

Sexually transmitted infections in the elderly: A 6-year retrospective study in a tertiary care hospital in New Delhi

Vineet Relhan, Anuva Bansal, Pallavi Hegde, Bijaylaxmi Sahoo
Department of Dermatology, Maulana Azad Medical College, Delhi, India

Address for correspondence:

Dr. Anuva Bansal, 8/18, Second Floor, East Patel Nagar, New Delhi - 110 008, India.

E-mail: anuvabansal22@gmail.com

Abstract

Background: Worldwide, a steady rise in the incidence of sexually transmitted infections (STIs) in the elderly has been reported and is attributed to aging, unsafe sexual practices, and delayed health-care seeking behavior, leading to a delayed diagnosis and persistence of infection in the community. The aim of this study was to assess the demographic profile, risk factors, and clinical pattern of geriatric STIs. **Aims:** The aim of the study was to assess the demographic profile, risk factors, and clinical pattern of STIs among patients aged ≥ 60 years presenting to the STI clinic in the dermatology outpatient department at a large tertiary care hospital in New Delhi, over a period of 6 years. **Materials and Methods:** This was a retrospective observational study. Data collection was done for all patients of 60 years and above age group who visited the STI clinic in the dermatology outpatient department, over a period of past 6 years, with symptoms/signs suggestive of an STI, irrespective of whether the final evaluation demonstrated an STI. **Results:** A total number of 123 patients above 60 years of age presented to the STI clinic between 2013 and 2018. The cases presenting annually demonstrated a rising trend and increased from 17 cases in 2013 to 33 in 2018. The most common complaints were ulcers over the genitalia and genital discharge noted in 28.4% of cases each. The most common syndromic diagnosis was vaginal discharge in 25% of cases. Other STDs diagnosed were candidial balanoposthitis in 19.5%, herpes genitalis and genital warts in 16.2% each, and genital scabies in 6.5% cases. **Limitations:** The limitations included a small sample size, retrospective analysis, and categorization of the STDs as syndromes, following standard guidelines developed by the National Aids Control Organization (NACO) and the WHO. **Conclusion:** It is necessary to destigmatize STDs among the elderly, encourage inclusion in screening programs, and offer prompt diagnosis and treatment.

Key words: Elderly, geriatric, infections, sexually, transmitted

INTRODUCTION

Globally, with the rise in the average life expectancy, a significant increase in the proportion of population above 60 years of age has occurred and it is predicted that in almost 4 decades, roughly 22% of the world's population will be ≥ 60 years of age. The situation in

India is similar, where in the 2011 census, 8% of its population was recorded 60 years and above, and this proportion is expected to increase to 12.5% and 20% by 2026 and 2050, respectively.^[1]

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Worldwide, a steady rise in the incidence of sexually transmitted infections (STIs) and human immunodeficiency virus (HIV) in the elderly has been reported.^[2,3] Studies have shown that the elderly continue to remain sexually active well into the eighties.^[4] The current situation of STIs among the elderly worldwide has been reported by very few studies and a paucity of studies exists in the Indian context as well. The aim of the study was to assess the demographic profile, risk factors, and clinical pattern of STIs among patients aged ≥ 60 years presenting to the STI clinic in the dermatology outpatient department at a large tertiary care hospital in New Delhi, over a period of 6 years. For the purpose of this study, we have defined “elderly” as including populations of people 60 years of age and above.^[1]

MATERIALS AND METHODS

This was a retrospective observational study. Data collection was done for all patients of 60 years and above age group who visited the STI clinic in the dermatology outpatient department, over a period of past 6 years starting from January 2013 to December 2018, with symptoms/signs suggestive of an STI, irrespective of whether the final evaluation demonstrated an STI.

Data regarding the demographic profile, clinical presentation, type of STI, high-risk behavior, treatment received, and partner management were collected from the records of the STI clinic. A syndromic diagnosis was made based on history and clinical examination. Confirmation was done using investigations wherever applicable, following standard operating procedure developed by the National Aids Control Organization (NACO), including Gram stain for urethritis, inguinal bubo, cervicitis, vaginal discharge (VD), and pelvic inflammatory disease (PID); Tzanck smear for herpes genitalis (HG); crush smear for donovanosis; potassium hydroxide mount for vulvovaginal candidiasis (VVC) and candidial balanoposthitis (CBP); and wet mount, assessment of vaginal fluid pH and whiff test for VD. Syndromic diagnosis was documented by trained medical officers for each client.^[5,6] The patients were also tested for infections with HIV using ELISA and syphilis using venereal disease research laboratory (VDRL) and treponema pallidum hemagglutination assay (TPHA). The data were transferred to an Excel sheet and analyzed. Quantitative data were expressed as percentages, whereas qualitative variables were expressed as frequencies/percentages and compared year-wise and based on gender, wherever applicable.

