of event participants ranked the event overall as the highest score of five. Scores of five out of five were 91.5 %, 91.5%, 87.2% and 91.5% for subcategories content, delivery, visual aids and usefulness respectively. Qualitative feedback was widely positive, namely the ability to be able to practice on dummies was widely mentioned. The main areas for improvement commented on were widening participation, improving venue space and facilities.

Conclusion:

This research has shown the BIMA lifesavers event was well received by the Muslim community of Gloucester with over 90% of attendees ranking the event at the highest possible score. Going forward, further promoting these events to widen participation and gain higher numbers would be worthwhile for a larger community impact. This data suggests good potential for wider health promotion and community-based education among the Muslim community.

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A culturally responsive approach to Speech and language therapy: Case study of a bilingual Muslim patient during Stroke rehabilitation.

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Presented as a poster at the BIMA National Conference in Manchester on 8.7.2023

Introduction

Communication impairments post Stroke can have devastating impacts on psychological, social and emotional wellbeing. For those that cannot access Speech and Language Therapy (SLT) services due to cultural or language barriers, this can leave them feeling further isolated. A gentleman diagnosed with Aphasia, Apraxia and Dysarthria following his stroke expressed wishes around learning to pray again, in Arabic. Due to gaps in services, he was privately offered a therapy programme adapting existing SLT techniques and resources to help him achieve his goals.

Methods

An assessment was conducted in the patient's home and goal negotiation took place with the individual, therapist and family. A therapy plan was devised adapting techniques such as articulation practice, script training, minimal pair work and naming therapy, using resources that were culturally appropriate and related to his goals; e.g. involving passages from the Quran and utilising audio recordings from his local Imam. The individual and family reflected with the therapist throughout the programme and gave feedback on the suitability of this type of therapy and suggestions were incorporated. Goals were reviewed at the end of the period.

Results

The individual was able to resume his role in the Mosque as the caller to prayer and was able to recite the passages for the five daily prayers independently again. Family reported improved mood, confidence and engagement throughout. He still had difficulty independently reading Arabic accurately from the Quran.

Outcomes

Following this, a project in collaboration with the Greater Manchester Neurorehabilitation and Integrated Stroke Delivery Network took place. The project involved producing a patient story where the individual and his son reflected on their experiences and a webinar was delivered on Cultural Awareness in Stroke and Neurorehabilitation. The aims were to increase the awareness of the importance of diverse cultures and values within the workplace, to recognise the importance of cultural and value-based goal setting, and to understand how the knowledge of these values can shape stroke and neuro-rehabilitation services and improve patient care. Feedback from the webinar was positively rated.

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Hardworking or overworked? Spiritual consequences discussed

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Presented as a poster at the BIMA National Conference in Manchester on 8.7.2023

Purpose

This essay seeks to discuss the consequences of modern career working styles. The analysis of this will be through the lens of the spiritual paradigm, exploring the metaphysical aspects of
our work.

Hypothesis

Islam is a religion that encourages moderation. In today's world, it is becoming increasingly challenging to maintain moderation in our working lives due to a shifting baseline that has normalised the imbalance between work and life. This shifting baseline presents challenges for our spiritual health. Are we able to adequately introspect and examine our lives if so much of ourselves is given to our jobs? A trade-off is inevitable, and there has become an ever increasing need to reconcile the relationship between our working lives and our spiritual development. When we consider rizq is a matter decreed long before we are born, as believers, it makes very little sense to sacrifice the provision of our souls for material provision already set in stone by Allah.

Discussion

Statistics show that burnout is on the rise globally. The demands of roles within all divisions of
sector are increasing and there seems to be a shifting baseline tipping the balance of work/-life in favour of work. Sunday is no longer a day of rest, and evenings no longer necessarily count as 'free' time. Many of us try to use our time off to get ahead. That is without mentioning the difficulty in being able to mentally detach from the stresses of our jobs outside of work.

In the context of doctors, the latest reports from the General Medical Council (GMC) indicate a third of trainees experienced burnout 'to a high or very degree because of their work', relative to around a quarter in previous years (2). Three out of five said they 'always or often felt worn out at the end of a working day', while 44% felt their work was 'emotionally exhausting' to a high or very high degree. Evidently, with rising industrial action these figures have deep implications for the future workforce.

