Islam and Biomedical Ethics

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ISLAMIC VERDICTS IN HEALTH POLICY DISCOURSE: PORCINE-BASED VACCINES AS A CASE STUDY

by Aasim I. Padela

Abstract. In this article, I apply a policy-oriented applied Islamic bioethics lens to two verdicts on the permissibility of using vaccines with porcine components. I begin by reviewing the decrees and then proceed to describe how they were used by health policy stakeholders. Subsequently, My analysis will highlight aspects of the verdict's ethico-legal arguments in order to illustrate salient legal concepts that must be accounted for when using Islamic verdicts as the basis for health policy. I will conclude with several suggestions for facilitating a more judicious use of verdicts in policy-relevant discourse. My analysis is meant to contribute to the dialogue between science and religion, and aims to further efforts at developing health policies that value health while accommodating religious values. In the encounter between the Islamic tradition and global public health, a multidisciplinary dialogue, where Islamic legists become aware of the health policy implications of their ethico-legal pronouncements, and where health policy actors gain a literate understanding of Islamic ethicolegal theory, will lead to verdicts that better meet the needs of patients, health workers, and religious leaders.

Keywords: ethics; health policy; Islam

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During a 1995 meeting of the Islamic Organization for Medical Sciences (IOMS), medical experts and Islamic jurisconsults deliberated on "Judically (sic) Prohibited and Impure Substances in Foodstuffs and Drugs" (Recommendations of the 8th Fiqh-Medical Seminar 1995). The ethicolegal discussions resulted in a religious decree that considered it permissible for Muslims to use medicines that contained "gelatin formed as a result of transformation... of a judicially impure animal (e.g., pig)" (Recommendations of the 8th Fiqh-Medical Seminar 1995). Attending this meeting were several health policy stakeholders, including representatives of the World Health Organization (WHO). Motivated by a desire to "relieve all Muslims... from the embarrassment they feel" when taking medicines with porcine gelatin, WHO representatives disseminated the verdict widely (Gezairy 2001), and as a result vaccine advocates came to promote the Islamic permissibility of using vaccines with porcine components.

More than a decade later, in 2008, the Indonesian Ulema Council (MUI) issued a religious verdict declaring the GlaxoSmithKline (GSK) meningitis vaccine to be impermissible to use, *ḥaram*, because porcine was used in its production (Yessir 2010). Eventually the MUI permitted use of the vaccine by considering an extreme necessity, *ḍarurah*, to exist (Sagita 2009). This conditional permission was revoked in the following year when the MUI decreed the meningitis vaccines produced by Novartis and Tian Yuana to be porcine-free and therefore *ḥalal* (Hapsari 2010; *Jakarta Post* 2010a).

In this article, I examine the Islamic bioethical deliberations around the use of vaccines with porcine components from an applied Islamic bioethics perspective. More specifically, I seek to explore how ground-level actors, in this case health policy stakeholders, utilized the aforementioned verdicts. Therefore I will begin by first reviewing the juridical decrees and then by recounting how several health policy stakeholders used these verdicts, by way of media reports and documents available in the public domain. My analysis will next highlight aspects of the particular Islamic ethico-legal arguments noted by the juridical authorities in the final verdicts in order to illustrate more general concepts within Islamic law. I will argue that certain core elements of the Islamic ethico-legal tradition were overlooked by policy stakeholders utilizing the IOMS verdict, and that these elements must be accounted for when using religious decrees to inform public policy. While Islamic juridical council deliberations are extensive, and their proceedings offer much insight into the *fighi* frameworks and deliberative processes used by jurists and the dissenting voices at the proverbial council table, such materials are not primary sources to understand the usage of the consensus final verdicts by Islamic bioethics consumers, nor are they easily accessible to nonjurist health professionals (by accessible I mean both in terms of physical access, and in terms of understanding). Since health policy actors seek and use verdicts, I restrict myself to pointing out the ethicolegal frames and constructs noted in the final verdicts, where possible. I

will conclude my commentary by offering several recommendations that may facilitate the more judicious use of verdicts in policy-relevant Islamic bioethics discourse.

