TOWARD AN UNDERSTANDING OF MARRIED SAUDI WOMEN’S ATTITUDES AND KNOWLEDGE CONCERNING STIS: MODE OF TRANSMISSION, PERSONAL RISK, AND PERCEPTION OF THEIR ABILITY TO DECREASE PERSONAL RISK

COMMITTEE MEMBERS

BARBARA GUTHRIE, PhD, RN, FAAN
TIFFANY KIM PhD, RN, WHCNP
NEENAH ESTRELLA-LUNA, MPH, PhD

External Consultant Monika M. Wahi, MPH, CPH
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>2</td>
</tr>
<tr>
<td>CHAPTER ONE: INTRODUCTION</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Research Aims</td>
<td>4</td>
</tr>
<tr>
<td>Manuscript One</td>
<td>5</td>
</tr>
<tr>
<td>Manuscript Two</td>
<td>7</td>
</tr>
<tr>
<td>Manuscript Three</td>
<td>8</td>
</tr>
<tr>
<td>CHAPTER TWO: MANUSCRIPT ONE</td>
<td>9</td>
</tr>
<tr>
<td>CHAPTER THREE: MANUSCRIPT TWO</td>
<td>17</td>
</tr>
<tr>
<td>CHAPTER FOUR: MANUSCRIPT THREE</td>
<td>24</td>
</tr>
<tr>
<td>CHAPTER 5: CONCLUSION</td>
<td>55</td>
</tr>
<tr>
<td>Contribution to Nursing Science</td>
<td>55</td>
</tr>
<tr>
<td>Implications and Future Research</td>
<td>56</td>
</tr>
<tr>
<td>Conclusion</td>
<td>56</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>58</td>
</tr>
<tr>
<td>APPENDIX: INTERVIEW TRANSCRIPTIONS</td>
<td>63</td>
</tr>
</tbody>
</table>
CHAPTER ONE: INTRODUCTION

Introduction

In 1984, the Kingdom of Saudi Arabia (KSA) began surveillance for human immunodeficiency virus (HIV) transmission (Madani, Al-Mazrou, Al-Jeffri, & Al Huzaim, 2004), and found the highest HIV prevalence rate was among the non-drug using heterosexual population (Filemban et al., 2015; Kabbash, Al-Mazroa, & Memish, 2011; Njoh & Zimmo, 1997). However, there is no standardized surveillance for other sexually transmitted infections (STIs) (Fageeh, 2011). As a result, there are little or no STI related incidence or prevalence rates reported for the larger Saudi population and more specifically, for Saudi women.

Several authors (Kabbash et al., 2011; Njoh & Zimmo, 1997) have identified that the main source of STI transmission are from Saudi women’s male partners. Saudi husbands become STI infected through multiple wives or through contact with sex workers. Although heterosexual sex workers are staunchly forbidden in the KSA (Arab News, 2014), they tend to work underground. Saudi men may engage in sexual activity with these workers during their travels outside of KSA, such as the United States and Europe. Saudi men’s behavior places Saudi women at risk for acquiring STIs from their husbands (Kabbash et al., 2011; Njoh & Zimmo, 1997).

Studies show both Saudi women generally and, more specifically, married Saudi women are unaware of STIs, their mode of transmission, and their personal risk of becoming infected with an STI, or the extensive consequences and implications of infection (Al-Ghanim, 2005; Al-Mazrou, Abouzeid, & Al-Jeffri, 2005, 2005). Married women have not been the subject of the few human immunodeficiency virus (HIV) knowledge studies done in KSA; instead, studies have focused on younger cohorts of women, focusing on women age 18 through early 20s when
women are less likely to be married (al-Owaish, Moussa, Anwar, al-Shoumer, & Sharma, 1999; Al-Jabri & Al-Abri, 2003; Al-Mazrou, 1999; Al-Rabeei, Dallak, & Al-Awadi, 2012; Gańczak et al., 2007; Saleh, Al-Ghamdi, Al-Yahia, Shaqran, & Mosa, 1999), or community cohorts of varying ages including a potentially large, unmarried component (al-Owaish et al., 1999; Al-Ghanim, 2005; Al-Serouri, Anaam, Al-Iryani, Al Deram, & Ramaroson, 2010; Fageeh, 2008).

Many of the articles that focused on women also included a gender-specific analysis, meaning the authors separated the groups by gender and conducted the analysis. However, Fageeh (2008) reported that only 67% of the women surveyed in her study said they knew how to protect themselves from STIs, and only 55% would want to know if they had any kind of STI. Another study, also led by Fageeh, further substantiated that Saudi women were unaware of their STI risk (Fageeh, 2011). Her study found that 10 pregnant Saudi women presented with HIV; 3 died within a few days of admission, and of the 7 who survived, 6 of their newborns were HIV-positive (Fageeh, 2011). Fageeh noted that “appropriate precautions” were not followed, and that “HIV testing is not included in the routine prenatal screening program and there is no voluntary counseling and testing program” (Fageeh, 2011).

**Research Aims**

Hence, the purpose of this study was to explore married Saudi women’s perceptions of their risk of becoming infected with STIs and to generate guidelines for developing tailored STI-related preventive strategies that are sensitive to Islamic law and religion for married Saudi women. The study’s objectives were to elicit the knowledge and attitudes of married, Arabic-speaking, Saudi women over age of 18 who have been living in the US less than 18 months with respect to knowledge concerning STIs, mode of transmission, personal risk, and perception of their ability to decrease personal risk.
MARRIED SAUDI WOMEN AND STIS

This document includes three papers that were developed as a result of this research. The first paper, “Systematic review of human immunodeficiency virus (HIV) knowledge measurement instruments used on the Arabian Peninsula,” was published in the BMC Research Notes (Alghabashi & Guthrie, 2015). The second paper, “The importance of redesigning approaches toward HIV knowledge and prevention in married Saudi Arabian women,” was published in Evidence-based Medicine and Public Health (Alghabashi, 2016). The third paper is under consideration for publication at Journal of Women’s Health, Issues and Care.

The goal of this first chapter is to provide an overview of the study purpose and present a summary of the three papers that have been published or are under consideration for publication. In chapters, 2, 3, and 4, the papers will appear in their full form. Finally, in Chapter 5 I will present a short conclusion, including considerations for nursing research, implications for public health, and recommendations for future research.

Manuscript One

A literature was conducted to determine whether or not married Saudi women constituted a high risk population for STIs. First, a review of the Saudi Arabian’s surveillance data yielded articles on Saudi Arabian surveillance system for one STI, which is HIV. There were not any standardized surveillance for other STIs (Fageeh, 2011), and the rates that were available outside the peer-reviewed literature were not current. The World Health Organization (WHO) aggregates data on STIs and other diseases globally in their Global Health Observatory (GHO) (World Health Organization, 2016). There, however, were no data on STIs from Saudi Arabia available. The United Nations General Assembly Special Session (UNGASS) on AIDS Country Progress Report for 2012 provided some information, but admitted that most of the information about STIs in Saudi Arabia requested by the UNGASS were unavailable (Ministry of Health, 2012).
MARRIED SAUDI WOMEN AND STIS

The most recent fact sheet from WHO was from 2004 (UNICEF, UNAIDS, & World Health Organization, 2004).

Because prevalence rates were not available, different studies in the scientific literature were reviewed. These studies were helpful, but did not present results for Saudi Arabian married separately women as a demographic (Al-Mazroa et al., 2012; Al-Mazrou, Al-Jeffri, Fidail, Al-Huzaim, & El-Gizouli, 2005; Alothman, Altalhi, Al Saedy, & Al Enazi, 2010; Alothman, Mohajer, & Balkhy, 2011; Kabbash et al., 2011; Madani, 2006). As a result, there was limited information on STI-related incidence or prevalence rates reported for the larger Saudi population and more specifically, for Saudi women. Because of this, it became clear that standardized data collection for STIs were not routine in Saudi Arabia. Therefore, it was hard to make a case that Saudi married women were at higher risk than other Saudi Arabians. The next logical step was to look into quantitative surveys of Saudi married women’s knowledge and attitudes about STIs.

Therefore, the student author and a committee member (MA and BG) conducted a systematic review of the existing HIV and STI knowledge measurement instruments which were developed and used in Saudi Arabia and the Arabian Peninsula (Alghabashi & Guthrie, 2015). The results of this systematic review was published as Manuscript One. The goal of this systematic review was to find a valid and reliable quantitative STI-related knowledge instrument that could be used to measure married Saudi Arabian women’s knowledge and attitudes toward STIs.

Unfortunately, after reviewing the quantitative literature, it became clear that reliable or valid instruments were not available. All of the studies reviewed used instruments that did not focus on Saudi Arabian married women. Also, some authors did not develop instruments that asked pertinent questions of Saudi Arabian women. In fact, validity and reliability studies were
MARRIED SAUDI WOMEN AND STIS

not done on the 16 instruments that were reviewed in Manuscript One. Therefore, the systematic review was published, making a strong case that validated and reliable instruments were still needed to quantitatively measure STI knowledge and attitudes among Saudi Arabian women.

**Manuscript Two**

During the development of Manuscript One, it was realized that not only were there no reliable or valid instrument for measuring STI knowledge and attitudes among Saudi Arabian married women, but the few studies that had been done using these instruments often excluded women entirely (Abdelmoneim, Khan, Daffalla, Al-Ghamdi, & Al-Gamal, 2002; Al Kadri et al., 2011; AL-ALmaie, 2005; ALMalki, 2014; Badahdah, 2005, 2010; Kadri, Al-Moamary, & Vleuten, 2009; Njoh & Zimmo, 1997). Studies on these men often included mainly young men who were too young to be married, so I could not evaluate men as a vector for causing STIs in Saudi married women.

One of the studies reviewed included college-age women who were too young to be married (Saleh et al., 1999). When women were included, as with the surveillance reports, they were not analyzed separately as a subgroup (Al-Ghanim, 2005; Al-Mazrou et al., 2005, 2005; Fageeh, 2008; Mahfouz, Alakija, al-Khozayem, & al-Erian, 1995). So, through this review it was shown that there was no information available in the scientific literature about Saudi women’s knowledge and attitudes about STIs, regardless of their marital status.

Therefore, Manuscript Two described what evidence was found that Saudi married women constituted a high-risk group for STIs, and what was necessary in order to develop a valid and reliable instrument to measure Saudi Arabian married women’s knowledge and attitudes toward STIs (Alghabashi, 2016). This manuscript recommended that a qualitative study was necessary to develop themes and guide the development of domains for a future quantitative
instrument created specifically to measure Saudi Arabian married women’s knowledge and attitudes about STIs.

**Manuscript Three**

Consequently, from what was determined in Manuscript Two, a qualitative study recommended in Manuscript Two to develop themes and domains which will be used in a future quantitative instrument was conducted. The aims of this study were to explore married Saudi women’s perceptions of their risk of becoming infected with STIs, and to generate STI-related knowledge to guide the development of thematic framework that would ultimately guide the development of a quantitative instrument.

The results of the qualitative study are presented in Manuscript Three. In Manuscript Three, a thematic framework was identified as a guide for developing a future quantitative instrument, which aimed at measuring the Saudi Arabian married women’s knowledge and attitudes toward STIs. Manuscript Three also described how this framework could be used to develop and to validate a quantitative STIs instrument.
Systematic review of human immunodeficiency virus (HIV) knowledge measurement instruments used on the Arabian Peninsula

Maram T. Alghabashi\textsuperscript{1,2}∗† and Barbara Guthrie\textsuperscript{1}†

Abstract

Background: In 1984, the Kingdom of Saudi Arabia (KSA) began surveillance for human immunodeficiency virus (HIV) incidence and prevalence. However, no culturally-appropriate standardized questionnaire has been developed to measure HIV prevention knowledge in this population. Evidence exists that married Saudi women are especially at higher risk for infection, but lack knowledge of HIV modes of transmission and underestimate their personal risk of becoming infected. The objective of this paper is to present a critical review of existing HIV knowledge measurement tools developed for the KSA and other Arabian Peninsula populations, and to utilize this review to guide the development of a culturally- and gender-sensitive tool. Studies included were in English reporting results of a quantitative survey instrument as either an interview or self-reported questionnaire with questions about knowledge of HIV or AIDS. Surveys must have been given in English or Arabic, and must have been done in a population in the KSA or the Arabian Peninsula. The following data sources were searched for eligible studies: Google Scholar, Google Web, PubMed, PLoS, WHO publications, UN publications, news, and other peer-reviewed publication databases.

Results: Sixteen articles met criteria, and of these, 10 (63 \%) were conducted in a KSA population, and a majority of the articles studied students of primary, secondary, or post-secondary schools (n = 9, 56 \%). Five studies included only men, while the other 11 included both sexes.

Conclusions: The KSA’s public health goals should more specifically focus on measuring and improving knowledge in high-risk populations such as married women—an option currently limited by commonly available measurement instruments.

Keywords: Saudi Arabia, HIV, Acquired immunodeficiency syndrome, Questionnaires, Health surveys

Background

In October 1991, the Saudi Minister of Education directed all educational regions and school health units to implement AIDS education in secondary schools \cite{1}. Until this point, the level of public knowledge about acquired immune deficiency syndrome (AIDS) was generally not addressed in the Kingdom of Saudi Arabia (KSA) for several reasons. At the time, AIDS was an emerging disease with a relatively low prevalence in the KSA compared to other countries, and public discussion of it was taboo \cite{1}. However, beginning with the World AIDS Day in December 1992, measuring the KSA public’s knowledge of AIDS (and later human immunodeficiency virus (HIV)) became more important to the KSA government, spurring the development of instruments to measure AIDS and HIV knowledge in addition to related topics, such as attitudes toward infected individuals \cite{2}.
When reviewing instruments for measuring HIV knowledge in the KSA, it is important to first consider the writing of Dr. Tariq Madani, a leader in KSA’s Ministry of Health on many infectious disease committees [3]. In his 2004 and 2006 reports on HIV prevalence and the ensuing public health responses in the KSA, Madani emphasized the fact that, “Some of the sexually transmitted infection (STI) preventive strategies that are advocated and used in non-Islamic countries are not acceptable in Islamic countries” [4], implying that prevention strategies in the KSA must be approached differently. “Safe sex” education and needle exchange programs, while useful in other countries, would be unacceptable in the KSA [5].

Further, evidence suggests that the high-risk subpopulations targeted by these preventive interventions are appropriate for study in other countries [6–8], but constitute low-risk subpopulations for HIV in KSA. Studies of sexually transmitted infections (STIs) transmission in the ethnic Saudi Arabian population have identified two main modes of transmission: Saudi men acquiring STIs (including HIV) from sex workers (likely from travel outside the country), and Saudi women contracting STIs (including HIV) from their husbands [9, 10]. As evidence to this fact, Alrajhi reported in 2006 that the main reason given by men for seeking HIV testing at a hospital in Riyadh was due to the experience of symptoms, while “for women, the most common reason was screening because of contact with an HIV–infected spouse, in 73 out of 134 women (55 %)” [11].

Sex workers are staunchly forbidden in KSA [12], so KSA women typically do not contract HIV nor transmit HIV due to sex work. In addition, KSA men do not have the opportunity to hire sex workers unless they travel outside the country. Therefore, it is not surprising that the highest prevalence of HIV among ethnic Saudis appears to be among non-drug using heterosexuals [9, 10], but studies of attitudes in this population reveal a general lack of understanding of modes of transmission [13], and a high level of stigmatization toward those who are infected [14]. Therefore, the methods developed to measure the KSA public’s understanding of and attitudes toward HIV and AIDS should be consistent with both the Islamic faith as well as epidemiologic evidence that would suggest a change in behavior in high-risk subpopulations as a preventive approach.

Evidence exists that women, especially married women, represent a high-risk group for contracting HIV in KSA, but that accurate measurements of HIV incidence and prevalence in this group are lacking, as well as accurate measurements of levels of HIV knowledge. In a study where “data of 5377 reported cases of STIs from all regions of the kingdom during the year 2009 were collected”, 92.9 % of cases were women, almost 60 % of cases were aged 30 and above, and 91 % of cases were married [9]. This suggests that STI knowledge questionnaires used in KSA should be culturally competent so as to accurately measure STI-related knowledge in married women over age 30. A study of yearly reportable case notification rates of HIV in KSA found that among Saudis, women made up between 10 and 20 % of yearly cases 2000–2009 [15].

However, the level of knowledge these women have as to their rights in Islam to various courses of action (such as confronting the husband to go to the clinic, going to the clinic herself, or asking for marriage counselling) is not known. This is because current instruments measuring STI-related knowledge have not typically included KSA women in their cohorts (as will be described later in this paper) [1, 2, 14, 16–18], or if they have, they have used the same identical instrument as used for men [13, 19–29]. Men would require different STI-related knowledge (such as being able to identify symptoms he may have of STIs, or risk behaviors he should avoid with sex workers), so having a unisex measurement instrument for STI-related knowledge in this group would not be culturally competent and would likely not produce a useful or accurate measure of knowledge.

To design KSA’s public health response to the high risk married women apparently face for contracting STIs from their husbands to be well-informed, it is necessary that KSA’s Ministry of Health has accurate information about what these women know and do not know about prevention measures, as well as actions to take if an infection is suspected. It is unclear if questions asking for levels of this type of knowledge are present on existing STI-knowledge questionnaires used in the KSA. The quality of STI-related knowledge measurement instruments that target married women in KSA is not known, as no review of instruments focused on this particular cultural group could be found in the peer-reviewed literature.

With this consideration, the existing literature on measuring knowledge about AIDS and HIV will be reviewed, with a focus on instruments specifically applicable to women in the KSA population. The purpose of this article is to (1) enumerate culturally-competent HIV/AIDS knowledge questionnaires that could inform a current study of HIV/AIDS knowledge in the KSA population (especially women), and (2) analyze them for their strengths and weaknesses in terms of reliability, validity, and cultural compatibility. Specifically, the cultural aspect that will be reviewed is whether or not the instrument selected was used with a culturally-appropriate population. These surveys are reviewed here in terms of their quality and utility in measuring HIV/AIDS knowledge amongst specifically the KSA population.
Results and discussion

The initial search for articles identified 4410 non-duplicated results (see Fig. 1). This included results from the databases searched that were listed. The abstracts of all 4410 results were reviewed manually to determine whether they met criteria. Of all these, n = 4372 (99%) studies did not qualify because they did not concern the population of interest. A smaller percentage of studies (n = 22, <1%) were disqualified because they did not include a survey, or they did not study HIV or AIDS knowledge. Ultimately, 16 articles met the criteria for this study (see Additional file 1: Table S1). No additional articles were identified by reviewing the reference list of qualifying articles. Also, none of the corresponding authors contacted to provide information responded to our request.

Additional file 1: Table S1 lists characteristics of the 16 studies in chronological order of publication that met the inclusion and exclusion criteria. Of these, 10 (63%) were conducted in a KSA population [1, 2, 11, 13, 16, 17, 19, 20, 23, 28], and the rest were in neighboring countries (Kuwait n = 2 [22, 26], Yemen n = 2 [24, 25], UAE n = 1 [21], Oman n = 1 [29], Qatar = 0, Bahrain = 0). A majority of the articles studied students of primary, secondary, or post-secondary schools (n = 9, 56%) [1, 2, 16, 17, 19, 21, 25, 27, 29], while others studied certain occupational cohorts, such as physicians [11, 22] and bus drivers [18] (n = 3) and others studied the general population (n = 3) [23, 24, 26]. Five studies included only men [1, 14, 16–18], while the other 11 included both sexes. Only one study was done on a clinical population [28]. A response rate was either unavailable or not reported for over half the studies (n = 9, 56%) [2, 13, 17–19, 22, 26, 28, 29], but all studies that did report a response rate reported rates of at least 80%, and three studies even achieved 100% [1, 16, 25]. A variety of sampling approaches were used, the most common being some type of cluster sampling (n = 6, 38%) [1, 13, 16, 19, 22, 25, 28]. Sampling approaches were not reported for three studies [14, 17, 29].

