

# Opinions on the Legitimacy of Death Declaration by Neurological Criteria from the Perspective of 3 Abrahamic Faiths

## Nörolojik Kriterlere Bağlı Ölüm İlanının Meşruiyeti Konusunda Üç İbrahimi Din Açısından Görüşler

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**Ethics Committee Approval:** Not Applicable.

**Conflict of Interest:** The authors declare that they have no conflict of interest.

**Funding:** None

**Informed Consent:** Not Applicable.

**Cite as:** Miller AC. Opinions on the legitimacy of death declaration by neurological criteria from the perspective of 3 abrahamic faiths. Medeniyet Med J. 2019;34:305-13.

### ABSTRACT

Traditional criteria to identify death may not fit all circumstances. This manuscript explores religious jurisprudence to ascertain whether death declaration by neurological criteria (DDNC) is accepted as a valid method by 3 Abrahamic religious traditions ie. Islam, Judaism, and Catholicism. Among Islamic sources (order of primacy), neither the Qur'an, Sunnah as reported in Hadith, Ijma' (scholarly consensus), nor Qiyas (precedent-based analogy) clearly describe death determination criteria. Through Ijtihad (lowest level of Shari'ah), 5 of 6 identified non-binding fatwa support DDNC. Faith-based medical organizations are divided. Eleven of 13 surveyed Muslim-majority countries have laws supporting DDNC. Concern exists that premature death declaration could violate the Shari'ah concept of *Hifz-An-nafs* (saving life). As such, DDNC remains debated in Islamic circles. Among the 3 main sources of Jewish law (Halacha), the Torah (oral and written) does not clearly define death declaration criteria. Although Talmudic interpretations of *Misnah Oholot 1:6* and *Gamara Hullin 21a* suggest a possible justification for death determination using neurologic criteria in some conditions, the bulk of *mitzvot d'rabbanan* (Rabbinic Law) rejects DDNC and adheres to cardiorespiratory criteria. Lastly, Catholic Church Canon Law and the Holy Scripture recorded in Bible does not define death determination criteria. Following the Council of Vienne, Saint Thomas's loss of integration view has predominated. In 2000, Pope John Paul II expressed tentative and qualified support for DDNC, however the topic remains controversial. Despite dissenting opinions in each faith, DDNC is currently accepted as valid by many Muslims and Catholics, while rejected by Judaism.

**Keywords:** Death, brain death, islam, judaism, catholicism, medical ethics, end-of-life

### ÖZ

Ölümü tanımlamak için kullanılan geleneksel kriterler bütün durumlara uymayabilir. Bu çalışma nörolojik kriterlere dayanan ölüm ilanının (DDNC) üç İbrahimi dini geleneğe göre (İslam, Yahudilik ve Katoliklik) ölüm tespiti için geçerli bir yöntem olarak uygun olup olmadığını tespit etmek için din hukukunu araştırmaktadır. İslami kaynaklar arasında, ne Kur'an, ne Sünnet (Hadis), ne icmâ (İslam alimlerinin fikir birliği) ne de kıyas (benzer hükme göre fihri akıl yürütme) ölüm tespiti için bir kriter tanımlamamaktadır. Bu çalışmada tespit edilen, ictihad yoluyla oluşturulmuş olan altı fetvadan (bağlayıcılığı bulunmayan) beşi DDNC'yi desteklemektedir. İncelenen ülkelerden DDNC'yi kabul eden inanca temelli tıbbi kuruluşlar birbirlerinden ayrılmışlardır. Araştırılan 13 Müslüman ülkeden 11'inde DDNC'yi destekleyen yasalar vardır. Erken ölüm bildiriminin, şeriatın yaşamı kurtarma (*Hifz-An-nafs*) kavramını ihlal edebileceği endişesi vardır. Bu nedenle, DDNC İslami çevrelerde tartışılmaya devam etmektedir. Üç temel Yahudi hukuku kaynağı (*Halaka*) içerisinde, Tevrat (hem yazılı ve sözlü olarak) ölüm tespitini açık olarak tanımlamamaktadır. *Misnah Oholot 1:6* ve *Gamara Hullin 21a* Talmudi yorumlarının ölüm tespiti için nörolojik bir yöntemin bazı durumlarda kabul edilebilir olduğunu önermesine rağmen, *mitzvot d'rabbanan* (hamamlar tarafından düzenlenen dini esaslar) sadece kardiyorespiratuvar kriterleri kabul eder, dolayısıyla DDNC'yi reddeder. Son olarak, Katolik kilisesinin Kanon hukukunda, Kutsal Kitap, İncil, ölüm tespiti için bir kriter tanımlamamaktadır. Aziz Thomas'ın entegrasyonun kaybı (loss of integration) görüşü Katolik Kilisesinde Viyana Konsili'nden bu yana hakimiyetini korumuştur. 2000'de Papa John Paul II DDNC için geçici ve nitelikli bir destek vermiştir. Dolayısıyla, her üç inanca da DDNC'yi reddeden fikirler olmasına rağmen DDNC birçok Müslüman ve Katolik tarafından ölüm tespitinde geçerli bir kriter olarak kabul edilirken Yahudilik tarafından reddedilmiştir.

