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REVIEW ARTICLE

Considering Islamic Frameworks to Infectious Disease Prevention

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Infectious diseases remain a significant global health challenge, particularly in Muslim-majority countries, where socio-economic disparities, urbanization, and conflict exacerbate the spread of illnesses such as dengue, cholera, malaria, and COVID-19. This review explores the potential of Islamic concepts such as *taharah* (cleanliness), *la darar wa la dirar* (prevention of harm), and *maslahah* (communal benefit), as frameworks for infectious disease prevention. These values may align with public health goals, offering religiously resonant approaches to health promotion while addressing the ethical complexities of integrating religious beliefs with biomedical imperatives. The paper examines how community health workers (CHWs) and religious leaders can collaborate to deliver health education, promote vaccination, and manage disease outbreaks, particularly in underserved regions where trust in certain institutions is limited. Challenges arise in ensuring inclusivity, avoiding stigmatization, and balancing the utility of religion in optimal medical end-goals. The ethical implications of using religious messaging in public health campaigns are critically analyzed, emphasizing the need for careful framing to avoid coercion while addressing public benefit. By synthesizing existing literature and case studies, this review highlights how Islamic frameworks may be used to support effective, ethical, and sustainable infectious disease prevention for various stakeholders, offering valuable insights for public health strategies.

Key Points

- This review explores the integration of Islamic values such as taharah, la darar, and maslaha in infectious disease prevention.
- The article discusses infectious disease prevention strategies in Muslim-majority contexts, the ethical dilemmas arising in the alignment of healthcare with religious values, and offers recommendations in taking it forward.

INTRODUCTION

Infectious diseases pose severe public health challenges globally, particularly in Muslim-majority countries [1–8]. Factors such as rapid urbanization, environmental degradation, and socio-economic disparities have exacerbated the incidence of diseases like dengue fever, cholera, malaria, and COVID-19. These challenges can be compounded by limited healthcare resources, such as those in conflict zones like Iraq, Syria, Yemen, Lebanon, Afghanistan, Sudan, and Palestine, adding to the essential need of exploring alternative frameworks for disease prevention and control [9–11]. Among these, religious frameworks hold considerable potential for shaping public health strategies [12,13].

Islamic values and teachings offer a robust foundation for addressing public health issues. Islamic morality emphasizes the value of cleanliness (*taharah*), the prevention of harm (*darar*), and the seeking of human interest (*maṣlaḥa*), all of which can be leveraged to promote health interventions that resonate with religious and cultural values. It is worth bearing in mind that these values are not of an equivalent nature, for example *taharah* is only a value and not an ethico-legal construct,

though it is a prerequisite to essential acts of worship including prayer. This piece explores how these Islamic values have been, or could be, applied to prevent infectious diseases in various Muslim population groups and societies. It further engages with the ethical and normative implications of employing these religious frameworks for health interventions, highlighting both their alignment with health promotion goals and the potential conflicts that may arise when integrating religious beliefs with biomedical imperatives [14,15]

COMMUNITY HEALTH INVOLVEMENT IN ID PREVENTION

There is a critical need to assess the involvement of community health workers (CHWs) in shaping health messaging to populations in Muslim-majority communities. Whether they employ religious language or not, and the methods utilized to effectuate engagement may depend on a variety of cultural and society-specific contexts. A comprehensive overview of the topic is beyond the scope of the paper here, but a brief exposition into some aspects of it in Muslim-majority countries may be of benefit.

There is an important role to be played in bridging the gap between formal healthcare systems and local populations by community healthcare workers, or *kader*, as seen in the context of Indonesia [16]. They are often tasked with organizing and leading *Posyandu* (integrated health posts), which serve as key community health centers, many times at local mosques. The kader is responsible for educating community members about health issues, administering vaccinations, and promoting preventive healthcare behaviors. Importantly, the *kader* operates within a religio-culturally conscious framework, where health interventions are aligned with local religious beliefs and practices. This alignment may be of importance in Muslim-majority settings, where religious values strongly influence health behaviors. For example, during the COVID-19 pandemic, *kader* continued to conduct health promotion activities, including vaccinations and vitamin supplementation, by visiting households directly [17]. These activities were framed within existing religio-cultural norms in a bid to emphasize the collective responsibility to protect the community's health.

Collaboration between CHWs and religious leaders may further enhance the effectiveness of health interventions, though whether this is an optimal end-goal (i.e. the use of religious leaders and messaging for this purpose) is a point of debate. Muslim religious leaders do have avenues to incorporate health messages, or aspects of communal importance and welfare, for example, into the sermons delivered in the Friday prayers. This approach can be utilized to deliver important information regarding infectious diseases, specifically preventative measures in a manner that may be scientifically robust while coming from the pulpit of a religious sermon. Even in cases where religious leaders may not share a clear opinion on a specific medical matter, due to a lack of expertise or other causes, they may play an important role in steering and driving the public towards seeking and listening to expert medical opinions. Such strategies have proven effective in increasing community engagement with healthcare services and boosting vaccination rates, an

essential component of infection prevention measures, especially in rural and underserved areas where religious leaders may be among the few trusted sources of information in the public opinion [18–20]. Beyond the realm of ritualistic activities, mosques often also host community health events, such as mass circumcisions, which are framed as promoting cleanliness and personal hygiene [21]. Some Islamic scholars have lent their support to these practices as a means of maintaining purity, as scientific evidence had underscored some of the health benefits of circumcision, including reduced risks of HIV, HSV-2, HPV, and urinary tract infections in infants [22,23]. These are a few examples of how aspects of religious activity, scholarship, or community settings can be leveraged to enhance measures intended to prevent the spread of infectious diseases or improve clinical care settings [24–27]. There is still a need for further research tracking the measurable improvements arising from such attempts, and attitudes in Muslim communities and among scholars regarding its utility.

ISLAMIC PRINCIPLES IN PUBLIC HEALTH

Taharah

The concept of *taharah*, or cleanliness, encompasses not only personal hygiene but arguably also environmental stewardship, emphasizing the maintenance of clean surroundings as part of communal responsibility [28–30]. Employing the concept of *taharah* could be beneficial in preventing vector-borne diseases such as dengue, malaria, and water-borne diseases like cholera [31,32]. In Pakistan, where recent dengue fever outbreaks have affected 50,000 people annually, integrating aspects of a focus on personal hygiene into public health campaigns has been at the forefront of strategies designed to combat it [33–35]. A study in Malaysia observed differences across religious groups on knowledge regarding dengue fever and prevention and the need for tailored educational programs [36]. *Taharah* has also been evoked by some scholars in Indonesia amid the COVID-19 pandemic, drawing on its importance in Qur'anic and Hadith sources through the example of *wudu* and overall emphasis on physical hygiene, as well as demonstrated benefit of handwashing to prevent influenza and other disease-related symptoms, arguing that broader recognition of the benefits of ablution and maintaining cleanliness among the Muslim masses can be used as a preventative tool for the spread of COVID-19 [37]. Another study from Indonesia, published in 2021, that utilized test items and questionnaires to collect data from students enrolled in Darul Muttaqien found there was a significant correlation ($r = 0.878$, $p < 0.001$) between understanding of material related to *taharah* and personal hygiene & healthy living habits that the authors postulated were important to the prevention of disease [38].