Information about the measurement instruments used in these studies was unavailable or not reported for four studies (25%) [13, 16, 17, 23], and the language of the questionnaire was unavailable or not reported for seven studies (44%) [2, 17, 20–23, 28]. Six studies (38%) [19, 21, 24–26, 29] used a measurement instrument based on a questionnaire developed by a health agency, such as the World Health Organization (WHO) Knowledge, Attitudes, Beliefs, and Practices (KABP) survey [30]. Two employed a questionnaire previously used in non-Arabic populations [1, 18], and two developed their own questionnaire for the study [14, 28]. Eight studies (50%) reported administering the questionnaire in Arabic only [1, 13, 16, 19, 24–26, 29]. One study translated it into multiple languages to accommodate its multi-lingual population [18]. Information about the language of the questionnaire was unavailable or not reported for seven studies (44%) [14, 17, 20–23, 28].

Of the 16 studies, only one commented on validity studies [22], and two commented on reliabilities studies [1, 22]. However, descriptions of reliability and validity studies as reported in the articles were not clear, in that they did not provide a description of how reliability or validity were assessed or evaluated in the study or previous studies.

This review found 16 HIV/AIDS knowledge questionnaires that could inform a current study of the KSA population. The main strengths identified across these studies included: careful approaches to sampling, adequate sample sizes, appropriate language of the questionnaire (when it was reported), and high response rates. The main weaknesses in the studies had to do with choice of population and choice of questionnaire, in addition to incomplete or confusing reporting on results.

As stated before, the content of the questionnaires was not reviewed for cultural-appropriateness, but the use of the instrument on an appropriate population was

![Fig. 1 Article Flow Chart](image-url)
reviewed. Indeed, the most important weakness identified in the studies reviewed was the appropriateness of the population subject to the HIV or AIDS knowledge questionnaire. Given the culture of the KSA as described earlier, it is unclear as to why over half the studies reviewed (n = 9, 56%) surveyed students, as this would likely constitute a low-risk population for sexual transmission of HIV [1, 13, 14, 16, 17, 19, 21, 25, 29]. Indeed, studies show that HIV is more likely to be diagnosed in persons in the KSA over the age of 24 [13], and 60% of cases are diagnosed in individuals aged 20–49 [5]. Therefore, the fact that over half of these 16 studies focused on younger populations means that HIV and AIDS knowledge is being measured in a low-risk population that likely would not benefit immediately from any public health intervention. Although it is important not to ignore a low-risk population in a public health effort, the first response of the public health system should be to intervene on those at high risk for the condition so as to hopefully prevent more cases. Hence, focusing on developing instruments to measure HIV knowledge in high-risk populations is priority.

In KSA, because of its conservative approach to Islam, all public environments are gender-segregated as much as possible. For example, women and men use gender-specific banks. For this reason, it is surprising that no STI knowledge instrument targeting women or men only with respect to HIV and AIDS prevention knowledge has been developed in the time span of the studies reviewed. In fact, 5 of the 16 studies reviewed did not even include women, and no attempt was made to create gender-specific instruments when surveying men or mixed groups. As described earlier, KSA men are more likely to be infected by sex workers, and KSA women are more likely to be infected by their husbands. Therefore, HIV and AIDS knowledge questionnaires should be focused on the necessary knowledge to prevent transmission through these vectors.

Even though KSA follows a conservative approach to Islam, discussion of married women’s sexual behaviour is acceptable within a medical context, so participation in research is not compromised in this population. For example, a study on Saudi Arabian women’s experiences with maternal health services elicited very intimate comments from Saudi women about their pregnancy and birthing process [31].

In addition to concerns over the appropriateness of particular surveyed populations, criticism can be leveraged regarding the choice of instruments used in these studies. It is reasonable that six studies selected questionnaires developed by health agencies, but two studies used questionnaires based on non-Arabic populations, two used questionnaires that the authors developed for the study (and therefore, they had not been tested or reported on previously), and information about the questionnaire used was not available for four studies. This means that in 50% of the studies reviewed, the questionnaire was likely to have a low level of accuracy. None of the instruments used provided the results of reliability or validity studies, so evaluating their quality is difficult.

Unfortunately, most of the HIV and AIDS knowledge instruments developed by health agencies, such as the WHO-KABP, are inappropriate for even high-risk populations in the KSA. The WHO-KABP was used in four studies and includes questions about HIV and AIDS pertinent to transmission by intravenous drug use (IDU) and homosexual activity [24–26, 29]. These questions are inappropriate for the KSA’s population, given its low HIV prevalence, low rates of IDU and homosexuality, and KSA’s strict expression of Islam. In the 2012 United National General Assembly Special Session on AIDS (UNGASS) country progress report [32], the KSA listed that the prevalence of HIV ranged between 0.03% in lower risk groups to between 0.15 and 0.8% for higher risk groups. Compare this to the US, where there are 50,000 new infections per year [33], or sub-Saharan African countries, who report that between 4 and 10% of the general population is living with HIV with particular high-risk populations ranging as high as 20% [34]. Rates of IDU have been reported to be higher in Jeddah but low overall in the KSA [10], and, “the estimated prevalence of heroin and amphetamine abuse in Saudi Arabia in 2000 as a percentage of the population aged 15 and above was 0.01 and 0.002%, respectively” [5]. Homosexuality is banned by religion in KSA, and among homosexuals in KSA, the rates of HIV are low. This is confirmed by reports that among Saudis infected with HIV, <5% of the infections came through IDU or homosexual activity [5].

While the instruments reviewed can be criticized for their choice of basing their instruments on Western ones that would be culturally-inappropriate for an Islamic population, their strengths should also be noted. Although it was impossible due to the lack of information provided to review the question content of instruments, some articles provided insight. One study reviewed contained a measurement instrument with the overarching question, “Can AIDS be transmitted through:” and included a series of 21 transmission routes where the respondent is asked to answer “yes” or “no” according to his/her knowledge [26]. Of these 21, the following 9 seem especially pertinent for high-risk KSA populations [26] such as maternal [35] and heterosexual [36] transmission. Fageeh’s 2008 study included a more thoughtfully-developed measurement instrument that yielded more pertinent results [23]. In this study, a standard form titled “Awareness of Saudi Local Population on STDs” was used for data collection, which is described in the article as “a 5-part, 20 question...
questionnaire eliciting information about the knowledge of STIs" [23]. Direct, pertinent questions are asked, such as “Do you know how to protect yourself from STIs?” and “If you get an STD, do you think your partner is entitled to know?” Another question asked what actions the respondent would take upon finding out his/her partner had an STD (answer choices included: do nothing, I don't know, get a check-up, ask him/her to get treated, avoid sexual contact, ask for divorce) [23]. A more recent study reviewed also included a survey with direct questions that focus on transmission routes common in this population (heterosexual transmission, mother-to-fetus, etc.), even though the instrument Fageeh uses is not mentioned as the basis for development [16]. Although the questions used in the more recent article's survey, as well as Fageeh's 2008 study, are more appropriate than those used in previous studies, question wording could be improved (e.g., to ask what types of protection the respondent knows about, not only whether s/he knows about protection), leaving challenges for the thoughtful development of a public health response [16, 23].

In addition to challenges with population selection and data collection instruments, the studies reviewed could also be criticized for the quality of their reporting. Many lacked a clear description of how the instruments were developed, how questions were selected, and how reliability and validity were ensured. These drawbacks severely hindered their comparison in terms of quality. One survey did not even describe the actual questions asked, making the article of limited value in terms of comparing HIV knowledge instruments [19]. In addition, many studies did not report basic information about survey development. Finally, no clear discussion was given to the public health response that would theoretically result from the answers to the questions.

One can imagine that the KSA Ministry of Health (MoH) would like to provide epidemiologically and culturally-appropriate HIV and AIDS prevention education to its high-risk populations using accurate statistics to measure current attitudes and knowledge related to HIV and AIDS prevention. It will be difficult for the KSA to mount a public health response that is effective without gender-specific and culturally-appropriate instruments for assessing HIV and AIDS knowledge given the particular cultural features of KSA. Currently, no STI knowledge measurement instrument can be recommended for use in KSA men or women. In order to develop a culturally-competent quantitative measurement STI knowledge measurement instrument for married Saudi women, qualitative studies will need to be done that interview married Saudi women and gain a better understanding of both their level of knowledge as well as their knowledge demands.

Conclusions

In summary, 16 papers were reviewed that included HIV knowledge measurement in the KSA or bordering populations. On the positive side, all studies report high response rates, but other features of these reports indicate challenges. First, the absence of a culturally-specific KSA instrument has resulted in the inability to reliably and accurately measure HIV knowledge in KSA populations. Next, studies examined employed a variety of instruments, but they generally did not report reliability and validity studies, so their relative quality could not be compared. Further, gender-specific instruments were not developed, although transmission patterns in the KSA suggest that transmission modes are potentially much more gender-specific than in other countries. Finally, these articles generally reported on low-risk populations in the KSA. The KSA's public health goals should more specifically focus on measuring and improving knowledge in high-risk populations such as married women—an option currently limited by commonly available measurement instruments.

In fact, it is interesting to observe that those measuring knowledge, attitudes, and behavior surrounding HIV in the KSA seem disconnected from the other researchers in the KSA studying the epidemiology of these conditions. It is recommended that researchers working on the epidemiology of HIV infection in the KSA and those surveying the public seeking to inform an effective response work together to develop culturally-appropriate instruments that measure knowledge pertinent to KSA's population. Had researchers such as Abolfotouh, Mahfouz, Madani, and Fageeh collaborated, despite their disparate geographic locations, they might have prevented the use of inappropriate questions from the WHO KABP and other US- or European-based questionnaires that include many questions irrelevant to the KSA population.

In the 20 years since the landmark paper in 1995 by Abolfotouh, the evolution towards reliable, valid, and pertinent and gender-specific instruments for measuring HIV knowledge in the KSA population did not take place. Hence, today, little is known about the level of knowledge about HIV prevention in high-risk groups in KSA. KSA-specific instruments measuring knowledge pertinent to the epidemiology of HIV are desperately needed to facilitate the development of an effective public health response capable of accurately reaching at-risk populations.

Methods

To select appropriate studies and instruments about HIV/AIDS knowledge to review, the following inclusion and exclusion criteria were applied:
Inclusion criteria
1. Must include discussion of a quantitative survey instrument used.
2. Quantitative survey must be given either as an interview or self-reported questionnaire.
3. Survey must include questions about knowledge HIV or AIDS in specific, but can include questions about other constructs (e.g., attitudes), and can include questions about other STIs.
4. Survey must be given in either English or Arabic, but can be given in additional languages.
5. Survey must be done in a population in the KSA or other countries bordering the KSA on the Arabian Peninsula, including: Kuwait, Oman, United Arab Emirates (UAE), and Qatar.
6. Article must be written in English.

Exclusion criteria
There were no exclusion criteria. It was chosen not to exclude articles on instruments used on younger, unmarried populations because it was felt that reviewing these articles would inform the use of these instruments in older populations.

Search strategy
Google Scholar and Google Web were utilized to search for and identify articles in all of the following databases: PubMed, PLoS, WHO publications, UN publications, news, and other peer-reviewed publication databases. The first author (MA) also conducted a search of the Google Web in Arabic to identify articles that met criteria, but no additional articles were found. Search terms used included the following: Saudi Arabia, HIV, “HIV knowledge”, questionnaire, instrument, survey, AIDS. Because HIV was identified in the scientific literature beginning in the 19th century, no date restrictions were put on the search. Although articles focused on populations from all the countries on the Arabian Peninsula would meet criteria for the study, only Saudi Arabia was used as a search term. This is because it was discovered that adding other countries (Qatar, Yemen, etc.) to the search string did not identify additional articles.

Data collection
Researchers manually read abstracts for search results to determine if articles met the study criteria listed above. If it was unclear, the full article was read to assess whether it met criteria. The reference list for every article that met some or all criteria was reviewed for articles that may have been missed in the general search, and those were reviewed for meeting criteria. No articles were found using this approach, as all had been identified previously in the search. This process was repeated until all articles likely to meet criteria had been manually reviewed.

Articles that met the study criteria were then selected. The primary author and the year of publication were noted. The population studied was described (in terms of gender as well as other characteristics), as well as the total population completing the instrument, and the response rate (if reported). The sampling method was also recorded, as well as a description of the questionnaire used. Finally, the language of the questionnaire, and any accompanying reliability or validity studies were noted and reported. If any of this information was not reported in the article, the corresponding author was contacted to obtain the missing information.

According to the original study design, the following parameters were to be collected from these 16 articles: type of scales used (single-item or multi-item), length of instrument (both in terms of number of questions and time taken to complete), and survey domains (e.g., transmission vector knowledge). However, the articles were often very short and often incomplete. Most gave little or no detail on the content of their measurement instruments. Therefore, this data were not collected as part of the study.

Additional file

Additional file 1: Table S1. Articles on HIV/AIDS knowledge and attitudes questionnaires reviewed.

Abbreviations

Authors’ contributions
MTA conceived of the idea for the paper. MTA reviewed the literature. MTA and BG designed the inclusion and exclusion criteria. MTA developed the draft. BG edited the draft extensively. MTA developed the table. BG edited the table. BG recommended the interpretation of the results. MTA serves as corresponding author. Both authors read and approved the final manuscript.

Authors’ information
Maram T Alghabashi holds an academic appointment at Umm Al-Qura University, Mecca, Saudi Arabia and is currently completing her dissertation at Bouve College of Health Sciences at Northeastern University in Boston, Massachusetts. MTA led this review because she was looking for an appropriate quantitative instrument to use on married Saudi Arabian women as part of her dissertation studies. As a result of this review, she has now turned her attention to developing a qualitative study to inform the development of a quantitative instrument for this population. Her goal in developing such an instrument is to assist her country in reaching its public health education goals for prevention of STIs in married Saudi Arabian women.

Author details
1 Bouve College of Health Sciences, Northeastern University, Boston, MA, USA.
2 Umm Al-Qura University, Mecca, Saudi Arabia.

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CHAPTER THREE: MANUSCRIPT TWO
The importance of redesigning approaches toward HIV knowledge and prevention in married Saudi Arabian women

Maram T. Alghabbashi1,2

1Bouve College of Health Sciences, Nursing Department, Northeastern University, Boston, MA, USA
2Umm Al-Qura University, Nursing Department, Mecca, Saudi Arabia

Correspondence: Maram T. Alghabbashi
E-mail: m.alghabashi@hotmail.com
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The Kingdom of Saudi Arabia (KSA) began its public health response to acquired immune deficiency syndrome (AIDS) and human immunodeficiency virus (HIV) in 1984. Since then, multiple studies of the epidemiology of transmission of sexually transmitted infections (STIs) in KSA including HIV have been published, and this has revealed that KSA, due to unique cultural features, has high-risk subpopulations that are different from those in other countries. An important high-risk population in KSA is married women, who are at risk from getting an STI from their husbands. Culturally appropriate and accessible public health prevention and treatment resources are available, but historically, the KSA public health response has focused on low-risk populations in KSA, and the measurement of HIV-related knowledge that is not applicable to this population. This paper argues that married women in KSA constitute a high risk group for contracting HIV, and that public health efforts in KSA should be directed toward better understanding how to reduce the HIV risk of married women in KSA through improved HIV prevention knowledges and practices.

Keywords: Saudi Arabia; women’s health; sexually transmitted infections; public health policy; health education; measurement

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Introduction

Like many countries, the Kingdom of Saudi Arabia (KSA) mounted a public health response to acquired immune deficiency syndrome (AIDS) when the AIDS epidemic hit, which later focused on human immunodeficiency virus (HIV) [1]. Also, like many countries, KSA began targeting groups found to be at high risk for AIDS and HIV in other countries with health education [2]. To quantify the public health impact of this education, KSA public health practitioners used HIV and AIDS knowledge instruments primarily developed for use in other countries [2-10].

Now that the peer-reviewed literature has expanded and studies have been published on actual risk factors for HIV infection in KSA [1, 11-15], and results of multiple surveys of AIDS and HIV knowledge in samples of the KSA population have been reported [2, 5, 6, 11, 16-20], it has become clear that for various reasons, KSA has a different profile than other countries of risk factors, high-risk groups, and high-risk transmission activities [3]. This paper will argue that married women in KSA constitute a high risk group for contracting
HIV, and that public health efforts in KSA should be directed toward better understanding how to reduce the HIV risk of married women in KSA through improved HIV prevention knowledges and practices.

First, KSA’s public health response to the HIV crisis and the epidemiology of HIV in KSA will be reviewed. Second, cultural features of KSA that may lead to higher HIV risk in married women are detailed. Next, known risk factors for HIV transmission in KSA are reviewed, and corresponding HIV prevention knowledge in the KSA population is discussed. Finally, recommendation is given for redirecting public health effort in KSA toward studying high-risk populations in KSA such as married women, and developing culturally-competent measurement instruments to measure HIV prevention knowledge in this population.

Saudi Arabia’s Response to HIV and STIs

In 1984, the KSA began surveillance for HIV transmission [1]. From the surveillance data, the highest HIV prevalence rates are among the non-drug using heterosexual population [13, 14]. However, there is no standardized surveillance for other sexually transmitted infections (STIs) in KSA [21]. As a result, STI-related incidence or prevalence rates reported for the larger Saudi population and more specifically, for Saudi women, are rarely reported.

In October 1991, the Saudi Minister of Education directed all educational regions and school health units to implement AIDS education in secondary schools [2]. Until this point, the level of public knowledge about AIDS was generally not addressed in the KSA for several reasons. At the time, AIDS was an emerging disease with a relatively low prevalence in the KSA compared to other countries, and public discussion of it was taboo [2]. However, beginning with the World AIDS Day in December 1992, measuring the KSA public’s knowledge of AIDS (and later HIV) became more important to the KSA government, spurring the development of instruments to measure AIDS and HIV knowledge in addition to related topics, such as attitudes toward infected individuals [19].

Epidemiology of HIV in KSA

Evidence suggests that the high-risk subpopulations in KSA are different than those in other countries [22-24]. Studies how STIs are contracted in the ethnic Saudi Arabian population have identified two main vectors: Sex workers, from which Saudi men acquire STIs (including HIV), and the Saudi men themselves, who then become vectors, and infect their Saudi wives [13, 14]. Alrajhi reported in 2006 “for women, the most common reason was screening because of contact with an HIV-infected spouse, in 73 out of 134 women (55%)” [15].

Sex work, homosexuality, and intravenous drug use (IDU) are forbidden in KSA [25], so it is not surprising that the highest prevalence of HIV among ethnic Saudis appears to be among non-drug using heterosexuals [13, 14]. In the 2012 United National General Assembly Special Session on AIDS (UNGASS) country progress report [26], the KSA listed that the prevalence of HIV ranged between 0.03% in lower risk groups to between 0.15% and 0.8% for higher risk groups, but did not define what they considered “higher risk”, as rates of homosexuality and homosexual transmission of STIs are low [1], and rates of IDU have been reported to be as low as 0.01% to 0.002%, in the adult population [1].

Married Saudi Women as a High Risk Group for HIV

Studies show both women in KSA generally and, more specifically, women in Saudi who are married, have low levels of knowledge about STIs and how they may be infected, and are unaware of their personal risk of contracting an STI, nor are they aware of the extensive consequences and implications of infection [4, 18]. Married women have not been the subject of the few HIV knowledge studies done in KSA; instead, studies have focused on younger cohorts of women [4, 5, 7, 8, 10, 27], or community cohorts of varying ages including a potentially large, unmarried component [4, 9, 16, 18].

Many of these articles including women also did not conduct a gender-specific analysis. However, Fageeh [18] reported that only 67% of the women surveyed in her study said they knew how to protect themselves from STIs, and only 55% would want to know if they had any kind of STI. Another illustration of the level of HIV and STI knowledge in KSA married women can be found in a report on 10 Saudi women who presented as pregnant with HIV; 3 died within a few days of admission, and of the 7 who survived, 6 of their newborns were HIV-positive [21]. The author notes that “appropriate precautions” were not followed, and that “HIV testing is not included in the routine prenatal screening program and there is no voluntary counseling and testing program” [21].

