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The impact of teachings on sexuality in Islam on HPV vaccine acceptability in the Middle East and North Africa region

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Doctor of Dental Medicine Faculté de Médecine Dentaire, Université de Monastir 2013

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Abstract

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and North Africa region

By Sabrine Hamdi

On a global scale, HPV is considered one of the most common sexually transmitted infections. The HPV vaccine is the recommended prevention strategy. The introduction and the acceptability of the vaccine remain controversial. Among the main reasons behind the controversy is the relationship between sexual activity and HPV infection. (CDC, 2015; Gamble 2010).

This thesis examines the impact of teachings on sexuality in Islam on HPV vaccine acceptability in the Middle East and North Africa (MENA) region, specifically the countries where Arabic and Islam are articulated as the official language and religion, respectively, in each country's constitution.

In those countries, Islam helps shape the practices and habits of Muslims including sexual and reproductive health. From an Islamic perspective, sex is indeed regarded as a holy activity and a human need that should be satisfied in a lawful and appropriate manner with legitimate partners. Thus, many sexually transmittable diseases can be prevented if the rules of Islam were unfailingly respected and applied by Muslims in MENA countries. However, findings suggest that Arab and Muslim societies are experiencing deep changes in gender relations and sexual life, where the youth's sexual behavior is noticeably shifting. The occurrence of non-traditional sexual practices, whether extramarital or premarital, has dramatically increased (Ali, 2006). It is an era characterized by tension, perplexity, doubt and confusion induced by veering sexual codes and norms and the questioning of religious ethics (Khalaf et al., 2006). This dissension is aggravated and intensified by the changing modern world marked by globalization, communication and interconnectedness. In addition, several Muslim societies are in denial and reluctant to address this phenomenon.

This drastic behavioral change in Muslim societies, including those in the MENA region, might increase the incidence rates of sexually transmitted diseases in the long term, particularly of HPV and related diseases (Seoud, 2012; El-Kak, 2013). Efforts to encourage increased vaccination against HPV will have a greater likelihood of success when the complex relationships among religion, sexuality, gender, and culture are understood.

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Chapter 1: Introduction

Human Papilloma viruses (HPVs) are a group of viruses in the family of Papillomaviridae, and they include more than 150 types (CDC, 2014), which are classified into categories based on their oncogenicity. On a global scale, HPV is considered to be one of the most common sexually transmitted infections (STIs). The HPV vaccine is the recommended prevention strategy. The introduction and the acceptability of the vaccine remain controversial. Among the main reasons behind the controversy is the relationship between sexual activity and HPV infection. (CDC, 2015; Gamble 2010).

MENA region countries are considered to be conservative regarding sexual behaviors compared to the countries in the West, because they have more traditional religious and social norms (Vaccarella et al., 2013). Islam helps shape people's practices and habits, including sexual and reproductive health, and imposes that sex be carried out within the context of marriage (El-Kak, 2013). Nonetheless, some studies show that cases of STIs in the MENA region are higher than reported (Seoud, 2012). These factors align to create barriers for accessing the HPV vaccine for those in the MENA region who might benefit from vaccination.

This study examines the teachings in the sacred texts of Islam that influence these cultural contexts and surveys perspectives from scholars in the field of religious studies to describe the tensions that exist in Muslim cultures in the areas of gender equity and sexuality. Understanding the influence of these texts and the function of these tensions can help illuminate the factors that contribute to barriers to accessing the HPV vaccine.

1.1 Methodology

This thesis is a systematic review of the literature. Data on HPV epidemiology were collected through keyword searches using Science Direct and PubMed as search engines and a subject matter research librarian provided assistance in mining the relevant literature in the field of religious studies. English, Arabic and French literature were collated and examined.

Studies and articles published in peer-reviewed in scientific and religious studies journals; reports published by organizations including the WHO, CDC and UNICEF; interpretations of verses from the Islamic Holy book the Quran and the Hadith (reported sayings of the Prophet of Islam Muhammad peace be upon him); books written by anthropologists and theologians; and the constitutions of the 20 countries in the Middle East and North Africa region, as defined by UNICEF, were examined.

The first phase of review narrowed the focus to 15 MENA countries: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, Palestine, Tunisia, United Arab Emirates (UAE), and Yemen based on inclusion criteria of Arabic as an official language and Islam as the official religion as specified in each country's constitution.

Chapter 2: Overview and the Global Burden of the Human Papillomaviruses

Human papillomaviruses (HPVs) are a group of viruses in the family of papillomaviridae that include more than 150 types (CDC, 2014). The viruses are assigned numbers in order of their discovery (CDC, 2007) and are classified into categories based on their oncogenicity (ability to engender tumors). Types are distinguished between oncogenic – those that cause cancer (also called high-risk) – and non-oncogenic (also called low-risk) (CDC, 2014; Zenilman, 2012).

Although infections are asymptomatic and self-limited (CDC, 2007), persistent genital HPV infection caused by non-oncogenic types can result in benign or low-grade cervical cell modifications, genital warts in both genders, and recurrent respiratory papillomatosis (tumor growth in the respiratory tract). Ninety percent of genital wart lesions are caused by types 6 and 11 (Zenilman, 2012).

On the other hand, according to the Centers for Disease Control and Prevention (CDC), cervical cell abnormalities, whether low-grade or high-grade (precursors to cancer and cancers), are caused by high-risk types (CDC, 2014). A minimum of 13 types of HPV are oncogenic, and it is estimated that those viruses cause 90% of the cases of anal cancer, 40% of cancers of the external genitalia (vulva, vagina, and penis), and a minimum of 12% and 3% of oropharyngeal and oral cancer cases, respectively (World Health Organization, 2007). In addition, all cases of cervical cancer in women are attributed to HPV viruses, 70% of which are primarily caused by types 18 and 16 worldwide. According to the World Health Organization (WHO), over 85% of cervical cancer deaths occur in developing countries (World Health Organization, 2010). On a global scale, HPV is considered to be one of the most frequent sexually transmitted infections. Africa and Latin America have a higher prevalence than Europe, North America and Asia (Tota

et al., 2011). A meta-analysis of studies conducted on women revealed that the prevalence is 11.7 % (Fig1) (Forman et al., 2012).