La darar wa la dirar

The principle of *la darar wa la dirar*, which translates roughly to '[there] should be neither harm nor reciprocating harm', commonly shortened to just *la darar* 'no harm', is a cornerstone of Islamic jurisprudence and Islamic bioethics, and plays a critical role in public health strategies,

especially in Muslim-majority settings [39–41]. Grounded in the ethical precept that harm must be avoided whenever possible, *la darar* provides a powerful framework for justifying public health interventions aimed at preventing or mitigating the spread of infectious diseases [42]. It is distinct from the an ultimate aim of Islamic ethics and law of 'forestalling harms and procuring benefits' (*darʾ al-mafāsid wa-jalb al-maṣāliḥ*) [43]. In Islamic bioethics, the concept of harm is not limited to physical injury but extends to psychological, social, and even spiritual harm, making *la darar* particularly versatile in the context of disease prevention [44].

The primary utility of *la darar* in healthcare lies in its ability to justify public health measures that might otherwise conflict with other ethical frameworks' concepts of individual autonomy or personal freedoms [45]. For example, interventions such as quarantine, vaccination mandates, or the temporary closure of mosques during disease outbreaks can all be seen through the lens of *la darar*, where the prevention of communal harm takes precedence over individual liberty [46–48]. This principle has been invoked by both religious and public health authorities in Muslim-majority countries to promote compliance with health directives, particularly during crises such as the COVID-19 pandemic [49–51]. It is perhaps evident from here that *la darar* serves as a foundational principle of sorts in implementing public health measures that may require individuals to comply with directives that are intended to prevent harm to a given community. Unlike other ethical frameworks, be they arising from a secular or religious tradition, that emphasize individual autonomy as paramount, Islamic bioethics operates in such a way as to place emphasis on communal welfare over contemporary notions of individual freedoms, particularly in contexts where personal actions may have far-reaching effects on public health [52,53].

While *la darar* provides a basis for measures that may override individual preferences to safeguard public health, this principle does not disregard the well-being of individuals altogether [13]. Within the higher objectives of Islamic law (*maqasid al-shari'a*), which includes the preservation of religion (*dīn*), life (*nafs*), intellect (*ʿaql*), lineage (*nasal*), and wealth (*māl*), and thus encompasses both worldly and spiritual welfare, the emphasis on preventing harm can, arguably, be extended to protecting individuals' psychological and spiritual welfare [54–58].

This analysis introduces a nuanced view of *la darar*, in which the principle strikes a balancing act in shielding patients from distress at the expense of potential infringements upon autonomy. Balancing the interests of the patient in being informed of their health status while continuing to safeguard their psychological well-being appears as an imperative. By respecting both the need to prevent harm and the patient's right to informed consent, healthcare providers can ensure that their interventions are in line with Islamic ethical standards. Importantly, some would be able to argue that *darar* does not merely justify reactive measures, such as quarantine or isolation, but also supports proactive interventions aimed at preventing harm before it occurs. In the context of infectious diseases, this means that health education campaigns, sanitation improvements, and vaccination drives can all be framed as fulfilling the ethical obligation to prevent harm.

In addition, *la darar* as a guiding principle has been used to prioritize interventions that reduce long-term public health risks, even when they involve short-term inconveniences. The ethical framework provided by *la darar* suggests that short-term discomfort, such as the pain of a vaccine injection, could be justified if it prevents a much larger and more detrimental harm, such as an infectious disease outbreak. This is consistent with the principle of minimizing harm, which in Islamic bioethics takes precedence over the pursuit of individual benefit when the two are in conflict.

Maslaha

The term *maṣlaḥa* in Arabic roughly translates to the 'attainment of benefits and the avoidance of harms', and is tied to *la darar* in important ways [59–61]. In constructing a framework for moral assessment and public health guidance within an Islamic context, it is essential to clarify the end-goals that inform knowledge acquisition and ethical action. Islamic theology posits that the ultimate aim of human life is to attain Divine pleasure, guiding individuals toward salvation [62–64]. In alignment with this theological objective, Islamic legal theory uses scripture and Prophetic guidance to discern actions that reflect Divine approval. While a comprehensive exploration of how theology informs Islamic law lies beyond this paper's scope, it is crucial to recognize that the primary purpose of Islamic ethics and law is 'to forestall harm and procure benefits' (*darʾ al-mafāsid wa-jalb al-maṣāliḥ*), as has been noted above, with a precedence given to harm prevention over benefit procurement [43]. The five objectives of Islamic law as noted previously, form a foundation for human welfare and public benefit (*maṣlaḥa*), underscoring a commitment rooted in Islamic values to communal and individual well-being, which is imperative to infectious disease prevention. These objectives frame *maṣlaḥa* not simply as a beneficial outcome but as an obligation to promote conditions that sustain these essential goods. As a result, *maṣlaḥa* may serve as a guiding principle in contextualizing discussion around public health and disease prevention in Muslim-majority societies, especially for policies that prioritize the welfare of a community and aim to mitigate risks to health.

Health policy-makers typically view public health as a public good, prioritizing the benefits generated alongside other moral considerations such as harm avoidance, prevention, and elimination. They also assess the balance between the benefits of a program and its associated burdens. As a result, the primary focus is on addressing issues that impact the common good [65,66]. There are verses in the Qur'an indicating that 'God commands justice and goodness', in addition to sayings attributed to the Prophet Muhammad, that are commonly cited to in layman's term to rationalize the idea of preventing harm, encouraging good, and serving the common interest of people, ideas that intersect well with pertinent Islamic biomedical discussions [67–70]. It is often argued that the notion of 'enjoining good' encompasses the mitigation and removal of harm [39,71–74].

In Islam, the principle of the human interest (*maṣlaḥa*) encompasses broad, comprehensive, and detailed conceptualizations in the Islamic ethico-legal framework, drawing some, but imprecise,

parallels with the principle of beneficence in Western bioethics [75,76]. When *maṣlaḥa* is applied to legal-ethical decisions in healthcare, the justification is deeply rooted in considerations of communal welfare. In this context, the common good serves as the primary criterion for public health legislation, while individual benefit provides the specific basis for individual medical rulings [71,77–81]. This principle is particularly relevant when addressing infectious disease prevention and attempts at education centered around invocation of the principle or related ideas [82–87]. Health interventions such as vaccination campaigns, quarantine, and other preventive measures are guided by the objective of minimizing harm and promoting societal well-being, even if they may involve trade-offs in certain conceptions of individual autonomy [88,89]. While consensus on the subject of say vaccinations is not met, Islamic jurisprudence provides a flexible and ethically robust framework for advancing public health initiatives that prioritize the protection of the community over individual concerns [88,90].