**Anahtar kelimeler:** Ölüm, beyin ölümü, İslam, Yahudilik, Katoliklik, tıp etiği, yaşam sonu

**Received:** 25 May 2019  
**Accepted:** 24 July 2019  
**Online First:** 27 September 2019

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## INTRODUCTION

Traditional criteria to identify death may not fit all circumstances. Death determination by neurological criteria (DDNC) has been heavily debated in medical, legal, and religious arenas. Several religions (or sects) have rejected DDNC including: Buddhism<sup>1</sup>, Shinto<sup>1</sup>, Orthodox Judaism<sup>2-4</sup>, spiritual practices of the indigenous peoples of the America's<sup>5</sup>, and some Muslims<sup>6</sup>. Stemming from religious objections, four U.S. states (California, Illinois, New York, New Jersey) have amended laws to accommodate religious or moral objection to DDNC<sup>7-10</sup>. This manuscript explores religious jurisprudence to ascertain whether DDNC is accepted as a valid criteria by 3 Abrahamic faith traditions: Judaism, Catholicism and Islam.

## DEATH and MODERN SOCIETY

### *Determining Death*

Modern technology has complicated death determination by obscuring traditional markers. Historically, death was determined by the irreversible cessation of cardiac or respiratory functions, a definition still utilized in many acute care settings<sup>11,12</sup>. However, sedation by obscure vital functions, and technology including mechanical ventilation, cardiac bypass, extracorporeal membrane oxygenation, ventricular assist devices and others may maintain vital physiologic functions despite irreversible central nervous system (CNS) insult, thereby introducing new levels of diagnostic uncertainty. Moreover, organ transplantation (notably heart and lung) results in a period where the patient may have neither of the specified organs, yet circulation, oxygenation, and brain perfusion and function are technologically maintained. This has pushed providers to identify or develop alternative means to recognize death's occurrence.

### *Modern Medicine and Neurologic Criteria to Determine Death*

DDNC was first described as irreversible coma in 1959<sup>13</sup>. By the mid-1960's the terms cerebral de-

ath syndrome, electrocerebral silence, or electrocerebral inactivity were used to identify such patients, with electroencephalograms (EEG) showing lack of brain electrical activity  $>2 \mu\text{V}$  when measured between electrode pairs placed  $\geq 10$  cm apart<sup>14,15</sup>. In 1968, the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death coined the term brain death, to be determined by: total unawareness of externally applied stimuli, nonexistent spontaneous respiration, and brainstem reflexes, and a flat EEG<sup>16</sup>. In 1969, representatives of the Islam, Christianity (Catholicism and Protestantism), and Judaism achieved an inter-faith consensus that DDNC was a reasonable concept to identify death<sup>14</sup>. During this same period, many countries were passing legislation recognizing DDNC, including Finland (1971) and the U.S. (1980)<sup>17,18</sup>. Between 2013 and 2016 several controversies emerged surrounding DDNC including: (1) need for family consent to apply, (2) the third parties that bear treatment costs when treatment is continued after criteria are met, and (3) what to do in cases of pregnancy<sup>19,20</sup>. In early 2017, the U.S. State of Nevada became the first (and only) state to revise their state law to address these stipulations: as follows: (1) family consent is not required for application; (2) DDNC must be made in accordance with published guidelines; (3) treatment costs of continuing organ support after DDNC determination become the responsibility of a patient's family; and (4) organ support must not be withheld or withdrawn from a person with DDNC if they are known to be pregnant and it is "probable that the fetus will develop to the point of live birth with continued application of organ-sustaining treatment"<sup>20</sup>.