THE STORY

Part 1: The IOMS and Porcine Vaccines. The IOMS brings together medical scientists and Islamic jurisconsults from across the world to discuss the bioethical concerns of Muslim societies. They aim to address modern challenges from an Islamic perspective and perform collective ijtihad, Islamic ethico-legal assessment, resulting in Islamic religious verdicts, qararat or fatawa. The deliberative councils are designed to be pluralistic and rigorous; they are comprised of prominent Islamic jurisconsults purposively chosen to represent many Muslim nations and the diversity of Islamic legal schools and theological streams (al-Nasser 2009; Moosa 1999). As a result, the decrees issued by IOMS are highly influential in the health care and Islamic scholar communities.

The theme of the IOMS 8th annual Islamic medical seminar held in 1995 was "Some Medical Issues: An Islamic Perspective." At the meeting, the use of ingredients traditionally considered juridically unclean or filthy, *najis*, in medicines was discussed by Islamic legists from the Fiqh Academy in Jeddah and Al-Azhar University in Cairo in concert with medical experts from across the world. Representatives of Kuwait's Ministry of Health and the regional office of the WHO also participated in this meeting (Recommendations of the 8th Fiqh-Medical Seminar 1995).

The seminar concluded by issuing a verdict with several recommendations. First, the legists reaffirmed a scholarly consensus, *ijma*, that the pig is juridically unclean, *najas al-ayn*, and impermissible to consume. However, the scholars permitted the use of medicine with porcine components by referencing the Islamic ethico-legal construct of transformation, *istiḥāla*. Their summary statement further noted that Muslim authorities should use animals that Muslims are permitted to eat as sources of medical gelatin (Recommendations of the 8th Figh-Medical Seminar 1995).

At the IOMS 9th medical seminar in 1997 the use of porcine components in medicine was further clarified. In addition to those who participated in the 1995 meeting, representatives from the Islamic Educational, Scientific, and Cultural Organization (ISESCO) also joined this meeting (Recommendations of the 9th 1997). The summary statement from this meeting explained that *istiḥāla* refers to the conversion of a forbidden substance into a different substance with different properties and characteristics than the original prohibited substance. Thus acetification, tanning, saponification, and other chemical reactions all were means for products to undergo *istiḥāla*. The scholars also offered another Islamic ethico-legal argument to permit the use of porcine products in medicine: assimilation

or *istihlak*. This Islamic ethico-legal construct refers to the admixing of a negligible amount of a prohibited substance with a dominant permissible one resulting in the "obliteration" of the prohibited substance (Recommendations of the 9th 1997). Assimilation is evidenced by the newly created admixture demonstrating the properties of the dominant (permissible) substance. The scholars concluded that the use of pig enzymes in medicine is covered by *istihlak* and therefore resulting medicine is *halal* (Recommendations of the 9th 1997). Thus Islamic scholars at the 9th IOMS seminar reaffirmed the permissibility of using porcine gelatin based on the Islamic ethico-legal construct of *istihāla*, and further approved the use of pig enzymes in medicine production through the construct of *istihlak*.

In 2001, representatives of the WHO penned an official letter to address continuing Muslim concerns about the use of medicines that contain porcine components (Gezairy 2001). The letter excerpted the 1995 IOMS verdict and was circulated to many health policy stakeholders including vaccine manufacturers, physician groups, and the United Nations Children's Fund (UNICEF). The letter, and the excerpted verdict it contains, has been circulated widely and is used in policy-relevant discourse by many different stakeholders. Illustratively, the Institute for Vaccine Safety uses the letter on their Web site to highlight the Islamic permissibility of vaccines with porcine components (Immunization Action Coalition 2003), and the WHO letter was similarly used to allay Muslim concerns over porcinebased H1N1 vaccines in the United States by medical associations and vaccine manufacturers (Minnesota Medical Association 2009). Indeed, in personal email correspondence with medical information experts at Sanofi Pasteur and other vaccine companies, this author received copies of the WHO letter, and the pharmaceutical company representatives suggested that Islamic authorities approve of porcine components in vaccines without reservation (Thallmeyer 2012).