In 2016, Malaysia faced a significant public health challenge when five children tragically died from diphtheria [91]. This sparked a national conversation about vaccination, particularly in Muslim communities, where some parents expressed concern over the permissibility of vaccines under Islamic law [92]. Fearing that vaccines contained non-halal ingredients, a portion of the population resisted immunization efforts, placing their children and communities at risk of preventable diseases [88,93,94]. In response, the Islamic Medical Association Malaysia (IMAM), consisting of healthcare workers, advocated for the necessity of vaccines, citing the principles of *maṣlaḥa* [94]. Islamic jurisprudence permits the use of substances that would typically be considered *haram* (forbidden) when no suitable alternatives exist, particularly if they serve to protect life and prevent greater harm [95,96]. *Istihsan* was invoked to justify the departure from traditional rulings against certain vaccine components, as the protection of public health was deemed paramount [88]. This application of Islamic jurisprudence not only addressed religious concerns but also helped reduce vaccine hesitancy by framing immunization as a religious duty to protect life, aligning with the public interest.

The COVID-19 pandemic served to illustrate in many fronts the enduring relevance of Islamic principles like *maṣlaḥa* in infectious disease prevention, especially as it related to Muslim-majority contexts. As the virus spread globally, public health measures such as quarantine, isolation, and social distancing became critical tools for curbing transmission. In this context, the teachings of Prophet Muhammad provided early and timeless guidance on controlling the spread of infectious diseases, and are leveraged for invoking *maṣlaḥa* or at the very least, framing communal welfare in infectious disease prevention to be rooted in a distinctly Islamic framework. His directive as noted in two canonical books of *hadith*, Sahih Bukhari and Sahih Muslim, 'those with contagious diseases should be kept apart from those who are well', resonates with modern epidemiological practices of isolating the sick to protect the healthy [97–100]. Authorities such as the Islamic Religious Council of Singapore, sponsored as an official agency of the state apparatus, issued guidance delineating why public places must be closed due to the advent of a pandemic [101,102]. Similarly in Turkiye, the Diyanet issued statements suspending the congregations for the Friday

prayers in the mosque, citing that one should not place others in harm's way in addition to their own health as a component prerequisite of engaging in religious activity [103].

During the same pandemic, health authorities around the world echoed Islamic teachings when promoting quarantine. The hadith roughly translated to, 'if you hear of an outbreak of plague in a land, do not enter it; if the plague breaks out in a place while you are in it, do not leave that place', offered clear guidance on how to manage the containment of infectious diseases through isolation [104,105]. This precept was abided by in the early advent of Islam, by Ubaydah ibn Al Jarrah in refusing to leave Syria as the plague of Amwas, a village near Jerusalem, swept by and claimed his life alongside many of his soldiers, turning to the principle of quarantine laid out in the Prophet's instructions [104,106]. These instructions are directly aligned with the ethical obligation in Islamic law to prevent harm (*la darar*), ensuring that public health measures serve the common good. What is evident is that these principles, be it *maṣlaḥa*, *la darar*, or others, talk to each other, as is expected, within the ethico-legal framework of Islamic jurisprudence and the societal reality of its applied practice in Muslim populations.

In Islam, modesty and separation between individuals, such as the use of physical barriers in certain situations, also have parallels with contemporary public health practices like the use of personal protective equipment (PPE). These practices, derived from religious teachings, emphasize the dual moral responsibility to protect one's own health and the health of others. For instance, the Prophet Muhammad advised that 'when sneezing, cover your face with your hand or garment', a notion mirroring current public health guidance on reducing the spread of respiratory infections [107]. In applying *maṣlaḥa* during the pandemic, health officials and religious scholars collaborated to support interventions like mask-wearing, vaccination, and quarantines as religiously permissible and morally obligatory, based on the public interest. While some initially resisted such measures, Islamic rulings grounded in *maslaha*, emphasizing the protection of life over individual discomfort, helped to frame these interventions as necessary acts of communal responsibility.

AN ETHICAL APPROACH TO RELIGIOUSLY-TAILORED MESSAGING FOR PUBLIC HEALTH

Although Islamic teachings provide broad support for public health education and intervention, there are ethical issues to consider. Mobilizing religious values, teachings, and identity towards an end requires that the end is religiously-aligned. Said another way, the goal must represent both a religious as well as public health goal. More often than not there will be no dissonance between a public health end and a religious end, e.g. forestalling the harm of infectious disease, but at times there might be nuance that must be accounted for.

As an example, consider debates during the COVID-19 pandemic over Muslim congregational prayer. In this instance, although the preventing COVID-19 morbidity and mortality had religious

sanction, Islamic scholars argued that certain religious practices, e.g. Friday prayer, were of higher priority and thus public health professionals, religious scholars, and others sought to find a negotiated means where a higher priority religious end was met, albeit with modifications, whilst public health goals were also advantaged [108]. Another example may be where religious and health ends align but the means by which the health end is reached may run counter to some religious rulings. A much discussed example illustrating this phenomenon is the use of porcine-based vaccines to prevent infectious illnesses. Here porcine is considered to be normatively prohibited by Islamic law and can only be utilized when there is a credible life threat and no alternative exists (a *darurah* exists). However, in many cases alternatives may exist and the life threat threshold is not met. As such, although religious and public health goals align, Muslim behavior of *not* taking the vaccine is deemed religiously appropriate. A third scenario exists when the public health and Islamic goals align, but the verbiage used in messaging is overplayed. Illustratively, as noted above, Islamic morality encourages taking preventive action to secure health but, generally speaking, doing so is not obligatory. In other words, Muslims would not be liable for sin should they not do so.

Given this nuance, public health messaging that stresses a 'mandate' or conveys that a Muslim is somehow contravening their faith should they not take public health action would be inappropriate and unethical. Moreover, at times, public health officials may seek to 'reform' the religious directive to be more aligned with the public health goal. Doing so would instrumentalize faith beliefs for health purposes and is ethically reprehensible. It is quite possible that religious teachings do not hold health as the highest good, and leveraging religious scholars and messages in such a way to mobilize religious communities to treat it as such contradicts notions such as informed decision-making, respect for persons and communities, and respect for plurality.