Conclusion

The narrative that has allowed this baseline to shift is one that glorifies the over-worker by referring to them as 'hard-workers'. However, it is important to ask ourselves whether we are truly hardworking or whether we have become excessive in our work due to a shift in societal norms. If we recognise we are being overworked and it is of detriment to our spiritual development, are we able to make the necessary sacrifices at the expense of career development, resting comfortably in the knowledge that our rizq is written by Allah and it is He who sustains us? The answer to this question reveals a lot about the state of our spiritual
health. In the context of an increasingly burnt out NHS workforce, more research is required within the Muslim population to understand and analyse the effects of current working styles and whether spiritual health needs are being adequately met.

References:

1. Ghassemi AE. Burnout in nurses during the COVID-19 pandemic: The rising need for development of evidence-based risk assessment and supportive

interventions. Evidence-based nursing. 2022 Jul 1;25(3):94-.

2. Wise J. Burnout among trainees is at all time high, GMC survey shows. BMJ: British Medical Journal (Online). 2022 Jul 19;378:o1796.

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Mental Health in the aftermath of the earthquake in Turkey and Syria: Personal notes of urgent needs

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Turkey-Syria Earthquake:

I am on my way leaving Northwest Syria into Turkey via the only border crossing, Bab al-Hawa, which remains open for UN humanitarian access into Syria.

We are just finishing a medical field visit organized by the Qatar Red Crescent Society (QRCS) in response to the massive Turkey-Syria earthquake on the early morning of the 6th of February 2023, with a magnitude of 7.9 on the Richter scale. The earthquake has killed more the 40.000, and injured hundreds of thousands, and made many of those homeless

Unfortunately, there was a long delay of any aid into Syria (1), and only Qatar, Saudi Arabia, and Iraqi Kurdistan initially sent aid to northwest Syria. Instead of essential aid getting into Syria, the first few days after the main earthquake, only dead bodies of Syrian victims were transported to be buried in Syria, and a few days later, only a pre-planned UN humanitarian convoy carrying non-earthquake supplies arrived. What was available to the people are only the 2500 volunteers of the Syria Civil Defence "White Helmets" who were working on the major some 60 affected sites soon after the earthquake.(2)

This earthquake has hit the Syrians badly on the top of more than twelve years of atrocities of the Syrian regime, the Iranian and Russian forces, since the uprising 2011, with hundreds of thousands killed, and millions displaced.

There are some 4·5 million people, half of them have been forcibly displaced from other areas inside Syria(3).They live in a small area which is outside the control of the Syrian regime, and who have already endured 12 years of violence and atrocities by the Syrian regime in Damascus. The millions who live in Northwest Syrian, not only lacking essential needs, but the earthquake brought further suffering tothe people who also have been under regular attacks by the Syrian, Iranian and Russian armies and militias.

The Health System:

The health system is unable to meet the increasingly complex physical and psychological needs of the population and is largely dependent on international assistance, and we should remember that the health system that has been severely weakened by almost 12 years of deliberate attacks by the Syrian regime, with very limited resources. (4, 5) and the earthquake-caused full or partial damage to 55 health facilities. (3)

That is why there should be international pressure on the Syrian regime to release the more than 3360 forcibly disappeared health workers, which are claimed mostly by the Syrian regime, some of them are specialised mental health workers, including the Syrian/American Majd Kamalmaz, a psychotherapist who has specialised in trauma related mental health, and who has been unlawfully held by the Syrian government since 15/2/2017 (6). There is no indication that the Syrian regime will stop the attacks on Northwest Syria, and this no doubt will increase the burden of disabilities and worsen the situation for both communicable and non-communicable diseases to which a weakened health system cannot respond to. (7, 8)

Mental Health Services:

From my visit to several cities in Northwest Syria few days after the earthquake, like Idlib, Adana, Maree', Iazaz and Al-Bab, we have found that there are only two psychiatrists and three psychiatric trainees who are

serving the whole population of 4.5 million people! Their three trainees are due to finish their training in a couple of months, although they feel that their training was not adequate, and that they need further training with proper supervision. When I meet two of them at Idleb's Health Authority Center, they informed me that they have stopped working in their psychiatric hospital'in-patient unit in Sarmada, because the fund to run the unit was stopped early this year! I visited the psychiatric hospital in Izaz city, it has no psychiatrists on duty, but occasionally they would have a visiting psychiatrist, who is one of the only two in the province. Some medications are available in this hospital but there is a shortage of neuroleptics and antidepressants.