RESULTS

Demographic profile

A total number of 123 patients above 60 years of age presented to the STI clinic between 2013 and 2018. The number of cases presenting annually demonstrated a rising trend with the number of cases increasing from 13.8% (17) in 2013 to 27% (33) patients presenting in 2018 [Figure 1]. The maximum patients, 81.3% (100), were in the 60–65 years’ age group; minimum age at presentation was 60 years and the maximum age at presentation was 77 years [Figure 2]. In the study population, 62.6% (77) of patients were male and 36.5% (45) were female, with a male-to-female ratio of 1.71:1 and one patient was a transgender (TG).

High-risk behavior

Among the 123 subjects, 4% (5) patients gave a history of injection drug use (IDU) and 2.4% (3) patients gave a history of homosexual contact [Figure 3].

Symptoms

The most common complaint was a history of ulcers over the genitalia in 28.4% (35) of cases. Genital discharge (vaginal and/or cervical or urethral) was also found to be equally prevalent. Among the 35 patients presenting with genital discharge, 13 also had associated genital itching. Similarly, among the 35 patients presenting with a history of ulcers, 2 patients also had associated itching. Other complaints in decreasing order of frequency were raised lesions over the genitalia in 17.8% (22) and genital itching in 16% (20). Complaints of both ulcers and raised lesions over the genitalia were present in 2.4% (3) of patients. Around 2.4% (3) of patients were themselves asymptomatic, but presented to the STI clinic because their partners had some genital complaints. One patient each presented with fluid filled lesions, burning micturition, rash over the palms and soles, inguinal swelling, and incidentally diagnosed VDRL positivity [Figure 4]. The most

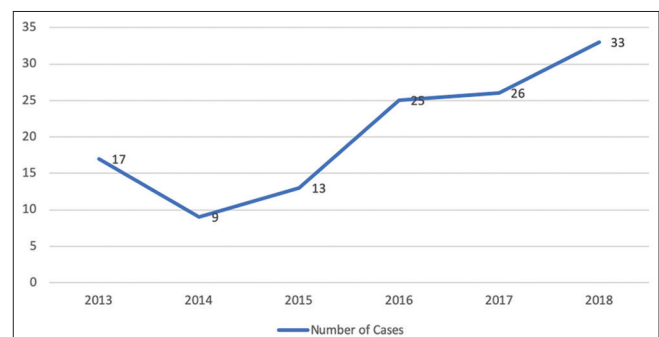


Figure 1: Year-wise distribution of cases

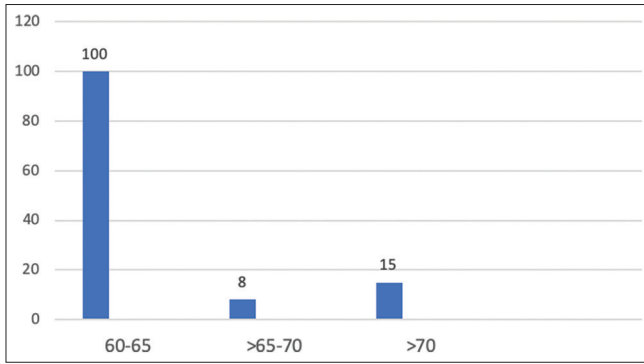


Figure 2: Age-wise distribution of cases

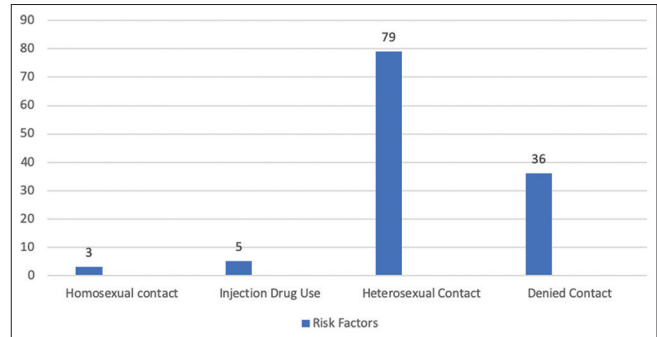


Figure 3: High-risk behavior and risk factors for the development of sexually transmitted disease's

