

## Knowledge of Sexually Transmitted Infections among Older Veterans

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### Abstract

Older adults who are sexually active in their later years are at risk for sexually transmitted infections. Ninety-five older Veterans aged 60 and over completed the Knowledge of Sexually Transmitted Infections Survey. The perceived knowledge mean scores for each STI ranged from "0" meaning not knowledgeable at all to "5" meaning very knowledgeable. The following were the mean scores for each STI: Chlamydia (1.84), Genital Warts (1.94), Gonorrhea (2.18), Hepatitis B (2.06), Herpes (2.24), HIV/AIDS (2.69), and Syphilis (2.02). The findings revealed knowledge deficits among this population in relation to STIs. Most concerning was the lack of knowledge regarding the following: STIs are sometimes incurable, STIs are only a problem for young people, and there is not a need to get treated for STIs when one is older. Health care providers must engage in communicating with older adults regarding STIs and implement age specific preventative educational measures to this population.

**Keywords:** Veterans; STIs; Knowledge

### Introduction

As older adults live longer they do continue to be sexually active in their later years. STI's may not be perceived as a common problem for older adults and therefore not warrant concern among this population [1]. Older adults experiencing sexual problems may not seek medical treatment because of personal beliefs or misinformation regarding STI's [2]. Older adults may not be knowledgeable about how STI's are transmitted, treated, or how they can be prevented. Furthermore, older people feel uncomfortable discussing sexual problems with their health care provider [2]. Thus, STI's are sometimes overlooked and underscored by older adults and health care providers.

Young people are afflicted by sexually transmitted infections (STIs) at alarming rates; however older people are also at risk for STI's [3]. According to the CDC, the most common STI's may include bacterial vaginosis, chlamydia, gonorrhea, hepatitis, herpes, HIV/AIDS, HPV (Human Papillomavirus), PID (Pelvic Inflammatory Disease), syphilis, and trichomonas [3]. There is limited information in the literature about the acquisition of STI's among the older population as cases are under reported and undiagnosed [3]. The CDC estimated that a total of 2,500 cases of syphilis occurred in 2010 in 45 to 64 year olds, which is an increase from 900 cases of syphilis reported in 2000 [3]. Another study cited a 40.5 percent increase of diagnoses of chlamydia among those 55 and older between the years of 2005 and 2009 [4]. The most striking statistic is that the fastest growing segment of the HIV population is individuals aged 50 and older [5]. The World Health Organization (WHO) estimates that approximately 2.8 million people over the age of 50 are living with HIV/AIDS worldwide [6]. Studies have reported that older men who have sex with men are at higher risk for HIV and other STIs [7,8]. STIs are truly an economic burden in the United States, costing the nation approximately 16 billion in health care expenditures a year [3].

The Veterans Health Administration (VHA) reported that the mean age of HIV-infected Veterans increased from 51.6 years to 54

years between the years of 2007 and 2011 [9]. Approximately 30% of newly identified HIV Veterans were 60 and older in 2011 [9]. Similarly, the mean age of Veterans with chronic HCV has increased from 49.8 to 56.3 years since the year 2000. According to VHA data in 2008, more than one in four Veterans with chronic HCV was 60 and older [10].

STI's are a potential threat to older individual's and their overall well-being. As individuals age, their immune systems become less responsive to the treatment of STI infections [11]. In older women, decreased levels of progesterone may lead to vaginal infections and increase the probability of acquiring STI's, which may further exacerbate current health problems [11]. Both men and women may be not be wearing condoms and thus may be engaging in risky sexual behavior leading to increased morbidity and mortality rates [12]. Illa et al. examined sexual risk behaviors in late middle age and older HIV seropositive adults and illustrated that perceived HIV stigma and negative mood were associated with individuals not using condoms consistently [12]. Sormanti and Shibusawa cited that out of 623 midlife and older women seeking medical services, only 12% reported using a condom during vaginal sex. Those with more education, being employed, living with a partner, and being HIV positive were more likely to use condoms [13].