Figure1: HPV prevalence among women with normal cytology: Meta-analysis based on results from 1,016,719 women (Forman et al., 2012)



2.1 Transmission and Risk Factors

Genital contact is the principal route of transmission of HPV infections, most frequently occurring through sexual intercourse. In addition, intimate non-penetrative contact such as genital-oral, genital-manual, and genital-genital are other uncommon routes (CDC, 2014). Sexual transmission seems to be related to number of sex partners, the early age of sexual intercourse, and previous diagnosis with sexually transmitted infections (STIs) (Gavillon et al., 2010). A vertical transmission from an infected mother to her infant during delivery is a rare nonsexual route of HPV transmission (Park, 2012).

Potential transmission routes	Theoretical transmissibility	Real impact on HPV contamination
Sexual Transmission	+++	+++
Sexual relation with vaginal or anal penetration	+++	+++
Genitoanal penetration for male	+++	++
Genitoanal penetration for female	+++	+
Sexual relation without penetration	++	+
Oro-genital penetration	++	+
Non sexual transmission	+	+
Transmission through clothing and contact surfaces (medical instruments, hands)	+	±
Maternofetal transmission	+	+
Vertical antenatal maternofetal transmission	+	±
Peripartum transmission	++	±
Post-partum transmission	+	±
Breast milk transmission	±	-
Blood Transmission	-	-

Table1: Transmission routes of HPV (Gavillon et al., 2010)

Below are some risk factors for HPV infection, such as smoking, sexual behaviors, demographic characteristics, and immunosuppression (Zenilman, 2012).

Table2: Risk factors for HPV among sexually active female patients aged 18 to 25 years (Gavillon et al., 2010)

Characteristics of patients	Prevalence Ratio (PR)	Confidence Interval (95 % CI)
Single	1.69	1.87 - 2.09
Ever smoked	1.17	1–1.37
Ever used marijuana	1.22	1.05 - 1.41
Ever used drugs(cocaine, heroin)	1.24	1.03 - 1.5
First sexual intercourse < 16 years old	1.2	1.02 - 1.41
Number of different previous sex partners		
1	1	1.12-2.18
2	1.56	1.69–2.87
>3	2.20	
Recent new sex partner (< 1 year)	1.68	1.22–2.29

2.2 Treatment

2.2.1 Warts

There is no treatment for HPV infection itself, but rather for its clinical symptoms. The treatment, prescribed by clinicians, if the warts do not resolve spontaneously, varies from case to case and is based on patients' request for affordability, availability, practicality, or convenience (CDC, 2015; Zenilman, 2012). In the case of recurrent respiratory papillomatosis or some anogenital warts, surgical procedures and/or medical treatment is an option (CDC, 2015).

2.2.2 Cancer

Biopsy is the most efficient way to diagnose cancer. The treatment depends on many factors, such as the stage of the cancerous lesion, age, and concern about protecting fertility. The treatment can range from simple follow up and observation (early stage), to the removal or destruction of the abnormal tissues (medium stage), to surgery, radio and/or chemotherapy (invasive stage) (Zenilman, 2012).

2.3 Prevention

Recommended preventive measures include using condoms appropriately and regularly, having a reciprocally monogamous relationship, and reducing the number of sex partners; however, abstinence remains the method with greatest efficacy for prevention. The HPV vaccine is the recommended prevention strategy. Several countries are introducing the vaccine mainly to prevent infection with viruses type 16 and 18. They aim to decrease the incidence of cervical cancer, and thus, mortality. The primary target is teenagers aged 11 or 12 years (CDC, 2015). The World Health Organization recommends the vaccine for males and females through the ages of 21 and 26, respectively, and a "catch-up vaccine" for adults with risk factors if they are unvaccinated (National Institute of Health, 2015).

The introduction and the acceptability of the vaccine remain controversial; however, based on clinical trials and surveillance data, the vaccine is known to be harmless and effective (CDC, 2015; WHO 2010). Among the main reasons for the controversy around the vaccine are uncertainty about its adverse and long term effects, its impact on fertility (Bingham et al., 2009), and the belief that HPV infection concerns those who are sexually active (CDC, 2015; Gamble 2010).

Chapter 3: HPV in the MENA Region Context

3.1 Defining the Middle East and North Africa Region

The geographical area of interest is the Middle East and North Africa (MENA) region. According to UNICEF, this region includes the following 20 countries: Algeria, Bahrain, Djibouti, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Palestine, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates (UAE), and Yemen (UNICEF, 2015).





In order to narrow the focus in the MENA region itself, there were two inclusion criteria – the official language and religion as articulated in each country's constitution. The focus is on those countries in which Arabic is the official language (thereby excluding Iran and Djibouti) and in which Islam is the official state religion (thereby excluding Lebanon, Sudan, and Syria) (Presidency of the Republic of Lebanon, 2012; National Legislative Bodies, 2005; Voltaire Network, 2012). Language and religion are crucial in establishing cultural linkages and similarities among the remaining 15 countries, namely Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, Palestine, Tunisia, United Arab Emirates (UAE), and Yemen.

Among the crucial facets of culture there is language; the latter cannot be detached from culture and social interaction (Zlatev et al., 2015). In qualitative studies, it is common to lose the essence of data when transcribing and translating in-depth interviews from another language; thus, the commonality of a language is a key factor in understanding and conveying the truth about a culture (Temple, 2002; United Nations, 2006). As Zlatev et al. point out, "the mastery of a language is embedded in, and in important ways formative of, one's cultural background." (Zlatev et al., 2015).

The importance of the Arabic language itself can be gauged on various levels. It is one of the Semitic languages associated with the earliest civilizations in the Horn of Africa, Mesopotamia, and the Levant, and is at the root of the world's first main religions, including Islam (Kitchen, 2009). Arabic is the language in which the holy Qu'ran -the book of Islam (the third Abrahamic religion)- is written. The language is spoken by over 200 million native speakers, and has been the sixth official and procedural language of the United Nations' General Assembly and principal commissions since 1973 (Carter, 2006; United Nations, 2006).