I have met several psychology groups in various cities, but none of them in the whole Northwest region are properly trained in Cognitive Behavioral Therapy (CBT) or Eye Movement Desensitisation and Reprocessing (EMDR), both well-known effective treatments for trauma related psychiatric complications like PTSD, depression, and others.

There is a widespread addiction problem to captagon, crystals, cannabis and others, which have been highlighted by various reports, but not a single expert in addiction treatment or proper facility for recovery. (9)

Learning disability and child psychiatry disorders like Autistic Spectrum Disorders (ASD) and ADHD are other areas which are neglected. Of course these disorders aren't regarded now as child psychiatric disorders in both DSM-5 and ICD-11. They are described as neurodevelopmental disorders, a term that would also include learning disability. Many families with affected children and teenagers have no one to turn to.

Psychiatric care of the elderly is non-existent, although families still try their best to take care of their elders.
It is not surprising that the long delay in aid and the earthquake's effects will undermine the resilience of the individual and the community.

It is too early to identify the psychological consequences of the earthquake, although it is expected that the disaster will leave a major mark on mental health. Already many survivors have anxiety, stress, and fear of further aftershocks. Many people are on the streets afraid of going back into their homes. Children in particular are terrified, restless with bedwetting.

It is expected that many survivals will suffer from psychological consequences of the earthquake. Earlier study investigated a sample of 121 survivors found that almost 80% of the victims acknowledged a strong overall impact of the earthquake on their lives, even 50 years later, and almost all of them suffered intense recollection of the event at its anniversary. Young adults (17-25 years), as well as women, were the most vulnerable groups for the development of emotional problems. (10)

To minimise the suffering and build-in the resilience of the community an urgent package of help is needed to provide much needed physical and psychological support to affected survivals and injured. I call upon the WHO-EMRO, Royal College of Psychiatrists and other mental health organisations to reach out their help and support to the people of Northwest Syria. This requires a lot of coordination and collaboration, and already some groups are trying to offer some assistance including the Syrian Association for Mental Health (SAMH) which is a voluntary group based in Turkey, although it has very limited resources. (11) These agencies should offer proper training in cultural safety, even in the form of online-distance learning, situational preparation, and support mental health workers with their personnel need. If it is possible to do direct face-to-face training, then practical matters like safe transport and housing and how safety could be protected warrant consideration.

In the face of a population burden of this magnitude it is not likely that specialist mental health services will be sufficient to meet needs. It would be helpful to acknowledge that in this context other responses will be needed, perhaps task shifting, non-health sector responses or use of online or brief psychoeducational approaches.

References:

1. The catastrophic response to the earthquake in Syria: the need for corrective actions and accountability

2. www.thelancet.com,Published online March 6, 2023https://doi.org/10.1016/S0140-6736(23)00440-3

3. Syria Civil Defense. White helmets situation reports. https://mailchi. mp/017694688b34/white-helmets-situation-report-9135797 (accessed Feb 20, 2023).

4. UN-OCHA. Earthquakes: north-west Syria. Flash update number 12 as of Feb 19, 2023. https://reliefweb.int/report/syrian-arab-republic/

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earthquakes-north-west-syria-flash-update-no-12-19-february-2023 (accessed Feb 20, 2023).

5. Abbara A, Marzouk M, Mkhallalati H. Health system fragmentation and the Syrian conflict. In: Bseiso J, Hofman M, Whittall J, eds. Everybody's war: the politics of aid in the Syria crisis. Oxford: Oxford University Press, 2021.

6. Fouad FM, Sparrow A, Tarakji A, et al. Health workers and the weaponisation of health care in Syria: a preliminary inquiry for *The Lancet*–American University of Beirut Commission on Syria. *Lancet* 2017; 390**:** 2516–26.

7. Jabbour S, Leaning J, Nuwayhid I, et al. 10 years of the Syrian conflict: a time to act and not merely to remember. *Lancet* 2021; 397**:** 1245–48.

8. Abbara A, Rayes D, Ekzayez A, et al. The health of internally displaced people in Syria: are current systems fit for purpose? *J Migration Health* 2022; 6**:** 100126.