In light of these complexities, it is critical that public health actors work with religious authorities and bioethicists to utilize religiously-tailored health messages in public health campaigns appropriately. One model for communication is the 3R model, which addresses barrier beliefs to health behaviors by alternatively reprioritizing, reframing, or reforming those beliefs, and those strategies involve an assessment of whether the health end and barrier beliefs are consistent with religious tradition [15].

Within the scope of infectious disease, the potential role of religious factors in shaping behaviors linked to infectious disease prevention is a point warranting investigation. For example, the relatively lower prevalence of HIV in North Africa compared to other regions of the continent has been statistically associated with higher proportions of Muslim populations in such northern African countries. Cross-national analyses reveal a strong negative correlation between the percentage of Muslims in a population and HIV prevalence, with findings indicating a power-law relationship ($r = -0.747$, $p < .001$) [109]. This pattern may reflect the influence of Islamic norms and legal precepts, which prohibits extramarital sexual relations and emphasize practices such as male circumcision, the latter being associated with a reduced risk of HIV transmission. However, these associations should not be interpreted as solely the result of religious messaging. Instead, the

findings seem to indicate that religiously informed legal systems, social norms, and individual behaviors may all be contributing factors to such health outcomes [110–113]. Further in-depth research is required to disentangle the effects of religious adherence, public health interventions, and socio-cultural contexts of HIV epidemiology.

Another example is the case of cholera, a highly contagious disease, where hygiene is an important preventive factor and a central tenet in Islamic teachings [114]. In many outbreaks, cholera spreads due to inadequate water sanitation and poor hygiene practices. Islamic teachings on cleanliness, such as regular handwashing and purification before prayers (*wudu*), naturally align with public health guidelines aimed at controlling such water-borne diseases, contingent on the water being clean and free of contamination [115]. In Yemen, a state ravaged by both political conflict and cholera outbreaks, religious leaders have been instrumental in disseminating health education and become vocal advocates in that sector by virtue of their authority and. UNICEF, recognizing the influence of Imams and other religious figures, has actively engaged these leaders to spread messages on hygiene and cholera prevention [116]. More than 5,400 religious leaders across Yemen were trained, allowing them to deliver targeted health messages to millions, showcasing the effectiveness of combining religious leadership with public health efforts. This approach illustrates the potential of embedding religious teachings into health education, particularly in contexts where faith plays a central role in daily life. The integration of faith leaders into healthcare delivery is particularly impactful in regions where trust in government institutions may be low due to conflict or systemic failure [117,118]. Religious leaders, by virtue of their authority and influence within communities, can significantly improve the adoption of health interventions. It is important to note that Islamic law integrates moral and legal injunctions, reinforcing practices that align with public health benefits, but without explicit empirical evidence linking these practices to targeted public health campaigns it would be imprudent to jump to definitive conclusions.

In addition, while certain actions or remedies may be classified as a communal obligation (*fardh kifayah*) or an individual obligation (*fardh 'ayn*), potentially based on the dire necessity (*ḍarūra*) and extreme need in a specific circumstances, it is rare to have consensus on what constitutes such circumstances.This can hold true for a variety of public health measures, especially ones not clearly delineated in textual cases or the actions of the early Muslim community, rather than having to draw on derivatives of intention and analogies within a scriptural basis. A proposed list of some recommendations as a starting point for further development has been curated (Table 1).

Potential Conflicts of Interest: None

Patient Consent Statement: N/A

Funding: None

Table 1: Recommendations for Approaching Infectious Disease Prevention in Muslim Communities

Recommendations	Governments	Imams and Religious Leaders	Mosques and Religious Institutions
Integrate Religious Practices into Public Health Policies: Develop policies and guidelines that incorporate key considerations arising from hygiene and Islamic dietary laws.	X		
Promote Preventive Health Practices: Use sermons and religious gatherings, when appropriate, to educate communities about hygiene and disease prevention.		X	X
Provide Health Education: Organize health education sessions that align with Islamic teachings and address community health needs.		X	X
Offer Health Services: Provide or facilitate access to vaccination clinics, health screenings, and other preventive health services, including in underserved communities. Recruit providers who can communicate such messages effectively.	X		X
Encourage Vaccination: Advocate for vaccinations and preventive strategies, when possible and in alignment within the framework of Islamic teachings.	X	X	
Support Research: Fund studies that explore the impact of religious practices on health outcomes.	X		X
Collaborate with Health Authorities: Work with health professionals to address and manage infectious disease outbreaks.	X	X	X
Create Support Networks: Develop community support systems to assist those affected by infectious diseases and promote overall health.			X
Launch Health Campaigns: Create campaigns that respect and utilize religious values, when appropriate, for better public health outreach.	X		X

References

[1] Alavi-Naini R. Acquired Immune Deficiency Syndrome Status in Islamic Countries. Int J High Risk Behav Addict 2012;1:90. https://doi.org/10.5812/ijhrba.6578.
[2] Memish ZA, Stephens GM, Steffen R, Ahmed QA. Emergence of medicine for mass gatherings: lessons from the Hajj. Lancet Infect Dis 2012;12:56–65. https://doi.org/10.1016/S1473-3099(11)70337-1.
[3] Salmon-Rousseau A, Piednoir E, Cattoir V, Blanchardière A de L. Hajj-associated infections. Med Mal Infect 2016;46:346. https://doi.org/10.1016/j.medmal.2016.04.002.
[4] Ahmed QA, Arabi YM, Memish ZA. Health risks at the Hajj. Lancet Lond Engl 2006;367:1008. https://doi.org/10.1016/S0140-6736(06)68429-8.
[5] Memish ZA, Zumla A, Alhakeem RF, Assiri A, Turkestani A, Harby KDA, et al. Hajj: infectious disease surveillance and control. Lancet Lond Engl 2014;383:2073. https://doi.org/10.1016/S0140-6736(14)60381-0.
[6] Scrimgeour EM. Epidemic infections and their relevance to the Gulf and other Arabian Peninsula countries. J Sci Res Med Sci Sultan Qaboos Univ 2003;5:1.
[7] Shafi S, Dar O, Khan M, Khan M, Azhar EI, McCloskey B, et al. The annual Hajj pilgrimage - minimizing the risk of ill health in pilgrims from Europe and opportunity for driving the best prevention and health promotion guidelines. Int J Infect Dis IJID Off Publ Int Soc Infect Dis 2016;47:79–82. https://doi.org/10.1016/j.ijid.2016.06.013.
[8] Shibl A, Senok A, Memish Z. Infectious diseases in the Arabian Peninsula and Egypt. Clin Microbiol Infect 2012;18:1068–80. https://doi.org/10.1111/1469-0691.12010.
[9] Irfan B, Sultan MJ, Khawaja H, Wajahath M, Nasser E, Hasan AI, et al. Infection control in conflict zones: practical insights from recent medical missions to Gaza. J Hosp Infect 2024;152:177–9. https://doi.org/10.1016/j.jhin.2024.06.014.
[10] Nasser E, Alshaer N, Wajahath M, Irfan B, Tahir M, Nasser M, et al. Management of Fracture-Related Infection in Conflict Zones: Lessons Learned from Medical Missions to Gaza. Antibiotics 2024;13:1020. https://doi.org/10.3390/antibiotics13111020.
[11] Irfan B, Lulu I, Hamawy A, Shammala AA, Kullab S, Fawaz M, et al. Combating infections under siege: Healthcare challenges amidst the military assault in Gaza. World Med Health Policy n.d.;n/a. https://doi.org/10.1002/wmh3.642.
[12] Barmania S, Aljunid SM. Navigating HIV prevention policy and Islam in Malaysia: contention, compatibility or reconciliation? Findings from in-depth interviews among key stakeholders. BMC Public Health 2016;16:524. https://doi.org/10.1186/s12889-016-3247-y.
[13] Alfahmi MZ. Justification for requiring disclosure of diagnoses and prognoses to dying patients in saudi medical settings: a Maqasid Al-Shariah-based Islamic bioethics approach. BMC Med Ethics 2022;23:72. https://doi.org/10.1186/s12910-022-00808-6.
[14] Padela AI, Malik S, Ahmed N. Acceptability of Friday Sermons as a Modality for Health Promotion and Education. J Immigr Minor Health 2018;20:1075–84. https://doi.org/10.1007/s10903-017-0647-8.
[15] Padela AI, Malik S, Vu M, Quinn M, Peek M. Developing religiously-tailored health messages for behavioral change: Introducing the reframe, reprioritize, and reform ("3R") model. Soc Sci Med 2018;204:92–9. https://doi.org/10.1016/j.socscimed.2018.03.023.
[16] Cipta DA, Andoko D, Theja A, Utama AVE, Hendrik H, William DG, et al. Culturally sensitive patient-centered healthcare: a focus on health behavior modification in low and middle-income