Similarly, religion is an ancient human institution that has an undeniable impact on individuals and societies. It gives a meaning to people's lives by providing answers to many of their existential questions. It also opens doors for personal behavior change, connection with fellow humans and mutual growth (Garden, 2002). It has been asserted that, in many part of the world, Islam has been a force for homogenizing and harmonizing societies on cultural and moral levels, and the establishment of standardized central beliefs and values (Geertz, 1971; Esposito et al., 2013). Islam opposes any sort of scattering that might lead to the disunity of the Muslim community and universe (Abu-Rabi, 1995).

Since religion serves as a unifying cultural force and political and social stabilizer, it is an important factor for determining common cultures and ethnic identities across a geographic region (Geertz, 1971; Burnell et al., 2014). The establishment of Islam as the official religion of a nation according to its constitution acknowledges the significant role played by religion and demonstrates both its cultural and political importance for the countries that are the focus of this study and (Esposito et al., 2013).

3.2 Burden of HPV in the MENA Region

Several investigations have identified particular geographic areas linked to HPV-induced cancers and the prevalence of the infection itself. Nonetheless, the countries in the Middle East and North Africa were neither highly represented nor covered by many of those studies, leading to a shortage in data vis a vis the burden of HPV and related cancers there (Al Moustafa et al., 2014). According to Seoud, some studies have shown that HPV rates go up to 25%, 88%, 80%, 100% and 98% in low-risk women with normal cytology, genital warts, low-grade pre-invasive lesions, high-grade lesions and invasive lesions, respectively (Seoud, 2012). The incidence of cervical, anal and genital cancers remains low.



Figure 3: Age-standardized incidence rates of cervical cancer in the world, estimations for 2012 (HPV Information Center, 2014)

ASR, age-standardized incidence rates; Rates per 100,000 women per year.

The map shows that the age standardized rates of cervical cancer in the MENA region are low compared to other regions, ranging from less than 7.96 per 100.000 women per year to less than 19.90 per 100.000 women per year.

In addition, assessment of HPV prevalence is difficult because screening is uncommon and there are insufficient regular national cancer registries (Vaccarella et al., 2013). For example, in Bahrain, Libya, Oman, Palestine, and Qatar, no studies were conducted to detect the presence of high-risk HPVs in human cervical cancers. On the other hand, scarce studies explore its prevalence in Algeria, Egypt, Jordan, Kuwait, Morocco, Tunisia, and the United Arab Emirates, (Al Moustafa et al., 2014; Seoud, 2012).

Country	Assay	Group/sample tested	Age, mean/median (range), y	Sample size	HPV types detected (%) ^a
HPV and ce	rvical ca	ncer in North Africa			
Algeria	PCR	Hospital-based cervical cancer	52 (30-88)	198	HPV (97.7); HPV-16 (62.3), HPV-18 (15.6)
	PCR	NA	NA	183	HPV (96.2); HPV-16 (59.6), HPV-18 (17.5)
Egypt	PCR	Hospital-based cervical cancer	51 (38-65)	30	HPV-16 (73.3)
Morocco	PCR	Cervix biopsy	49.7 (21-73)	186	HPV (94.6); HPV-16 (71.6), HPV-18 (8.5)
	PCR	Cervix biopsy	51	102	HPV (61); HPV-16 (48), HPV-18 (17)
	NA	NA	NA	152	HPV (94.7); HPV-16 (58.6), HPV-18 (8.6), HPV-45 (5.3), HPV-32 (2.6), HPV-59 (2), HPV-52 (1.3)
	PCR	Cervical cancer biopsy	61 (34-88)	89	HPV (92); HPV-16 (37), HPV-18 (20), HPV-16 + 18 (21), HPV-16 + 45 (9), HPV-16 + 18 + 45 (2), HPV-16 + 18 + 45 + 59 (2), HPV-18 + 45 (1)
HPV and ce	rvical ca	ncer in the Middle East			
Jordan	PCR	Paraffin blocks of cervical cancer	45-49 (37-80)	48	HPV (85); HPV-16 (68.3), HPV-18 (24.4), HPV-39 (9.8), HPV-56 (9.8), HPV-45 (7.3), HPV-52 (7.3), HPV-33 (4.9), HPV-31 (2.4), HPV-35 (2.4)
HPV and ce	ervical ca	ancer in the Gulf states			
UAE	PCR	HSIL, LSIL, and ICC	NA	370 including nor Pap, HSIL, LSIL ^b	nal HPV HR (87)

Table 3: HPV and invasive cervical cancer in the Middle East and North Africa (Seoud, 2012)

PCR indicates polymerase chain reaction; NA, not available/nonapplicable; ISH, in situ hybridization; HSIL, high-grade intraepithelial lesion; HR, high risk; LSIL, low-grade intraepithelial lesion; ICC, invasive cervical cancer. Where possible, the overall percentage positive HPV is given with HPV-type-specific percentage among the positives.

^bThe number of ICC cases only was not available.

The prevalence of HPV in pre-invasive cervical lesions ranges from 50% to 100% in North Africa (Algeria, Egypt, Libya, Morocco, and Tunisia), from 32% to 66% in the Middle East (Jordan, and Palestine), and from 37% to 67% in the UAE. While in the case of benign genital warts the prevalence was 84.4% to 87.5% for Tunisia (Seoud, 2012).

While studies have shown that HPV is not highly prevalent and that its induced cancers present low rates in the general population of the MENA region (Seoud, 2013), the prevalence itself of such an STD is a public health issue. Moreover, in the near future, this issue may constitute a public health threat that needs to be tackled promptly. It has been noted that the majority of women in the region do not have access to the preventive services such as the "Papanicolaou test" (Pap test), which allows for the early detection of cells abnormalities, or to preventive vaccines against the high-risk HPV types (16 and 18) (Moustafa et al., 2014). Adopting HPV vaccinations would be a feasible intervention, recognizing that the majority of the countries in the region have already efficacious established vaccination delivery programs (Seoud, 2012).

3.3 HPV in the Cultural Context

MENA region countries are considered to be conservative regarding sexual behaviors compared to the West, because they have more traditional religious and social norms (Vaccarella et al., 2013). Islam shapes people's practices and habits, including sexual and reproductive health and imposes that sex be carried out within the context of marriage (El-Kak, 2013). Cases of sexually transmitted infections (STIs) in the MENA region are thought to be higher than reported (Seoud, 2012). Consequently, there exists a false belief that STIs are rare in that region (Seoud, 2012).