KSA has some cultural features that confer extra risk for married women. In Saudi Arabia, most residents are Muslim and KSA operates under Islamic law. Strict adherence to religious practices includes abstaining from sex before legal marriage, and once married, abstaining from adultery for both men and women. Plural marriage is religiously and officially approved, where one man can marry up to four women at a time. This type of marriages is called “traditional marriage”.
Around 2006, several new types of marriages became officially approved in KSA, and unlike the other marriages described, these are legally-recognized marriages that are not publically announced, but can be announced by the couple. These new types of marriages are based on a legal contract and agreement between male and female couple. The new marriages include the “Misyaar”, “Misfar”, and “Masyaf”. “Misyaar” is where the man and women enter into the contractual marriage agreement, but the marriage is mainly based on engaging in a sexual relationship, with no intention of producing a family. A man who has an announced marriage can take on a “Misyaar”, but only single Saudi women can be in a “Misyaar” relationship. A “Misfar” marriage agreement typically is used when a Saudi man or woman is studying abroad; he or she can then have a relationship in the foreign country so as not to be alone. This might be seen as the “woman-friendly” form of the “Misyaar” in that the purpose of this marriage is to allow Saudi women to travel outside of Saudi Arabia for educational scholarships.

The most controversial type of new marriages is the “Masyaf”. Like the “Misyaar”, the “Masyaf” favors men. Unlike the “Misyaar”, there is no relationship, and the marriage is mainly formed only for sexual pleasure. The “Masyaf” is usually formed during vacation, and when the vacation ends, the “Masyaf” ends automatically.

Several authors [13, 14] have identified that the main source of STI transmission to married KSA women is through their husbands. The Saudi husband becomes STI-infected through multiple wives, undeclared marriages, or contact with sex workers. Although sex work is forbidden in KSA, there are those involved in underground sex work, and Saudi men may also hire sex workers during their travels outside of KSA, especially in the United States and Europe.

Considering traditional KSA single and plural marriages along with the three new marriage options, married Saudi women are placed at high risk of becoming infected with a STI from their husbands, regardless of type of marriage. For this reason, accurate measurement of married Saudi women’s perceptions, attitudes, knowledge concerning STIs, mode of transmission, personal risk, and perception of their ability to decrease personal risk is critical to inform an appropriate public health response. The next section describes the current level of evidence available to guide such a response.

HIV Prevention Knowledge in KSA

Alghabbashi & Guthrie recently completed a systematic review of 16 HIV/AIDS knowledge questionnaires used for populations on the Arabian Peninsula [3]. The main strengths identified across these studies included: careful approaches to sampling, adequate sample sizes, appropriate language of the questionnaire (when it was reported), and high response rates [3]. However, the authors noted that several weaknesses in the studies presented barriers to understanding the level of actionable HIV prevention knowledge in the population at large, and in married women specifically.

Al Ghabbashi and Guthrie found that over the evolution of HIV knowledge measurement instruments developed for the populations of KSA and surrounding countries, important issues arose that were not addressed [3]. Consequently, the current level of HIV prevention knowledge in the KSA population, especially high-risk populations, is unclear. Most of the surveys of HIV knowledge were done in younger, unmarried students [2, 5, 7, 8, 10, 17, 20, 28, 29]. Women were not the focus of the surveys; 5 of the 16 studies reviewed did not even include women, and no attempt was made to create gender-specific instruments when surveying men or mixed groups [3]. The questions included on the surveys were taken from knowledge instruments developed by health agencies which were culturally inappropriate for the KSA population, and reflected ideas about groups and risk factors for HIV that do not have a strong role in KSA, such as transmission by IDU and homosexual activity [4, 7, 9, 10]. Based on this, the authors concluded that in 50% of the studies they reviewed, the questionnaire was likely of low quality [3]. In addition, studies reviewed could also be criticized for the quality of their reporting, as many lacked a clear description of instrument development, question selection, and results of reliability and validity studies, and one did not include the exact questions asked [3]. Because of all these challenges, as a body of literature, these studies do not point toward a particular public health direction that would adequately inform the actions of KSA public health leaders, and cannot provide a gauge of HIV prevention knowledge levels of pertinent information in the population.

However, two of the studies reviewed must be spotlighted for developing their own, more culturally-competent questionnaires, and providing somewhat useful benchmarks. The first contained the overarching question, “Can AIDS be transmitted through:” and included a series of 21 transmission routes where the respondent is asked to answer “yes” or “no” according to his/her knowledge [4]. Of these 21 routes, 9 seemed especially pertinent for high-risk KSA populations [4] such as maternal [21] and heterosexual [30] transmission. This 1999 study revealed that while most of both the men and women surveyed were aware that AIDS can be transmitted through sex with prostitutes, sex with multiple partners, and sex with an AIDS/HIV patient, fewer than 90% were aware the AIDS could be transmitted from
mother to fetus, and only 60% of women and 58% of men were aware AIDS could be transmitted through breastfeeding [4] (see Figure 1).

The second was Fageeh’s 2008 study, which included a more thoughtfully-developed measurement instrument that yielded more pertinent results [18]. In this study, a standard form titled “Awareness of Saudi Local Population on Sexually Transmitted Diseases (STDs)” was used for data collection, which is described in the article as “a 5-part, 20 question questionnaire eliciting information about the knowledge of STDs” [18]. Direct, pertinent questions are asked, such as “Do you know how to protect yourself from STDs?” and “If you get an STD, do you think your partner is entitled to know?” Another question asked what actions the respondent would take upon finding out his/her partner had an STD (answer choices included: do nothing, I don’t know, get a check-up, ask him/her to get treated, avoid sexual contact, ask for divorce) [18]. In this study, only 77% of men and 67% of women indicated they knew how to protect themselves from STDs (see Figure 2) [18]. Interestingly, when asked about actions the respondent would take upon finding out his/her partner had an STD, over 60% of women said they would avoid sexual contact, get a check-up, ask the partner to get treated, and ask for divorce, while fewer than 40% of men said they would take these actions.

**Improving HIV Prevention Knowledge in Married Women in KSA**

First, the KSA effort toward population-level HIV prevention should begin by empowering high-risk populations in KSA with culturally-appropriate knowledge of prevention practices. KSA should shift towards studying and intervening on married subpopulations of KSA citizens, as these individuals are the ones more at risk for any STI. The shift should be away from studying younger subpopulations (those in high school or younger) and subpopulations that are high risk in other countries but not in KSA (such as IDUs and homosexuals).

Next, because transmission vectors are different in KSA women compared to men, gender-specific HIV and STI prevention education should be developed to provide culturally appropriate and actionable public health messages to KSA women. As a complement to this, a woman-specific HIV prevention knowledge instrument should also be developed. For example, it is culturally acceptable for a woman to request a divorce if there is documentation that her husband is engaged in adultery, but not all women in KSA feel empowered enough to take action. Women could be reminded that this is one of their options in KSA if they believe their husband has a habit of unfaithfulness and is putting them at risk for an STI. If this public health message is indeed adopted by the KSA public health infrastructure and transmitted to married Saudi women, instruments aimed at measuring KSA women’s HIV prevention knowledge should include evaluating the uptake of this message.

Third, KSA public health researchers should work together to develop culturally-appropriate gender-specific KSA STI and HIV prevention knowledge instruments based...
on culturally appropriate public health messages about preventive practices in KSA. Studies of both homegrown and modified instruments should be rigorously designed and peer-reviewed reports should provide complete information, including reporting response rates as well as reliability and validity study results. Given the current history of the development of HIV prevention knowledge instruments for populations on the Arabian peninsula, it is acknowledged that a significant amount of effort will be needed to consider what these new public health messages about HIV prevention actually are, and what KSA public health leaders want the population to do to prevent the spread of HIV. These official decisions should lead directly to public health educational interventions, and the evaluative tools developed should reflect the knowledge being transmitted through these interventions.

In conclusion, this paper argues that married women in KSA constitute a high-risk group for HIV transmission given the unique cultural features of KSA. Public health efforts in KSA should be redirected toward gaining a more nuanced understanding of how to reduce the HIV risk in high-risk subpopulations in KSA, including married women. An effective HIV prevention approach could be achieved in KSA through a redesign of public health messages, practices, and knowledge instruments that are culturally tailored to the KSA population.

Acknowledgements

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Conflicting interests

The author has declared that no conflict of interests exist.

Abbreviations

AIDS: Acquired immune deficiency syndrome; HIV: Human immunodeficiency virus; IDU: Intravenous drug use(r); KSA: Kingdom of Saudi Arabia; STD: Sexually transmitted disease; STI: Sexually transmitted infection; UNGASS: United National General Assembly Special Session on AIDS.

Author contributions

Selected topic, served as lead author of cited paper, provided cultural-specific information about Saudi Arabia, provided guidance on priority and interpretation of topics, developed manuscript, and approved the final version of the manuscript.

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CHAPTER FOUR: MANUSCRIPT THREE
Manuscript Title

Married Saudi Arabian Women’s Attitudes and Knowledge Concerning Sexually Transmitted Infections

Author Information

Maram T Alghabashi¹,²*§, Tiffany Kim¹, Neenah Estrella-Luna,³ Barbara Guthrie ¹*

¹School of Nursing, Bouvé College of Health Sciences, Northeastern University, Boston, MA, USA

²Umm al-Qura University, Mecca, Saudi Arabia

³Law and Policy Program, College of Professional Studies, Northeastern University, Boston, MA, USA

*These authors contributed equally to this work

§Corresponding author

Corresponding author contact information:

e-mail: m.alghabashi@hotmail.com

US phone number: 317-531-3516

US fax number: 617-373-8675

Saudi Arabia phone number: +966502511112

Saudi Arabia fax number: +96626912190
Abstract

**Background:** Although the Kingdom of Saudi Arabia (KSA) began surveillance for human immunodeficiency virus (HIV) transmission in 1984, STI-related incidence and prevalence rates are unavailable for the larger Saudi population, and more specifically, for married Saudi Arabian women. Studies show that married Saudi Arabian women are at risk of contracting STIs from their husbands, but studies regarding married Saudi Arabian Women’s STI-related knowledge and attitudes are lacking because there is no valid and reliable quantitative measurement instrument available. The aims of this qualitative study were to explore the perceptions of married Saudi Arabian women’s knowledge and attitudes about the risk of becoming infected with STIs, and to generate themes needed to guide the development of a valid and reliable quantitative instrument that is culturally appropriate and gender-specific for married Saudi Arabian women.

**Methods:** A grounded theory (GT) approach was used for data collection, guided by Bronfenbrenner’s Ecological Model. Married Saudi Arabian women over age 18 who had been living in the United States (US) for less than 18 months underwent private interviews about STI-related knowledge and attitudes. Themes resulting from the GT analysis were assembled into a framework.

**Results:** Twelve participants were interviewed before saturation of themes was reached. The 153 codes identified were categorized and assembled into a hierarchical thematic framework. Eight themes pertinent to STI-related knowledge and attitudes were uncovered.

**Discussion:** The results revealed that Saudi Arabian married women are aware that they are lacking knowledge about STIs, and would like more education and resources to provide this information. In addition, these women were concerned about prevention and treatment of STIs,
not only personally, but in the community at large. The results of this study will be used as a basis to develop a quantitative instrument that focus on measuring the STI-related knowledge and attitudes of married Saudi Arabian women.

Keywords: Saudi Arabia, HIV, Acquired Immunodeficiency Syndrome, Questionnaires, Health Surveys.

Abbreviations:
CFA – confirmatory factor analysis
GT - grounded theory
HIV - human immunodeficiency virus
IRB – Institutional Review Board for the Protection of Human Subjects in Research
KSA - Kingdom of Saudi Arabia
MoH – Ministry of Health
PCP – primary care provider
PI – Principal Investigator
STD – sexually transmitted disease
STI – sexually transmitted infection
US – United States
Introduction

Kingdom of Saudi Arabia (KSA) began surveillance for human immunodeficiency virus (HIV) transmission in 1984 [1]. Analyses of these data found that the highest HIV prevalence rates in KSA have been among the non-drug using heterosexual population [2–4]. Standardized surveillance for other sexually transmitted infections (STIs) is not conducted in KSA [5]. Hence, STI-related incidence and prevalence rates are unavailable for the larger Saudi population, and more specifically, for Saudi Arabian women.

The main vector of STI transmission to married Saudi Arabian women is from their husbands, as sex outside marriage in KSA is relatively rare [3-4]. The husband can be infected through sexual intercourse with wives through both traditional and contract marriages, or through contact with sex workers outside of the Kingdom, as sex workers are also rare in KSA [6]. In Saudi Arabia, men may marry up to four women at a time in a traditional marriage; however, there are also temporary contract marriages, which are private, and may be unannounced to existing traditional wives. The existence of these plural and serial marriages, which are approved under Islamic law, places Saudi women at risk for acquiring STIs from their husbands, even while remaining sexually faithful in a traditional marriage [3-4].

Studies of married Saudi women report that this cohort has a lack of knowledge about STIs, specifically with respect to their mode of transmission and their level of risk for infection; they also are largely unaware of the extensive consequences and implications of contracting an STI [7–9]. The few studies that have been published on HIV knowledge in KSA, have focused on young cohorts of women, aged 18 through early 20s, when Saudi women are less likely to be married and therefore are at low risk of exposure, rather than older married Saudi women [10–15]. Other studies of STI knowledge in KSA have included community-based samples of an
assortment of ages. Taken together, these samples included a large population of unmarried individuals [7,12,16-17]. Therefore, little or no information is available about the level of STI awareness among the married KSA population.

Studies that have included women generally have not presented gender-specific analysis, so the knowledge level of Saudi women about STIs is generally unreported. In a rare study that analyzed the responses by women, Fageeh [17] found that only 67% of the women surveyed in her study reported that they knew how to protect themselves from STIs, and only 55% said they would want to know if they had any kind of STI. Fageeh also reported on a case series of 10 pregnant Saudi women who were ready to give birth and presented with HIV [5]. In this case series, three died within a few days of admission. Of the seven who survived, six of their newborns were born HIV-positive [5].

The authors conducted a critical review of STI-related quantitative measurement instruments used in the KSA and surrounding countries, and found that no reliable or valid instruments to measure STI-related knowledge and attitudes in Saudi men or women have been developed to date [18]. While surveys have been done in Saudi Arabia on STI-related topics, many of these studies used a male-only population [4,19–22] or were done in secondary school students too young to be married [15,19,23]. At the present time, there is no rigorous method to measure STI-related knowledge and attitudes in married Saudi Arabian women [18,24].

To inform the development of a quantitative instrument to measure the STI-related knowledge and attitudes in married Saudi Arabian women, we conducted a qualitative study using a Grounded Theory (GT) approach. The aims of this study were to explore the perceptions of married Saudi Arabian women as to their risk of becoming infected with STIs and to generate
knowledge to guide the development of a quantitative STI-related knowledge and attitudes measurement instrument for married Saudi Arabian women.

Material and Methods

This qualitative study examined the knowledge and attitudes of married Arabic-speaking Saudi Arabian women over age of 18 who had been living in the United States (US) less than 18 months. After receiving Institutional Review Board for the Protection of Human Subjects in Research (IRB) approval from Northeastern University, participants were recruited from the greater Boston, Massachusetts area in March-June, 2016 using convenience sampling. Private interviews were conducted using the questions in Table 1 and digitally recorded. The interviews were conducted in Arabic, the native language of Saudi Arabia. Then interviews were transcribed in Arabic, translated into English, and analyzed within Atlas.ti software [25].

A grounded theory (GT) approach was used for development of interview questions and subsequent analysis. Since GT is best used for questions that seek an answer to, “What’s going on here?” this study sought to better understand “What’s going on here?” with respect to married Saudi women’s STI-related knowledge and attitudes. Consistent with a GT approach, a small group of 3 interviews was conducted, transcribed, translated, and analyzed for themes. The development of the first set of questions were based on Bronfenbrenner’s Ecological Model [26]. The subsequent 3 additional sets of questions resulted from modifications prompted by the results of the previous GT analyses. After saturation was reached, data collection was stopped, and the resulting themes and frequencies were visualized as a word cloud using the software Tagul [27]. This visualization guided the development of a thematic framework.

Data analysis was conducted in Atlas.ti [25], a software used for qualitative data analysis. Because we were using GT analysis, we did not create child codes and parent codes. This is
because we analyzed only three interviews at a time before revising the interview questions. We avoided parent and child code groupings by expanding initial codes as we were coding, and simply memoed these adaptations, as has been recommended in GT analysis [28]. For example, if we encountered a code of “nurse” in the first interview, and then we encountered “doctor” in the second interview, we changed “nurse” to a higher level grouping code (such as “healthcare provider”) and added to the memo that this code now includes “nurse” and “doctor”.

In the design phase, credibility was improved by using established research methods (e.g., GT), having the principal investigator (PI) have a strong background in the culture of the participants, the use of confidential private interviews to ensure participants felt comfortable being honest, and the plan for frequent debriefing sessions through co-analysis of the interviews using a research consultant, as well as frequent reviews by the dissertation committee chair [29]. Transferability of results to the native Saudi population was enhanced by the choice of participants who were only temporarily in the US, and had been there less than 18 months, as they were likely not acculturated to the US at that point [29]. Finally, in the design phase, confirmability was enhanced by working to use objective language in the initial set of interview questions, as well as in subsequent sets of questions that were modified as a result of the GT analysis [29].

Results

Four rounds of interviews, each involving three participants, were conducted before reaching saturation (n=12 participants). No demographic data were collected to ensure the privacy of the respondents. The first round of interviews contained eight sets of questions, and the second, third, and fourth round of interviews contained five sets of questions (see Table 1).
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<th>Question Number</th>
<th>Round 1 Questions</th>
<th>Round 2 Questions</th>
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<td>1</td>
<td><strong>Round 1 Questions</strong>: What is your perception of women’s health in Saudi Arabia? What women’s health issues do young girls in Saudi Arabia face? What health issues are important to women of marrying age in Saudi Arabia? What is your perception of the health of older women in Saudi Arabia? How do you think wealth influences the health of women in Saudi Arabia? How do you think women’s education levels influence their health in Saudi Arabia?</td>
<td><strong>Round 2 Questions</strong>: What personal characteristics might put a person at greater risk for an STI? Does his/her social status play a role in being infected? Does it matter what type of marriage they have? Does it matter if they are poor or rich? Does it matter if they travel a lot or not? Does it matter what type of job they have? Does it matter whether they live in a city or in the suburbs, or remote areas?</td>
<td><strong>Rounds 3 &amp; 4 Questions</strong>: What have you discussed about sexually transmitted infections with a health care provider? What information did you ask about? What information did they give you? What information did they give you about prevention and how it is transmitted? What information did they give you about diagnosis and treatment? What kind of provider were they?</td>
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<td><strong>Round 1 Questions</strong>: When you hear the word “Sexually Transmitted Infections” what come to mind? Who would you talk to? Where would the conversation take place? How would you open up such a conversation? Do you talk to your friends, to your co-workers, or to your husband? How easy is it for you to talk about STIs with those members you mentioned? What motivated you to have these conversations?</td>
<td><strong>Round 2 Questions</strong>: What health information would you like to learn from health care professionals? In what setting would you like to learn this information? How should the information be provided? What kind of health care professional would you prefer to learn from? What kind of private settings would you like to learn the information? What public settings?</td>
<td><strong>Rounds 3 &amp; 4 Questions</strong>: What health information would you like to learn from health care professionals? In what setting would you like to learn this information? How should the information be provided? What kind of health care professional would you prefer to learn from? What kind of private settings would you like to learn the information? What public settings?</td>
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<td>What is your perception of women’s access to health care in Saudi Arabia? How does access to transportation affect women’s access to healthcare? How does access to medical insurance influence women’s access to healthcare in Saudi Arabia? What is working well for women’s access to health care in Saudi Arabia, and what is not working well? What changes would you like to see? In what ways is Saudi Arabia ahead in women’s health care?</td>
<td>How can Islam help a woman who knows her husband has an STI? How can Islam support a woman in this situation? What is the right thing to do to help this woman? What is your personal advice to this woman?</td>
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<td>4</td>
<td>What is the relationship between being married and getting infected with a sexually transmitted infection? What role (if any) does marriage play in becoming infected with STIs? What types of marriages are you aware of in Saudi Arabia? Does the risk of infection change for individuals in different types of marriage? What is the risk to the woman if she engages in these different types of marriages?</td>
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<td>5</td>
<td>If a person gets infected with an STI in Saudi Arabia, what should the person do? How should that person make sure whether he or she is really infected? How should the person use the Saudi Arabian healthcare system? How should health care providers in Saudi Arabia behave toward a person with an STI? How should a person’s friends and family behave toward a person with an STI?</td>
<td>How does a person prevent getting an STI? What sort of prevention is available? What strategies work best for preventing STIs? In all people, married or single?</td>
<td>How does a person prevent getting an STI? What sort of prevention is available? What strategies work best for preventing STIs? In all people, married or single.</td>
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<td>6</td>
<td>Who should be responsible for women’s health education concerning STI risk and prevention? How do you learn about STI prevention?</td>
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<td>7</td>
<td>What personal characteristics might put a person at greater risk for an STI? Does his/her social status play a role in being infected? Does it matter what type of marriage they have? Does it matter if they are poor or rich? Does it matter if they travel a lot or not? Does it matter what type of job they have? Does it matter whether they live in a city or in the suburbs, or remote areas?</td>
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<td>8</td>
<td>How does the Islamic religion influence how men and women learn that they have an STI? How does Islam influence/impact their marriages when one of the partners learns they have an STI?</td>
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The first round of interviews identified 129 codes, the second round identified 17 additional codes, and the third round identified nine additional codes. Because round four identified no new codes, saturation was reached, and data collection was stopped. A total of 153 codes were identified, and these are visualized in Figure 1.