Part 2: The MUI and Porcine Vaccines. The MUI is a state-sponsored religious council that issues fatawa on a wide range of issues with varying degrees of legal authority. With respect to foods and medicines, Indonesian law gives the MUI authority to determine whether or not products are halal (TMO 2009). In 2008, the MUI issued a fatwa banning the use of a meningitis vaccine produced by GlaxoSmithKline citing the use of porcine products, specifically pig enzymes, during its manufacture (Jakarta Post 2010b; Yessir 2010).

On the basis of this decision, the Health Ministry of Indonesia halted the distribution of the GSK meningitis vaccine (Yessir 2010), putting the Hajj journey of more than 200,000 Indonesian pilgrims at risk because meningitis vaccination is required prior to traveling for the Hajj. The decision was made all the more controversial because the Indonesian Health Ministry had already spent over \$2 million on GSK vaccine prior to the

MUI decree (Hossain 2012). Despite the costs associated with the decision, the Indonesian Health Minister insisted that only MUI-certified *halal* vaccines would be used in Indonesia. Cognizant of public pressure, and the religious needs of the Indonesian pilgrims, the MUI presented their religious concerns about the GSK vaccine to Saudi authorities. The Saudi authorities, however, denied an exemption from meningitis vaccination because of the high risk of transmission during pilgrimage and high rate of mortality from meningitis after transmission. Given the lack of an alternative vaccine and the Saudi reticence to grant an exemption, the MUI used the ethico-legal concept of *darurah*, extreme necessity, to permit first-time Indonesian pilgrims to use the GSK vaccine (Sagita 2009; *Jakarta Post* 2010a).

In 2010, however, the MUI issued another fatwa declaring two meningitis vaccines, one produced by the Swiss company Novartis and the other by China's Tian Yuan, to be free of porcine components and thus *ḥalal* (Hapsari 2010; Hossain 2012; *Jakarta Post* 2010b). Implicitly, their *ḍarurah*based ruling permitting the use of porcine-containing GSK vaccine was now revoked.

Up to this point, I have highlighted the principal Islamic ethico-legal frames through which the IOMS and MUI issued their verdicts and recounted how these verdicts were used by health policy stakeholders—the WHO propagating the IOMS verdict through an official letter and the Indonesian Health Ministry procuring vaccines based on *halal* approval from the MUI. In the next section, I will suggest that, from an applied Islamic bioethics vantage-point, the way that the IOMS verdict was used by the WHO overlooks several critical features of Islamic ethico-legal discourse that challenge the generalizability of the IOMS verdict. On the other hand, these same features were more appropriately taken into account by Indonesian health ministry officials when using the MUI verdict to inform health policy. I suggest that the proper application of juridical writings in health policy discourse requires a familiarity with Islamic ethico-legal theory. Therefore my analysis highlights aspects of the ethico-legal reasoning employed by the IOMS and MUI verdicts *only* to illustrate larger concepts within Islamic ethico-legal theory that need to be taken into account when using verdicts to inform health policy.

RECOUNTING THE NARRATIVE THROUGH THE LENS OF APPLIED ISLAMIC BIOETHICS

As we turn to examining the IOMS and MUI verdicts more closely, defining a few concepts will aid the reader in placing this study within Islamic bioethics scholarship.

The study of *fatawa* (singular *fatwa*) and *qararat* (singular *qarar*) represents the cornerstone of Islamic bioethics research. *Fatawa* and *qararat*

play a role similar to that of legal response literature in Halakhaic reasoning, and are nonbinding ethico-legal opinions of traditional Islamic jurisconsults and juridical councils. These judgments utilize a method of religious-text prioritization and ethico-legal argument that is mapped out in Islamic moral theology and jurisprudential theory, usul al-figh. Fatawa and *gararat* are used ubiquitously by the laity (Muslim patients and physicians) to guide health-care behaviors, by Islamic bioethics researchers to derive normative goals for medical practice, by policy actors to craft regulations and law, and by religious leaders to advise their communities on ethical challenges in health care. Fatawa and gararat, as expressions of the Islamic ethico-legal tradition, further represent a window into the jurisconsult's mind as he/she approaches modern medicine and are central to applied Islamic bioethics scholarship. Applied Islamic bioethics is a discipline that seeks to (1) examine the ways in which Islamic authorities approach ethical questions raised by Muslim health-care providers, religious leaders, and patients in their dealings with medicine and biotechnology and to (2) study the application of religious verdicts by health-care providers, patients, and health-care stakeholders. Thus the field is founded upon the study of fatawa and gararat.