The MENA region has the second youngest population in the world, with 90 million people aged 15–24 years (El-Kak, 2013). Despite reports that the age of sexual debut is highly correlated to the incidence of HPV globally, there is not sufficient data apropos sexual debut in the MENA region because the topic is perceived as a taboo; however, the age is estimated to be between 19 to 23 years old (Seoud, 2012; 2013). Compared to precedent evaluation, the percentage of youth who are engaged in pre-marital sexual activities is increasing (El-Kak, 2013). Taking into account interconnection and globalization, whether through the Internet or the ease of travel, youth in the MENA region are more open to the influences often perceived to originate in Western cultures, including sexual behaviors (Seoud, 2013; El-Kak, 2013).

It has also been reported that the age of marriage is delayed for both sexes and the number of people getting married at a young age is declining (El-Kak, 2013). All those factors

offer evidence that standard socio-sexual behaviors are drastically changing in the MENA region, particularly among the younger generation, which may, in the long term, increase STDs' transmission and incidence, particularly of HPV and related diseases (Seoud, 2012; El-Kak, 2013).

Mental and physical health are affected by religion, which plays a protective role in hindering the occurrence of diseases (Borges et al., 2015). In addition, the perception and understanding of diseases and the acceptance or refusal of certain treatment techniques or preventive measures is significantly impacted by religion (Cronjé et al., 2015). On the other hand, in the case of HPV preventive measures, it has been asserted that conservative cultural and religious views may constitute barriers to their acceptance. For instance, qualitative studies have shown that among parents' principal concerns are discussing sexual activity with their children, and the perception that a consent to vaccinate is a tacit encouragement to become sexually active (Holman et al., 2014). Studies conducted in Britain have shown that acceptance of the vaccine was less likely among adolescents who are practicing Muslims. Ethnic differences in HPV vaccine acceptability were gauged in a British study. The latter revealed that sex-related concerns such as premarital sexual activity were the reason given by 20% of Muslim Pakistani mothers compared to 2% of the white British ones for declining vaccination. (Bingham et al. 2009; Jumaan et al., 2013).

Chapter 4: Islam and Sexual behavior

4.1 Islam and Sexual behavior in the Holy Qu'ran

4.1.1 What is the Holy Qu'ran?

The Holy Qu'ran is the primary book of Islam, the third Abrahamic religion (Carter, 2006). It is considered to be a divine message (Bouhdiba at al., 1998). It is considered by Muslims to be the ultimate message of God to the entire human race revealed in the year 610 over a period of 23 years to the Prophet Muhammad (Peace Be upon Him) through the angel Gabriel (Institute Al-Islam website, 2015; Sacred texts website, 2015). As a sacred text for Muslims, the Holy Qu'ran is not primarily a book of rules, but instead it serves as guidance, stimulation to the minds and souls, and a proof of God's marvels. It is a reminder of the existence of the creator and how generous, merciful, and fair he is (Ali, 2006).

The Qu'ran is written in Arabic and is composed of 114 suras, which are equivalent to chapters or sections. Depending on the revelation's period – prior to or after the Prophet's migration to the city of Al Medina – the suras are either Meccan or Medinan (McAuliffe, 2015). Each section or sura incorporates many verses called ayat in Arabic, which means sign or evidence from the creator, God. The verses vary in number from one sura to another; the total number is 6,236. (McAuliffe, 2015).

4.1.2 Sexuality in the Qu'ran

According to Bouhdiba, sexual intercourse is a universal law upon which the body and soul agree, and in which the couple engages in order to ensure the continuity of human kind (Bouhdiba at al., 1998). Copulation is indeed perceived even in the sacred book, the Qu'ran, as

an act of pleasure and interdependence. It is a sign (*aya*) that illustrates the creator's power (Bouhdiba at al., 1998). "*O mankind! reverence your Guardian-Lord, Who created you from a single Person, created, of like nature, his mate, and from them twain scattered (like seeds) countless men and women; - reverence Allah, through Whom you demand your mutual (<i>rights*), *and (reverence) the wombs (that bore you): for Allah ever watches over you.*" (Qu'ran, Surah 4, verse 1. (Ali, 2001)). The concept of pair (*zawj*) is central to life and procreation according to this interpretation of the Qu'ran. For Muslims, it is the cornerstone of everything (Bouhdiba at al., 1998) as the following Quranic text states: "Glory to Allah Who created in pairs all things that the earth produces as well as their own (human) kind and (other) things of which they have no knowledge." (Qu'ran, Surah 36, verse 36. (Ali, 2001)).

Taking into consideration the social nature of human beings, as well as the fact that sex is both a private activity, and an embedded social activity, the practice of sexual relations across cultures and societies occurs within a framework that is often subject to strict interpretations and regulations (Bouhdiba at al., 1998; Ali, 2006). In fact, according to some Muslim scholars (Ali 2006) teachings about appropriate sexual behavior apply not only to Muslim societies, but are, in fact, universal.

From this framework, the story of the primal couple in the Qu'ran is the exemplification of sexuality's social meaning (Bouhdiba at al., 1998): "It is He Who created you from a single person, and made his mate of like nature, in order that he might dwell with her (in love). When they are united, she bears a light burden and carries it about (unnoticed). When she grows heavy, they both pray to Allah their Lord, (saying): "If You give us a goodly child, we vow we shall (ever) be grateful." (Qu'ran, Surah 7, verse 189. (Ali, 2001)). As the couple disobeyed God and tasted of the forbidden tree, they became conscious of their nudity and their private

body parts; this incident proved to be the case of the sexual truth. The interconnection between the notions of shame, nakedness, violating God's commands, as well as its consequences is to be noticed (Bouhdiba at al., 1998).