Although DDNC has been promoted by the World Health Organization<sup>21</sup>, heterogeneity exists in guidelines, methods of determination, and local compliance<sup>22-24</sup>. In a survey of 80 nations, only 69% of them had a national standard, and only 59% of them required apnea testing<sup>25</sup>. Moreover, in opposition to guidelines, up to 40% of countries require further ancillary testing<sup>26</sup>.

## JUDALSM, JURISPRUDENCE and DEATH

### *Fundamentals of Jewish Jurisprudence*

The term Halakha denotes the entire subject matter of the Jewish legal system. It is the collective body of Jewish religious laws derived from the written Torah (Torah she-bi-khtav), oral Torah (Torah she-be-`al peh), rabbinic law, and from long-standing customs (minhag). The Pentateuch (the five books of Moses) is the touchstone document of Jewish law. The oral Torah represents those laws, statutes, and legal interpretations (mostly civil and ceremonial) that are not recorded in the written Torah. The major repositories of the oral Torah are the Mishnah (repeating), and the Gemara (learning) which constitute analysis and commentaries concerning the Mishnah. Together, these are referred to as the Talmud (study), the preeminent text of Rabbinic Judaism. The Talmud has two versions, the Babylonian and the Palestinian (or Jerusalem).

From the 14<sup>th</sup> to 17<sup>th</sup> centuries, Jewish law underwent a period of codification. This led to the acceptance of the law code format of Rabbi (R.) which Joseph Karo (1488-1575 A.D.) called the Shulchan Aruch. Although the Shulchan Aruch generally follows Sephardic law and customs, it became generally accepted as authoritative amongst Ashkenazi Jews after R. Moshe Isserles (Kraków, Poland) supplemented it in 1571 A.D. with notes called Mapah. The Shulchan Aruch, and its predecessor the Arba'ah Turim of R. Jacob ben Asher, divided Jewish law into four areas: (1) Orah Hayyim (daily, Sabbath, and holiday laws); (2) Even Ha-Ezer (family including financial aspects); (3) Hoshen Mishpat (financial law); and Yoreh De'ah (dietary and other miscellaneous matters)<sup>27</sup>. Collections of responses (Responsa) to specific questions have been published for further guidance<sup>27</sup>. Lastly, the rabbinical courts of Israel have published their written opinions (Piske Din) on many modern matters<sup>27</sup>.

Halakha from any of these sources may be refer-

red to as a mitzvah (commandment; plural: mitzvot). Because of this imprecise usage, sophisticated halakhic discussions are careful to identify mitzvot as being mitzvot d'oraita (from the Torah; numbered as 613) or mitzvot d'rabbanan (from the rabbis)<sup>28</sup>. A gezeirah is a rabbinic law instituted to prevent people from accidentally violating a mitzvot d'oraita, whereas takkanot are rabbinical laws created for public welfare that are unrelated to biblical laws and may vary between communities or regions<sup>29</sup>. Lastly, minhag is treated as a category of mitzvot d'rabbanan<sup>29</sup>. It is a custom that developed for worthy religious reasons and has continued long enough to become a binding religious practice<sup>29</sup>. Similar to takkanot, mitzvot are binding and may vary across sects and regions.