**Figure 1. Word Cloud of Codes Identified in Grounded Theory Analysis**

The predominant codes were identified from viewing the Figure 1 word cloud, and were organized into a hierarchical thematic framework (see Figure 2). The first split in thematic categories was between codes that were “not having to do with STIs directly” and themes “having to do with STIs directly.” Five subcategories of themes which contained a total of 11 themes were identified under the category “having to do with STIs indirectly”; these were not of
interest to the study so will not be discussed here. Two subcategories of themes under “having to do with STIs directly” were identified: having to do with being infected with an STI, and having to do with coping with STIs both personally and in society. The first subcategory contained five themes, and the second subcategory contained three themes. These eight themes will be the subject of discussion in this paper.

Figure 2. Proposed Framework

Danger/risk. The theme was mainly seen when participants talked about the risk of getting an STI. In addition, the risk of having health problems after being infected with an STI was also mentioned.
Participant 2: “Sometimes it might be something dangerous inside her body, and she doesn’t ask about it.”

Participant 10: “Some of it can be dangerous because of many serial sexual partners over time, and that will increase the risk to get this disease.”

Participant 12: “Risk? Of course, it increases. Not like when you are with one partner for yourself, it’s more than one person, so the risk increases because there is another source, so the person might get the disease transmitted to them, although that I know myself that there is another source, and the risk will increase and the disease might happen.”

The top three co-occurring themes under Danger/Risk were Marriage, Personal Opinion/Knowledge, and Lack of Awareness/Information/Education on STIs. Their co-occurrence in this dataset suggests that participants perceived danger and risk of STIs from marriage, and from their lack of awareness, information, or education on STIs. They also had strong personal opinions about this topic; here are examples of their concerns: that a person will have an STI and not know it, that a person will have an STI and know it but not go for treatment, and that a person will have an STI and go for treatment, but not get the correct treatment and not know it.

Cause of STIs. Participants often described the general causes of STIs without mentioning exact vectors.
Participant 1: “Although, if a women got this disease from her husband, without any guilt from her own actions, she would receive care.”

Participant 2: “I meant [it was caused] by taboo relationship, a sexual relationship”

Participant 3: “If one person has this disease, that means there is infidelity, and besides the infidelity, this disease can transfer, and I think these are two good reasons for divorce.”

The top three co-occurring themes under Cause of STIs were Marriage, Vector of Transmission, and Danger/Risk. These top three co-occurring themes indicate that the participants perceived the concept of marriage as a potential cause of STIs, and that there was danger and risk to being married, as the husband could be the vector of transmission.

Prevention. Prevention of STIs was mentioned in general, and also, in specific cases. These cases included when people are infected with STIs and need to prevent it from spreading, as well as people who need to protect themselves from getting an STI.
Participant 1: “...and would need to know the reasons and details about how to prevent this disease or how to get treated for it.”

Participant 3: “And if this thing could have caused him to be infected, they have to know how these persons can cope with this thing, and prevent transmission of it, and treat those people.”

Participant 4: “Because if the couple is already immune/married, and that will keep them from getting a disease. The immune/marriage relationship makes the probability of getting the disease low.”

The top three co-occurring themes under Prevention were Education/Awareness about STIs, Tools for Prevention, and Personal Opinion/Knowledge. These co-occurring themes suggest that participants were concerned about prevention, and wanted to learn about prevention, especially actual actions they could take and tools they could use to prevent STIs. They also expressed strong personal opinions about prevention of STIs.

*Person infected with STI.* During the interviews, the participants would at times discuss specific people infected with STIs, or people who could theoretically be infected with STIs.
Participant 1: “If patients come with sexually transmitted diseases, we will fear Allah on their behalf, so we feel a strong obligation to take care of this person...But if it happens because of unethical action, the person will be treated unfairly and face preconceptions.”

Participant 2: “And if she gets the infection, she’s going to infect her husband.”

Participant 8: “This woman who has a husband with the disease, first, awareness that she shouldn’t do sex or intercourse with him, because she will not risk getting the disease.”

The top three co-occurring themes under Person Infected with STI were Vector of Transmission, Health Care Professional/PCP, and Husband. The co-occurrence of these themes suggests that the participants knew that a person infected with an STI was a vector of transmission of the disease. They also felt a health care professional should be involved with this situation, hopefully to prevent the person from transmitting the STI through education of the person and treatment of the STI. Finally, the theme of Husband suggests that the participants felt that a husband could be a person infected with STI and could therefore serve as a vector of transmission.

*Vector of transmission.* In addition to discussing general causes of STIs, participants also mentioned specific vectors of transmission.
Participant 1: “The main reason for transmission of disease mostly is men, as it’s men to women in Saudi Arabia...Men are the main reason for transmission of this disease during marriage.”

Participant 5: “The way the sexually transmitted disease is transmitted. Sometimes they say it can be transmitted through a toilet seat.”

Participant 7: “Of course! The first thing, because of our culture, she would never think her husband is doing something wrong, or she might think that he could get it from lack of public infection control or blood transfusions.”

The top three co-occurring themes with Vector of Transmission were Person Infected with STI, Husband, and Tools for Prevention. As described previously, the co-occurrence of the Husband concept and the other constructs reflects that the participants were concerned that a husband could serve as a vector of transmission if he had an STI, and that in those cases, actionable prevention approaches would be needed.

Education and awareness of STIs. Participants made many references to personal awareness and education about STIs. They spoke about it in general, for society, as well as for particular individuals as well as themselves.
Participant 2: “At the end, that’s based on a person’s personal awareness, education, and beliefs.”

Participant 4: “There should be awareness for this. That can allow men to think about having a sexual relationship outside marriage.”

Participant 4: “Also, conferences and workshops to increase the awareness.”

The top three co-occurring themes under Education/Awareness of STIs were Health Care Professional/PCP, Prevention, and Discuss STIs. The co-occurrence of these themes suggests that participants wanted to be educated about and discuss STIs with their healthcare providers, and that they wanted to learn about prevention.

Discussion of STIs. The discussion of STIs was talked about frequently and most often with respect to close associates healthcare professionals, as well as in non-health care settings.

Participant 1: “It’s based on the situation, which means it’s not easy to talk about this topic smoothly… Not any person feels free to talk about it, so if something really happens, he will talk to or seek help from doctors only.”

Participant 9: “But in Saudi Arabia, I didn’t talk about it with students, but I might discuss it during my bachelor’s degree.”

Participant 10: “But in a private way, I will ask in the clinic during the clinic visit.”

The top three co-occurring themes under Discuss STIs were Health Care Professional/PCP, Education/Awareness about STIs, and Information about STIs. The co-occurrence of these codes indicates that participants were interested in discussing STIs with a
healthcare professional, as well as learning about STIs and getting information about STIs from a healthcare professional.

*Treatment of STIs.* The participants mentioned this theme when talking about hypothetical circumstances as well as personal ones. They talked about it with reference to the person who is diseased, as well as with respect to its implications on society.

*Participant 2:* “I feel they will *treat him,* but not in the right way...sit with him, talk to him, advise him, *give him the right way for the treatment.*”

*Participant 11:* “My personal advice? That she go to the right person, who can guide her on how to prevent getting the disease, or avoiding (disease), or how to get treated if she gets the disease or the disease transfers to her.”

*Participant 12:* “And this, frankly, is what happened to me, I never found anyone who targeted communicating points about prevention. Suddenly, you find yourself sick, and you go to the hospital, and *they give you treatment,* but no one discusses with you if something will happen a second time.”

The top three co-occurring themes under Treatment of STIs were Prevention, Person Infected with STI, and Diagnostic of STIs. The Diagnostic of STIs code referred to symptoms or tests that the participants felt essentially rendered a diagnosis of having an STI. The co-occurrence of these themes indicated that the participant felt that prevention and treatment of STIs were strongly linked, and that a person infected with an STI should be diagnosed and treated.

In summary, the themes identified on the right side of Figure 2, which pertain specifically to STIs, revealed that women were concerned about these issues. Through the coding process, it
became clear that many women perceived danger and risk in connection with STIs and were concerned about vectors of transmission. They wanted to know what caused STIs, and also, how to prevent them. They were concerned about people infected with STIs in their population, regardless of their relationship to them, because they knew that these people represent vectors of transmission. They overall expressed a need for education and awareness around STIs, were open to discussing STIs in private forums, and wanted more information about treatment of STIs.

Discussion

Intended Outcome

The intended outcome of this study was to generate a thematic framework that increases the understanding of the married Saudi woman’s perceptions of their ability to decrease personal risk of contracting STIs, and her knowledge and attitudes of what they should do when and if they suspect they have been exposed to an STI. The use of the approach of “theoretical sensitivity” through GT data collection and analysis methods provided a more responsive and Islamic-sensitive model (shown in Figure 2) that can be used to develop a quantitative instrument that will measure pertinent knowledge, perceptions, and attitudes among married Saudi Arabian women with respect to STIs. The result of such a study has the potential to inform educational interventions that are specifically directed at married Saudi Arabian women. This instrument could be used for a needs assessment, as well as to measure the effect of an intervention aimed at increasing knowledge.

Relationships Between Themes

To evaluate the relationships between concepts and constructs of the different themes, the top three co-occurring themes under each theme were considered. The main co-occurring themes revolved around the participants concern about prevention as well as treatment of STIs, both
personally and in the population. This is because anyone infected with an STI could serve as a vector for further transmission. The participants not only saw a risk to society, but saw a risk to themselves personally, especially with respect to marriage and having their husbands potentially serve as vectors of transmission. They expressed strong opinions about their society’s lack of knowledge on this topic.

However, it also became clear that the participants were looking to the healthcare system to provide not only diagnosis and treatment, but education and awareness about STIs so the population could be empowered to prevent the spread of STIs. Participants wanted to discuss STIs with their healthcare providers, and felt that the diagnosis and treatment of any persons infected with STIs was very important and should be addressed by the healthcare system.

It was apparent from the interviews that although all these women were married, and some on their second marriages, they all had little or no specific knowledge about the various STIs, and wanted more. Two of the participants had an STI themselves, and expressed that they did not understand it or have enough information about STIs. Women expressed the need and desire to learn about how to protect themselves from contracting STIs, and if they were to become infected, what should they do.

**Development of a Quantitative Instrument**

The quantitative instrument that will be developed should therefore have a section on measuring the woman’s knowledge about transmission of specific STIs that are prevalent in Saudi Arabia. The questions should focus on vectors that are pertinent to Saudi Arabia (such as through the various traditional and non-traditional marriages). It should also focus on prevention approaches that would be appropriate in Saudi Arabia, such as divorce, using a condom in a
traditional as well as non-traditional marriage, and making sure an infected person follows a course of treatment.

Participants expressed the need to be able to obtain education and awareness in both public and private settings, and to be able to discuss STIs in private settings. They also discussed the need for STI treatment to be available in society for STIs. A second section of the quantitative instrument should ask about whether the woman feels that STI-related societal needs are being adequately met. For example, she could be asked about whether she feels she has enough knowledge or needs more, whether she knows where to get the knowledge, and if she knows a person she trusts with knowledge that she can discuss this topic with.

A future instrument should be designed not only with knowledge and attitude measurement in mind, but also, with relevant public health interventions in mind. This study revealed that Saudi Arabian women are looking to the healthcare system to educate them and provide them information about prevention and treatment. One contemplated intervention could be at the healthcare level. Women could be paired with a female nurse specializing in STIs who could personally deliver information, as well as, if she thought it was needed, to make recommendations for health care intervention. Another intervention could be classes that provide generic and general information about STIs to a broader population.

From simply reading the transcripts in the appendix provided in supplementary materials (online), several domains could be contemplated at this time. The first would be about “misconceptions about prevention and treatment.” For example, some participants felt that personal cleanliness can prevent STIs:
Participant 2: And also, in everyday life, there is something with cleanliness of sexual organs, and cleanliness is very important to me.

Participant 4: Of course, I’m going to ask, as we said at the beginning, how I can protect myself, how I can take care of my cleanliness.

Other participants felt that STIs could be transmitted through public places such as bathrooms:

Participant 8: and use cleaning products if you are going to a public place, especially if there is blood or bodily fluids. You need to put some napkins down and clean up the place so the blood or bodily fluids don’t get to your body...

Then, always, if the person goes to rest rooms in public places, the person should make sure the place is very clean, and if there is any blood or anything like that, he should get away from it and not touch.

Another misconception is that the pre-marriage testing includes more STIs than just HIV, when it only includes HIV. This misconception may lead to a married woman thinking she is safe when she is not:

Participant 6: And we can see before marriage that through the pre-marriage testing in Saudi Arabia, and through watching his behavior before marriage. I think that marriage medical tests cover sexually transmitted infections.

These specific misconceptions could be a focus of one domain of the quantitative instrument.
Another domain that could be contemplated at this time is “information of how a married woman can protect herself from an STI.” This type of knowledge should be actionable, and could include direct prevention methods such as use of condoms, or indirect prevention methods such as asking for a divorce if she finds her husband is infected.

Participant 2: *First, she [woman] is supposed to know that there are some things she needs to do personally to prevent any disease or infections, how she’s supposed to take care of herself, because some women don’t know how.*

Participant 6: *Sexually transmitted infections, all of the sexually transmitted infection. And there are a lot of women who don’t have awareness, and they need to know the basic, easy information about these diseases.*

Participant 12: *Awareness is the most important thing. The first thing, she should know about the topic, that her partner has a sexually transmitted disease, not just that, but also she should know this information.*

A third domain that could be contemplated at this time would be “how engaged Saudi Arabian married women are with the resources made available for STI prevention” in the KSA healthcare system. Right now, it is difficult to propose specific topics, because the KSA government would first need to make these resources available. They would likely be in the form of web pages with official health information from the KSA government, as well as public classes arranged by the Saudi Arabian Ministry of Health (MoH), or interventions in the healthcare setting also arranged by the MoH.

The proposed instrument should be set up similarly to the strongest Saudi-focused instrument reviewed, which was “Aware of Saudi Local Population on STDs” [17]. This
instrument included many yes/no questions which limited the usefulness of the instrument. For example, the question, “Do you know how to protect yourself from STDs?” forced a yes/no answer, and did not allow for the respondent to express a gradation of knowledge. For the proposed instrument, questions should instead be formulated as statements, and the respondent asked to respond on a Likert-type scale.

The most critical future implication resulting from this study is that the results should be used to immediately develop and test a culturally appropriate and gender-specific STI knowledge and attitudes measurement instrument for married Saudi Arabian women. Future research to improve the development of this instrument would need to start with the formulation of a new instrument. The draft of the new instrument should be designed with pre-specified domains in mind. Data collection should take place using this new draft instrument and target married Saudi Arabian women specifically. After data collection, two rounds of confirmatory factor analysis (CFA) should be conducted to verify the reliability and validity of the finalized STI instrument. Finally, improving the usefulness of the proposed instrument will require measuring the impact of resources that should be created by the MoH for the purposes of STI intervention and prevention. Studying these interventions and resources would inform the development of a quantitative instrument.

This study has one main limitation, and that is that the development of themes was based on interviews with married Saudi women in the US. These women may not be representative of all married Saudi women. Saudi Arabia is a large country, and is divided into six provinces. These provinces have different demographic and geographic characteristics. For example, some are more rural than others, some have a higher average socio-economic status than others, and
there are cultural differences between the provinces. To be truly representative, interviews have had to include women from every province.

In conclusion, Saudi Arabian married women face risk with respect to STIs transmission in Saudi society. However, no quantitative instrument for measuring married Saudi Arabian women’s knowledge and attitudes about STIs exists. Therefore, a qualitative study was done to derive themes used to generate a new thematic framework to guide the development of such an instrument. The qualitative study involved interviewing married Saudi Arabian women about their perception of knowledge and attitudes about STIs. Interview questions were developed based on Bronfenbrenner’s Ecological Model. A GT analytic approach was used to develop themes grounded in underlying concepts expressed in the interviews. The resulting themes were assembled into a thematic framework that included two subcategories: themes directly about STIs, and ones indirectly about STIs. The themes directly about STIs included perceptions of danger and risk factors for getting an STI, causes and vectors of transmission for STIs, prevention of STIs, education and awareness of STIs, and dealing with people infected with STIs including providing treatment. These themes have the potential to guide the subsequent development of this married Saudi Arabian women’s quantitative instrument to measure STI-related knowledge and attitudes.

**Acknowledgement**

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References


Figure Legend

Figure 1. Word Cloud of Themes Identified in Grounded Theory Analysis
All 153 themes identified in the analysis were visualized in this word cloud. The size of the word indicates its relative frequency of mention.

Figure 2. Proposed Framework
The proposed framework was developed by creating a hierarchical categorization of themes. The main split in categories of themes was between themes not directly about STIs (left side of figure), and themes directly about STIs (right side of figure). Given the focus of this research, only the right side of the framework is the subject of discussion in this paper. This category of themes was subcategorized into “being infected with an STI” and “coping with STIs – personally and society”. Each of these subcategories contained the themes that are discussed in this paper.
CHAPTER 5: CONCLUSION

After preparing these manuscripts, it became clear how this new knowledge could be used to improve public health with respect to STI prevention and treatment in Saudi Arabian married women. This section discusses how these manuscripts have the potential to contribute to nursing science, implications for practice and future research.

Contribution to Nursing Science

All three manuscripts were developed to provide a guide for understanding married Saudi women’s attitudes and knowledge concerning STIs, especially with respect to the mode of transmission, their personal risk, and their perception of their ability to decrease personal risk. These manuscripts will be used as guidance for future studies. The first study revealed that, to date, there were no valid or reliable quantitative STI-related instrument that could be used with married Saudi Arabian women. The second study presented the evidence supporting the contention that Saudi Arabian married women constitute a high-risk group with respect to STIs, and set forth a research agenda on that issue, recommending that a qualitative study be done to inform the development of a valid quantitative instrument. The results of the third study, which was a qualitative study based on the recommendation in Manuscript Two, can now inform the development of a quantitative STI knowledge- and attitude-related instrument that is specifically relevant to married Saudi Arabian women. The results of this study generated new information on how this group of Saudi Arabian women felt about STIs and what they knew and understood about STIs. The results also highlighted the areas in which participants lacked knowledge, and what type of education and awareness they desired. This information has the potential to provide the groundwork for future research, such as the development of the quantitative instrument, as
well as the design and implementation of future STI-related interventions with married Saudi Arabian women.

**Implications and Future Research**

Based on these findings, a new gender-specific instrument can be developed and tested. Future research to improve the development of this instrument, however, would need to start with the formulation of a new instrument. This instrument would need to include many more questions than anticipated in the final instrument, as this will help to focus questions on the most important topics. The draft of the new instrument would be designed with pre-specified domains in mind. Data collection would take place using this new draft instrument with married Saudi women as the target population. After data collection, confirmatory factor analysis (CFA) would be conducted on the results, and questions that do not relate to the domains removed. This next draft would be tested with Saudi married woman population, and CFA conducted again to verify the results are valid. This type of research would be needed to finalize the instrument.

