

Islamic E-Health: Definitions, Applications, and Challenges

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Abstract. The purpose of this exploratory study is to introduce the concept of Islamic E-health. The study defines Islamic E-health and discusses various applications of this concept. Data collection methods used for the study included interviews, Facebook, Google, and iTunes searches using a variety of Islamic E-health-related terms. The results show that some Islamic E-health applications focus primarily on spiritual health, followed by Hajj systems for surveillance and monitoring and the use of electronic medical records to monitor the blood glucose levels of Muslim patients who fast during the month of Ramadan. Future research and research limitations are also discussed.

Keywords. Islam, e-health, spirituality, healing, Ramadan, Hajj

Introduction

Information and communication technologies play a pervasive role in our lives. They impact how we communicate and interact with our families, loved ones, colleagues, friends, government, healthcare, and private institutions. In the healthcare domain, the use of information and communication technologies (ICTs) to improve clinical care and administrative decision-making has been referred to as e-health [1]. The primary goal of e-health is the use of the Internet and related applications to improve access to, efficiency of, and quality of care within healthcare with the goal of improving the health status of patients [2]. The discipline of e-health has existed for many years and includes an increasing number of multifaceted interventions that are aimed at improving health status through the use of information technology. One relatively unknown area of research within this domain is referred to as spiritual e-health. Spiritual e-health is the use of the internet and related technologies to improve the spiritual well-being of a patient [3]. Several studies have focused on the concept of spiritual e-health, but none have researched the role of e-health applications within the context of the Islamic spiritual belief system [3].

Spirituality plays a large part in Muslim daily life. Muslims are required to pray five times a day, fast during the holy month Ramadan, give to charity, and make a pilgrimage to the holy city of Mecca. Each of these religious obligations is a

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manifestation of the spiritual Muslim belief system. As part of the healing process, Muslims believe that prayer, supplication, recitation from the holy book, the Quran, and other religious rituals can help in improving health. Muslims are also taught through prophetic teachings that fasting during Ramadan can help to improve health. There are many public health issues during the month of Hajj, when millions of Muslims from around the world gather in Mecca to fulfill their religious obligations.

The country of Saudi Arabia, the birth place of the Islamic faith, has significant concerns about Muslim daily life. For example, all public hospitals in Saudi Arabia have Islamic religious affairs departments that help to provide religious guidance, education, and spiritual healing to patients. In addition to establishing various places of worship, these religious departments use technologies such as web pages, SMS messaging and web-based information to assist in the patient care process. Furthermore, users on social networking sites such as Facebook have developed spiritual healing groups for Muslims.

The holy month of Ramadan and the Hajj pilgrimage are two important annual Islamic events that affect the spiritual and physical health of Muslims. During the holy month of Ramadan, it is obligatory for Muslims to fast. Patients who decide to fast are likely to be monitored by their primary care physicians using technologies such as electronic medical records to monitor blood sugar levels. During the Hajj season, when more than two million worshippers converge on Mecca from more than 180 countries, public health issues related to communicable diseases have become a significant concern, and various public health information systems are employed to monitor disease outbreaks.

Given the uses of information and communication technology to support Islamic spiritual practices, the purpose of this exploratory paper is to define Islamic e-health and to describe its applications and future development.

1. Definition of Islamic E-Health

This paper proposes the following working definition of Islamic e-health:

“The application and use of information and communication technologies to monitor and support Islamic spiritual health practices with the goal of improving Muslims’ spiritual, mental, and physical health status.”

The above definition takes into consideration the use of information and communication technologies, such as the internet, electronic medical record systems, public health information systems, and mobile health technologies that can be used to help monitor and support the spiritual, mental and physical health status of practicing Muslims.

2. Methodology

Data collection, including interviews and internet searches, began in November 2011 and ended in January 2012. The interviews included one interview with hospital religious affairs personnel in Saudi Arabia that lasted 120 minutes, a brief 10-minute interview with one family care physician, and two separate 10-minute interviews with one public health expert and one health informatics expert in Saudi Arabia.

Internet and social media sites, such as Facebook and the Apple iTunes Store, were searched using terms such as Islamic healing, ruqya (spiritual healing), fatwa (Islamic Law), Hajj, Ramadan, informatics, electronic medical record, public and health informatics. Various results were returned through Facebook groups, through the Google Search engine and through the Apple iTunes store.

3. Results: The Application of Islamic E-health

3.1. Spiritual Healing

Most of the Islamic e-health interventions that were identified were related to education and information on spiritual healing. In Islam, spiritual healing is referred to as Ruqya and is a form of supplication that is supposed to protect and heal. A Muslim can perform Ruqya on himself or on others [4]. Ruqya was used by the Muslim Prophet Muhammad, Peace Be Upon Him (This is a supplication that a Muslim performs when mentioning the name of the Muslim Prophet), and Ibn Alqayyim, a 13th-century Muslim scholar, said, "Ruqyah is one of the greatest remedies that the believer should use regularly." [4] A prophetic tradition collected by Muslim, a famous collector of authentic Muslim prophetic sayings, narrates the following story [4]:

Uthman complained to the Messenger of Allaah (Peace be Upon Him) about pain that he had felt in his body from the time he had become Muslim. The Messenger of Allaah said to him: "Put your hand on the part of your body where you feel pain and say 'Bismillaah (in the name of Allaah) three times, then say seven times, 'I seek refuge in the glory and power of Allaah from the evil of what I feel and worry about'."