### *Judaism and Neurologic Criteria to Determine Death*

The Torah does not clearly define the criteria for the determination of death. However, the Hebrew word for life (nefesh) is explicitly linked to breath. The words that describe the animating spirit that defines life (neshamah and ruah) similarly relate to respiration (Genesis 2: 7,22). The first deliniation of death determination criteria in Halakha appears in the Babylonian Talmud (Yoma 85a) in the context of a discussion trapped persons during a building collapse on the Sabbath (Table 1). Because of the principle of pikuach nefesh (saving a life takes priority over Sabbath observance), rescue efforts should proceed until life or death is determined<sup>30</sup>. The rule was codified in the Mishneh Torah (Code of Maimonides) Hilchot Shabbat (Laws of Sabbath) 2:19 as follows: "If, upon examination, no sign of breathing can be detected at the nose, the victim must be left where he is [until after the Sabbath] because he is already dead." The Shulchan Aruch (Orach Chayim 329:4) further states:

"Even if the victim was found so severely injured that he cannot live for more than a short while, one must probe [the debris] until one reaches his nose. If one cannot detect signs of respiration at the nose, then he is certainly dead whether

the head was uncovered first or whether the feet were uncovered first.”

Neither Maimonides (aka Rambam) nor R. Karo required examination of the heart. Cessation of respiration was the determining physical sign for death ascertainment<sup>31</sup>.

Despite this classic Jewish legal definition that death is established when spontaneous respiration ceases, there is evidence that the presence of a pulse remains important. The Talmud maintains that heartbeat cessation can also be considered a determining factor<sup>32</sup>. Renowned authority R. Tzvi Ashkenazi (Chacham Tzvi) notes that in some cases no heartbeat will be perceptible even though the person is still alive. Respiration is more readily detectable, hence the reliance on respiration as the definitive indicator. However, in Teshuvot Chacham Zvi, R. Ashkenazi maintains that there can be no respiration unless there is life in the heart. R. Moshe Sofer (Chatam Sofer) accords with this view (Yoreh De'ah 338,1839), adding that cessation of respiration is a definitive sign of death only if the body lies as “inanimate as stone” and there is no pulse whatsoever. R. Sofer maintains that death occurs only upon cessation of both cardiac and respiratory functions. This view is supported by statements of notable R. Isaac Yehuda Unterman<sup>3</sup>, R. Eliezer Yehuda Waldenberg<sup>4</sup>, and R. J. David Bleich<sup>2</sup>. Moreover, R. Bleich expanded that the cessation should be long enough to make resuscitation impossible<sup>2</sup>. All other vital signs are not considered halachic criteria for determining death (Orach Chayim 330:5).

It is important to note that some have advocated for DDNC based upon interpretations of Talmud as recorded in Misnah Oholot 1:6 (describes decapitation) and Gamara Hullin 21a (describes severance of neck vertebrae along with a major portion of the muscle tissue enveloping those vertebrae), however others have countered that the latter still represents a respiratory death standard (Table 1)<sup>2</sup>. The prevailing opinion, however, is on the use of

cardiorespiratory criteria.

## CATHOLICISM, JURISPRUDENCE and DEATH

### ***Fundamentals of Catholic Jurisprudence***

Catholic Church canon law (Jus Canonicum) is the system of laws and legal principles made and enforced by the hierarchical authorities of the Catholic Church<sup>33</sup>. Other terms used synonymously with Jus Canonicum include Jus Sacrum, Jus Ecclesiasticum, Jus Divinium, and Jus Pontificum<sup>33</sup>. Canon law sources may be divided into the constitutive “Sources of Being” (Fontes Juris Essendi) and the historical “Sources of Knowing” (Fontes Juris Cognoscendi)<sup>34</sup>. The Fontes Essendi are the legislators including (in order of primacy): (1) Jesus Christ; (2) the Apostles; (3) The Roman Pontiff (alone or with a general council); (4) district Bishops empowered to enact laws subordinate to common law; (5) customs. The Fontes Cognoscendi are the depositaries in which enacted laws are collected including: (1) the Holy Scripture (Bible: Old and New Testament) and (2) decrees of popes and councils. The primary canonical law sources are the 1983 Code of Canon Law<sup>35</sup>, the Code of Canons of the Eastern Churches<sup>36</sup>, and Pastor Bonus<sup>37</sup>. Other sources include apostolic constitutions, motibus propriis, particular law, and customs.