With this introduction I argue that a neglect of three concepts contributes to the possible misreading of the IOMS verdict. The first concept is the distinction between a *fatwa* and a *hukm*. I contest that the IOMS and MUI verdicts are morally and legally nonequivalent on the basis of this distinction. The second concept is that schools of Islamic law differ in their acceptance of ethico-legal constructs. Therefore verdicts using ethico-legal reasoning based on a particular school of law may be considered deficient according to other schools of law. I will use the construct of *istihāla* to elaborate upon this idea. The last concept relates to the differentiation between a normative and a contingent ruling. This notion will be illustrated by examining how the verdicts cite *darwah*, extreme necessity.

A Fatwa vis-à-vis a hukm. The fact that the IOMS and MUI religious decrees differ illustrates the pluralistic and nonauthoritarian nature of Islamic ethico-legal discourse. Classical Sunni Islamic theology maintains the absence of a divinely inspired religious class that is a privileged authority on religious matters. Instead, Sunni Islamic ethico-legal reasoning is marked by an adherence to a more-or-less agreed-upon epistemological framework for moral assessment and an accompanying deductive method termed usul al-fiqh. This science is enshrined within the moral theology and legal theories of the four Sunni schools of law, Maliki, Hanafi, Shafi, and Hanbali, and is practiced by trained jurisconsults. Islamic scholars who carry traditional licenses (ijazat) to issue fatawa consequently are moral authorities. These fatawa are nonbinding and considered morally equivalent approximations of the transcendent Divine rule, hukm Allah.

It follows then, that individuals and institutions are free to choose among the extant *fatawa* based on their own assessment of the rigor of argument and the moral authority of the jurisconsult(s). Importantly, the *fatwa* of an individual Islamic jurisconsult and that of a juridical council are both nonbinding and legally equivalent.

The word hukm describes several different concepts in the Islamic ethicolegal tradition and its ubiquitous usage can be confusing to the nonspecialist. In a literal sense, hukm signifies a rule, a judgment, or a law. According to usul al-fiqh, a hukm represents a Divine communication about the moral boundaries of human action, hence it is a transcendental norm: the eternal rule of God (Moosa 1998; Nyazee 2005). This "beforetime" Divine judgment is "discovered" within the temporal realm through empirical indicators, adilla, which are themselves discerned through the use of usul al-fiqh methodology. While the "transcendent hukm is always at an ontological remove" the empirical rule finding activity of the jurist yields an approximate ruling also referred to as a hukm (Moosa 1998, 19).

Specifically, the end result of *usul al-fiqh* deliberations are classified as *al-hukm al-wadi* or *al-hukm al-taklifi*. *Al-hukm al-wadi* enacts a cause, condition, or hindrance to some action. For example, a Qur'anic verse may detail the categories of people who are required to fast and those who are exempted. *Al-hukm al-takleefi*, on the other hand, is an assessment that locates an action along an ethical gradient from obligatory to perform to obligatory to refrain from, each gradient having its own afterlife ramifications (Kamali 2003; Nyazee 2005).

Moving from moral theology to the world of political authority brings forth an added classification for *hukm*, *hukm al-qadi*. In this article my use of the term hukm signifies this particular type of hukm. A hukm al-qadi is simply a law issued by a Muslim state authority. According to Sunni legal theory a Muslim living under an Islamic state authority (here I use the term Islamic to note that the political state must use the Shar'iah as a source of law although the exact nature of how is a point of controversy) is liable for following the law of the land, the *hukm al-qadi*, in so far as it does not contradict a religious obligation that is universally agreed upon and of a higher priority to be fulfilled (Nyazee 2005). For example, a Muslim ruler may legislate that polygamy is not permitted in his kingdom. A Muslim living under the protection of this ruler is liable for following this law, even though the legislation restricts the range of what is permissible (polygamy) within Islamic law. If the Muslim were not to obey this law he would be morally and legally liable; that is, he would be both sinning and be at risk for legal sanction.