Google web searches identified various sources of information in English on how to perform Ruqya, such as Islam Q&A, which provides detailed descriptions of how to correctly perform Ruqya, its benefits, and some common misconceptions. Several Facebook groups on Islamic spiritual healing were found, such as the Islamic Spiritual Healing group. Various iPad applications, such as Ayat Ruqya, list religious supplications and how to perform them. Furthermore, within Saudi Arabia, religious affairs departments perform Ruqya on patients who request these services. However, patients are informed that the service is complementary to the medical treatment they receive.

3.2. Hajj

Hajj is a religious obligation for Muslims that was prescribed by God at the time of the Prophet. Muslims believe that its roots date to the time of the Prophet Abraham. Every Muslim who is financially and physically able to perform Hajj is required to do so once in his or her lifetime. Every year, approximately 3 million Muslims converge in Mecca, Saudi Arabia, to fulfill this important religious obligation. In the Quran, God says, "And Hajj (pilgrimage to Makkah) to the House (Ka'bah) is a duty that mankind owes to Allaah, those who can afford the expenses (for one's conveyance, provision and residence) [5]."

Much of the information related to Hajj was found through Google and through interviews conducted with various public health and informatics experts within the

field. The results show that health information systems are used intensively during the Hajj period to control the flow of pilgrims, to track movement, and for health surveillance. Yamin discusses a framework for the use of information systems to improve Hajj management [6]. The author suggests the use of information technology for 1) collecting information on pilgrims and providing them with RFID tags; 2) processing pilgrims and collecting additional matching information; 3) installing wireless remote sensors; and 4) processors and display screens. The author argues that these methods will help to reduce wait times at airports, track the movements of individuals, contain the spread of disease, improve future planning and assist in tracking illegal immigrants.

3.3. Ramadan

Ramadan is a holy Muslim month in which it is obligatory for every healthy Muslim to avoid eating from sunrise to sunset. God revealed the following in the Quran [7]:

“The month of Ramadan [is that] in which was revealed the Qur'an, a guidance for the people and clear proofs of guidance and criterion. So whoever sights [the new moon of] the month, let him fast it; and whoever is ill or on a journey - then an equal number of other days. Allah intends for you ease and does not intend for you hardship and [wants] for you to complete the period and to glorify Allah for that [to] which He has guided you; and perhaps you will be grateful.”

Participants in this study noted that Muslims living with diabetes are significantly affected by fasting during the month of Ramadan. The participants noted that diabetic Muslim patients are encouraged to fast and follow a prescribed regimen in which the patient takes a full dose of medication prior to breaking the fast and one half of a dose prior to beginning the fast before sunrise. During this month, diabetic patients are monitored, and their blood test results are transferred to an electronic medical record that helps their family physicians track fasting patients' blood glucose levels. The interviewed participants did not mention any other benefits to patients from the use of information technology during Ramadan.

3. Discussion

This exploratory study defined the concept of Islamic e-health and surveyed some of the existing applications that support this concept. This study revealed that the primary focus of Islamic e-health has been spiritual health, followed by Hajj systems and Ramadan. Information technology may provide significant benefits for Muslims' connections for spiritual guidance, improvements to Hajj systems and the use of technologies such as the EMR to monitor Muslim patients who fast during Ramadan. This research is exploratory and examines some of the relevant issues related to Islamic e-health.

4. Limitations and Future Research

The study has several limitations worth mentioning. The numbers of interviewees were small and could have been expanded to include other stakeholders, such as patients and

clinicians. Furthermore, the searches on Google and Facebook were performed in English. Arabic searches would reveal more information on this topic.

Future research should focus on developing and studying the impacts of Islamic e-health applications on health-related outcomes. Other research could focus on the development of Islamic health privacy and confidentiality guidelines, the impacts of virtual Ruqya on spiritual and mental health, the use of Hajj and Umra information systems, and the use of telehealth for Hajj and Ramadan. Furthermore, to improve future Islamic e-health services, religious authorities should monitor and develop guidelines for the development of Islamic e-health applications. This process will provide credibility to the field and will assist in advancing this research discipline.

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Islamic e-business; e-commerce; technology communications; Islamic banking institutions; Islam. E-business is a growing application that needs to be given a proper attention by Muslim businesses. In this study, Islamic e-business is introduced. E-business is defined as the practice of performing and coordinating critical business processes through the extensive use of computer and communication technologies and computerized data (Alter, 2002). In view of the definitions as above, Islamic e-business provides a number of benefits to those who are using it. First, it offers convenience of doing business transactions since it has 24 hours operation. Second it offers quicker ways of doing business transactions as it also complements the traditional way of doing business transactions. eHealth (also written e-health) is a relatively recent healthcare practice supported by electronic processes and communication, dating back to at least 1999. Usage of the term varies. A study in 2005 found 51 unique definitions. Some argue that it is interchangeable with health informatics with a broad definition covering electronic/digital processes in health while others use it in the narrower sense of healthcare practice using the Internet. It can also include health applications and links on Finally, the challenges of EHR implementations in the healthcare environment and current research topics will be highlighted. Keywords: Electronic Health Records (EHR), E-Health Systems, Clinical Decision Support Systems (CDSS), Data Mining (DM) Techniques. E-Health can improve the traditional services delivery and channels of communication for the aim of providing individuals with all services they need [3]. Additionally, e-health systems encourage patients to be involved in making accurate health decisions, and also empower the communication between patients and physicians [4]. E-Health involves various systems or services that are at the edge of healthcare and. technology.