### ***Catholicism and Neurologic Criteria to Determine Death***

Among the Fontes Cognoscendi, the Bible’s Old and New Testaments do not clearly describe death determination criteria. The Church’s view on death has evolved significantly over time (Table 2). St. Augustine (influenced by Plato) taught that persons had many souls, including souls for different bodily functions. As such, humans were thought to undergo two deaths: body and person<sup>38</sup>. Conversely, the later St. Thomas Aquinas (influenced by Aristotle) taught that each human had only one soul, and therefore only one death. Thomas’s loss of integration view has since predominated in Christianity since first accepted as doctrine by

the Council of Vienne (1312 A.D.). The contemporary view of the Church is that the departure of the soul is the death of the body and that what remains possesses only the non-integrated life of the individual organs, rather than the life of the body as an integrated whole. The death-event, the separation of the soul from the body, brings about “the total disintegration of [the] unitary and integrated whole” that was the person<sup>39</sup>.

The exact moment of body-soul separation cannot be directly identified by modern scientific method, as acknowledged by Pope John Paul II, however the separation sets in motion an unstoppable process of somatic disintegration producing “biological signs that a person has indeed died”<sup>40,41</sup>. In other words, if somatic integration of the human organism as a whole continues, it is indirect evidence that the soul is still united to the body<sup>40</sup>. However, the specification of biological parameters indicating that death has occurred “does not fall within the competence of the Church”<sup>42</sup>. Rather, it pertains to the responsibility and competence of the medical profession to judge and establish, with as much precision as possible, the constellation of signs which can serve as reliable indicators that death has occurred such that a declaration of death can be made with adequate moral certainty. On this, Pope John Paul II (2000 A.D.) added that “for ascertaining the fact of death, namely the complete and irreversible cessation of all brain activity if rigorously applied, does not seem to conflict with the essential elements of a sound anthropology”<sup>41</sup>.

Sharing the interest that Pope John Paul II had in defining the concept of brain death, his successor Pope Benedictus XVI requested a meeting on ‘The Signs of Death’ was organized in 2006 at the Pontifical Academy of Sciences (PAS). During this meeting, 15 international neuroscientists (including Dr. Conrado Estol) were invited to present their views on topics including brain death. Pope Benedictus XVI did not offer his personal views on the subject. Dr. Estol published a review of the

meeting<sup>43</sup>. Although the conclusions from this academy meeting reflect DDNC use in a positive light, it is important to note that the PAS does not have magisterial authority.

Thus, although many Catholics accept DDNC based upon Pope John Paul II’s tentative endorsement, it remains controversial within the Church.

## **ISLAM, JURISPRUDENCE and DEATH**

### ***Fundamentals of Islamic Jurisprudence***

Paramount to understanding how Islamic ethics and jurisprudence relates to medicine is an understanding of the concepts of Halal (permissible or lawful), Haram (prohibited), and Makruh (discouraged but not legally forbidden). Often erroneously used interchangeably are the connected but not identical terms Shari’ah, Shari’ah Law or Islamic Law, and the discipline of fiqh (from the Arabic word meaning “discernment”). The word Shara’a (Qur’an 45:18), from which the term Shari’ah is derived, is an overarching concept referring to a divinely ordained and immutable path for Muslims to follow in life in order to gain salvation in the hereafter. But comprehending what God “wants” from humans and fashioning this into moral principles and legal edicts requires human reasoning and discernment. Unlike Shari’ah therefore, Shari’ah Law is a human social construct undertaken by fuqaha (jurists) that is neither divine nor uniform and static through time. Thus, one finds both consensus and diversity in the opinions of jurists in its interpretation and translation into law, even when employing the same “classical” sources or *usul al-fiqh* (roots or fundamental principles of fiqh) as their framework for reasoning and opinions. Problems arise however when the terms Shari’ah (divine made) and Shari’ah Law (manmade derived through fiqh) are used interchangeably, giving a sense of divinity and immutability to the latter<sup>11,12</sup>.