nations—insights from Indonesia. Front Med 2024;11:1353037. https://doi.org/10.3389/fmed.2024.1353037.
[17] Meilinda SD, Utami A, Yulianto -, Cahyaningtias A. Posyandu During the COVID-19 Pandemic: Diversification and Participation. J Sumbangsih 2020;1:167–75. https://doi.org/10.23960/jsh.v1i1.61.
[18] Soni GK, Bhatnagar A, Gupta A, Kumari A, Arora S, Seth S, et al. Engaging Faith-Based Organizations for Promoting the Uptake of COVID-19 Vaccine in India: A Case Study of a Multi-Faith Society. Vaccines 2023;11:837. https://doi.org/10.3390/vaccines11040837.
[19] Syed U, Kapera O, Chandrasekhar A, Baylor BT, Hassan A, Magalhães M, et al. The Role of Faith-Based Organizations in Improving Vaccination Confidence & Addressing Vaccination Disparities to Help Improve Vaccine Uptake: A Systematic Review. Vaccines 2023;11:449. https://doi.org/10.3390/vaccines11020449.
[20] Schellenberg SJ, Rydland KJ, Temps WH, Lehmann LS, Hauser JM. Could Partnerships with Places of Worship Improve COVID-19 Vaccine Access in the US? J Gen Intern Med 2022;37:3522–4. https://doi.org/10.1007/s11606-022-07711-1.
[21] Irfan B, Yaqoob A. Sleep Health Ambassadors in Greater Detroit: A Model for Religio-Culturally Conscious Care in Places of Worship From Dearborn to Hamtramck. Cureus n.d.;16:e59890. https://doi.org/10.7759/cureus.59890.
[22] Tobian AAR, Serwadda D, Quinn TC, Kigozi G, Gravitt PE, Laeyendecker O, et al. Male Circumcision for the Prevention of HSV-2 and HPV Infections and Syphilis. N Engl J Med 2009;360:1298–309. https://doi.org/10.1056/NEJMoa0802556.
[23] Tobian AAR, Gray RH, Quinn TC. Male Circumcision for the Prevention of Acquisition and Transmission of Sexually Transmitted Infections. Arch Pediatr Adolesc Med 2010;164:78–84. https://doi.org/10.1001/archpediatrics.2009.232.
[24] Irfan B, Yaqoob A, Yasin I, Kirschner D. Ramadan Fasting: Recommendations for Patients With Flulike or Abdominal Symptoms. Infect Dis Clin Pract 2024;32. https://doi.org/10.1097/IPC.0000000000001321.
[25] Irfan B, Yasin I, Yaqoob A. Tele-ID Politesse: Recognizing Cross-Culturally Sensitive Care With Hijab and Niqab. Clin Infect Dis 2023;77:1614–5. https://doi.org/10.1093/cid/ciad426.
[26] Irfan B, Yasin I, Yaqoob A. Considering Hijab and Niqab: Suggestions to Improve Care in Infectious Disease Clinics. Infect Dis Clin Pract 2023;31:e1302. https://doi.org/10.1097/IPC.0000000000001302.
[27] Irfan B, Yaqoob A. Dermatological Implications of the Taqiyah and Imamah: Recommendations for Delivering Culturally Conscious Care. Cureus n.d.;15:e45528. https://doi.org/10.7759/cureus.45528.
[28] Muftić D. [Maintaining cleanliness and protecting health as proclaimed by Koran texts and hadiths of Mohammed S.A.V.S]. Med Arh 1997;51:41–3.
[29] How Islam can represent a model for environmental stewardship 2018. https://www.unep.org/news-and-stories/story/how-islam-can-represent-model-environmental-stewardship (accessed November 4, 2024).
[30] Laird LD, Barnes LL, Hunter-Adams J, Cochran J, Geltman PL. Looking Islam in the Teeth: The Social Life of a Somali Toothbrush. Med Anthropol Q 2015;29:334. https://doi.org/10.1111/maq.12196.