Returning to the matter at hand a *fatwa* is transformed into a *hukm* al qadi by means of state backing. This state authority, a ruler or hakim, in turn shoulders the moral responsibility for governance over Muslims (wilaya). According to the majority of Sunni legal theorists, a hukm can

only issue forth from a Muslim state authority, *hakim*, as non-Muslim rulers do not bear the moral and ethico-legal responsibility for Muslim communities (Arozullah and Kholwadia 2013). The transformation of a *fatwa* to a *ḥukm* is morally and legally significant. At the level of a *fatwa* the Muslim is allowed to consult other *fatawa* in his quest for guidance and the "best" approximation of God's rule. However, when a Muslim state authority adopts a *fatwa* and turns it into a *ḥukm al-qadi* as the law of the land, Muslims are both morally and legally bound to follow that judgment. In effect, the one among many options represented by a *fatwa* turns into a singular binding judgment as a *ḥukm*.

From this discussion it follows then that the Islamic jurist or juridical body's relationship to a Muslim state authority determines the moral and legal significance attached to their verdict. The nature of the relationship between the state and religious authority has been a subject of intense debate in both medieval and modern Islam. These debates involve theology and political theory, and predominately revolve around the questions: What is the role of Divine Law (Shar'iah) in regulating human conduct? and, In what ways should the moral and ethical authority of religious scholars enter into the legal and public policy domains? Differences in Mutalizite, Ashari', and Maturidi scholastic theology (kalam) as well as in Sunni and Shiite moral theology and jurisprudential theory (usul al-figh) can be traced to differences in views about the relationship between political and religious authority. Differing views also led to armed struggles during the Islamic caliphate such as the Khawariji battles and the Mu'tazilate Inquisition (*Mihna*), and answers to these questions inform the ideologies of Islamic movements such as the Hizb-ut-Tehrir, the Ikhwan al-Muslimeen, Wahhabism, and al-Qaeda. While delving into these debates is beyond the scope of this article, it suffices to note that the Sunni orthopraxy has maintained a separation between religious authority and political authority and thus legal opinions (*fatwa*) are not automatically judicial decisions (hukm).

As far as the MUI verdict is concerned, it represents a *hukm al qadi* for Muslims in Indonesia. Since Indonesian law delegates the authority to determine what foodstuffs are considered *halal* to the MUI, their legal opinion becomes elevated from *fatwa* status to that of being a *hukm*. This transformation explains why the Indonesian Health Ministry felt obliged to act in accordance to the MUI's ruling.

On the other hand, while the IOMS *fatwa* represents the opinion of a group of premier Islamic jurisconsults, it carries the same ethico-legal authority as the opinion of any other juridical council, or even one jurisconsult. Thus while the IOMS decree may influence health behaviors of Muslims around the globe, it remains only one of the many *fatwa* an individual Muslim, or a Muslim state actor, may choose to follow. If a state authority were to adopt the IOMS decree as law of the land then the

verdict would correspond to a morally and legally binding *hukm al-qadi* within that state authority's jurisdiction.

Unwittingly, the WHO letter, along with the IOMS verdict it excerpts, has been repeatedly used by health policy actors in the West as a "final word" decree, betraying the nonbinding and one-option-among-many character of the judgment. This misinterpretation is understandable, given that the letter lacks any mention of differing opinions by Islamic juridical authorities, and does not contain a caveat that, the IOMS verdict is a nonbinding opinion. Thus health policy actors, such as the vaccine manufacturers, seem to have construed the WHO cover letter language addressed to "all the health ministries" in order to relieve the "burden of all Muslims (abna al ummah)" (Gezairy 2001) as signifying that the verdict is globally applicable to Muslims living in Muslim majority nations as well as in the diaspora. Yet, for Muslims living in a minority status without political governance the IOMS fatwa cannot be treated as a binding hukm al qadi.

ISTIḤĀLA, COMPLETE TRANSFORMATION, ACROSS THE SUNNI SCHOOLS OF LAW

When reading *fatawa*, it is critical to note the ethico-legal constructs employed by jurisconsults when making their argument. The constructs used by legists adherent to one school of law may not be considered valid by legists belonging to another school of law. Thus a particular verdict may not have resonance across schools and its generalizability is challenged. This feature within Islamic ethico-legal theory is illustrated in the IOMS's reliance upon *istiḥāla* to deem porcine-based medicines permissible.