As discussed elsewhere, the science of Islamic jurisprudence, or fiqh, can be reduced to 4 founda-

tional principles called *usul al-fiqh*. These sources (order of primacy) include: (1) the Holy Qur'an and (2) the Sunnah, which consists of the traditions or inspired sayings, deeds, tacit approvals, character and appearance of the Prophet Muhammad as recorded in a genre of literature known as Hadith<sup>44,45</sup>. A ruling in the Qur'an or Hadith may be conveyed in a text which is either clear, or in language which is open to different interpretations. A definitive text is one which is clear and specific; it has only one meaning and admits of no other interpretations. These are known as *Qat'i*. The second type of ruling is considered speculative (*Zanni*), and independent legal reasoning (*Ijtihad*) is required to understand the most suitable meaning. Of note, the Hadith differs significantly between the Sunni and Shi'a sects<sup>11</sup>. Other legal sources include: (3) *Ijma'* (unanimous scholarly consensus) and (4) *Qiyas* (precedent-based analogy)<sup>11,12,46-48</sup>. On issues where the aforementioned legal sources are ambiguous, jurists employ secondary principles albeit differences of opinion exist regarding their usage between the *madhhab* (schools of jurisprudence). Juristic principles, including *ijtihad* (independent legal reasoning), *istihsan* (preferential reasoning of jurists), *al-urf* (local customary precedent), and *al-masalih al-mursalah* (public interest or welfare) among others, have allowed a degree of flexibility and accommodated a diversity of pragmatic legal rulings based on social context. The rulings or *fatwa* (plural: *fatawa*) generated through *ijtihad* are case specific and not globally binding<sup>11,45,47,49,50</sup>. Disagreements (*ikhtilaf*) among jurists are seen in a positive light; legal texts record different juristic opinions on the same issue with a specific line of literature devoted to disagreements between jurists (*ikhtilaf al-fuqaha*). This juristic *ikhtilaf* is key to understanding the development of the Islamic legal tradition, and can provide an important juristic tool to interpreting *Shari'ah* Law as it pertains to health and medicine.

The plurality of opinions between, and within, Muslim schools of jurisprudence in ascertaining

the legal and the ethical is influenced by geographical and historical differences, cultural and societal diversity, prevailing customs, and the variety of political and administrative systems within which Muslims have existed<sup>9</sup>. Of note, however, under Islamic law "*ijtihad* is not reversible" (*al-ijtihad la yunqad*), meaning that one ruling of *ijtihad* is not reversed by another of differing opinion. This may generate uncertainty or confusion for patients as it pertains to topics such as those discussed in this manuscript, and explains why patients may have contrasting impressions of permissibility.

### ***Islam and Neurologic Criteria to Determine Death***

Devout Muslims often interpret dying within a religious framework, a normal process in one's natural lifecycle (*Sunnat al Hayat*)<sup>51</sup>. The Holy Qur'an emphasizes that death is both universal (Qur'an 3:156, 3:185, 29:57, 39:42) and predestined (Qur'an 40:67, 46:3), and thus occurs only with God's permission<sup>51</sup>. In 1985, the Islamic Organization for Medical Sciences (IOMS) and the Kuwait Foundation for Advancement of Sciences concluded that the Qur'an does not define death<sup>6</sup>. Even so, the Hadith offers some clarification (Table 3)<sup>52-54</sup>. In a Sunni Hadith narrated by Abo Huraira in *Sahih Muslim*, the Prophet Muhammad said: "Haven't you seen when a person dies his gaze stirs; they said "yes"; he said that's when his sight follows his soul." Other signs reported by Muslim scholars include cessation of breathing, loss of muscle tone, and drop in body temperature<sup>55</sup>. *Ijma'* and *qiyas* do not provide clarity, so the highest level of evidence available on this topic is through *ijtihad*.