9. ACAPS. Türkiye/Syria earthquake: overview of what to watch over the next month. https://reliefweb.int/report/turkiye/acaps-anticipatory-note-turkiyesyria-earthquake-overview-what-watch-over-next-month-17- february-2023 (accessed Feb 20, 2023).

10. https://www.thenationalnews.com/mena/captagon-crisis/2021/10/25/what-is-captagon-the-drug-sweeping-the-middle-east/

11. https://www.psychologytoday.com/us/blog/slightly-blighty/202302/the-psychology-of-surviving-an-earthquake

12. http://www.syriasamh.com/enIndex.htm

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Health care services in northwest Syria and Earthquake response

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Background on healthcare services in Northwest Syria before the earthquake in February 2023

Syria has one of the largest humanitarian crises worldwide due to the uprising in 2011 and the escalation into armed conflict by the summer of 2012 when the Syrian government violently suppressed the uprising. In 2023, approximately 15.3 million people are in need of humanitarian support[1], and 6.8 million people were internally displaced, the highest figure due to armed conflict across the world in 2022[2]. Northwest Syria (Idlib and Aleppo governorates) remains the only part of Syria in the hands of non-state actors, with around 5 million people, 2.7 million are IDPs, and 1.6 million reside in 1,302 IDP sites[3–5]. The health system in northwest Syria is heavily disrupted due to systematic attacks on healthcare facilities, a shortage of resources, and a loss of expertise. When the regime forces began withdrawing from some areas of Syria in 2012, they also withdrew all their services, including health care[6]. As a result, field medical teams were suddenly forced to shift from treating injured protesters to providing complete health services to the community, relying on international donations from UN agencies and international and Syrian humanitarian organizations within an emergency response program. While efforts have been made to support health directorates, health organizations seeking to develop the health sector face numerous challenges and are forced to play a government role with opposition governments failing due to weak management or lack of resources. Donors and UN agencies, particularly the World Health Organization, remain determined to keep the health system in areas outside government control, relying on primary, secondary, and emergency health care without taking care of specialized health services. Efforts to provide advanced services, such as cancer treatments, heart surgeries, and many more, have not obtained regular funding, keeping more than four million people dependent on Turkey to provide advanced treatments and a complex referral system across the border for all complicated cases.

Earthquake Crisis, Health Response, and Challenges

The earthquake that struck northwest Syria on Feb 6, 2023, was 7.8 magnitude with a devastating impact that left hundreds of thousands of people in urgent need of medical assistance. The challenges in responding to the massive injuries and increasing health needs during the earthquake in northwest Syria were enormous. The region was already grappling with a protracted humanitarian crisis and conflict, which had resulted in a weakened health system, limited access to healthcare services, and a shortage of medical supplies and equipment. The earthquake compounded the situation, causing widespread devastation and destruction. Many hospitals and clinics had already been destroyed or were overwhelmed with patients, making it difficult to provide timely medical care to those who needed it most. An estimated 53 health facilities have been fully or partly damaged, overwhelming the already fragile health system and severely straining the already fragile healthcare infrastructure. The health facilities were ill-equipped to handle the sudden surge in demand for medical services, and the healthcare personnel was overstretched and exhausted. The lack of proper medical equipment, essential supplies, and medications like antibiotics, intravenous fluids, and surgical instruments exacerbated the situation, hindering the delivery of adequate healthcare services to the affected population.

Another significant challenge was disrupting the supply chain for medicines and medical supplies, which

depended mainly on Turkey. The earthquake damaged roads and transportation infrastructure, making transporting essential supplies and equipment to the affected areas challenging. This led to a shortage of critical medical supplies, which compromised the ability of healthcare workers to provide adequate care to patients. Moreover, the earthquake caused significant psychological distress and trauma, resulting in a surge in mental health needs.The closure of the borders between Syria and Turkey significantly impacted the response to the health needs of earthquake victims in Northwest Syria. At the same time, Turkey's neighboring areas were heavily impacted by the earthquake, and the authorities were pressured to provide services for their people. With the border closed it became complicated to refer patients to Turkey, where they could receive the specialized care, they needed. This created a bottleneck in the system, with patients unable to receive the necessary care inside and outside the area. Additionally, the border closure meant that vital medical supplies and equipment could not be transported into the affected areas, exacerbating an already dire situation.