What exactly *istihāla* signifies physically and how the construct should be used in ethico-legal assessment is a matter of continuing debate within the Sunni legal schools. Generally defined as tabdeel al-mahiyyat or tabdeel al-hal, istihāla signifies "(the) chang(e) in nature of (a) . . . substance to produce a different substance in name, properties and characteristics" (Recommendations of the 9th 1997). Looking to the natural world and at Prophetic examples, classical Islamic jurists noted that while the Qur'an and the Prophet prohibited drinking wine, the consumption of vinegar was allowed (al-Naisaburi 1972, 23:5091). The same type of circumstances and judgments surrounded the use of the tanned hides of dead animals. These paradigmatic examples, where an Islamically unclean (najis) substance underwent a change in character such that the resulting substance was considered clean and permissible to use, informed the techno-scientific imagination of the medieval jurists such that the construct of complete transformation, istihāla, came into the vocabulary of Islamic law. Technically, then, *istihāla* signifies the transmutation of a *haram* material into a *halal* substance. As noted above, the IOMS decrees invoke *istihāla* to deem porcine-based vaccines permissible.

From an applied Islamic bioethics viewpoint the problem lies not in the verdict's ethico-legal reasoning; rather, it is that there is no mention in the final verdict, and perhaps thereby in the synopsis disseminated by the WHO, that the Sunni schools of law disagree on whether <code>istiḥāla</code> applies to porcine products. Thus stakeholders who try to use the <code>fatwa</code> to inform health policy may mistakenly construe a false consensus of opinion and believe that the <code>fatwa</code> is universally acceptable.

In reality there is a considerable degree of variance within and across the Sunni legal schools as to whether *istihāla* applies to products of pig origin. Briefly, the prevailing opinion in the Hanafi school (al-Hattab 1995, 1:97; Ibn Nujaym 1983, 1:294) and Maliki school (al-Dusugi 1996, 1:97; al-Hattab 1995, 1:97) is that *istihāla* can purify pig products. However, the Shafi doctrine is that porcine products do not fall under the purview of istihāla (al-Shirbini 1994, 1:236). The dominant opinion in the Hanbali school is debatable, with the majority view being that *istihāla* does not purify pig (al-Dusuqi 1996, 1:97; al-Buhuti 1974, 1:214-15; Ibn Qudamah 1994, 1:86, 2:66), however one opinion of Imam Ahmad (Ibn Qudamah 1994, 1:76), and the opinion of Ibn Taymiyyah and Ibn Qayyim al-Jawziyyah is that porcine products are covered by *istihāla* (Ibn Qayyim al-Jawziyyah 1993, 2:15; Ibn Taymiyyah n.d., 21:70). It is important to note that there are minority opinions within the Hanafi school, like that traced to Imam Abu Yusuf (Ibn Humam 1995, 1:202) that discount istihāla for porcine. While the IOMS juridical council (or any jurisconsult) is free to judge based on the opinion of another school, an *istihāla*-based argument is by no means universally acceptable.

To reiterate my point, it is critical for policy stakeholders to recognize the inherent limitations of a particular *fatwa* when using it as the basis for health policy. One such limitation may stem from the usage of ethico-legal constructs that are deemed valid by some schools of law and invalid by others. To accurately assess the acceptability of a particular fatwa within a community, policy stakeholders must therefore be aware of the ethico-legal proclivities of a specific Muslim community, and be cognizant of whether contested constructs are employed within the ethico-legal reasoning of a particular fatwa.

The IOMS verdict's universal appeal is challenged by its reliance on *istiḥāla*. Given this limitation, the WHO's suggestion that the verdict would "relieve all Muslims" (Gezairy 2001) may be an overstatement of its potential relevance within the global Muslim community. Moving to the MUI, their *fatwa* declared the GSK vaccine *ḥaram* due to porcine components used in its production. This ruling may, in part, be explained by the fact that most Indonesian jurisconsults incline toward the doctrinal Shafi position that *istiḥāla* does not apply to porcine. A detailed analysis of their fatwa would provide greater clarity on the ethico-legal arguments they employ to argue for the *ḥaram* status of the vaccine. However, this type of analysis is unnecessary to make the point that the MUI was free to

offer their own verdict even while the IOMS was being circulated because the IOMS has no legal authority over Indonesian Muslims.