Other topics came up during this research that may deserve the attention of future researcher. However, those topics are beyond the scope of quantitative instrument development, so will not be discussed here. Instead, what would improve the usefulness of the development of the instrument would be the creation of resources by the MoH for the purposes of STI prevention. Studying these interventions and resources also would inform the development of a quantitative instrument.

**Conclusion**

In conclusion, Saudi Arabian married women face risks with respect to STIs transmission in Saudi society. This was demonstrated from the evidence gleaned from the review of the literature, although admittedly, there was limited information specifically on married Saudi
MARRIED SAUDI WOMEN AND STIS

women. As described in Manuscripts One and Two, no quantitative instrument for measuring married Saudi Arabian women’s knowledge, attitudes and perceptions about STIs exists. Therefore, Manuscript Three reports on a qualitative study that was done to derive themes and a new thematic framework to guide the development of such an instrument. The qualitative study involved interviewing married Saudi Arabian women about their knowledge, attitudes, and perceptions about STIs. Data were analyzed for themes and the resulting themes were assembled into a thematic framework that included two subcategories: themes directly about STIs and indirectly about STIs. The themes directly about STIs included perceptions of danger and risk factors for getting an STI, causes and vectors of transmission for STIs, prevention of STIs, education and awareness of STIs, and dealing with people infected with STIs including providing treatment. This thematic framework will guide the subsequent development of this Saudi married women’s quantitative instrument to measure knowledge, attitudes and perceptions of STIs.
REFERENCES


MARRIED SAUDI WOMEN AND STIS


MARRIED SAUDI WOMEN AND STIS


APPENDIX: INTERVIEW TRANSCRIPTIONS
Appendix: Interview Transcriptions

Participant 1

What is your information about Saudi women’s health in Saudi Arabia?

My understanding about women’s health in Saudi Arabia, I swear to God, women didn’t care about themselves in the olden days. But nowadays, a woman needs to keep track of herself, and care about her vitamin intake, and do a hospital check-up every six months. Women think if they can stand up, breathe, walk, and feel no pain, that they are not sick and do not need a check-up.

When you have a question about STIs, who do you talk to about them and how you open up such conversation?

People who understand this topic, sexually transmitted diseases….Do you mean sexually transmitted diseases? Like if I am infected? Or if I just want general information?

Both.

This is always a secret with us; no one talks about it with anyone. I only would talk about it with someone trustworthy, or with someone who actually has knowledge about it.

Do you talk to your friends? Or, to your co-workers? Or, to your husband?

Family or very close, close friends who understand the topic, and who are trustworthy. But first, I would start with the people in my family who are close to me.

How easy is talking about STIs with those members you pick?

God! It’s based on the situation, which means it’s not easy to talk about this topic smoothly. But, if this topic is serious, and the situation is very dangerous, I would need to talk about it, and would need to know the reasons and details about how to prevent this disease or how to get treated for it.

What motivated you to have these conversations?

If there is something dangerous going on that I find out about it.

What do you mean by something dangerous? Do you mean signs or symptoms of disease, or what exactly?

For example, if it’s a particular sexually transmitted infection, or if I found out I have symptoms of one. But otherwise, I will not search for someone to talk to, except if I have symptoms, or people around me have symptoms. Otherwise, I would not look for information.

How do you see marriage as a risk for a woman getting an STI?

I don’t see marriage as a risk factor. Before marriage, people in the family need to ask around about the potential spouse, and get to know information about this person. I don’t see this as a risk, except if I hear that the potential spouse is a player.

What role does marriage play in this risk?

It’s like a primary role, but it’s not like a cause. Marriage is not a cause of sexually transmitted infection except if the person in the marriage is not good. But the risk for marriage, it has no
relation with the occurrence of this disease. Except if there is a person who is not good in the marriage.

But in Saudi Arabia, there are no sexual relations outside of marriage, so this is the only way for a woman to have sex.

Yes, but that depends on the husband. If he stays straight or has outside marital relations, or is a player, and the same with the wife, if she is straight or has outside marital relations, this means yes, it could be a primary cause. The main reason for transmission of disease mostly is men, as it’s men to women in Saudi Arabia. Men are the main reason for transmission of this disease during marriage.

Does it change for the different types of marriage we have in Saudi Arabia?

Yeah, but, what do you mean by this different type of marriage?

There is regular marriage, or misyar, or other marriages. So do you think it changes for the different types of marriage we have in Saudi Arabia?

Oh God, yes! Yes, this situation can happen. For the misyar, men can marry a woman he doesn’t know, he won’t know her background or her family, basically her pedigree. Then, this type of marriage is a main cause of transmission of this disease, especially if it’s not a regular marriage. Like this misyar and other new marriages that have appeared in our culture, that might be the reason for these diseases. I’ve heard these stories before.

What types of marriages are you aware of in Saudi Arabia?

Misyar, misfar, and I don’t believe at all in these marriages.

What is the risk to the woman if she engages in these different types of marriages?

As before, what I said before.

Who should be responsible for women’s health education concerning STI risk and prevention?

How do you learn about STI prevention?

This happens as part of general education about health through conferences and symposiums. There is also information on TV, and primary care doctors who are responsible for you will tell you about it. A specialist is needed to talk about this topic.

If a person gets infected with an STI in Saudi Arabia, what should that person do?

These topics are very secret in Saudi Arabia, and not every person can speak about this topic even if they found out they have this disease. The person will deny it. Oh God, if this happens to someone, that person will not talk to anyone about it, not even a relative. But the person will seek help from a doctor, because the doctor will treat him/her, and will keep hi/. her secret if he/she has the disease. Because this topic is very sensitive in our country, it’s not like any other communicable disease. No one feels like talking about it. Not any person feels free to talk about it, so if something really happens, he will talk to or seek help from doctors only.

How should that person make sure of whether he or she is really infected?

The person will start to search for information by him/herself at the time when he/she starts to feel weird symptoms. The person will start to do search on the internet or ask people in an indirect way. If the person finds out he has the symptoms of a disease, he/she will go to doctor.
How should that person use the Saudi Arabian healthcare system
I don’t know how they use it for this disease.

What should health care providers in Saudi Arabia behave toward the person’s STI?
Normally, this is a sensitive topic, but usually a doctor deals well with his patients and keeps patients’ secrets and privacy, and the doctor is trustworthy and continues treatment for the patient. Yeah, it’s like that, but I don’t fully have an idea about this topic. The topic is very sensitive; usually the doctor is trustworthy to his patients not matter what disease the patient has.

How should a person’s friends and family behave toward the person with the STI?
I swear to God, in our culture, people respond with ostracism or rejection of this person.
Although, if a women got this disease from her husband, without any guilt from her own actions, she would receive care. So it depends on if the person gets this disease due to unethical actions, or the person gets it innocently, which mean he/she was repressed or aggrieved, so the family will defend this person. But if it happens because of unethical action, the person will be treated unfairly and face preconceptions
In both cases, this person would be considered a patient, and should receive care at the end, although the couple should get separated to prevent the transmission if one person has the disease and the other doesn’t.

What personal characteristics might put a person at greater risk for an STI?
In our culture, it’s those players.

Is it different between single and married people?
No, it doesn’t matter if the person is married or not, because he’s a player.

Does it matter what type of marriage they have?
Yes, if it’s like a misyar or misfar, because he will pick up a wife for her beauty or for something specific, and he doesn’t know anything about her pedigree or family history.

Does it matter if they are poor or rich?
Yes, a lot. The rich ones, they have more power than the poor, so they are at higher risk.

Does it matter if they travel a lot or not?
Yes, if he travels without a cause or reason, maybe he left his wife to travel, or he is single and traveling all the time. There are specific countries where they go, and we know why they are going there and what they are looking for!

Does it matter what type of job they have?
It may be an impact, if there is a mix of genders at the job, or there is traveling involved with the job. It’s also based on how strong religion is for this person. Mixed-gender environments are outside Saudi Arabia – so if a person doesn’t fear God, they can do this stuff.

Does it matter whether they live in a city or in the suburbs, or remote areas
It might be the city. Those places are more open. But a player person can really be anywhere, but he needs to be rich in order to be a player and have the money to be a player.
How does the Islamic religion influence how men and women learn that they have an STI?

Islam honors women always, but when women get infected, not just because of the religion but also the culture, even though she is innocent, she is seen as guilty. Usually, women fear from Allah, and they care about their religion. We women don’t go outside a lot like men do. If something happens to their sons or daughters, they will take care of them, even if the father rejects them. Islam demands that we take care of women, because they are our mothers. If patients come with sexually transmitted diseases, we will fear Allah on their behalf, so we feel a strong obligation to take care of this person.

How does Islam influence/impact their marriages when one of the partners learns they have an STI?

Islam, in this situation, says to keep the woman away so she will not get infected, or if she’s the one infected, the man should be kept away. This needs to happen in order to make sure one of them can take care of the kids and related responsibilities. If she wants, Allah willing, [words from Quran] “retained with honor (and love) or allowed to leave with (kindness and) grace”, if she wants to be patient and he wants to be patient, too, about the disease, and they want to live together, they still need to avoid intercourse, and fear from Allah about their disease. It might be that the disease is caused from an ethical action, such as a blood transfusion, and being a player was not the cause of this. But Islam will give her a choice as to whether she wants to stay and be patient or to get away. Islam will never force any person to leave their spouse; in this case, it is her choice. She can be patient with her spouse, take care of him, wait for him, and know he is not the cause if it was innocent. But if he is the cause, usually, she won’t want to stay in the marriage. Everyone has a different opinion about what to do, as I told you, Islam is going to let her choose, and she has her freedom to choose, to either continue the marriage, or be separated.

If the woman stays in the marriage, how will she protect herself from an STI?

She should get away from him. She should prevent any sexual relationship between her and her husband. This is from Islam, because she is supposed to be responsible about her own status and reputation, and take care of herself. No harm done! [words from Quran] Do not throw yourself into distraction [words from Quran]. That means she knows if she doesn’t separate from him, she’s going to get this disease, and if both of them get sick, who is going to take care of the kids? Each of you is a shepherd, and each is responsible for his flock [Prophet Mohammed hadithe]. Islam requests her to take care of herself. She can choose if she wants to be patient, and receive rewards from God for staying with him, but at the same time, she should be aware of the risk, because she should take care of herself in front of God, and take care of her kids, because she’s the person responsible for them.

You said she should not have intercourse with her husband. Is that right?

Yes, because Islam says, “Don’t throw yourself into distraction” [repeating words from Quran].

Is there any way she can protect herself?
She needs to search and make sure to a million percent that the method of prevention she uses will not allow transmission of disease. It is not taboo for her to keep having sex with her husband, but if this is a cause of her disease, Islam will advise her not to do it.

How does Islam influence how women care for themselves in prevention of STIs? Islam will support her, but she needs to think about it and go for it [treatment]. God created us, everything is in God’s hands, but we are supposed to follow reasonable measures. That means I have to go to the doctor, and follow-up, take my medications. God is a healer, but we are supposed to reasonable measures to take care of ourselves. Islam influences us positively.
Participant 2

What is your information about Saudi women’s health in Saudi Arabia?

Um, you mean my concept in general? Sorry, I will ask – is it about women, how to take care of herself, or hospitals?

Can you talk about both?

Do you mean what is happening now?

What is happening now, or through your experience when you were there.

I feel that women take care of themselves, but if she doesn’t have enough experience, if she gets anything, she won’t know what’s going on with her. Sometimes she won’t think about taking care of herself, or to go to receive treatment. The issue is she doesn’t think it’s important, or she’s apathetic. Sometimes it might be something dangerous inside her body, and she doesn’t ask about it. So from what I know, that woman needs to fall down [feel that she’s dying] before going to the hospital. I feel that any symptoms I feel prompt me to go to the hospital.

On the hospital point, I feel that they are covering everything. I feel anything that you need to be treated for, you’re going to find it there. That’s my opinion.

If you have a question about STIs, who do you talk to and when?

Sexually transmitted disease. First of all, I’m going to ask my husband, if he doesn’t have a clue, and usually men may be shy to talk about this topic, or he doesn’t have experience, so it is best to go to the hospital. But you have to tell him what is going on before you go.

[I will talk to] other people close to me. For example, my sisters, sister-in-law, and very close friends like my best friend, because we are ladies so we understand each other. And one of them might had the same experience, so when I ask questions, she’s going to say, “Yes, it happened to me!” So I take some hints, but not based on these words only. I am not the kind of person to base my knowledge on words, because every person has a different situation. It might be the same symptoms, but might be caused by a different thing than the same situation with another woman. That’s why I don’t base my knowledge on this, and I’d go to the hospital. And if I go to the hospital, I would give them all the details from A to Z, and I will not edit anything and I will not be shy from this topic, because there are some women who feel shy about these details. The ladies may say I have this, but the doctor should know what’s going on exactly, and should understand what’s happening to you exactly, so they can give you information.

How would you start this conversation (with anyone)?

I start directly with this topic. I have this and this and this.

How easy is it to talk about STIS with the people you selected?

For me, it’s very easy.

Where do these conversations take place?

Home, if it’s family, by phone, because they are usually far away from me.

What motivated you to have these conversations?

Page 69
Because, obviously, I take care of myself, especially this topic causes a lot of problems, and this is not good for women for several reasons. It can cause any disease in her uterus, and it makes you feel uncomfortable in your life. And with your husband, in intercourse, it makes you feel uncomfortable, too. And also, in everyday life, there is something with cleanliness of sexual organs, and cleanliness is very important to me. If you have sexually transmitted disease, that’s going to affect her health.

How do you see marriage as a risk for a woman getting an STI?

A lot! Marriage is a huge cause. Because when I was a girl [virgin, before marriage], I never had this [Any STI]. That means a girl, when she gets something like this, it might be because she didn’t clean herself well, she doesn’t wear clean clothing. This is the biggest cause of how a girl can get infection, but they don’t get sexually transmitted diseases unless they are doing something wrong, and this is very unusual in our culture. It might happen that she gets a urinary infection, but when she gets married, God bless her, she might get everything [every STI]. And that’s what I have seen in my life and I suffered a lot.

What role does marriage play in this risk?

Not a very big problem, it depends on the marriage and depends on the partners, and it’s [disease expression] dependent body to body. Because there are some men and women that have strong immune systems, they don’t get the infection quickly, but there are some women, especially women, because men’s genitalia is external, so they are not as high risk as women, whose genitalia is internal. We are more at risk because it depends on our immune systems. I know a lot of women, my friends, they said they never had anything in their life, or sometimes in their whole lives, they only had one infection. And this is very good. When we discuss it, we find that it depends on the immunity of the woman from the reproductive system. She’s supposed to be clean, clean herself well, and take care, but that doesn’t mean she will prevent this infection. I suffered a lot, but I cannot say it is really a huge risk. And also, it’s based on the man – the partner.

What do you mean by “it’s based on the man?”

If he’s not out playing around. There are a lot of men who do that.

What do you mean? Do what?

Do you want me to say it?

Yeah, say it.

Which means he has sexual relations outside marriage, and that’s going to infect the woman, and she’s going to get the disease quickly.

Is this type of man in Saudi Arabia?

Yeah, there are a lot of them.

Does the risk change for the different types of marriage we have in Saudi Arabia?

I don’t understand.

What are the marriages we know about in Saudi Arabia? And does the risk change for the different types of marriage we have in Saudi Arabia?
How many other marriages do we have in Saudi Arabia besides the traditional one?

A lot. There is a traditional one, there is something called forced-marriage [where family forces a marriage] and misyar. They have a lot of marriages they come up with at this time, and I think they are not important.

Okay. Do you think this risk is different now, between these types of marriages?

For women or for men?

Both.

If the man has another wife, without thinking about the type of marriage, if it’s misyar or something else, naturally and easily, that cause infections or diseases. Because it’s going to transfer between two, and everyone has a different body. He’s the vector, so he can get it from one and transfer it to another. He can transfer infections, or germs, or even something dangerous or not dangerous.

That means it’s based on the marriage he has?

Yes, if there is another woman in the man’s life, if it’s by marriage or by taboo activity, it’s going to affect the wife.

Is what percentage of the risk (how high is the risk) for the woman if she engages in these different types of marriages?

It’s not always, it’s 50% based on the woman. If they are two [in the marriage] and they don’t have any health problems, that will not affect her, or it might be like an easy infection to cure.

What information do you believe all women need to know about women’s health?

She needs to know a lot of things. First, she is supposed to know that there are some things she needs to do personally to prevent any disease or infections, how she’s supposed to take care of herself, because some women don’t know how. They can sometimes use some different tools, and this is can be done privately without men being involved. She can be the cause of this infection, and some women, they don’t know they are infected and don’t manage the disease from the beginning, and it’s going to increase, and increase, and become something dangerous.

What do you mean by tools?

Creams for washing that can also be used, Allways and Cutex [sanitary pads/tampons], and this type of stuff. It might cause infections, and infections can cause germs, it can develop, it can spread around inside her, if she doesn’t manage it from the beginning. This is personal stuff, and women are supposed to know about this. Obviously, they are ignorant on this topic. She cleans and puts stuff that she doesn’t know if it’s good or not good, or what she’s actually doing. And if she gets the infection, she’s going to infect her husband. In this case, she’s going to infect him. This is personal, the woman needs to know her relationship with her husband, that he’s supposed to be always clean, because if he’s not clean in the reproductive system, that’s going to infect her. For example, some germs like herpes can be caused by dirt or they are not cleaning well enough. She should know that her husband should clean well enough, because she’s supposed to prevent her own infection. And most of our women will not talk to their husband about this topic because they are shy. How is she going to ask, “Are you cleaned well enough?” The third thing
she needs to know, if the husband has outside relationships, another marriage or taboo relationship, that’s going to affect her 100%. Because all women need to have awareness to prevent these things, and she needs to get a check-up at hospitals.

Who should be responsible for women’s health education concerning STI risk and prevention?

So at the beginning, maybe, if she’s a girl, her mom [will teach her], but this is very unusual, because women are shy to talk to their girls about this. Even the big girls who are almost of marrying age, they don’t speak with them about this because it’s wrong and a topic of shame. I’m a person, I think that I’m going to talk to my daughter even from now until she understands everything, and I need to teach her in detail. Because she’s going to outside and ask others. Do you understand? And if the family is not present, she should play an important role to educate herself, read and ask. If you depend on someone who is outside, that is hard.

There are some courses that should be always available about this topic, and this is a very important topic in Saudi Arabia. They feel shy to teach it or to hear about it, and it’s very hard to go for a course about this topic. But who’s going to dare to do this? And that is why this is not working. And these courses are few and far between. Also, the TV and media, they always discuss this topic, and she can educate herself.

Are you talking about all issues, or STDs?

The sexually transmitted diseases, but it’s the same with all. How are you going to know it, how are you going to educate yourself about it, if the mom is feeling shy, you’re going to push yourself to read and to know. You shouldn’t keep silent, think of how you are going to do checkups. For example, in the United States, they do it yearly, about everything. In Saudi Arabia, they don’t force you to do it, and they don’t ask you, even. You have to go and ask. This checkup can show if you have a problem or not, or if you want any education, they give you the information, and they can tell you what’s going to happen next. As I said before, the media play an important role in educating for several diseases.

How can you take care of yourself or keep yourself in good health?

For me, the checkup every year from A to Z, not for a specific thing, bloodwork, cancer, anything, and when they diagnose you completely, they can know if you have something or not. Because sometimes you don’t know if there is something or not.

If a person gets infected with an STI in Saudi Arabia, what should that person do?

Go to hospital directly. This person should not follow his own philosophy, this person should go to the hospital.

How should that person make sure of whether he or she is really infected?

Go to the hospital, because he will now know, and he cannot guess. This is health, even it it’s something easy, from the beginning, he should go to check with the doctor, and the doctor can tell him what’s going on, whether there’s a risk or not.

How should that person use the Saudi Arabian healthcare system?

All health?

No, only sexually transmitted infections.
How he can access what? Hospitals? Or personally…?

Hospitals.

I really don’t understand how to answer this question. Can you elaborate so I can answer it?