The delay in providing support from humanitarian organizations, including UN agencies, during the first week after the earthquake in northwest Syria significantly contributed to the difficulties faced in responding to the massive injuries and increasing health needs. According to Idleb health directorate, until Feb 13, "the amount of aid entered by UN agencies and other donors across the border covered between 5–10% of the needs of hospitals responding to the disaster"[7], and as of Feb 23, 2023, only 19% of the estimated required fund by Health Cluster in Gaziantep for a 3-month response after the earthquake had been secured[8]. Moreover, the lack of coordination and communication among the various humanitarian organizations involved in the response also contributed to delays in providing support.

This was compounded by the fact that national and international NGO staff were impacted by the earthquake.

Despite all these obstacles, the heroic medical staff on the ground made incredible efforts, particularly within the 48 hours after the earthquake, to manage the massive number of injuries using the available resources. Their acquired experience within the past 11 years in dealing with the massive casualties resulting from barrel bombs and targeting the civilian communities from the Syrian regime and its alliance familiarized them with similar scenarios. In coordination with Syrian Organizations, the health directorates led the response by updating the ongoing program, using the available resources, and prioritizing the urgent response to those affected by the earthquake. Hospitals were classified based on the available services, and the referral system was updated to transport the people to the closest facilities. Mobile health units were activated to provide urgent services to impacted communities and populations in temporal shelters.

Field hospitals were established to be alternatives for damaged health facilities. The challenges faced during this crisis highlight the need for stronger and more resilient healthcare systems in disaster-prone regions, as well as the importance of coordinated efforts between local and international aid organizations to provide timely and effective assistance to those in need.

Lesson learned Practical Points to Support the health system in Northwest Syria

It is vital to remember that the healthcare system in northwest Syria was already under severe strain before the earthquake, and the disaster only exacerbated the existing challenges. Therefore, a sustained and long-term commitment from donors, international and national organizations is necessary to ensure that the healthcare needs of the Syrian population are met through the availability of a robust health system.

Here are some practical points to consider to overcome the challenges in responding to the health needs in the aftermath of the earthquake in northwest Syria:

Short-term:

- Increase the capacity of local health facilities to manage the surge in patients by providing essential medical supplies and equipment.
- Deploy additional medical personnel to the affected areas to support the existing health workers in providing care to the injured.
- Collaborate with local community-based organizations and volunteers to launch a community outreach campaign to inform people about available healthcare services and promote healthy practices, such as handwashing and safe water use, particularly within communities of a high risk of developing cholera and communicable disease.
- Support the health directorates to establish a mechanism for tracking the needs of the affected populations and ensuring that resources are allocated to areas with the highest needs.
- Prioritize the distribution of essential medicines and supplies to health facilities in the affected areas such as antibiotics, painkillers, and wound dressings.

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Medium-term:

- Improve healthcare infrastructure in northwest Syria, including the construction and renovation of hospitals and health centers, and the provision of required medical equipment and supplies.
- Increase the healthcare workforce through training and recruiting more healthcare professionals, including doctors, nurses, and other medical staff.
- Strengthen the capacity of local health systems to respond to disasters by training health workers in emergency response and disaster management.
- Strengthening the existing health information system to support effective decision-making and health planning, including disease surveillance, outbreak response, and emergency preparedness.
- Prioritize and increase the capacity of preventative care, such as immunization programs, maternal and child health services, and chronic disease management.
- Establish a coordination mechanism between humanitarian organizations and local health authorities to ensure a more effective response to future disasters.

Long-term:

- Advocate for sustainable long-term funding in healthcare infrastructure and resources to strengthen the resilience of health systems.
- Promote research on the health impacts of disasters and the best practices for responding to them.
- Advocate for policies prioritizing disaster preparedness and response, including investments in early warning systems, contingency planning, and emergency supplies.
- Strengthen health governance, including regulation, policy development, and health system coordination, to ensure effective and efficient health service delivery.
- Strengthen the capacity of local communities by focusing on primary healthcare, including disease prevention, health promotion, and community-based care.
- Increase investment in health financing to improve access to quality healthcare services for all, including the most vulnerable populations.
- Develop partnerships between local and international organizations to leverage resources and expertise in responding to disasters and building resilient health systems.