PARURAH-BASED RULINGS: CONSIDERING NORMATIVE ASSESSMENTS IN THE ISLAMIC ETHICO-LEGAL TRADITION

Another critical concept that may be overlooked by stakeholders in seeking to apply Islamic verdicts is the difference between a normative and a contingent ruling. This element of Islamic ethico-legal deliberation may not be readily noticed by nonlegal specialists, and as a result, a ruling with a limited scope may be seen as more widely applicable. As a rule of thumb whenever a verdict cites *darurah* as the basis for judgment, the resulting ethico-legal opinion is nonnormative.

Technically *darurah* is an Islamic ethico-legal concept that describes circumstances of extreme necessity. Its usage in Islamic ethico-legal argumentation is captured by the legal maxim, *al-darurat tubih al-mahzurat*—extreme necessity renders the impermissible to be permissible. This maxim is derived from several Qur'anic verses and Prophetic statements that indicate extreme circumstances may require normative prohibitions to be overturned. A verse that is of particular relevance to this discussion reads:

Say (O Prophet): I find not in that which is revealed unto me aught prohibited to an eater that he eat thereof, except it be carrion, or blood poured forth, or swine-flesh for that verily is foul or the abomination which was immolated to the name of other than Allah. But whoso is compelled (thereto), neither craving nor transgressing, (for him) Lo! your Lord is Forgiving, Merciful. ([al-An'am:145] Pickthall 2005)

Even while forbidding the consumption of pig, the verse puts forth an exception noting that "whoso is compelled" may partake of the forbidden food.

Another related legal maxim states *al-mushaqqa tajlabu al-tayseer*, that hardship allows for bringing about ease (Ibn Nujaym 1993, 64). Particularizing these principles, the four Sunni schools of law allow an extreme necessity, *darurah*, to overturn a normative prohibition when a core objective of the Islamic ethico-legal code is at stake. These core objectives, *maqaṣid*, of the Islamic ethico-legal code are the protection of religion, life, intellect, lineage, and property (Auda 2008; Padela 2007). Defining what constitutes an extreme necessity is controversial and can vary from Islamic jurisconsult to jurisconsult, and from legal school to school. Circumstances that lead to invoking a *darurah* are, by definition, motivating the exception and thus the judgment represents a nonideal scenario. In Islamic bioethics, *darurah* is invoked with considerable variance and ambiguity.

The IOMS verdict does not rely on *darurah*; rather, it considers *istiḥāla* as the operative construct allowing the use of porcine-based medicines. One may, therefore, conclude that the IOMS judgment is a normative assessment. However, the legists offer a caveat limiting the scope of their

permissive ruling by stating that "(we) recommends (sic) the necessity of utilizing skins and bones of (*ḥalal*) animals for the purpose of extracting gelatin... as this will... avoid sources that might be juridically unacceptable" (Recommendations of the 8th 1995). It appears, then, that using a vaccine comprised of porcine gelatin seems to be less than ideal and that nonporcine gelatin is the preferred norm.

The MUI initially declared the GSK porcine-based vaccine to be *ḥaram* but subsequently permitted its usage by citing *ḍarurah*. For these scholars, the conditions that came together to meet the threshold of *ḍarurah* were the lack of a nonporcine alternative and the Saudi mandate of meningitis vaccination prior to Hajj.

Noting the normative or contingent nature of a ruling is integral to appropriately applying the *fatwa*. Accordingly if the approval of porcine-based medications is based on several contingencies, then it follows that the verdict is actionable only for as long as those particular circumstances remain in effect. In the health policy realm, a further implication arises: the conditions that create the social circumstances that necessitate a contingent ruling are themselves intervention points. In other words, when a ruling is motivated by circumstances that constitute *darwah*, health policy stakeholders may work to change the contexts that impede a more normative ruling.