Few studies have examined attitudes and knowledge about STIs among older adults and little is known about this issue. One study assessed older urban women's knowledge about sexual transmission of human immunodeficiency virus (HIV) and concluded that women had limited knowledge of sexual transmission of HIV as the mean knowledge score was 3.7 out of a possible 9 correct responses. The authors emphasized the need for health care providers to disseminate HIV/AIDS education to this target population. Several factors including knowledge of STIs, communication with healthcare providers regarding sexual issues, educational resources available in health care settings and in the community, and efficacy regarding negotiation of safe sex should be taken into consideration when assessing older adults for being at risk for STIs [14]. Thus, in this study

knowledge of sexually transmitted infections among older Veterans was assessed.

### Methods

For this study, the Knowledge of Sexually Transmitted Infections Survey was utilized and administered by the researcher to older adults in several outpatient clinic settings at one VA Medical Center (VAMC) over a three month period. The survey took approximately 10 minutes to complete. The researcher explained the purpose of the survey to the older adults and obtained their verbal consent to participate in this study, which was approved by the Institutional Review Board at the VMAC.

### Survey

The knowledge questions from the Knowledge of Sexually Transmitted Infections Survey were based on the Oklahoma State Department of Health STD Fact sheet [15]. The content from this public resource was utilized in order to develop the true and false and likert style questions for this study. The Fact sheet provided general information about STDs (sexually transmitted diseases) with the intent of targeting all relevant age groups. The researcher developed a total of 14 questions (i.e., 7 true and false questions and 7 likert style questions with responses ranging from not at all knowledgeable to very knowledgeable) on the survey. The survey has not yet been evaluated for test-retest reliability; however, it has validity because the questions can be reasonably expected to elicit information about the respondents' knowledge about STIs. Before utilizing the survey, it was piloted to two nurses at the medical center. The nurses gave their feedback about the STI survey and revisions were done by the author. In the original survey, all of the questions were true and false questions. Both nurses agreed that a likert style question format regarding knowledge of each STI would explain the degree of knowledge in greater detail for each study participant. Therefore, seven questions were formatted as true and false and the other seven in a likert style format.

### Sample

The study consisted of 95 male Veterans over the age of 60 who were patients in several outpatient clinics at a single Veterans Administration Medical Center (VAMC). Convenience sampling was utilized in this study. No other demographic information about this population was collected as it was intended to be an exploratory pilot study. No one refused to participate in the study, thus the non-response rate was zero.

### Results

Percentages and frequencies for the seven true and false questions and perceived knowledge mean scores from the remaining seven questions are illustrated in Table 1. Results from the true and false knowledge questions from the survey include the following: 1) STIs is a disease that is transmitted by sexual contact (72% True and 27% False), STIs are sometimes incurable (37% True and 61% False), STIs could affect reproductive organs if not treated appropriately (62% True and 36% False), STIs are only a problem for young people (65% True and 34% False), One could have a STI without having signs and symptoms (72% True and 25% False), There is not a need to get treated for STIs when one is older (32% True and 67% False), and Only young

people can get a STD if they are exposed to an infection (32% True and 67% False).

The perceived knowledge mean scores for each STI ranged from “0” meaning not knowledgeable at all to “5” meaning very knowledgeable. The following were the mean scores for each STI: Chlamydia (1.84), Genital Warts (1.94), Gonorrhea (2.18), Hepatitis B (2.06), Herpes (2.24), HIV/AIDS (2.69), and Syphilis (2.02) (Table 1).

Sexually transmitted disease (STD) is a disease that is transmitted by sexual contact.	True 72%/False 27%	(1% unanswered)				
STD's are sometimes incurable	True 37% / False 61%	(2% unanswered)				
If not diagnosed or treated, STD's can affect sexual and reproductive organs	True 62% / False 36%	(2% unanswered)				
STD's are only a problem for young people.	True 65% / False 34%	(1% unanswered)				
One could have a STD without any signs and symptoms.	True 72%/False 25%	(3% unanswered)				
There is no need to get treated for STD's when you are older	True 32% / False 67%	(1% unanswered)				
Only young people can get a STD if they are exposed to an infection.	True 32% / False 67%	(1% unanswered)				
How knowledgeable are you with the following STD's:						
Not at all	Very	Mean				
Chlamydia						
0	1	2	3	4	5	1.84
Genital Warts						
0	1	2	3	4	5	1.94
Gonorrhea						
0	1	2	3	4	5	2.18
Hepatitis B						
0	1	2	3	4	5	2.06
Herpes						
0	1	2	3	4	5	2.24
HIV/AIDS						
0	1	2	3	4	5	2.69
Syphilis						
0	1	2	3	4	5	2.02