No one religious body speaks for all of Islam, thus numerous ethical and legal opinions regarding DDNC exist<sup>56,57</sup>. Some have argued that while any organ function exists, the soul remains in the body, however such claims are seemingly at odds with existing *ijtihad* (Table 3). For example, at the 3<sup>rd</sup> International Conference of Islamic Jurists (1986; Amman, Jordan) of the Islamic Fiqh

Academy (IFA) of the Organization of Islamic Cooperation (OIC), medical specialists unanimously supported DDNC. Even so, the terminology of the final verdict generated many unanswered questions including: (1) which functions are vital; (2) which DDNC criteria are to be used; (3) what determines irreversible; (4) what level of certainty is required; (5) who makes the determination; (6) what level of training is required; and (7) how is brain degeneration to be determined?<sup>11,12,58</sup>.

In response to these and other questions, the IFA of the Muslim World League (IFA-MWL; Kingdom of Saudi Arabia; 1987) ruled that DDNC required agreement of three doctors<sup>59</sup>. However, their ruling was undermined by the stipulation that any legal consequences linked to death determination may only come into effect after circulation and respiration have stopped<sup>59</sup>. In other words, death by cardio-respiratory and neurologic criteria were explicitly not equated<sup>59</sup>. Subsequently, 5 of 6 identified fatwa supported the use of DDNC (Table 3)<sup>11,12,60</sup>. Lower levels of jurisprudence highlight how these rulings have been implemented on the public level. Any law based on the concepts of *al maslaha al ammah* or *al urf* should not contradict the *shara 'ah* concept of *Hifz-An-nafs* (saving life). Eleven of 13 surveyed Muslim majority countries had legislation supporting the use of DDNC (Table 3). Moreover, following the state ruling by Kuwait (opposed DDNC), the IOMS (Kuwait; 1985) rejected DDNC, declaring such persons to represent unstable life (dying but not dead)<sup>61</sup>. This was contrasted by the Islamic Medical Association of North America (IMANA; 2003) who not only accepted DDNC (similar to their parent country), but also clarified the issues of diagnostic certainty and level of physician training required to make the determination<sup>11,12,57</sup>.

### ***Islam and Hifz-An-nafs (saving life)***

Within Islamic circles, debates regarding the permissibility of organ transplantation and application of DDNC are deeply intertwined, and controversy exists within Islamic circles regarding the

*shara 'ah* concept of *Hifz-An-nafs* (saving life). Concern exists that premature death declaration could allow for organ harvesting for transplantation, thereby violating this concept. This relates to a passage from the Holy Qur'an Surah Al-Ma'idah (5:32):

“Because of that, We decreed upon the Children of Israel that whoever kills a soul unless for a soul or for corruption [done] in the land - it is as if he had slain mankind entirely. And whoever saves one - it is as if he had saved mankind entirely. And our messengers had certainly come to them with clear proofs. Then indeed many of them, [even] after that, throughout the land, were transgressors.”

Although this verse clearly is not exclusive to medical topics, it may be applicable to them. As such, Qur'an 5:32 may better be viewed as a lens through which to view DDNC and transplantation, rather than evidence to justify a viewpoint.

## **CONCLUSION**

In Jewish Law (Halacha), the Torah does not define death declaration criteria. The bulk of Talmudic law advocates the use of cardiopulmonary criteria and does not endorse DDNC. Catholic Church Canon Law and the Holy Scripture recorded in Bible's Old and New Testaments do not define death declaration criteria. Following the Council of Vienne, Saint Thomas's loss of integration view has predominated in the Catholic Church. Subsequent declarations by Pope John Paul II and Pope Benedict XVI have endorsed the cautious use of DDNC. Finally, among the 5 sources of Islamic law, only *Ijtihad* (the lowest level) addresses DDNC, with 5 of 6 identified non-binding fatwa supporting DDNC. Concern exists that premature death declaration could allow for premature organ harvesting for transplantation and violate the *shara 'ah* concept of *Hifz-An-nafs* (saving life). As such, DDNC remains accepted but debated by many Muslim scholars.

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