[31] Overgaard HJ, Dada N, Lenhart A, Stenström TAB, Alexander N. Integrated disease management: arboviral infections and waterborne diarrhoea. Bull World Health Organ 2021;99:583–92. https://doi.org/10.2471/BLT.20.269985.
[32] Hatami H. Importance of Water and Water-Borne Diseases: On the Occasion of the World Water Day (March 22, 2013). Int J Prev Med 2013;4:243–5.
[33] Tabassum S, Naeem A, Nazir A, Naeem F, Gill S, Tabassum S. Year-round dengue fever in Pakistan, highlighting the surge amidst ongoing flood havoc and the COVID-19 pandemic: a comprehensive review. Ann Med Surg 2023;85:908–12. https://doi.org/10.1097/MS9.0000000000000418.
[34] Khan U, Azeem S. The rising toll of dengue cases in Pakistan every year: An incipient crisis. Ann Med Surg 2022;76:103549. https://doi.org/10.1016/j.amsu.2022.103549.
[35] Arshad T, Wajahat A, Jabeen A, Ali SH. Malaria and dengue outbreaks during a national disaster in Pakistan: A rising concern for public health. J Glob Health n.d.;12:03076. https://doi.org/10.7189/jogh.12.03076.
[36] Chandren JR, Wong LP, AbuBakar S. Practices of Dengue Fever Prevention and the Associated Factors among the Orang Asli in Peninsular Malaysia. PLoS Negl Trop Dis 2015;9:e0003954. https://doi.org/10.1371/journal.pntd.0003954.
[37] Nurdin Z. The Culture of Tharahah in the Corona Virus Pandemic: An Offer to Prevent the Spread of Covid-19 with Islamic Jurisprudence Approach n.d. http://repository.iainbengkulu.ac.id/5751/1/THE_CULTURE_OF_THAH_RAH_IN_THE_CORONA_VIRUS_PENDEM.pdf (accessed November 14, 2024).
[38] Sabila I, Saâ€™diyah M. Hubungan Pemahaman Materi Thaharah dengan Kebiasaan Perilaku Hidup Bersih dan Sehat (PHBS) pada Siswa di MTs Darul Muttaqien, Bogor. AL-MURABBI J Studi Kependidikan Dan Keislam 2021;7:163–70. https://doi.org/10.53627/jam.v7i2.4255.
[39] Muhsin SM. Islamic Jurisprudence on Harm Versus Harm Scenarios in Medical Confidentiality. Hec Forum 2023:1–26. https://doi.org/10.1007/s10730-022-09503-w.
[40] Al-Bar MA, Chamsi-Pasha H. Nonmaleficence. Contemp. Bioeth. Islam. Perspect. Internet, Springer; 2015. https://doi.org/10.1007/978-3-319-18428-9_7.
[41] Sachedina A. The Issue of Riba in Islamic Faith and Law. Spirit Goods Faith Tradit Pract Bus 2001:325–43. https://doi.org/10.5840/spiritgds200128.
[42] Smith MHJ, Earl J, Dawson L. The Ethics of Personal Behaviors for Preventing Infectious Diseases in a Post–COVID-19 Pandemic World. Public Health Rep 2023;138:822–8. https://doi.org/10.1177/00333549231184931.
[43] Padela AI. Integrating Science and Scripture to Produce Moral Knowledge: Assessing Maṣlaḥa and Ḍarūra in Islamic Bioethics and the Case of Organ Donation. In: al-Akiti A, Padela AI, editors. Islam Biomed., Cham: Springer International Publishing; 2022, p. 295–316. https://doi.org/10.1007/978-3-030-53801-9_13.
[44] Daar AS, Khitamy A. Bioethics for clinicians: 21. Islamic bioethics. CMAJ Can Med Assoc J 2001;164:60–3.
[45] Lo B, Katz MH. Clinical Decision Making during Public Health Emergencies: Ethical Considerations. Ann Intern Med 2005;143:493–8. https://doi.org/10.7326/0003-4819-143-7-200510040-00008.

[46] Zakariyah H, Al-Marri TO, Ghalia B. Ighlāq al-Masājid Man'an lī intishār Fayrūs Corona Dirāsah Taḥlīlīyah fī Ḍaw' Maqāṣid al-Sharī`ah. AL-IHKAM J Huk Pranata Sos 2020;15:326–50. https://doi.org/10.19105/al-lhkam.v15i2.4018.
[47] h. Al-Qahtani M. The role of administrative control in limiting the spread of the corona epidemic in Islamic law and health legislation in the kingdom of Saudi Arabia and the Hashemite kingdom of Jordan. AAU J Bus Law مجلة جامعة العين للأعمال والقانون 2023;6:1–14.
[48] Yezli S, Bin Saeed AA, Assiri AM, Alhakeem RF, Yunus MA, Turkistani AM, et al. Prevention of meningococcal disease during the Hajj and Umrah mass gatherings: past and current measures and future prospects. Int J Infect Dis 2016;47:71–8. https://doi.org/10.1016/j.ijid.2015.12.010.
[49] Essa-Hadad J, Abed Elhadi Shahbari N, Roth D, Gesser-Edelsburg A. The impact of Muslim and Christian religious leaders responding to COVID-19 in Israel. Front Public Health 2022;10:1061072. https://doi.org/10.3389/fpubh.2022.1061072.
[50] Wali AA. Relationship between the government implemented protective measures for coronavirus disease 2019 (COVID-19) during the pandemic and the understanding of religious evidence in Muslim community: A cross-sectional study from Saudi Arabia. J Fam Community Med 2023;30:23–9. https://doi.org/10.4103/jfcm.jfcm_125_22.
[51] Piwko AM. Islam and the COVID-19 Pandemic: Between Religious Practice and Health Protection. J Relig Health 2021;60:3291–308. https://doi.org/10.1007/s10943-021-01346-y.
[52] Khaleefah S. Justice and Autonomy in Islamic Bioethics. Acta Cogit Undergrad J Philos 2022;10.
[53] Chamsi-Pasha H, Albar MA. Western and Islamic bioethics: How close is the gap? Avicenna J Med 2013;3:8. https://doi.org/10.4103/2231-0770.112788.
[54] Ibrahim AH, Rahman NNA, Saifuddeen SM, Baharuddin M. Maqasid al-Shariah Based Islamic Bioethics: A Comprehensive Approach. J Bioethical Inq 2019;16:333–45. https://doi.org/10.1007/s11673-019-09902-8.
[55] Al-Shatibi II, Shāṭibī I ibn M. The Reconciliation of the Fundamentals of Islamic Law. Garnet Publishing Limited; 2011.
[56] Auda J. Maqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach. International Institute of Islamic Thought; 2008. https://doi.org/10.2307/j.ctvkc67tg.
[57] Al-Raysuni A. Imam Al Shatibi's Theory of the Higher Objectives and Intents of Islamic Law. International Institute of Islamic Thought; 2005. https://doi.org/10.2307/j.ctvkjb1w9.
[58] Nyazee IAK. Theories of Islamic law: the methodology of ijtihād. Islamabad: International Institute of Islamic Thought and Islamic Research Institute; 1994.
[59] Bohang SAM, Sohaimi N. An Overview on the Alignment of Radiation Protection in Computed Tomography with Maqasid al-Shari'ah in the Context of al-Dharuriyat. Malays J Med Sci MJMS 2023;30:60. https://doi.org/10.21315/mjms2023.30.3.5.
[60] Chin AHB, Muhsin SM, Ahmad MF. Islamic Perspectives on Elective Ovarian Tissue Freezing by Single Women for Non-medical or Social Reasons. Asian Bioeth Rev 2023;15:335. https://doi.org/10.1007/s41649-022-00236-z.
[61] Tarmizi T. THE CONCEPT OF MASLAHAH ACCORDING TO IMAM AL-GHAZALI. J Al-Dustur 2020;3:22–9. https://doi.org/10.30863/jad.v3i1.642.
[62] Jackson SA. Māturīdism and Black Theodicy. In: Jackson SA, editor. Islam Probl. Black Suff., Oxford University Press; 2009, p. 0. https://doi.org/10.1093/acprof:oso/9780195382068.003.0005.