Although the final IOMS verdict is not motivated by *darurah* the text suggests that using porcine gelatin is not ideal. This qualification seems to have been overlooked by vaccine industry stakeholders as they promote the "Islamic" sanction of their porcine-based vaccines (Padela 2010). For example, a medical information specialist with Sanofi Pasteur stated that their porcine-based vaccines have been approved by Islamic authorities and referenced the WHO letter (Thallmeyer 2012). Furthermore, interpreting the ruling as normative allowed the industry to consider the status quo as acceptable to the Muslim world.

The 2008 MUI verdict changed this evaluation in that declaring porcine-based vaccines *haram* created the market-based impetus to create meningitis vaccines that were porcine-free. Even though the MUI allowed for the use of porcine-based vaccines by means of *darurah*, it was clearer to health policy stakeholders that this permission was conditional. Both verdicts had tangible impact upon the vaccine industry.

FINAL REMARKS

In this article I examined how health policy stakeholders utilized the IOMS and MUI verdicts on the permissibility of using vaccines. I highlighted aspects of the arguments employed in these verdicts to point out key concepts within the Islamic ethico-legal tradition that need to be taken into account when using Islamic verdicts to inform health policy.

Specifically, I commented on (1) the distinction between a *fatwa* and a *hukm*, (2) the nonuniversal acceptance of Islamic ethico-legal constructs across the schools of law, and (3) the differentiation between a normative and a conditional ruling. In conclusion, I offer several recommendations for the producers and consumers of Islamic bioethical discourse that will facilitate products that better meet the needs of Muslim patients, physicians, religious leaders, and policy stakeholders.

First, I recommend that Islamic jurisconsults (1) clearly note the validity of the particular ethico-legal constructs employed in their verdicts across the Islamic schools of law, (2) unambiguously delineate the circumstances their decrees address, and (3) specify conditions under which the ruling is operable. In the past, individuals and state actors often sought *fatawa* from local Islamic authorities. This "neighborhood" *fatwa* meant that the issuing Islamic authority was well known and trusted by the seeker of the fatwa, and that the fatwa was communicated through the medium of a jurist who could explain the ethico-legal rationale behind it, and the conditions under which action was due upon a *fatwa*.

In the era of mass media, global interconnectedness, and with the advent of the Internet, Islamic verdicts are now part of a global public discourse. The increased number of options presented by the myriad of extant *fatawa* allows the seeker to select and act upon the fatwa that most clearly suits his or her circumstances, and is viewed as the most accurate description of the Divine law. At the same time, however, the increased proliferation of *fatawa* creates the scenario where those seeking to implement a *fatwa* may be far removed from the Islamic scholars who issue them. The "transnational" fatwa opens up the door for misappropriation and misunderstanding as the verdict comes to be decoupled from context, and removed from the interpretative medium of a trained Islamic jurist. Therefore clearly delineating the circumstances a particular fatwa addresses, and the conditions under which the *fatwa* is actionable, will make it easier to identify whether a specific verdict is transferable across time, space, and context. Moreover, by clarifying whether the ethico-legal constructs employed by a jurist are universally acceptable across the Islamic schools of law would facilitate the critical evaluation and successive refinements of the *fatwa*. In this way, Islamic bioethical discourse can adapt to better meet the changing needs of the Muslim community while at the same time maintaining fidelity to the ethico-legal tradition.

Additionally, I believe that Islamic juridical authorities must consider the policy implications of their verdicts. I do not mean to suggest that jurists do not routinely take into account the social realities impacting their ethico-legal deliberations; however, I suggest that policy-level ramifications may need to be more central to the deliberative processes. As *fatawa* participate in a global Islamic bioethics discourse, and transnational health policy stakeholders disseminate and use Islamic rulings, anticipating the

downstream policy (mis)application beforehand may impact the content of the ruling, as well as compel jurists to be more lucid in the writing of the final verdict.

To more fully consider the ways potential rulings would be used in the public policy realm, a multidisciplinary engagement is needed within Islamic juridical councils. *Figh* academies tend to predominately involve medical experts and Islamic jurists, yet Islamic theologians, health policy experts, social scientists, patients, and others may all serve as content-experts in bioethical deliberation. By bringing into dialogue these oft-overlooked experts, juridical councils can spawn an "Islamic" bioethics whose practitioners are literate in both the Islamic sources (the texts) and the social realities (the contexts), and effect a discourse that represents a living tradition engaging with the complex bioethical challenges of modern times.

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