From a Quranic perspective, sex is indeed regarded as a holy activity and a human need that should be satisfied in a lawful and appropriate manner with legitimate partners – namely spouses or slaves ("*what one's right hands possess*") (Ali, 2006). For men, the number of their lawful partners can go up to four spouses and an infinite number of slaves, while women are sexually committed to one man at once, whether the husband or the master. On the one hand, abstaining from all sort of sexual intercourse outside of the legitimate (*halal*) frame for both sexes reflects purity and high morals. On the other hand, any unlawful (*haram*) practices (*zina*) are sins, which deserve punishment during life on earth and after death (Ali, 2006). Regardless of the uneven number of licit partners for Muslim males and females, the punishment clearly stated in the Qur'an is the same: 100 lashes, in case the crime of *zina* has been confirmed by four witnesses (Ali, 2006). In the Qu'ran, around twenty-seven verses are dedicated to the denunciation of the unlawful sexual relation (*zina*) (Bouhdiba at al., 1998).

Торіс	Quranic Citation	Verses
Unlawful	Surah 24, verse 2	"The woman who commits zina and the man who
Relationship		commits zina, lash each of them one hundred lashes. Do
(Zina)		not let pity deter you in a matter ordered by God, if you
		believe in God and the Last Day."
	Surah 25, verses 68-	"Those who do not invoke, with Allah, any other god,
	70	nor slay such life as Allah has made sacred, except for
		just cause, nor commit fornication; - and any that does
		this (not only) meets punishment; (But) the Penalty on
		the Day of Judgment will be doubled to him, and he will
		dwell therein in ignominy; Unless he repents, believes,
		and works righteous deeds, for Allah will change the
		evil of such persons into good, and Allah is Oft-
		Forgiving, Most Merciful,"
	<u>G 1 17 22</u>	
	Surah 17, verse 32	"Nor come near to adultery: for it is a shameful (deed)
	<u>Securit</u> 42	and an evil, opening the road (to other evils)."
	Surah 42, verse 35	"But let those know, who dispute about Our Signs, that
	Surah 70 mars 21	there is for them no way of escape."
	Surah 70, verse 31	"But those who trespass beyond this are
	Surah 24, verse 3	transgressors;" "Let no man guilty of adultery or fornication marry any
	Suran 24, verse 5	but a woman similarly guilty, or an Unbeliever: nor let
		any but such a man or an Unbeliever marry such a
		woman: to the Believers such a thing is forbidden."
	Surah 24, verses 4-	And those who launch a charge against chaste women,
	11	and produce not four witnesses (to support their
	11	allegations), - flog them with eighty stripes; and reject
		their evidence ever after: for such men are wicked
		transgressors;-Unless they repent thereafter and mend
		(their conduct); for Allah is Oft-Forgiving, Most
		Merciful.; And for those who launch a charge against
		their spouses, and have (in support) no evidence but
		their own, - their solitary evidence (can be received) if
		they bear witness four times (with an oath) by Allah that
		they are solemnly telling the truth; And the fifth (oath)
		(should be) that they solemnly invoke the curse of Allah
		on themselves if they tell a lie ;But it would avert the
		punishment from the wife, if she bears witness four
		times (with an oath) by Allah, that (her husband) is

Table 4: Quranic verses with related citation (Ali, 2001; Ali, 2006)

		telling a lie;And the fifth (oath) should be that she solemnly invokes the wrath of Allah on herself if (her accuser) is telling the truth.;If it were not for Allah's grace and mercy on you, and that Allah is Oft- Returning, full of wisdom, - (you would be ruined indeed).;Those who brought forward the lie are a body among yourselves: think it not to be an evil to you; on the contrary it is good for you: to every man among them (will come the punishment) of the sin that he earned, and to him who took on himself the lead among them, will be a Penalty grievous."
Lawful Relationship	Surah 2, verse 187	"Permitted to you, on the night of the fasts, is the approach to your wives. They are your garments and
and Chastity		you are their garments".
	Surah 70, verses 29-	"And those who guard their chastity; Except with their
	30	wives and the (captives) whom their right hands possess, - for (then) they are not to be blamed"
	Surah 4, verse 3	"marry women of your choice, two, or three, or four;
	,	but if you fear that you shall not be able to deal justly
		(with them), then only one, or (a captive) that your right
		hands possess that will be more suitable, to prevent you
		from doing injustice."
	Surah 23, verses 1-7	"The Believers must (eventually) win through, Those
		who humble themselves in their prayers; Who avoid
		vain talk; Who are active in deeds of charity; Who
		abstain from sex; Except with those joined to them in
		the marriage bond, or (the captives) whom their right
		hands possess, - for (in their case) they are free from
		blame, But those whose desires exceed those limits are
	G	transgressors;"
	Surah 33, verse 35	"Muslim men and Muslim women, believing men and
		believing women, devoutly obedient men and devoutly
		obedient women, truthful men and truthful women, patient men and patient women, humble men and
		humble women, charitable men and charitable women,
		men who fast and women who fast, men who protect
		their chastity and the women who protect their chastity,
		and men who remember God frequently and women who
		remember God frequently, God has prepared for them
		forgiveness and a great reward."
	Surah 60, verse 12	"O Prophet! When believing women come to you to take
		the oath of fealty to you, that they will not associate in
		worship any other thing whatever with Allah, that they
		will not steal, that they will not commit adultery (or
		fornication), that they will not kill their children, that
		they will not utter slander, intentionally forging

		falsehood, and that they will not disobey you in any just matter, - then you receive their fealty, and pray to Allah for the forgiveness (of their sins): for Allah is Oft- Forgiving, Most Merciful."
Su	urah 24, verse 33	"Let those who find not the wherewithal for marriage keep themselves chaste, until Allah gives them means out of His grace. And if any of your slaves ask for a deed in writing (to enable them to earn their freedom for a certain sum), give them such a deed if you know any good in them; yes, give them something yourselves out of the means which Allah has given to you. But do not force your maids to prostitution when they desire chastity, in order that you may make a gain in the goods of this life. But if anyone compels them, yet, after such compulsion, is Allah Oft-Forgiving, Most Merciful (to them)."

4.2 Islam and Sexual Behavior in the Hadith

4.2.1 What is the Hadith?

The Hadith is a collection of sayings, actions and permissions of the Prophet Muhammad (peace be upon him) as reported by reliable witnesses (Saadat, 2009). This collection is considered to set an example and illustrate the ideal behavior for all people (Bouhdiba at al., 1998). Indeed, the Prophet's companions (*sahabah*), among whom were some of those who wrote down his words, laid the foundations of those traditions, both written and oral, for future generations (Khan, 2000). From the perspective of power and significance, the Qu'ran remains the greatest resource and the Hadith is second only to it (Sacred Texts website, 2015). It has been reported that more than 600,000 Hadith were recorded by the ninth century, which were decreasingly adapted to around 25,000.