How could Doctors in the UK help in the previous recommendation to support people inside Syria?

International medical communities worldwide and particularly in the UK can play a critical role in the previous recommendation and supporting healthcare efforts inside Syria and helping to alleviate the challenges faced by medical professionals through the following activities:

- Volunteering with humanitarian organizations that are working inside Syria to provide healthcare services.
- Donating medical supplies and equipment: to organizations working inside Syria. This can include items such as surgical instruments, medications, and other essential medical equipment.
- Providing telemedicine support to medical professionals working inside Syria. This can include consultations on difficult cases, advice on treatment plans, and guidance on the use of medical equipment.
- British doctors can also help by advocating for increased support for medical professionals working inside Syria and fundraising for organizations that provide healthcare services.

References:

1. Syrian Arab Republic: 2023 Humanitarian Needs Overview (December 2022) - Syrian Arab Republic | ReliefWeb. https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-2023-humanitarian-needs-overview-december-2022.

2. IDMC | GRID 2022 | 2022 Global Report on Internal Displacement. https://www.internal-displacement.org/global-report/grid2022/.

3. About internally displaced persons | OHCHR. https://www.ohchr.org/en/special-procedures/sr-internally-displaced-persons/about-internally-displaced-persons.

4. UNHCR, the UN Refugee Agency | UNHCR. https://www.unhcr.org/.

5. Humanitarian Needs Assessment Programme (HNAP) I Syria - Summer 2020 Report Series Disability Overview - Syrian Arab Republic | ReliefWeb. https://reliefweb.int/report/syrian-arab-

ISSN 2634 8071

republic/humanitarian-needs-assessment-programme-hnap-i-syria-summer-2020-report.

6. Ekzayez, A. *et al.* COVID-19 response in northwest Syria: innovation and community engagement in a complex conflict. *J. Public Health (Oxf).***42**, 504–509 (2020).

7. Alkhalil, M., Ekzayez, A., Rayes, D. & Abbara, A. Inequitable access to aid after the devastating earthquake in Syria. *Lancet Glob. Heal.***11**, e653–e654 (2023).

8. Syria Cross-border Humanitarian Fund: 2023 First Reserve Allocation - Strategy - Syrian Arab Republic | ReliefWeb. https://reliefweb.int/report/syrian-arab-republic/syria-cross-border-humanitarian-fund-2023-first-reserve-allocation-strategy.

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Lets Have A transparent Debate – Comments on the article *"Is there a case for British Muslims to be exempted from the new opt out organ donation law"*

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Dear Editor

I would like to pass commentary on the article you published titled "Is there a case for British Muslims to be exempted from the new opt out organ donation law" authored by Abid Hussein. I welcome this article and the discussions that will follow. I think the discourse have moved on from some of the points made but I think it would be important to have such discussion. The article is obviously written in a provocative manner to allow for discourse.

It would have been in my opinion better if it was more balanced allowing therefore an informed choice to be made by the reader. The background to the article is the health inequalities that exist due to the increasing need of Muslims requiring organ donation from the National Organ Donation scheme. This leads to the position that the majority of Muslims will receive an organ from a non-Muslimand from the majority white community.

The first point to raise regarding donation and the proposal of harvesting organs in somebody critically unwell in Intensive Care using a limited harvest of part of a liver or kidney. This has to be balanced with the GMC of good pratice principal which is first to do no harm and also has to take the risk balance equation of actually provoking death in a critically ill patient. This is probably not a practical solution to the issue.

The second point is if death either by DBD or DCD is not seen as permissible to donate organs then by that logic no Muslims should accept any organ from the organ donor waiting list. If this position was taken, then the health inequalities will be exacerbated leading to an excessive mortality in the Muslim population and increase health burden on Muslims waiting longer on the organ donor list if they were ever to be transplanted.

The third point isa societal perpective not donating but happy to receivewould also in the context of islamophobia would probably lead to a division in the community between Muslims and non-Muslims. This will heighten the fever of islamophobia and increase the risk of isolation within a community.

I think the above 3 points need to be considered wisely. We should welcome the author into the wider discussion and discourse as he has a lot to offer and challenging positions should be discussed to allow the audience to make an informed choice with a balanced argument.