[63] Reinhart K. Islamic Law as Islamic Ethics n.d. https://ocpe.mcw.edu/sites/default/files/course/2022-11/Reinhart%2C%20K%20-%20Islamic%20Law%20as%20Islamic%20Ethics_0.pdf (accessed November 14, 2024).
[64] Reinhart AK. Before Revelation : the boundaries of Muslim moral thought. Albany, N.Y. : State University of New York Press; 1995.
[65] Abbasi M, Majdzadeh R, Zali A, Karimi A, Akrami F. The evolution of public health ethics frameworks: systematic review of moral values and norms in public health policy. Med Health Care Philos 2018;21:387–402. https://doi.org/10.1007/s11019-017-9813-y.
[66] Bernheim RG, Childress JF, Melnick A, Bonnie RJ. Essentials of Public Health Ethics. Jones & Bartlett Publishers; 2013.
[67] Surah An-Nahl - 90. QuranCom n.d. https://quran.com/an-nahl/90 (accessed September 25, 2024).
[68] Hadith 32, 40 Hadith an-Nawawi - Forty Hadith of an-Nawawi - Sunnah.com - Sayings and Teachings of Prophet Muhammad (صلى الله عليه و سلم) n.d. https://sunnah.com/nawawi40:32 (accessed September 25, 2024).
[69] Jariah D. Islamic Legal Maxims n.d.
[70] Uncovering the Bedrock: A Primer on Islamic Legal Maxims | Yaqeen Institute for Islamic Research n.d. https://yaqeeninstitute.org/read/paper/uncovering-the-bedrock-a-primer-on-islamic-legal-maxims (accessed September 25, 2024).
[71] Sachedina A. Islamic Biomedical Ethics: Principles and Application. Oxford University Press, USA; 2009.
[72] Athar S. Principles of Biomedical Ethics. J IMA 2011;43:138–43. https://doi.org/10.5915/43-3-8476.
[73] Tulchinsky TH. Ethical Issues in Public Health. Case Stud Public Health 2018:277–316. https://doi.org/10.1016/B978-0-12-804571-8.00027-5.
[74] Islam and the four principles of medical ethics | Journal of Medical Ethics n.d. https://jme.bmj.com/content/40/7/479.long (accessed September 25, 2024).
[75] Islamic bioethics: between sacred law, lived experiences, and state authority n.d. https://ocpe.mcw.edu/sites/default/files/course/2022-11/Padela%2C%20A%20-%20Islamic%20bioethics_between%20sac%20law_0.pdf (accessed September 25, 2024).
[76] Woodman A, Albar MA, Chamsi-Pasha H. Introduction to Islamic Medical Ethics | Journal of the British Islamic Medical Association 2019. https://www.jbima.com/article/introduction-to-islamic-medical-ethics/ (accessed September 25, 2024).
[77] An Ethics Framework for Public Health - PMC n.d. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446875/ (accessed September 25, 2024).
[78] Ebrahim TY. Intellectual Property Through a Non-Western Lens: Patents in Islamic Law. Ga State Univ Law Rev 2021;37.
[79] Al-Bar MA, Chamsi-Pasha H. Contemporary Bioethics. Cham: Springer International Publishing; 2015. https://doi.org/10.1007/978-3-319-18428-9.
[80] "A Reality Check on Istihsan as a Method of Islamic Legal Reasoning" by John Makdisi n.d. https://scholarship.stu.edu/faculty_articles/261/ (accessed September 25, 2024).
[81] De Jure: Jurnal Hukum dan Syar'iah n.d. https://ejournal.uin-malang.ac.id/index.php/syariah (accessed September 25, 2024).

[82] Hak NA, Hashim NM, Yusoff RCS. Protecting the Health of Children by Mandating Vaccination and Immunization: An Application of Usuli Principle of Istihsan. Int J Acad Res Bus Soc Sci 2019;9:Pages 432-440. https://doi.org/10.6007/IJARBSS/v9-i5/5885.
[83] van Seventer JM, Hochberg NS. Principles of Infectious Diseases: Transmission, Diagnosis, Prevention, and Control. Int Encycl Public Health 2017:22–39. https://doi.org/10.1016/B978-0-12-803678-5.00516-6.
[84] al-Ahdal TMA. [Controls for Dealing with People with Infectious Diseases in Light of Islamic Law] Dawabit al-ta'amul ma'a al-masabin bi al-amrad al-'adaniyyah fi daw' al-shari'ah al-Islamiyyah. J Islam Dan Masy Kontemporari 2018;18:141–56. https://doi.org/10.37231/jimk.2018.18.1.303.
[85] Phiriyasart F, Sangsawang C, Suphanchaimat R, Nittayasoot N, Sa-idi A, Che-ae R, et al. Knowledge, Attitude, and Self-reported Practices on Prevention of Respiratory Infections among Two Groups of Islamic Pilgrims, Thailand, 2021. Outbreak Surveill Investig Response OSIR J 2023;16:72–7. https://doi.org/10.59096/osir.v16i2.263623.
[86] Abu-Moghli F, Nabolsi M, Khalaf I, Suliman W. Islamic religious leaders' knowledge and attitudes towards AIDS and their perception of people living with HIV/AIDS: a qualitative study. Scand J Caring Sci 2010;24:655–62. https://doi.org/10.1111/j.1471-6712.2009.00757.x.
[87] Kagimu M, Kaye S, Ainomugisha D, Lutalo I, Walakira Y, Guwatudde D, et al. Evidence-based monitoring and evaluation of the faith-based approach to HIV prevention among Christian and Muslim youth in Wakiso district in Uganda. Afr Health Sci 2012;12:119–28. https://doi.org/10.4314/ahs.v12i2.7.
[88] Alsuwaidi AR, Hammad HAA-K, Elbarazi I, Sheek-Hussein M. Vaccine hesitancy within the Muslim community: Islamic faith and public health perspectives. Hum Vaccines Immunother n.d.;19:2190716. https://doi.org/10.1080/21645515.2023.2190716.
[89] Kass N, Kahn J, Buckland A, Paul A. Ethics Guidance for the Public Health Containment of Serious Infectious Disease Outbreaks in Low-Income Settings: Lessons from Ebola n.d.
[90] Akhras DN. As a Muslim Doctor, I Don't Say Vaccination Is Permissible, I Say It Is Obligatory. Interfaith Am 2021. https://www.interfaithamerica.org/article/as-a-muslim-doctor-i-dont-say-vaccination-is-permissible-i-say-it-is-obligatory/ (accessed September 25, 2024).
[91] Anti-vaxxers to blame for diphtheria casualties, medical experts say. Malay Mail 2016. https://www.malaymail.com/news/malaysia/2016/06/24/anti-vaxxers-to-blame-for-diphtheria-casualties-medical-experts-say/1147961 (accessed September 25, 2024).
[92] Some Malaysians' rejection of vaccines fans fears of disease surge. Reuters 2016.
[93] Mohd Jenol NA, Ahmad Pazil NH. Halal or Haram? The COVID-19 Vaccine Discussion Among Twitter users in Malaysia. J Relig Health 2023:1–14. https://doi.org/10.1007/s10943-023-01798-4.
[94] Perlis Fatwa Committee makes it obligatory for Muslims to take vaccination | Astro Awani n.d. https://www.astroawani.com/berita-malaysia/perlis-fatwa-committee-makes-it-obligatory-muslims-take-vaccination-122361 (accessed September 25, 2024).
[95] Towards halal pharmaceutical: Exploring alternatives to animal-based ingredients - ScienceDirect n.d. https://www.sciencedirect.com/science/article/pii/S2405844023108322 (accessed September 25, 2024).
[96] Kashim MIAM, Majid LA, Adnan AHM, Husni ABM, Nasohah Z, Samsudin MA, et al. Principles Regarding the Use of Haram (Forbidden) Sources in Food Processing: A Critical Islamic Analysis. Asian Soc Sci 2015;11:p17. https://doi.org/10.5539/ass.v11n22p17.