We have hospitals in Saudi Arabia. Some of them are private, some of them governmental. If a person has a sexually transmitted infection, for example, HIV, or any other sexually transmitted infection, if he goes to this hospital, what is the process going to be?

[silent]

Would a person like this receive care immediately, or not?

[silent]

How is his status going to be at the hospital?

[silent]

Can he get access and get treated in our hospital? Are there any plans for him?

[silent]

Do they treat him, or leave him be?

No! Of course. I’m against this idea, that they don’t treat him, or they leave him! Then he’s going to go outside and be a player, and transmit the disease. This is a big disease, and it should be in private hospitals or the government hospitals, I feel that a specific region or clinic needs to specialize in this thing. They will be educated about this topic, what they have to do, they don’t leave him. They are not supposed to give him a chance to choose, but in Saudi Arabia, I feel they are going to let him do what he wants to do, and they are going to say, “This is a personal issue”. But he’s going to infect other people because you don’t know exactly what this person is doing. Do you understand me? The first the things they need to do is hold this person, talk to him, and give him advice.

Is this is what’s going on in our healthcare system?

No, that’s what I’m saying. That’s what should happen.

I want to know what is going on now.

I feel that they would let him go.

That means they will not treat him?

I feel they will treat him, but not in the right way.

What is the right way?

Okay, what? I will not be able to be philosophical about this topic, because I don’t have experience with this, and I have not heard about it from people I know. So I only talk to you about what I hear and what I have experience with. But I’m going to give you some information I heard from somewhere, that they don’t have the right way to treat this subject. They are supposed to have in each hospital specific professionals about this topic, how to manage, how to convince this person to not be in contact with other people which would transmit any infection. It is very hard because it’s also psychological. And the treatment should be in the right way.
Are you thinking about a specific clinic that is only responsible for sexually transmitted infections?

Yes, because this is a big issue, and we are supposed not to ignore it. It is possible to get this disease in Saudi Arabia, but we put it out of our minds because we are a conservative society, from Islam, culture, it’s not like outside Saudi Arabia. It might be we are less, but it doesn’t mean we don’t have it. We have it, and most are because of people traveling outside of Saudi Arabia. And I feel that they don’t care about this topic, they are careless about it.

How should health care providers in Saudi Arabia behave toward the person’s STI?

Sit with him, talk to him, advise him, give him the right way for the treatment. If they have the treatment, they are supposed to give it to him immediately, but I think it’s better to have it be a long process, not just like that. It’s not like one hour or one session or visit. It needs some work.

How should a person’s friends and family behave toward the person with the STI?

I really don’t know.

Usually?

They might get away from him, don’t care about him, don’t help him, don’t help him psychologically, they feel afraid. It’s very uncommon that someone will help him or be beside him. He’s going to be lost. [English:] But I’m not positive 100% what’s going on.

What personal characteristics might put a person at greater risk for an STI?

What causes STIs?

The characteristics of a person that makes them more in danger of getting an STI?

What I understand you are talking about is AIDS, is that right?

That’s part of it.

Two things. AIDS can come from blood or taboo relationships. I can see from my opinion in Saudi Arabia, mostly men can go outside or travel outside and bring back this disease.

How?

Sexual relationship. I meant by taboo relationship a sexual relationship. And those people are not really good people. They are from the street, and they have all these diseases. And our youth [men] don’t have awareness, cultural awareness or religious awareness, or even brain awareness [joke]! I don’t know what they are even thinking of. So because of this, people from the street.

Do you mean they get a disease from sex workers?

Yes, exactly. Excuse me, it is a really low percentage from blood [transfusions].

Is it different between single and married people?

I think it’s the same thing.

Does it matter what type of marriage they have?

You find very few in Saudi Arabia, very few Saudi Arabian women with this disease. And if they have something, it’s going to be simple if the man gets married from outside, he might choose someone not good because this marriage for him is superficial, he just gets anyone
because he likes her. It won’t matter to him about her family or what she’s up to, it’s just for [sexual] enjoyment. All these marriages that are not traditional, for me, I don’t believe in it. And I feel it’s a taboo. That’s my mind, what my mind says.

Does it matter if they are poor or rich?
Yes, of course. If he is poor, he will not be able to travel, and he cannot do anything, just sit at home. A poor person, he has responsibilities. He’s poor, he works all the time, we don’t say that it’s impossible for him [to get a disease] but it is a low percentage because with his money, he’s focusing on how he can work out his life. Even he doesn’t think about going outside and playing, or even getting another marriage, because if he is in a marriage and poor, it’s very hard for him to take care of his family. If he is not married, he’s helping his family, taking care of himself, and he’ll want to save some money to get married. But, the rich person, he has a lot of money, here and there, whatever he wants, he can do it, outside, get married, one, two, three. He doesn’t have any problem. But that means the rich guy has more risk.

Does it matter if they travel a lot or not?
Yes, big difference. Wow! Yes, of course. Outside, he can do misfar marriage, or taboo relationship, and this is very common among us. And they don’t care, and they don’t think carefully. I don’t know why, and I don’t know what they are thinking of, even though there are some methods of protection. As I said, yes, he who is travelling outside the country is at high risk. Those who are inside the country, he can get the disease, but it’s a low percentage, I think 5%.

In which way?
Taboo relationship.

Do you mean sex workers inside Saudi Arabia?
Yes, but Saudi daughters don’t have this disease like outside. Outside, it is very common.

Are they having a relationship in Saudi Arabia with a non-Saudi?
Even though the foreigners, when they arrive, they do for them a test, a health checkup, and it’s very rare to find someone with this disease, not like outside. There is some action by the Saudi government, which I think makes this less common.

Does it matter what type of job they have?
It might. Culture can change the person, even if he is on his own.

Does it matter whether they live in a city or in the suburbs, or remote areas
I don’t know, but I don’t think it’s going affect this, but I feel that people who are in remote areas, they are not rich. Even they don’t have enough education, they don’t have enough money, they feel afraid to do anything that is wrong, and they’ll be more conservative than others.

How does the Islamic religion influence how men and women learn that they have an STI?
100%. If the woman believes in Islam, in the right way, and she fears from Allah, even the man, they never think about doing anything wrong. Islam allows men to get married to several women at the same time, but women cannot married a million at the same time. So she has less risk to get this infection. It’s hard for a Saudi girl to marry an outsider easily. This is a cultural issue, not with Islam. I think Islam has positive influence in our city, thank God! I think also there are
women doctors, if she doesn’t want to go to a male doctor. If there is something important in life, and Islam will not say, “Don’t go!” or “Don’t do!” I feel that it is all related to tradition more than Islam.

How does Islam influence how men and women handle learning they have an STI? How does Islamic influence impact marriages where an STI is found in one of the partners?

This has no relation with Islam. I think this is a personal conviction. Islam always says that anything you get is from God, it could be a test from God. It’s a lesson from God. As a Muslim, I pray to Allah that he’s going to forgive me for my sins. I think about it this way, because I’m a Muslim, but if I was not a Muslim, I would not think like this. But at the same time, I would feel sad, even though I am a Muslim.

Does that mean Islam is going to influence this?

Yes, but it’s not going to make a difference with everyone, because some of them say they are Muslim, but their actions are far away from Islam. At the end, that’s based on a person’s personal awareness, education, and beliefs. And that’s the same with the men.
Participant 3

What is your information about Saudi women’s health in Saudi Arabia?

From what angle?

Generally about women’s health, how her health is in Saudi Arabia, if she’s taking care of herself and going to the hospital or not.

From my beliefs, women don’t care about their health a lot. When women become older, their self-care decreases because they start to have a lot of responsibilities when she’s older. Having kids, or a husband, or if she’s a worker, so she has a lot of responsibilities, the opposite of when she was younger. Usually, younger women, their guardian take care of them more than they take care of themselves.

If you have a question about STIs, who do you talk to and when?

Before, I used to mainly ask my mother, although sometimes I don’t like to ask her. I go online, on the internet, a lot before going to ask her, and it depends on the topic. I feel that when I became older, I became more bold in asking my mom, and also, go surf the internet.

Do you speak about this with your friends?

No. Very few, because I don’t think so, because I haven’t had that problem.

What about your husband?

No.

Where do these conversations take place?

At home, or by phone, it doesn’t matter.

Before, you said it was not easy to talk about the topic, and then it started to become easy.

Yes.

How do you start these conversations?

I had difficulties when I was young. I didn’t dare to talk about it until I became older. I started to feel bolder, and more open about this topic.

Is it easy for you to talk about this topic?

Not with just anyone. It should be a very close close people, as my mom or my sisters. My friends, I should be very selective when I ask them.

What motivated you to have these conversations?

What motivates me is the need to know the information, how to get help, who has experience with this, or someone who had the same issue, and how to deal with the disease.

How do you see marriage as a risk for a woman getting an STI?

Of course, when women get married, problems with such diseases [STIs] can happen if the spouse already has any disease, it is easily transmitted to her. It’s the opposite if she’s not married.

Page 77
Does that mean marriage is risky?
Yes, if there is a problem with the partner, especially if he’s not taking care of himself. How he can deal with these things. So that’s going to make it risky. But personally, I haven’t had anything like that happen.

What role does marriage play in this risk? Does the risk change for the different types of marriage we have in Saudi Arabia?

What do you mean by different type of marriages?
What are the marriages we know about in Saudi Arabia?

Type of marriages?
What are the different type of marriages we have in Saudi Arabia? Besides the traditional marriage?

[silent]
Do you want more clarification?
Yes, I don’t understand. I don’t know. Do you mean the marriage in secret? Is that what you are asking?

Yes, secret marriage, or misyar/secret.
Yes, I know, I hear a lot about misyar. But I don’t know about other marriages.

Okay, we will go back to the questions I was asking before. Does the risk change for the different types of marriage we have in Saudi Arabia?

[silence]
Whoever gets married through misyar, not traditional, do you think they are at risk?

I think it doesn’t matter about this topic.

What information do you believe all women need to know about women’s health?

[silent]
In general?

[silent]
What’s the most important information that women should know about women’s health?

Do you mean how she can care about herself? Like that? For example, risk of cancers? Breast cancer, or uterus cancer, or how she can get treated for this in an early stage. Although breast cancer has a higher rate in women, I feel we don’t have a lot of awareness nowadays. I believe there is some improvement, but it’s not the improvement that we are looking for.

Who should be responsible for women’s health education, in general and concerning STI risk and prevention?

O God, a lot of people! But from my belief, the first thing is the school, it plays an important role to teach students in general, since they are young, and gives them awareness. Also, the
organizations improve awareness for women. And also parents, they have an important role in teaching their kids, and people around them.

And about STIs?

Do you mean only about STIs?

Yes.

Also, I think the school plays a role in this topic, to educate students. It should be that there is an organization to teach awareness in general public places, as malls, recreational locations. Also, there should be centers in those places that are highly populated. Also TV and media has a big role to improve or develop women in general.

How can you take care of yourself or keep yourself in good health?

Of course! I have a primary care doctor, I have regular follow-up as needed, every six months or yearly. Also, if I have a need, I need to do all the investigations or tests. I feel it’s really important to have a primary care doctor I go to visit to take care of myself.

If a person gets infected with an STI in Saudi Arabia, what should that person do?

The person who gets infected? Of course, if he is young, the family should know. And they have to try to go to the hospital to treat this. If he’s old, he should do the same thing. The main is to go to the hospital to treat themselves.

How should that person make sure of whether he or she is really infected?

We are back again to the importance of hospitals to this topic.

How should that person use the Saudi Arabian healthcare system?

Healthcare facility? What do you mean by that?

Is it typical to go to any hospital? Are there specific hospitals? Are there government or public hospitals to treat him? Can he use the healthcare facility?

[silence]

Is there any department at the hospital who treats or takes care of sexually transmitted infections?

I don’t have any experience in these things, but for sure, there is a department that specializes in these things. Of course, if he has a primary doctor, if he has any problem or faces any problem, the primary doctor should know about it, and at that moment, he can send him an e-mail. Of course, in Saudi Arabia, it’s going to be very difficult to e-mail the doctor, but the primary doctor should know everything. And then he can transfer or refer him to the specialist and tell him his status.

What should health care providers in Saudi Arabia behave toward the person’s STI?

How should they behave? They have to diagnose them, and know the main reason for this thing [infection]. And if this thing could have caused him to be infected, they have to know how these persons can cope with this thing, and prevent transmission of it, and treat those people.
How should a person’s friends and family behave toward the person with the STI?

Do you mean, how do they deal with this person?

Yes.

If they have an important role, to teach him if he doesn’t have experience, tell him where to go specifically. Especially if this person is young and he doesn’t have any life experience. Tell him which hospital to go to, who is responsible to treat him. An if they have any other experience, let him know.

What personal characteristics might put a person at greater risk for an STI?

Irresponsible about this topic, and he doesn’t have any background about these diseases, so this person is going to be at high risk. Even a husband or a wife, they don’t realize that this disease can be transmitted, or how to treat it, or how to protect themselves from it.

Does it make a difference if he is married or not married?

Of course it does. The single person, if he gets infected with some of these diseases, he will hide this thing, especially if we are talking about Saudi Arabia, and he won’t mention it to people, and this is going to worsen his condition, just because he wants to hide it. Especially, this disease, it’s connected with the other person in the sexual relationship, it’s the opposite of the married one, who the community would not blame for this.

What do you mean by “the community would not blame him”?

In Saudi Arabia, the single person, it is very difficult for him to talk about his disease, and if he is going to be treated at the hospital, it will be obvious to people that he must have done something wrong, whereas it’s the opposite with married people. Also, it matters if he’s single, he might have done this with several people, and if it’s more than one partner, he’s going to be at high risk. If he is married with one person, he’s going to be low risk.

Does it matter what type of marriage?

No.

Before you said “no”, but what about if he has several misyars or several marriages?

When I answered the question before, I said they’d be separated, I think misunderstood the question. Do you mean it makes them at more high risk to get infected? I understand that it puts them in danger if they do not treat themselves, but now you are saying it’s more high risk.

Yes, at high risk if he gets infected with STIs?

Okay, I’m going to re-answer this question again.

Does it matter the type of marriages?

If it’s misyar, from several persons, yeah, he might be more at high risk. It depends on the person.

Does it matter if they are poor or rich?

The rich has the ability to have contact with many people, which is the opposite of the poor person.

Does it matter what type of job they have?
I feel it doesn’t matter. It’s based on how much money he has.

Does it matter if they travel a lot or not?

Yes, of course. Who’s the person?

The person who is traveling a lot. Is he at high risk?

A single or a married one?

Anyone of them who travels a lot. Do you think he can be at high risk to be infected?

If he’s married, he’s going to be with one person, and of course he will not be at as high a risk inside Saudi Arabia or outside Saudi Arabia, that’s what I believe. Right? I don’t know if he or she is traveling alone or with the spouse.

I’m talking generally about the person traveling outside the country. Is he at high risk to get infected?

Okay, I know that this disease is not happening without contact, is that right?

Yes, it’s right.

Okay, I’m thinking about the married person in general. There might be a few people who are at risk, but in general, the married person inside or outside the country, they are at lower risk to get infected.

Does it matter whether they live in a city or in the suburbs, or remote areas?

What?

People who are living in cities. Do you think they are more at risk than people who are living in the suburbs?

I feel that it doesn’t matter as much as the factors that you mentioned before, as rich or poor, and married or single. But like, I can think about it from only one side, that people who are in the suburbs, they don’t have the education as people who are in cities. That means they might be ignorant of it, they are not like the people who are in cities.

Can you clarify that?

People who are in remote areas, it’s very difficult to find schools, universities, and you feel that they don’t have good education or awareness. The opposite of the people who are living in cities, they have a lot of universities. So these people who are living in those areas, they don’t have a background about these diseases, and the single ones, they can be at high risk to get it.

How does the Islamic religion influence how men and women learn that they have an STI?

Of course, Islam urges that we should learn that education has an important role, and awareness has another role, both for men and women on this topic. From several areas, schools, universities, the media, should provide an awareness about this topic.

How does Islam influence how men and women handle learning they have an STI?

Do you mean faith?

Yes, it might be, yes. What do you think, if the Islamic faith influence’s the person?
Of course, Islam has an important role, to give women faith that God’s going to treat her or cure her. When her faith in God is strong, it’s going to help her psychologically, that’s going to be better, and that is opposite of those who don’t have faith. Those people’s confidence level is going to be weak to get cured from this disease.

How does Islam impact marriages where an STI is found in one of the partners?

Of course, in general, the percentage of divorce is going to be higher, even if they are trying to be patient about themselves. I don’t believe this marriage is going to continue for a long time.

Why?

If one person has this disease, that means there is infidelity, and besides the infidelity, this disease can transfer, and I think these are two good reasons for divorce.

How does Islam influence how women care for themselves in prevention of STIs?

This is a very hard question, I think I don’t understand it. I think we are back to the education and be patient that God is forgiving and merciful. People should be forgiving with each other in the relationship.

What is the method of prevention? If the women found that her husband has the disease?

How is this related to Islam? Can you make it more clear? Can you explain it to me?

If she should continue in her marriage, how can she take care of herself and prevent the disease?

Especially in Islam, she cannot deprive her husband from a legitimate relationship.

How can she stay within the boundaries of Islam?

I have no background as to whether there is any prevention, at the same time, if he has this disease, and if there is a way to use something to prevent the transmission so she can use that. Or in general, Islam is a religion of mercy. If there is a danger, Islam will not force her to do this thing [sexual relationship with husband].
Participant 4

What personal characteristics might put a person at greater risk for an STI?

A relationship outside of marriage.

Is it going to be different between a single and a married man?

Yes, it is different because a married man is under control, and he has only one sexual relationship, not more. But a single person, he has more sexual relationships.

Does it matter what type of marriage they have?

Do you mean misyar? If that’s there, yes, there’s going to be more, of course, and that’s going to cause diseases because the person has several wives with this misyar. Several diseases are going to show up.

Does it matter if they are poor or rich?

It doesn’t matter, because usually marriage is marriage.

Does it matter if they travel a lot or not?

It differs, of course, because if he is outside Saudi Arabia, a person who is not immune/married to the disease, they have more probability to get this disease than people who live in the same society (Saudi society). This means, if he is traveling a lot and back to his family and wife, the disease has a high probability of spreading quickly and transferring to his wife. That means he is having a taboo relationship outside Saudi Arabia, and when he comes back, he transfers it.

Does it matter what type of job they have?

Maybe, if the place a mix (of genders). It might be increased.

Does it matter whether they live in a city or in the suburbs, or remote areas

I feel that it doesn’t matter if he’s doing these things (having sexual relationship outside marriage). Already, it’s (sexual relationship) going to be there, and that’s going to increase the disease. If he wants to do it, he will do it, anywhere.

What health information would you like to learn from health care professionals?

From my side, as a woman, it can be if the sexually transmitted diseases that I don’t know about. I just know about AIDS. The other sexually transmitted diseases or the new diseases, I don’t know about them. They could give me background about them. But because we are Muslims, we don’t have these things (diseases), and our probability to get this disease is low. Because if the couple is already immune/married, and that will keep them from getting a disease. The immune/marriage relationship makes the probability of getting the disease low.

In what setting would you like to learn this information?

At the doctor’s office.

How should the information be provided?

Also, conferences and workshops to increase the awareness.

What kind of health care professional would you prefer to learn from?
The doctor specialist, or the nurse.

What kind of private settings would you like to learn the information?

If I receive this information from the specialist doctor, I’m going to be in his clinic, and if I’m at a conference or seminar, that would be in a public place. And it’s no problem to be in a public place with all of us being woman, and there’s also no problem if there is a man there because we are learning. Also, the male partners of these women will be aware. I don’t think this should be very private, because it is just education.

What about malls?

Public places like malls, I don’t think it would be a good idea. That’s because there are several age groups, including kids. Because of that, I feel it’s better not to do it there. But if it is a seminar for a specific age group, I think it would be good but not at the mall.

How can Islam help a woman who knows her husband has an STI?

From an Islamic point of view, she can ask for a divorce, or she can get separated from him, because he had an affair. Or he did something taboo, and that in our Islam, haram. We have haram, and halal, and if something is haram, you can’t do it, and if halal, you can.

How can Islam support a woman in this situation?