**Table 1:** Knowledge of sexually transmitted diseases among older Veterans survey results.

The overall percentages for the correct answers regarding the true and false questions illustrated that there is a STI knowledge deficit among older Veterans. Most concerning was the lack of knowledge regarding the following: STIs are sometimes incurable, STIs are only a problem for young people, and there is not a need to get treated for STIs when one is older. The perceived knowledge mean scores for each STI were particularly low and warrants concern. Health care providers in general must disseminate adequate age appropriate education about STIs to older adults in order to combat the knowledge deficits that were illustrated in this study. A study regarding sexuality and health among older adults revealed that out of 1,550 older women only 22% discussed sexual issues with a physician in comparison to 1,455 older men in which 38% discussed sexual issues with a physician [16].

### Limitations

A larger sample size of older Veterans from other VA hospitals would have provided a broader understanding of knowledge of STIs. Including demographic variables would have provided additional insight about the relationships between these variables and STD knowledge. Convenience sampling is a limitation in this study as the sample may not be representative of the population being studied and the ability to make generalizations to other populations is very limited. Employing randomization in the study design would have assured that the selection of the participants were at random and would reduce population bias. However, the data from this study provides for a continuing discussion about the current knowledge deficits that exist for older Veterans in relation to STIs.

### Current Strategies and Future Recommendations to Improve STI Knowledge and Screening among Older Veterans

Health care providers must actively engage in conversations regarding STIs and offer educational materials to older adults in order to address the knowledge gap that is present in this population [3]. Furthermore, older adults in general have to be targeted more by health care providers for routine STI screening and evaluation. In particular, HIV screening for older adults must be of priority since there has been a dramatic increase in HIV incidence rates for this population [3]. HIV screening and monitoring are heavily emphasized within the VHA as the VHA cared for over 25,000 Veterans with HIV in 2011 [9]. The VHA has a system that provides basic demographic data about Veterans with HIV/AIDS along with a description of pharmacologic treatment, monitoring, screening, and other conditions associated with HIV [9]. This type of surveillance system is useful to VA health care providers as it increases their knowledge about the population at hand. The VHA National Hepatitis C Program Office has a national guideline that encourages health care providers to test all HIV patients for hepatitis C and 98% of HIV infected Veterans were screened for Hepatitis C in 2011 [10]. Similarly, the link between HIV and syphilis has been well established and the VHA recommends routine serologic screening for all sexually active HIV Veterans [10]. The VA National Hepatitis Clinical Program Office and Hepatitis C Resource Centers have been established to disseminate educational materials to health care providers, develop successful models of care as it relates to hepatitis C, and establish training programs to improve quality of care for the hepatitis C Veteran population [10].

Based on the results of this study, personal beliefs is a major factor to consider when assessing knowledge about STIs among older

Veterans. When considering personal beliefs, the principles of the Health Belief Model (i.e., perceived susceptibility, perceived severity, perceived barriers, and perceived benefits) should be discussed with older Veterans to dispel myths that may exist about STIs. Identifying how older Veterans perceive their susceptibility to STIs is paramount to the development of educational materials/programs that can best serve this population. Results from an integrative review of literature study examined the physiologic, psychological, social, and education risks relating to HIV transmission in older adults and cited that poor awareness and poor risk perception was a major variable contributing to the increased prevalence of HIV transmission [17]. Overall, education regarding STIs is essential for older adults and early diagnosis of STIs can lead to more positive outcomes including decreased mortality rates.

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