4.2.2 Sexuality in the Hadith

Many sources of hadith, including that of *Sahih Muslim*, demonstrated that sexual desire is a natural need and the sole decent and encouraged way to satisfy that need is through a lawful relationship such as marriage (Al-Sheha, 2002; Ali, 2006). It has been reported that the Prophet Muhammad (peace be upon him) advised his companions to engage in a sexual relationship with their licit partner in case they face any temptation or desire a woman who is forbidden to them: *"When a woman fascinates any one of you and she captivates his heart, he should go to his wife and have an intercourse with her, for it would repel what he feels."* (Ali, 2006). This narration, in addition to others, does not criminalize the act of sexually desiring another person as long as that feeling and stimulation was not intentionally solicited or aimed for. The Prophet (peace be upon him) articulated the following: *"the first look is free, but the second one will cost you."* (Ali, 2006). The satisfaction of that need with a lawful partner is highly advocated and even recompensed by God (Ali, 2006).

The Prophet Muhammed (peace be upon him) even recommended to one of his companions named Jarir Ibn Abdhullah that a man must turn his eyes away when his look accidentally falls on a strange woman (Hadith of Muslim (Khan, 2000)). On the other hand, illegitimate sexual practices are considered a great sin that deserves punishment (Al-Sheha, 2002; Ali, 2006). The format of the punishment varies, depending on the status of the person. Lashing is for those who have never been married or are enslaved. While lapidation is for those who have been or are married. This classification is in accordance with previous cases ascribed to the Prophet (Ali, 2006). Further details of the Prophet's (peace be upon him) insights and recommendation on licit and illicit sexual relationships are noted in the following table.

Table 5: Citations from the Hadith (Khan, 2000; Ali, 1951 ^; Al-Sheha 2002*; Rizvi, 1994``)

Topic	Citation
Unlawful	"God has imposed certain moral obligations, do not abrogate them; He has
relationship	forbidden certain things, do not indulge in them; He has laid down certain
(Zina)	limits, do not transgress them; He is silent on certain matters, do not
	knowingly argue over them." Hadith of Ad-Darqutni on the authority of
	Abu Tha-Labah
	"Be mindful of adultery [and fornication] as it possesses six traits. Three of
	these traits are noticeable in this world while the other three are felt in
	hereafter. As for the worldly three traits, they are as follows: it would
	remove brightness from the face of the practicing person. It would also
	cause a person to feel poverty. In addition, it would shorten the life span of
	a person."*
	"There is no greater sin after the sin of associating partners with Allah
	(subhanahu wa ta'ala), than a man placing his semen in a womb [private
	part of a woman] that is unlawful for him to place." *
Lawful	"Wise is he who controls his desires and prepares for the life which starts
Relationship	after death. And cast downis he who lives for the love of this world and has
and Chastity	false expectations from God." Hadith of At-Tirmidhi on the authority of
	Shaddad Ibn Aus
	"No house has been built in Islam more beloved in the sight of Allah than
	through marriage." ``
	"On the day of Judgment, no step shall a man stir until he has answered
	questions on five aspects of his wordly existence: his life and how he spent
	it; his knowledge and what use he has made of it; his wealth, how he
	acquired it and how he has spent it; and his body and he has utilized it."
	Hadith of At-Tirmidhi on the authority of Abu Hurayrah
	"Each one of you is a shepherd. And each one of you will be asked about
	your flock. A ruler also is a shepherd and he will be asked about his flock.
	And every man is a shepherd to his family. And a woman is the custodian
	of her husband's house and his children. Thus each one of you is a
	shepherd, and each one of you will be asked about his flock." Hadith of Al-
	Bukhari and Muslim on the authority of Abdullah Ibn Umar.
	"O young people, those among you who are able must enter into marriage.
	For it helps to divert your attention from women. And it safeguard against
	lust. And those who cannot marry should observe fasts, for fasting too is a
	safeguard." Hadith of Al-Bukhari and Muslim on the authority of Abdullah
	Ibn Masud
	"Whoever is financially capable of marriage but does not marry, he does
	not belong to Me." *
	"The conditions which are most worthy that you should fulfil are those with
	which you legalize sexual relations". Hadith of Al-Bukhari on the authority
	of 'Uqbah ^

4.3 Islam and sexual behavior in the literature

Despite the fact that sexual needs were placed at the bottom of Abraham Maslow's hierarchy of needs, in Muslim societies satisfying those needs is crucial to sustain the harmony between the body and the soul and to preserve the human race as it was asserted by the sacred Islamic texts (Zaheya et al., 2015).

As it was described in the previous chapter, Islam acknowledges that sexual needs are one of the charms and pleasures of life, which have to be legitimately fulfilled and not suppressed (Rizvi, 1994; Saadawi, 1982; El-Kak, 2013). In fact, every organ in the human body was created for a purpose including the genital organs (Rizvi, 1994). It has even been claimed by the *shi'ah* writer and scholar Rizvi, whose work emphasized inter-faith and peace advocacy (Imam Reza (A.S.) Network website, 2016), that the association between inborn sinning and sex was not identified in any of the sacred Islamic texts. In contrast, the Qur'an and hadith encourage the satisfaction of the sexual desires responsibly and in a lawful way through marriage, which is a proof of the flexibility and compatibility of Islam with human nature and rationale, and firmly disapprove celibacy and chastise adultery, fornication and any sort of premarital or extramarital sexual practices (Rizvi, 1994).