[97] Prophet Muhammad's advice against contagious diseases. Tehran Times 2020. https://www.tehrantimes.com/news/446500/Prophet-Muhammad-s-advice-against-contagious-diseases (accessed September 26, 2024).
[98] Amin J, Siddiqui AA, Ilyas M, Alshammary F, Alam K, Rathore HA. Quarantine ad Hygienic Practices about Combating Contagious Disease like COVID-19 and Islamic perspective. J Crit Rev 2020;7.
[99] Lessons from the Hadith of the Plague. Columbia News 2024. https://news.columbia.edu/news/islam-lessons-hadith-plague (accessed September 26, 2024).
[100] Thanks to The Gift of Coronavirus - Lessons I Relearned | About Islam n.d. https://aboutislam.net/blog/thanks-to-the-gift-of-coronavirus-lessons-i-relearned/ (accessed September 26, 2024).
[101] Consensus, convergence, and COVID-19: The ethical role of religious reasons in leaders' response to COVID-19 - PMC n.d. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8977420/ (accessed September 26, 2024).
[102] Muis: Office of the Mufti n.d. https://perma.cc/E9W6-C8YZ (accessed September 26, 2024).
[103] Alyanak O. Faith, Politics and the COVID-19 Pandemic: The Turkish Response: Op-Ed. Med Anthropol 2020;39:374–5. https://doi.org/10.1080/01459740.2020.1745482.
[104] Bouayed J, Hefeng FQ, Desai MS, Zhou B, Rashi T, Soulimani R, et al. Anti-pandemic lessons and altruistic behavior from major world religions at the time of COVID-19. Brain Behav Immun 2021;95:4–6. https://doi.org/10.1016/j.bbi.2021.04.023.
[105] Sahih al-Bukhari 5728 - Medicine - كتاب الطب - Sunnah.com - Sayings and Teachings of Prophet Muhammad (صلى الله عليه و سلم) n.d. https://sunnah.com/bukhari:5728 (accessed September 26, 2024).
[106] Islamic Civilizations and Plagues: The Role of Religion, Faith and Psychology During Pandemics - PMC n.d. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9949692/ (accessed September 26, 2024).
[107] Chapters on Manners - Sunnah.com - Sayings and Teachings of Prophet Muhammad (صلى الله عليه و سلم) n.d. https://sunnah.com/tirmidhi/43 (accessed September 26, 2024).
[108] Padela AI, Ahmed SW. Chapter 1 Aligning Public Health Mandates with Religious Goals: Developing Islamic Bioethical Guidance during the COVID-19 Pandemic, Brill; 2023. https://doi.org/10.1163/9789004679771_003.
[109] The Shield of Islam? Islamic Factor of HIV Prevalence in Africa n.d. https://www.sociostudies.org/almanac/articles/the_shield_of_islam-_islamic_factor_of_hiv_prevalence_in_africa/ (accessed September 26, 2024).
[110] Williams BG, Lloyd-Smith JO, Gouws E, Hankins C, Getz WM, Hargrove J, et al. The Potential Impact of Male Circumcision on HIV in Sub-Saharan Africa. PLOS Med 2006;3:e262. https://doi.org/10.1371/journal.pmed.0030262.
[111] Bongaarts J, Reining P, Way P, Conant F. The relationship between male circumcision and HIV infection in African populations. AIDS 1989;3:373.
[112] Auvert B, Buvé A, Lagarde E, Kahindo M, Chege J, Rutenberg N, et al. Male circumcision and HIV infection in four cities in sub-Saharan Africa. AIDS 2001;15:S31.
[113] Vermund SH, Qian H-Z. Circumcision and HIV Prevention Among Men Who Have Sex With Men: No Final Word. JAMA 2008;300:1698–700. https://doi.org/10.1001/jama.300.14.1698.

[114] Cholera Outbreak: Guidelines in Light of Islām – Jamiatul Ulama South Africa n.d. https://www.jamiatsa.org/cholera-outbreak-guidelines-in-light-of-islam/ (accessed September 26, 2024).
[115] al-Husseini al-Sheikh AF. Water and Sanitation in Islam n.d. https://applications.emro.who.int/dsaf/dsa114.pdf (accessed September 30, 2024).
[116] Involving religious and community leaders in addressing cholera | UNICEF Yemen n.d. https://www.unicef.org/yemen/stories/involving-religious-and-community-leaders-addressing-cholera (accessed September 30, 2024).
[117] Bogale B, Scambler S, Mohd Khairuddin AN, Gallagher JE. Health system strengthening in fragile and conflict-affected states: A review of systematic reviews. PLOS ONE 2024;19:e0305234. https://doi.org/10.1371/journal.pone.0305234.
[118] Heward-Mills NL, Atuhaire C, Spoors C, Pemunta NV, Priebe G, Cumber SN. The role of faith leaders in influencing health behaviour: a qualitative exploration on the views of Black African Christians in Leeds, United Kingdom. Pan Afr Med J 2018;30:199. https://doi.org/10.11604/pamj.2018.30.199.15656.