Islam is of course supportive of this woman. Because she is going to be hurt because of this problem. But how she can prove that this man has a disease? Or ask him to go for a test? I think here, it’s going to be a problem, because of the Saudi culture. How is this culture going to accept him doing the test? He’s going to reveal himself to the community and that is hard in our culture.

What is the right thing to do to help this woman?

In this situation, with AIDS or another sexually transmitted infection, I really don’t know how, but I think the better way is to separate from him because I don’t think it’s curable.

What about the use of protection?

How can she prevent herself from having sex with her husband? I think it’s very difficult. The best way is to divorce.

What is your personal advice to this woman?

This woman shouldn’t reach this point, that her husband is having a sexual relationship with others. But now, I’m thinking even traditional marriage, there can be several wives. So, I’m thinking this can also transmit the disease, and that is a problem, because there are so many wives. Now we are back to the same problem. Even several wives, if it’s done legally, can also transmit this disease. If there is any cure, can they get treated? Is there any protection for them, if the man gets married to another wife or several wives? I don’t have any experience.

What is the relationship between being married and getting infected with a Sexually Transmitted infection?

No, of course, it’s not a risk.

What role (if any) does marriage play in becoming infected with STIs?

If a person is clean, personally, why is there any risk? If there is another sexual relationship, yes, but the marriage itself, it’s not a risk. But how can she guarantee that her husband doesn’t get
involved in another sexual relationship? From here, she is supposed to have control, so her man will not get an outside sexual relationship. For example, she’s supposed not to be away from him for a long time. Or she doesn’t know anything about him. There should be awareness for this. That can allow men to think about having a sexual relationship outside marriage.

What types of marriages are you aware of in Saudi Arabia?
I don’t know types of marriages, if the woman can have more than one husband.

Mostly, men have more than one wife, not the woman.

Yes, usually men have more than one wife, and that’s of course going to cause sexually transmitted disease. And I think yes, it matters depending on the type of marriage.

Does the risk of infection change for individuals in different types of marriage?
I only know about traditional marriage and misyar.

What is the risk to the woman if she engages in these different types of marriages?
I don’t know.

How does a person prevent getting an STI?
Prevention? Of course, I’m going to ask, as we said at the beginning, how I can protect myself, how I can take care of my cleanliness. Have a check-up, which should be a regular check-up with follow-up.

What sort of prevention is available? What strategies work best for preventing STIs?
Also, we are talking about the sexual relationship outside marriage, or in general, the person should have frequent regular follow-up and awareness.
Participant 5

What personal characteristics might put a person at greater risk for an STI?

A high risk person who is sleeping with more than one person (sexual relationship outside marriage).

Is it going to be different between a single and a married man?
The only difference is based on the person, how sexually active he is.

Does it matter what type of marriage they have?
Do you mean misyar? It might be different if he is married to more than one person.

Does it matter if they are poor or rich?
No, it doesn’t matter. I feel it is the same for a rich person or a poor person.

Does it matter if they travel a lot or not?
Maybe, it matters if he is traveling a lot. Maybe he is having a relationship outside (Saudi Arabia and marriage) and that’s going to affect it.

Does it matter what type of job they have?
No, it doesn’t matter.

Does it matter whether they live in a city or in the suburbs, or remote areas
It doesn’t matter about the city or the urban area.

What health information would you like to learn from health care professionals?
The way the sexually transmitted disease is transmitted. Sometimes they say it can be transmitted through a toilet seat. I know it’s not. Or is it? But how, if there are other ways of transmission, is there another way of transmission that is not sexual?

In what setting would you like to learn this information?
At the clinic, because of the privacy.

What kind of health care professional would you prefer to learn from?
Anyone in healthcare, but especially nurses who are close to us and make us feel more comfortable.

What kind of private settings would you like to learn the information?
It should be very private, because a person can feel free to ask questions.

What about public places?
It can be in public places, but it can’t be a discussion. They can give us pamphlets, and a person can take it and read it alone.

How can Islam help a woman who knows her husband has an STI?
Islam? What does Islam matter here?
Like in prevention? Does it support her?

Page 86
Yes, for prevention, Islam does support her because this sexual relationship outside marriage is taboo. But if something has happened already, I don’t know how Islam is going to support the woman.

How can Islam support a woman in this situation?
I don’t know how Islam can support her in this situation, if something has happened, and her husband gets the disease.

What is the right thing to do to help this woman?
For her health, to give her awareness, to prevent any sexual relationship with him. Or to use a condom so she will not get the disease.

What is your personal advice to this woman?
She should learn how the disease got to her husband.

What is the relationship between being married and getting infected with a Sexually Transmitted infection?
Inside the marriage, there is a sense of trust, so no one uses condoms, which means that they are trusting each other not to have an outside sexual relationship. And the probability of getting the sexually transmitted infection if one of them is having an affair goes up. The marriage itself, it’s not a risk factor, it should serve as a prevention from these sexually transmitted diseases.

What role (if any) does marriage play in becoming infected with STIs?
Usually, it doesn’t matter what type of marriage, it’s all the same.

What types of marriages are you aware of in Saudi Arabia?
Misyar, traditional marriage. Also some people are talking about scholarship marriage, who get a scholarship, but I don’t feel it’s from our Islam, because from Islamic law, you should not get married if you are already planning to get divorced later. In our culture, there are more than these type of marriages, but I don’t feel that it’s right. The scholarship marriage also has people going outside Saudi Arabia for scholarship, and they will later get divorced because the woman needs mahram (male guardian) during scholarship.

Does the risk of infection change for individuals in different types of marriage?
The risk depends, if it’s orfi or misyar, and it’s not announced, that can be a risk for a man or woman, that they might have some other outside relationship and transmit the disease.

How does a person prevent getting an STI?
Prevention? As I said before, using a condom. And there is a trust between both of the members of the couple that there will not be an outside sexual relationship.

What sort of prevention is available? What strategies work best for preventing STIs?
As I told you, the same thing.
Participant 6

What personal characteristics might put a person at greater risk for an STI?

From my point of view, I think the taboo sexual relationship, this is very important in general. Also, it can be transmitted through publically used tools, such as shared razors, this can cause the transfer of transmission of sexually transmitted infections, and for example, and cause AIDS.

Is it going to be different between a single and a married man?

Do you mean the sexually transmitted infection? No, I don’t think there is a difference between a married one and a single one, I think it is the same. It depends on the person’s personality, not if he’s married or not.

Does it matter what type of marriage they have?

No, it doesn’t matter. I know basic types of marriage, for example, traditional marriage, or misyar, which is a more private marriage. Also, I know about the travel marriage, but I don’t consider it a marriage, but I hear about it. But we don’t use it, and I don’t believe in it.

Does it matter if they are poor or rich?

In this disease, I feel it’s more of an awareness for poor people. I feel that poor people don’t have good awareness and they could try anything and that could put them at high risk. The rich people, they probably have better awareness, and maybe they can find something to guide them or advise them, and they can choose something better or something clean, or have better medical care.

Does it matter if they travel a lot or not?

It’s based on why he is traveling. If he’s traveling for something specific (sexual relations), yes. But if it’s only for exploring, I think it’s okay and it isn’t high risk, especially if he’s a good person and he’s using his personal items/tools, and he is using clean rest rooms, he’s cautious, that puts him at low risk. Do you understand?

Does it matter what type of job they have?

Yes, it might matter. The work environment sometimes makes us more flexible in having a sexual relationship, so we are back again saying it is based on the person. If he believes in himself and in his values, as I told you, the workplace or work environment can be negative, if the person is sticking to his value, and doesn’t have conviction.

Does it matter whether they live in a city or in the suburbs, or remote areas

No it doesn’t matter.

What health information would you like to learn from health care professionals?

What is the right information. We need more awareness, I feel that we need awareness about sexually transmitted infections, specifically for this new generation. I feel that health care professionals to increase the awareness about this topic.

What do you mean this topic?
Sexually transmitted infections, all of the sexually transmitted infection. And there are a lot of women who don’t have awareness, and they need to know the basic, easy information about these diseases.

In what setting would you like to learn this information?
With my doctor, specialist, or the general practitioner. And I prefer it in a clinic.

What kind of health care professional would you prefer to learn from?
If I receive the information from the doctor, I’m going to know that this information is correct. Also the nurse. It’s important to have someone from healthcare providing the information.

What kind of private settings would you like to learn the information?
Very very private. It should be between me and the specific healthcare provider in general. I feel that I can ask questions, and ask more about details.

What about public places?
I feel I want something more specific, but it’s okay to have it in public, but I prefer privacy.

How can Islam help a woman who knows her husband has an STI?
This is a very important question. Islam, I feel that Islam protects women’s rights, even though the world thinks it’s the opposite. But we (Islamic women) protect our rights. But frankly, I don’t know how Islam can support her, but I am sure Islam would support me with its basics, and this woman can support her husband. Islam supports women in a very strong way, but I really don’t know how to answer your question because it’s a very deep question.

Is it okay if the woman asks for divorce? Or she uses a condom?
Of course, Islam is on the woman’s side. And Islam is going to be on her side even if she wants to use a condom, or if she wants a divorce. These are her rights in Islam, and Islam protects your rights!

What is the right thing to do to help this woman?
First, she needs to ask the doctor. She needs to be under the doctor’s care and follow-up, and her husband has to be under doctor’s care and follow-up. In addition being under follow-up, and that is the important thing I see.

What is your personal advice to this woman?
I already told you before.

What is the relationship between being married and getting infected with a Sexually Transmitted infection?
I see that marriage can be a risk factor if the person in the marriage doesn’t have awareness and doesn’t have any religious principles or ethics. That can cause me a risk for my life, for my future, and my family. But otherwise, it is not a risk factor.

What role (if any) does marriage play in becoming infected with STIs?
In a general way, no, but in a personal way, if this person, a married person, he’s not staying in line (staying faithful), he can damage your life. But if he is in line, no, it won’t. And we can see before marriage that through the pre-marriage testing in Saudi Arabia, and through watching his
behavior before marriage. I think that marriage medical tests cover sexually transmitted infections.

What types of marriages are you aware of in Saudi Arabia?

I told you before, misyar, and traditional marriage.

Does the risk of infection change for individuals in different types of marriage?

No, it doesn’t matter.

What if this person tries a different type of marriage?

Maybe, if she’s a person who tries a different type of marriage. But I see a lot of cases (of different types of marriages) and they are protected and they protect their health and they don’t have any medical problems.

How does a person prevent getting an STI?

Prevention? The first thing, I am supposed not to use publicly shared tools or anything shared in a public way, and I need to be cautious. I feel like personally I need to take care of myself. Aside from that, stay away from any taboo sexual relationship. First of all, it’s taboo, and secondly, it can cause sexually transmitted diseases. If someone wants to have a sexually taboo relationship, he is supposed to understand with whom he is doing this, and not with any person and not in an easy way. Third, this disease be transmitted from a husband to wife, but we always say that, God willing, if both sides are following-up and they know what they are doing and don’t have any sexually taboo relationship, they will not have this disease.

What sort of prevention is available? What strategies work best for preventing STIs?

Prevention with separation, by condoms, that is important. Because it can be spread quickly. And follow-up. So it’s follow-up and separation.
Participant 7

What have you discussed about sexually transmitted infections with a health care provider?

Honestly, I never discussed that. But I have a background from my studies, my reading. Also, through our religion. For example, we are not supposed to do anal sex. And that can cause a problem, and consequences. It’s taboo in our religion.

What information did you ask about?

I might have taken a brochure, but I never went myself and asked about this stuff. But when I go for a specific procedure or examination, they usually ask if I have any sexually transmitted diseases.

What did you learn from the brochure?

The brochure is written about proper infection control, especially in crowded places or places that are filled with people. Especially here, in America, if there is sexual contact, there needs to be precautions. This is what I know. Some stuff can be reliable and not because of our culture.

What information did they give you about diagnosis and treatment?

Diagnosis, based on my study but not from the health care provider, it can be by clinical presentation, signs and symptoms of the patient. The treatment, it depends on the type and the stage. It might be only prevention, or an antibiotic, and also, there is something very important, and that is to change behavior for protection. There are some diseases with no cure like AIDS, but the healthcare provider can do something to help the patient. Nothing for acute treatment, but just to help reduce the sign and symptoms or the pain.

What health information would you like to learn from health care professionals?

Healthcare information on this topic, sexually transmitted infections, I love those providers who are open to these things more. In a way that when they ask, they don’t ask yes or no questions, I prefer they discuss and explain about signs and symptoms, especially these things which cause an infection, and it can start as a minor problem and then develop into a sexually transmitted infection. The healthcare provider, when they ask, they ask only about serious stuff. They don’t ask about things when they start. There are patients who don’t know the difference. Some stuff I learned from my studies. I feel if they would explain in a specific way, it could be better. As some people, even if it’s a routine examination, they give them general information and protection and precaution and that makes it better. But not all of them do that.

In what setting would you like to learn this information?

In the doctor’s clinic.

How should the information be provided?

Via discussion. I think interaction might be through the internet, because this stuff, even here in America, you cannot find good information about it, you have to search for it.

What kind of health care professional would you prefer to learn from?

OB/GYN or primary care physician. Or associate, for example nursing, even if it’s not a doctor.

What kind of private settings would you like to learn the information?
Privacy, it’s not very important to me.

What public settings?

Yes, it’s okay to have this information in public places.

How does a person prevent getting an STI?

It’s the same as what we said before. Infection control, prevention, it must be that there is an awareness, first of all, and I know about it more. The problem is that this disease happens when there is no awareness or lack of awareness. The person who gets this doesn’t take care of himself, and sometimes they don’t know there are diseases like that. And even sometimes if they know, they think it’s minor and can be cured. It’s not like here in the United States, and it can be transferred to something serious.

What sort of prevention is available?

He can use protection such as condoms, like this stuff.

What strategies work best for preventing STIs?

Only condoms.

What role (if any) does marriage play in becoming infected with STIs?

The positive or negative?

Let me know the positive.

Marriage, if the two people are aware and know themselves, they will do a checkup before marriage, and they have an idea about each other and background, and they love each other, and also, they have good communication. That will decrease the risk of having multiple sexual partners. The sex will be only with one person. Especially that you know the partner will do this, and that will not cause any problem. Therefore, there will be no sexually transmitted infection. If they do it in a proper way.

Let me know the negative.

The opposite, if it happens, if you get married to someone who you don’t know who is from a different environment, and there is no medical examination before marriage, and there is not proper education about sexual contact, this is going to produce problems. In Saudi Arabia, medical screening is optional. I don’t think that single persons do the medical screening because of the culture, but I think it’s there in Saudi Arabia, we have it (screening).

What types of marriages are you aware of in Saudi Arabia?

Type of marriages in Saudi Arabia? There is the usual marriage. And the secret marriage called misyar. But people, they don’t know that this person gets married because it’s a secret. And there is marriage only for pleasure, and this was to get married to the person for specific terms and specific time for the purpose of sex. All of that can lead to more sexually transmitted diseases because the only reason for these marriages is sex, and there is no awareness or desire for this marriage except for that.

What is the risk to the woman if she engages in these different types of marriages?

Besides the sexually transmitted diseases? Psychological diseases or problems.
How can Islam help a woman who knows her husband has an STI?

Okay. First of all, she has to be clear with him. She should open the topic in an indirect way, to encourage him to do an examination and to treat himself. Second, it depends on the status of the disease, but they might need to prevent doing intercourse, and go out to get treated. Or, there can be certain protections during intercourse like using condoms.

What is the right thing to do to help this woman?

Of course! The first thing, because of our culture, she would never think her husband is doing something wrong, or she might think that he could get it from lack of public infection control or blood transfusions.

What is your personal advice to this woman?

There are a lot of cases in Saudi Arabia like that, so she is supposed to not leave her husband. These issues should not affect her relationship with her husband, first of all. Second, she has to be patient, and to deal with it as any other disease that would affect her husband at the beginning. And she should be supportive and help her husband to get treated.
Participant 8

What have you discussed about sexually transmitted infections with a health care provider?

The things that I remember that someone told me about, the topic of having sex during menstruation, that can cause disease for men. This is the information that I received, but I never asked. But this information I received was an awareness to not do this, and we also know this from our religion, that we are not supposed to do it.

What information did you ask about?
I never asked about any information, but what I received was this information.

What information did they give you?
The sex should only be done with one person, who is your marriage partner.

What information did they give you about diagnosis and treatment?
I learned about if there is discharge, that can be a sign of disease, and they have to do a culture swab for it to test it, if it’s bacteria, through a blood test, to know if you have a disease. And treatment can usually be with antimicrobial, antibiotic, or anti fungal.

What information did they give you about prevention and how it is transmitted?
You can prevent it by using a condom.

What kind of provider were they?
OB/GYN.

What health information would you like to learn from health care professionals?
Prevention is better than treatment, especially when it comes to sexually transmitted infections. So we need to know how to prevent and also if there is any other way, not related to sex, can be a cause of sexually transmitted infections. [ENGLISH] If it’s their patient, they should be aware of it.

In what setting would you like to learn this information?
In the clinic, even OB/GYN doctor or general doctor.

How should the information be provided?
Even by brochures or verbally, by talking.

What kind of private settings would you like to learn the information?
In a visit to the doctor, basically only me and the doctor.

What public settings?
Public settings? If it’s like an educational seminar, yes, it can work. If it’s for the public and for all people attending, yes, it’s okay.

How does a person prevent getting an STI?
First, the person should not be sexually active with only the person they are married to. Then, always, if the person goes to rest rooms in public places, the person should make sure the place is
very clean, and if there is any blood or anything like that, he should get away from it and not touch. He shouldn’t touch anything with blood or bodily fluid.

What sort of prevention is available?

For sex, they should use condom, and for other things, and use cleaning products if you are going to a public place, especially if there is blood or bodily fluids. You need to put some napkins down and clean up the place so the blood or bodily fluids don’t get to your body.

What role (if any) does marriage play in becoming infected with STIs?

If she married someone who has a sexually transmitted infection, or he is practicing a behavior that makes him get the infection and then transfer it to her.

What types of marriages are you aware of in Saudi Arabia?

The traditional one, the orfi, the pleasure, the misyar.

What is the risk to the woman if she engages in these different types of marriages?

If it’s the pleasure one, I think the risk of getting infected is higher, because this man who sleeps with women just for pleasure, she can sleep with a million men before him. And she can be a risk, that she has this disease, so can you imagine? She can transfer the disease and be the source of infection to transfer it.

How can Islam help a woman who knows her husband has an STI?

If he can get treated and cured with medication, and he doesn’t have sex with her, it depends, maybe this disease cannot be treated at all. Our Islamic religion prevents or prohibits sex during menstruation, and this can decrease the risk of having the disease.

What is the right thing to do to help this woman?

This woman who has a husband with the disease, first, awareness that she shouldn’t do sex or intercourse with him, because she will not risk getting the disease. And if she wants to get divorced from him, that’s her right. And if they are going to have sex, she needs to be aware of the techniques that she can use to prevent the transmission of the disease, have her husband use a condom, so she will not get the disease, if she wants to continue with him.

What is your personal advice to this woman?

Awareness, and she’s supposed to not to feel fear from her husband or from her culture or the public. She should not keep this information to herself, she needs to go and ask the doctor, even her husband should know this stuff to get aware, to prevent him from punishing her or slapping her if she refuses to sleep with him, to take care of herself, and her health.
Participant 9

What have you discussed about sexually transmitted infections with a health care provider?

From my point-of-view, I didn’t talk about it with the physician, but I might discuss it during my internship, about STDs, especially for kids or pediatrics, about abuse, and this is very important for us to know and ask about. Also we talk about it with the families of those kids and with the kids, especially teenagers coming to the clinic for child visits as an educational part. That’s here in the United States. But in Saudi Arabia, I didn’t talk about it with students, but I might discuss it during my bachelor’s degree.

What information did you ask about?

The information that I received, what is the type of it, the route of transmission, the signs and symptoms.

As what?

HPV, Human papilloma virus, this is only what remember. God! But in HPV, this is very important especially for parents of adolescents coming to the clinic for the HPV vaccine. The transmission, most of it, I believe, it’s sexual intercourse. The diagnosis, I swear to God I don’t remember, but for HPV there is a swab for it, but I’m not quite sure. But some of it can be clinically diagnosed from signs of HPV.