Rizvi has asserted that Muslims, and even all humans have limited knowledge to understand the reasoning and the logical foundation of God's directives and orders, and that from the perspective of *Shi'ah* faith, God has a wise and unquestionable reason behind dictated what is legitimate and illegitimate. He argues that sexual activities have to be regulated since they involve two individuals and distinguishes this claim from a perspective he commonly sees articulated in Western cultural contexts that privileges personal sexual freedom in the wake of Christianity's waning social influence. In contrast, Rizvi has argued that being a Muslim requires the acceptance of the limitation of the individual's personal freedom because God has rights on us that should be respected and never transgressed. He also described the varied ways that tensions between religion and sexuality have been expressed in various ways by the social systems and the conflict and the difference between the fundamentals of the Islamic teaching on sexuality and the new concept of sexual freedom in Muslim societies

In this context, the Tunisian human rights advocate and sociologist Bouhdiba, who conducted numerous studies on the Arab-Muslim societies (Saqi website, 2016), describes that the perception of the role model symbolized by the Prophet Muhammad and his teachings from *Hadith* to *Sunna* has deteriorated through history, and even became considered as primeval. In other words, as time goes by the number of Muslims who abandon that model is increasing (Bouhdiba et al., 1998).

In order to handle sexual needs and impulses, Rizvi described what it is called "lawful temporary ways", which consisted of whether to temporarily abstain or temporarily get married. The latter is called *mut'a* (pleasure) and is authorized by the *Shi'ah fiqh* (Ali, 2006; Rizvi, 1994). Imam *Ali ar-Riza* said: "*It is permitted and absolutely allowed for the one whom Allah has not provided with the means of permanent marriage so that he may be chaste by performing mut'a*". However, *mut'a* was proclaimed unlawful for the *Sunni* by the caliphate *'Umar ibn al-Khattab* (Rizvi, 1994). The latter was one of the *sahaba* (companion) and chief advisers of the Prophet Mohammed and he was the second caliph (successor) in the Rashidun Caliphate (established after the Prophet's death). During his reign era, the Islamic state evolved to a global power, which reflects *'Umar ibn al-Khattab's* dominace and puissance (Encyclopædia Britannica, 2016).

In his book, Rizvi mentioned women's sexuality in Islam and how it was fiercely criticized by non-Muslim, liberal and feminist writers. He claimed that their attacks do not have a solid foundation since they were founded on western models or poor knowledge and an inability to fully grasp of the content of the sacred Islamic texts because they relied on sources, such as *Thousand and One Nights* and *The Perfumed Garden*, which reflect Arabic cultural views rather than Islamic religious views. In contrast, Rizvi discussed "*Beyond the Veil: Male-Female Dynamics in Modern Muslim Society*" by Fatima Mernissi because she is an Arab woman and has the linguistic potential to comprehend and access the sacred texts (Rizvi, 1994).

On one hand, Mernissi praised the Islamic ethics and teachings on sexuality. On the other hand, conforming to her comprehension, she criticized the perception of women in the publications of Al-Ghazali, who is "one of the most outstanding and influential jurists, philosophers, theologians, and mystics of the Sunni Islam" according to Griffel (Griffel, 2014). Indeed, Mernissi stated that in the writings of Al-Ghazali, women were described as the incarnation of chaos, an epitome of destruction and source of harmful distraction for men, whose main mission is to take advantage of reason, which is a divine gift to humans, in order to access knowledge and avoid allowing themselves to enjoy the ephemeral pleasures on earth, while women's mission was to ensure the continuity of the human race within the Muslim nations and satisfy the induced tensions of sexual needs.

In response to Mernissi's claim, Rizvi asserted that Islam doesn't differentiate between woman and men's sexuality, and it is man's responsibility to ensure the satisfaction of his spouse's sexual desires and to tailor sexual intercourse to meet her needs not in order to prevent the occurrence of *fitna* (chaos). He also refuted the argument that Islam perceives women as a danger to society because they might seek unlawful satisfaction of their sexual need in case the latter is not perfectly fulfilled and stated that if that is the case, then men should be perceived the same way (Rizvi, 1994).

In this context, the Egyptian feminist writer Nawal El Saadawi, in her book "Love and sex in the life of the Arabs", declared that freedom is a key factor for both genders in all facets of life. However, she thinks that freedom at the economic and social levels didn't grow and blossom simultaneously with the sexual one which might have induced distortions within the western societies. The same situation is applicable to the Arab societies as well (Saadawi, 1982).

As for the Islamic teachings on sexuality and relationships, she claims that they were not deeply evaluated and accurately analyzed. She also denounced the established link between women and *fitna* (chaos) in Arab societies, which was even integrated into the rationale of Islamic ethics. Women's sexual power, charm and attractiveness can indeed generate chaos within the society and unbalance the equilibrium established by God. Thus, men are required to consistently respond to the sexual needs and pleasure of their spouses, otherwise they risk societal instability, dishonor and unsteadiness of the course of life (Saadawi, 1982). According to Saadawi, in order to remain safe from females' threat and destructive potentials, Arab men had recourse to secluding them in their abodes, and if a woman had to step out of her jail, "*she was therefore enveloped in veils and flowing robes like explosive material which has to be well packed.*"

In addition, Saadawi thinks that Islam presents contradictive concepts. On one hand, Islam acknowledges sex as pleasure of life. On the other hand, fulfilling that need might engender chaos and calamity within the society. However, in my opinion and as it was illustrated in the last chapter of this thesis, the sacred texts are clear in their meaning, Islam requires the lawful fulfilment of those needs and in no case restricts that. In her book, Saadawi also used the words Arabs and Muslims interchangeably while they definitely do not mean the same thing. Not every Arab is a Muslim and vice versa. In this respect, Rizvi emphasized on the fact that behaviors and attitudes of Muslims of certain countries such as those of Morocco, referring to Mernissi's book, are not representative of the religion as a whole, which is fair by my reckoning (Rizvi, 1994).

There is an obvious tension between Islamic ethics, Islamic teachings on sex and sexuality for both genders, historically rooted perspectives and contemporary culture (Ali, 2006; Saadawi, 1982; Khalaf et al., 2006); the ancient model is no longer applied as it used to be on different paramount facets (Ali, 2006). For instance, during the period of Islamic expansion and conquest, many men lost their life in war. Consequently, the number of men decreased compared to that of women, whose number kept in increasing mainly when adding the captured slaves at each triumph (Saadawi, 1982). At that time, having sexual intercourse with milk al-yamin (slaves) used to be perceived as lawful in order to compensate those losses (Saadawi, 1982). However, slavery is no longer presumed neither as a legal nor ethical practice and has vanished in contemporary Muslim societies. As a result, sex between married couples became the only legitimate (halal) practice, knowing that, for over thousand years, there were several Muslim advocates who rejected slave fornication and its acceptance as lawful (Ali, 2006). In this context, Shirazi invoked the current "centres of prostitution", which he described as odious and harmful. In his opinion, they are the evidence of unethical change in societies. He also equated sex workers to slaves (*milk al-yamin*), for whom he has great sympathy as they are powerless victims, trapped in this vicious circle (Shirazi, 2007). In addition to the immorality and filthiness of those places, their potential to destroy family ties and disfigure the natural course of life (getting married), Shirazi asserted that "centres of prostitution" constitute a source for the

transmission of numerous sexual diseases, which has to seriously be taken into consideration (Shirazi, 2007).

Ali asserted that numerous practices similar to marriage are becoming more visible within contemporary Muslim communities. For example, there is "*zawaj al –misyar* (marriage in transit)", characterized by restricted matrimonial rights (housing, financial support...), and which is endorsed by couple of muftis in Saudi Arabia (Ali, 2006). In Egypt, it is common to witness the phenomenon of "*zawaj 'urfi* (customary marriage)", which is a union that is not reported to the official authorities and where women have very limited rights; the lawfulness of the customary marriage remains largely disputed (Ali, 2006; Canada: Immigration and Refugee Board of Canada, 1999).

According to Ali, there have always been numerous illegitimate sexual practices within Muslim societies. Lately, a noticeable shift has been observed in youths' sexual behavior. Indeed, the occurrence of unofficial sexual practices, whether extramarital or premarital, has dramatically increased, which is partially due to the growing chasm and desynchronization between social and sexual maturity among the youth. But this does not convey the idea that those practices were non-existent in the past (Ali, 2006).On the contrary, several Muslim societies are in denial and reluctant to face the reality of this phenomenon, which is attributable to the fact that people tend not to admit or disclose their sins and that it is culturally and religiously recommended not to reveal others' sins (Ali, 2006).

According to Ali, the dilemma that many Muslims are facing is choosing between the modern prevailing sexual ethos and the traditional ones. Besides, many Muslims dread the loss of guidance in matters of daily conduct in the event they abandon Islamic rules because those rules are generally perceived to provide an enlightened reference for life. (Ali, 2006).

In this regard, Shirazi estimated that, nowadays, sexual problems are top the list of problems that Muslim youth are struggling with. He attributed that to the lack of trust between the two genders, an educational system which requires years to complete a degree, and the pressures to achieve a high standard of living among many families (Shirazi, 2007). Shirazi described this harrowing shift within Muslim societies in a harrowing tone. He even equated the decline of marriages to a tragedy and celibacy to abnormality (Shirazi, 2007). He condemned the feasibility of unlawful sexual practices as being at the root of this change (Shirazi, 2007). Compared to the past, he claims that profound and honest love no longer exists in contemporary societies, whose members have become sex-driven, selfish and irresponsible. Indeed, according to Shirazi, concupiscent males reject lawful unions and the demands of responsibilities, commitments and rules since they can easily satisfy their lust without any sort of ties.

Undoubtedly, Arab and Muslim societies are experiencing deep changes vis a vis gender relations as well as sexual life. It is an era characterized by tension, perplexity, doubt and confusion induced by veering sexual codes and norms and the questioning of the religious ethics (Khalaf et al., 2006). This dissension is aggravated and intensified by the changing modern world marked by globalization, communication and interconnectedness. This drastic behavioral change in Muslim societies, including those in the MENA region, might in the long term increases STI transmission and incidence, particularly of HPV and related diseases (Seoud, 2012; El-Kak, 2013). Taking into consideration that according to Seoud, the reported cases of STIs are lower than the actual ones (Seoud, 2012). In addition, MENA region countries remain are perceived to be conservative, mainly with regard to sexual behaviors, which is due to the influence of Islam on people's practices and habits (Vaccarella et al., 2013; El-Kak, 2013). The

latter might contribute to the reticence of HPV vaccine uptake, knowing that it is broadly believed that HPV infection concerns those who are sexually active (CDC, 2015; Gamble 2010).

Conclusion

Mental and physical health are affected by religion, which can play a protective role in hindering the occurrence of diseases (Borges et al., 2015). In addition, the perception and understanding of diseases and the acceptance or refusal of certain treatment techniques or preventive measures are significantly impacted by religion (Cronjé et al., 2015).

In this respect, the guidance and influence applied by Islamic rules and teachings on Muslims' behaviors and decisions including health related ones cannot be denied (Seoud, 2013; El-Kak, 2013). Indeed, many sexually transmittable diseases can be prevented if the rules of Islam were unfailingly respected and applied by Muslims in MENA countries. However, that it is not guaranteed and modifications in lifestyle and sexual behavior in younger generations are being observed (Seoud, 2013). Despite the pronouncements from Islamic texts and acknowledgment that sexual needs are one of the charms and pleasures of life, which have to be legitimately fulfilled and not suppressed (Rizvi, 1994; Saadawi, 1982; El-Kak, 2013), a noticeable shift has been detected in the youth's sexual behavior in Muslim communities. The occurrence of unofficial sexual practices, whether extramarital or premarital, has dramatically increased. In addition, several Muslim societies are in denial and reluctant to address this phenomenon (Ali, 2006).

Historically, Islamic teachings, whether the holy book, the Qur'an, or the Hadith have deeply impacted Muslim scholars, including those in the medical field (Aboul-Enein, 2014). Medicine has been undoubtedly advanced by the inputs of Islam, although the latter's contribution to behavioral change and health education has not been widely studied (Aboul-Enein, 2014). The limited knowledge of the influence of Islam on behavioral change and health education also limits knowledge of the influence of Islam on HPV vaccine uptake or acceptability. Consequently, this study provides the following recommendations:

- Acknowledge changes in sexual behavior among the youth within the Muslim communities in the MENA region
- Improve youths' understanding of Islamic sexual ethics and rules
- Include sexual health education in the reproductive health policies developed by the government
- Promote the utilization of the sexual health services in health facilities
- Implement comprehensive national screening programmes
- Promote and implement HPV vaccine in the universal vaccination coverage in the MENA countries that can afford it
- Carry out further study to give a more representative description of the situation in the region, through a better evaluation of HPV prevalence, detection, and prevention.

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