What kind of provider were they?

Mostly during my studying there were nurses who teach us, and in the clinic with the doctor.

What health information would you like to learn from health care professionals?

In sexually transmitted diseases, the most important things to know are about signs, diagnosis, about the population I’m going to serve, and what is the prevalence of the most common sexually transmitted diseases in this population, that’s it.

In what setting would you like to learn this information?

In the clinic.

How should the information be provided?

I swear to God, I prefer to receive a written document or file to keep it for my future reference.

What kind of health care professional would you prefer to learn from?

Mostly, nurses or nurse practitioners, because she will be more explicit and will elaborate. Her position and point-of-view will be different than the doctor’s, and she can counsel the patient about family matters.

What kind of private settings would you like to learn the information?

It’s okay, I don’t care about the privacy, if it’s between nurse and nurse, or if it’s in a place like a hospital, it doesn’t matter.

What public settings?

Public settings? Yes, for awareness, from my point-of-view, this method of providing information is very important, especially in malls.
How does a person prevent getting an STI?

Prevent? I think by condom use, protection is the most important thing. And also, sexual activity can be based on culture or religion, that sexual contact cannot be with anyone, just the marriage partner. Also, there is a test before marriage, but I don’t know if contains sexually transmitted diseases, but it can be done and it’s very good to prevent the disease from transmission.

What sort of prevention is available?

Tests, before any person gets engaged in any relationship, it’s very important. Second, condom use. I think these are the only two.

What strategies work best for preventing STIs?

God, if he is married or is single, it doesn’t matter, but the most important precaution is to know if the other person has a sexually transmitted disease or not. Also there can be vaccination, but there are some diseases that don’t have a vaccine, but if it is HPV, the vaccine is important in adolescence.

What role (if any) does marriage play in becoming infected with STIs?

God, this [STIs] are not only a problem in marriage, but can be, God, this question is based on the person. He can be married and he has other sexual relationships, like a taboo relationship, not under our religion. And she [Taboo woman] can get a sexually transmitted disease and transfer it to him, and that can increase the risk. And other times, there can be a relationship under our religion, but the person has no awareness and he doesn’t know he has this disease during the marriage. And he doesn’t know the signs and the symptoms. But mostly, this disease only comes from sexual intercourse, and can result from being engaged in a taboo relationship. That means it depends, and there is no black and white.

What types of marriages are you aware of in Saudi Arabia?

Types of marriage? The traditional marriage, misyar, misfar, there were a lot of types that showed up, and the common ones are misyar and traditional marriage.

Does the risk of infection change for individuals in different types of marriage?

Maybe, based on the person, and the other person in the marriage, because, basically, it’s a marriage whether it’s misyar or not a misyar. It should be an agreement with terms just as traditional marriage is. But it’s based on the person. It can be a problem if there is more than one sexual partner, but I don’t know what the relation is, because if he marries more than one person at the same time, they might be virgins, or not virgins because they are divorced. And if any of them engage in sexual relations before or after the marriage, if they have the disease, they are going to transfer it to all of them. You will not know if the person is engaged in a taboo relationship or a relationship under religious law, because no one talks about whether someone has a sexually transmitted disease, she can be engaged a taboo relationship or she can receive it from her husband, and also for him, he can get it from her or from any other sexual relationship, if it’s a taboo relationship with someone who has a sexually transmitted disease, and this is like a circle.

What is the risk to the woman if she engages in these different types of marriages?

Yes, multiple sexual partners may can be a risk, but I don’t know about misyar.
How can Islam help a woman who knows her husband has an STI?

How to help her? She has the right to leave him or separate from him by divorce, or ask for holuh [wife-initiated forced divorce by sheikh where mahar (male dowry) is returned]. I think Islam supports her and would be on her side.

What is your personal advice to this woman?

The advice that I would like to share if she wants to stay with him, she should know the consequences and what’s going to happen next, and then, if she decides that she wants to stay, she needs to know the treatment, and if there is no treatment, how she can protect herself, because she cannot live with him as simply an ornament, there should be a sexual relationship between them, so that’s why she needs to know how to protect herself.

What is the right thing to do to help this woman?

After she knows all of that, all of it depends on the sexually transmitted disease. If she wants to stay with him, then she should, but this staying with him should not lead her to get infected. It’s very difficult for me to tell her to get divorced, but she needs to know what the main reason that he got the disease, so she can decide if she wants to stay or not, and what is the way of treatment, method of protection if she wants to stay.
Participant 10

What have you discussed about sexually transmitted infections with a health care provider?
I didn’t discuss anything.

You didn’t discuss it with anyone here in the United States or in Saudi Arabia?
No, I never asked either in United States or in Saudi Arabia.

What information did you ask about?
I studied dentistry, so I had a background in this topic. Also, before I got married, I read about it.

What information did you read and you know about?
The prevention. I didn’t read about prevention, I read about the disease, how it’s transferred, the virus which causes it, and the treatment. The transmission, it’s through sexual intercourse, and taboo relationships that can cause the disease. That’s it. And there is prevention by using some medications, if one of the partners has the disease, or using the male condom. That’s what I know.

What information did they give you about diagnosis and treatment?
Diagnosis is through the doctor. Treatment, some of it needs an antibiotic, and some needs an anti virus. Some of it doesn’t need treatment and will go away on its own, and but some, after the course (of antibiotics), it’s gone.

What kind of provider were they?
I never discussed it with a provider.

What health information would you like to learn from health care professionals?
Maybe more information about protection and how someone can know if the other partner has the disease.

In what setting would you like to learn this information?
Is it personal or general information? If it’s general information, it can be in medical journals or magazines. In the hospital, while I’m waiting or sitting, there might be a magazine or pamphlet that is provided. But in a private way, I will ask in the clinic during the clinic visit.

How should the information be provided?
What do you mean? It might be face to face, or by e-mailing with the doctor. But, I don’t like …[inaudible].

What kind of health care professional would you prefer to learn from?
Nurses (female), but she needs to be working in this specialty, of course.

What kind of private settings would you like to learn the information?
If it’s general information, at a symposium, that’s okay. But if it’s personal information, I need to ask about it in a private setting.

What public settings?
Yes, can be, if there is an event with someone who discusses it, but it will have to be as general information, not aimed at a specific type of person, which means a general meeting, in a mall, if I hear them talking about it, I will stop and listen about general information. But I won’t stop and ask for specific information.

How does a person prevent getting an STI?

In the United States or Saudi Arabia?

Both

In the United States, stay away from taboo relationships, but in Saudi Arabia, God willing, this disease is not spreading in Saudi Arabia.

What sort of prevention is available?

I have no information about it.

What strategies work best for preventing STIs in all people, married or single?

Single, don’t have sexual activity, [don’t have sexual activity] outside of marriage. Marriage, they are supposed to have one partner and if there is any disease, or they think they have something that appears on him or her, they need to go to the hospital.

What role (if any) does marriage play in becoming infected with STIs?

For me? This is the only place where the disease is transmitted. Otherwise, this disease won’t come.

What types of marriages are you aware of in Saudi Arabia?

Type of marriages that are known, which is traditional marriage, misyar, and then orfi marriage, and then mut-ah marriage (marriage just for sex). This is all I know.

Does the risk of infection change for individuals in different types of marriage?

No, I don’t think so.

What is the risk to the woman if she engages in these different types of marriages?

Some of it can be dangerous because of many serial sexual partners over time, and that will increase the risk to get this disease.

How can Islam help a woman who knows her husband has an STI?

If it’s from the beginning, that he hid it at the beginning, that is considered lying, and her right is to end the marriage. But if he gets the disease afterward, it is considered like any disease, and he should get treated.

What is the right thing to do to help this woman?

She should advise her husband to get treated, and support her if her husband refuses treatment. Also she needs to know how her husband got the disease, if it’s another marriage or a taboo relationship, if it’s a taboo relationship, it’s within her rights to ask for divorce, and if the disease is transmitted to her, they need to offer her treatment.

What is your personal advice to this woman?

Page 100
It starts with the husband, first of all, and she should know how he got the disease. The second thing, advise him with treatment. Of course, also, she should go get screened to make sure that this disease doesn’t get transmitted to her.
Participant 11

What have you discussed about sexually transmitted infections with a health care provider?

You mean with a healthcare provider doctor? Frankly, I never discussed anything about sexually transmitted infections. Frankly, all of my ideas have come through searching especially on the internet. I never discussed with a doctor or healthcare provider. Also, there is one point of information that I have. It’s through high school, that we talked about it, through the curriculum. What I know is that this disease transfers to another through someone who has a sexually transmitted disease, such as AIDS. This disease can transmit if there is not enough awareness or no protection. That information is what I know, and what I have learned about this area is very limited.

What information did they give you about prevention and how it is transmitted?

The transmission that I read about, it is through a complete sexual relation, which is intercourse, not through the mouth, and also, it’s through blood. The protection method is using condoms, this is the only way that I read about. Or they have to avoid doing the complete sexual relation (intercourse).

What information did they give you about diagnosis and treatment?

I don’t have information about how they diagnose it or even treat it.

What kind of provider were they?

I never discussed it with a provider.

What health information would you like to learn from health care professionals?

Frankly, there should be more awareness. Also, they should give this information without needing to be asked, from a healthcare provider, they have to give me enough information, as to what method of protection and how the disease is transmitted, as we discussed before.

In what setting would you like to learn this information?

Frankly, I’d love it if it was with my private doctor in the clinic.

How should the information be provided?

Personally, which means in the same place with the doctor, face-to-face, with verbal discussion.

What kind of health care professional would you prefer to learn from?

Frankly, doctor.

What kind of private settings would you like to learn the information?

Of course, there should be a lot of privacy, between me and the doctor only.

What public settings?

I don’t prefer that.

How does a person prevent getting an STI?
The doctor is the best person to provide me the information of how to prevent it, but the simple way is to use a condom. There are a lot of things (for prevention), but these can be described by the specialist, or a doctor, or a healthcare provider.

What sort of prevention is available?
Through condoms. This is the most I know, I don’t know if there is anything else. I have no idea.

What strategies work best for preventing STIs?
Through, as I said before, condoms. Or they should not have a complete sexual relationship (intercourse).

What role (if any) does marriage play in becoming infected with STIs?
It should be that both partners have awareness. Also, they have to be familiar with each other. Neither of them should hide anything from each other with respect to this topic. Third, they have to take all the precautions, it might be through a healthcare provider who can tell them the best way to reduce the risk of getting the disease.

Do you see that marriage is a risk?
No, I don’t expect that. I think there is a method of protection.

What types of marriages are you aware of in Saudi Arabia?
The traditional marriage. Misyar marriage. Misyar, not all people know about it. These are the only two I know.

Does the risk of infection change for individuals in different types of marriage?
I don’t expect or think it’s a risk to get the disease, but I think they lack awareness. Even if it’s traditional marriage, or any other marriages.

What is the risk to the woman if she engages in these different types of marriages?
I don’t think there is a risk from marriage. A risk to get the disease happens through lack of awareness.

How can Islam help a woman who knows her husband has an STI?
I expect, I don’t have enough familiarity, but I think, always, Islam gives women rights and men rights, and also, Islam supports personal health in a general way. This is one point. I expect there is a solution for women or men (in this situation), other things, as I said in another answer before, there is no risk from marriage unless there is a lack of awareness. I think there are a lot of solutions a person can use to reduce the risk of getting the disease.

What is the right thing to do to help this woman?
She should go to a healthcare provider, and be in the right hands, or to the doctor, and they will advise her about the right way to use protection or to get treatment, or etc.

What is your personal advice to this woman?
My personal advice? That she go to the right person, who can guide her on how to prevent getting the disease, or avoiding (disease), or how to get treated if she gets the disease or the disease transfers to her.
What do you mean by the “right person”?  
A healthcare provider or doctor.
What have you discussed about sexually transmitted infections with a health care provider?

The thing that I discussed before was herpes, because I had it. I had a history of it. It has happened to me several times before. I don’t know what the source is, but my immunity, several times, when it has happened to me, I get the flu. Then that was followed by herpes. I used anti-viral treatments on it a lot. I had a few episodes where I had to take anti-viral medication. After that, I started to read about this topic. For me, these things in health care, this is the most that I know about it in detail, from my provider.

What information did you ask about?

The important thing to know is the source of it. I didn’t get enough information from them, frankly, and I went back to read more comprehensively about it. I found that the most important thing for this is low immunity and stress. After that, I started to track (the episodes). The first time it happened like this, I found that it was happening during the exam period at the university. After that happened, I realized I caught the flu. After that, I discussed with the healthcare provider, and asked him if that can be like what I read about, and I have this problem, and he said, yes, the cause of this disease can be low immunity. And after that, it didn’t happen to me again. This happened to after my pregnancy with X [first son], and it happened because I changed positions at work and I was think it was this thing was a secondary factor.

What information did they give you about prevention and how it is transmitted?

Regarding information? No, it’s verbal information mostly, but frankly, I didn’t take any resources from them, for example. They didn’t give you brochures, etc., all of it was done verbally, to give guidance, but frankly, I did a lot of research, and search for information.

What information did they give you about diagnosis and treatment?

Of course, I told you that they told me to use antiviral and this can be transmitted, and regarding the partner, you should both use condoms. I always have condoms but because I’m afraid of transmitting, I stopped any sexual intercourse, it’s protection for me and my husband.

What information did they give you about diagnosis and treatment?

No one gave me any information about antiviral medication or the side effects, etc. because I’m a person who doesn’t prefer to use medications a lot, I’m afraid of side effects. Therefore, I went back to read carefully what can this medication do. But I had frankly no choice to stop the medication, even if I know about the side effects, because I needed it, and my status was worse and I was sick, and I used it always, completing the course. I don’t know about the diagnosis.

What kind of provider were they?

At Hospital X (public hospital in Saudi Arabia), and the person I followed up with is a specialist in gynecology.

What health information would you like to learn from health care professionals?

Also, about sexually transmitted disease?

Yes, about sexually transmitted disease or something else.
I love, frankly, to know the causes and prevention. Because from my point-of-view, no sexually transmitted disease can happen suddenly without cause. If you talk about prevention from the beginning, if I knew things can cause these diseases and the doctor gives me awareness about it, and he tells me, “Take care, you have risk of getting this disease, try, for example, to change your lifestyle, because it might increase the risk for the disease.” That would enlighten me, because I might not be aware because this is not my area and not my specialty. But, if someone had raised my awareness, and told me, “Look at this, and this, and this, and this,” so I will be careful, for example, I could use prevention before I reach the disease stage. And this, frankly, is what happened to me, I never found anyone who targeted communicating points about prevention. Suddenly, you find yourself sick, and you go to the hospital, and they give you treatment, but no one discusses with you if something will happen a second time. You try from the beginning to prevent it, because it might happen and you get the infection again. I’d love to mention something happened to me recently, in January and February. I got sick, I had a UTI, and my back was hurting me. Then I went to the hospital which did a CT scan on me, and told me that it’s a UTI, but there is a chance that I had a gallstone, and I took the antibiotic and everything, but at the same time that they did the CT scan, they told me there is something on the lung, but we don’t know what it is so we will do follow-up. But no one called me again, and after two weeks from that exactly, I had severe fever and I went to my primary care physician, and then she told me you might get a resistance and get a UTI another time, and then I did just an x-ray, and it appeared that I had pneumonia. Even though it appeared in the first x-ray, they were focused on UTI, and that’s what I’m trying to tell you. If they are focused on both things, I could have taken the right antibiotics from the beginning. Imagine that, I used four antibiotics! The second one, she couldn’t give me the one I took for the UTI, she told me that I had resistance, and she gave me two new antibiotics to cover the lungs. From this experience, I feel the healthcare providers focus on certain things but don’t focus on others, and there can be multiple defects in a person.

In what setting would you like to learn this information?

I love to be in the primary care clinic, and I love to learn it from a specialist, and of course, in the hospital, and in complete privacy.

How should the information be provided?

I love frankly brochures, I love to take information, and have it be written, to have a source, even when I’m back home so I can read it again when I need it. I don’t like frankly to have only verbal discussion. Sometimes frankly doctors tell you something very important, and you cannot remember it or understand it, for example, you want to read it carefully at home when you are back home, and memorize it, and it can be a good source if it is physically in your hands, you can take it and read it carefully, or otherwise, I don’t feel I took any complete information from the provider.

What kind of health care professional would you prefer to learn from?

I love frankly to take it from the educator always, and this always is the female nurse, because I feel that they have the ability to deliver the information and they will use several tools to deliver this information. They might not just read, but also describe it. For example, in gynecology, before, they used models, anatomical sections, for example, she shows you on it, and I love these methods of teaching, because I’m a visual learning, I don’t like people who talk. I love people who show me.
What kind of private settings would you like to learn the information?

Kind of privacy? It depends on the topic. X (interviewer name), there is, of course, privacy, I want it to be very high, especially if there is something special about me, for example, if there is disease, or there is a diagnosis, I wouldn’t like for anyone to know it. But there are things, other information, which is general information, it’s okay if there is someone with me when I learn it. But I feel it depends on the topic, if you are discussing about sexually transmitted disease or marriage relations, I would like that to be in a high privacy setting, because this is something very private.

What public settings?

Public settings? No, I don’t like to learn any information in public settings.

How does a person prevent getting an STI?

Of course, for me, by using condoms. This is the easiest way. I don’t like to use tablets and these things, I don’t encourage it, I feel condoms are best. And also, cleanliness and sterilization, it’s very important.

What sort of prevention is available?

How is that different than the previous question?

It might be the same answer.

For me, it’s using a condom. I make sure to never run out of them at home, not just because of this, but also for prevention of pregnancy. So condoms can always be found in my home.

What strategies work best for preventing STIs?

Yeah, okay, I use condoms, and prevention, and knowledge also. There are some things I saw, especially in the sexually transmitted diseases that a person should know how these things can be transmitted to the other person, you know, so the person can try to prevent it. For example, sexual behavior and sex, and these things, it increases the transmission so a person should avoid it, and also, use the condoms and the things for prevention. It can be better.

What role (if any) does marriage play in becoming infected with STIs?

God! From my point of view, X (interviewer name), I think the opposite, it doesn’t increase the risk, especially if you know your partners, and who he is. The opposite, the risk increases if it’s someone you don’t know. But the marriage I feel is a prevention. You know the person in front of you, and you know that he’s clean, as this, and so I don’t feel that marriage increases the risk.

What types of marriages are you aware of in Saudi Arabia?

This is a difficult question. Of course, there is traditional marriage, and misyar marriage. This is what I know, of course. But then something, I don’t know the name of it, but they get fatwa (agreement from sheik), they came up with it for people who go to war or jihad, it is like marriage for sexual pleasure, even also for people who travel etc.

Does the risk of infection change for individuals in different types of marriage?

In my point-of-view, no, if the person does pre-marriage testing, and he’s doing follow-up about his health, and he knows his risk, I think that person will know, especially if we are going to talk
about HIV, and I did screening and I know that I’m clean, so I don’t see if there is a problem if the person does the screening, so it’s okay.

What is the risk to the woman if she engages in these different types of marriages?

Risk? Of course, it increases. Not like when you are with one partner for yourself, it’s more than one person, so the risk increases because there is another source, so the person might get the disease transmitted to them, although that I know myself that there is another source, and the risk will increase and the disease might happen.

How can Islam help a woman who knows her husband has an STI?

Regarding Islam, of course, the first thing is back to her, personally, if she wants to continue with her husband by using things for prevention, and know exactly how to prevent the transmission to herself. Also, from her rights, if she doesn’t want to continue in the marriage, she can ask for divorce so she can prevent herself from getting the disease, and it doesn’t come to the baby after that.

What is the right thing to do to help this woman?

Awareness is the most important thing. The first thing, she should know about the topic, that her partner has a sexually transmitted disease, not just that, but also she should know this information. She should know that the disease could be transmitted to her at any time, so she should learn information about methods of prevention.

What is your personal advice to this woman?

Personal advice? If I was in her spot, of course, this is a very personal decision, but prevention is the most important. If I could live with the husband living with the disease and deal with it in a way to prevent myself from getting it, it’s okay.