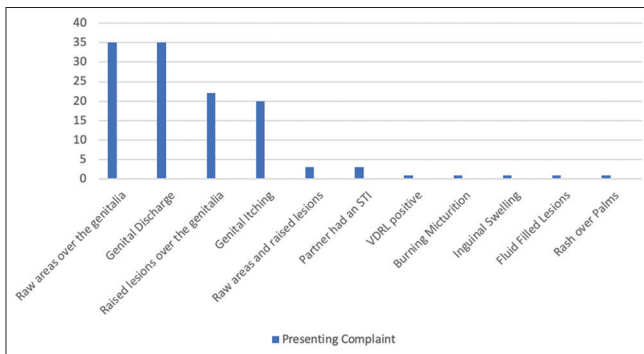


Figure 4: Frequency distribution of presenting symptoms

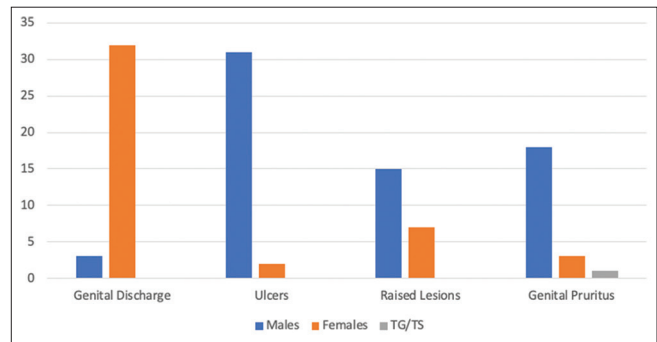


Figure 5: Sex-wise distribution of presenting symptoms

common complaint among the 77 male patients was ulcers over the genitalia in 40.2% (31), followed by genital itching in 23.3% (18) of patients. Among the 45 female patients, VD was the most common complaint in 71.1% (32) of patients, followed by raised lesions present in 15.5% (7) of patients. Only one transgender (TG) patient was present in the study and complained of genital itching [Figure 5].

Investigations

None of the patients in our study population were found to be HIV positive. VDRL (titer 1:16) and TPHA was found to be positive in one patient, diagnosed with late latent syphilis. Only TPHA was found to be positive in another patient, who was diagnosed with genital herpes, and had no history or examination findings suggestive of syphilis, thus indicative of an old infection.

Diagnosis

The most common sexually transmitted disease (STD) syndrome diagnosed among the study population was VD in 25% (31) cases, which also constituted the most common diagnosis among females, with 21 cases diagnosed as bacterial vaginosis, 8 cases diagnosed as VVC and 2 cases diagnosed as trichomoniasis. The next most common diagnosis was CBP in 19.5% (24) of patients. Among these, four patients were known diabetics. HG was diagnosed in 16.2% (20) of cases,

genital warts in another 16.2% (20) of patients, and genital scabies in 6.5% (8) of cases. Non-herpetic genital ulcers which clinically resembled chancroid, but where the Gram stain was found to be negative, were diagnosed in 1.6% (2) cases. Other conditions included genital molluscum contagiosum in 1.6% (2); scrotal swelling in 0.8% (1), gonococcal urethral discharge (as detected using gram staining) in 0.8% (1) and late latent syphilis in 0.8% (1). Both warts and CBP were diagnosed in 2.4% (3) of patients and PID was diagnosed in 1 patient. No specific diagnosis could be reached in 7.3% (9) of patients [Figure 6].

Among the 77 males, 31.1% (24) were diagnosed as CBP, followed by 24.6% (19) as HG and 14.2% (11) as genital wart. Nine percent (7) of patients were diagnosed as scabies whereas 3.8% (3) of patients had both wart and CBP; 2.5% (2) of patients each had genital molluscum and nonherpetic genital ulcer; and one patient each had gonococcal urethral discharge, late latent syphilis, and scrotal swelling. Among the 45 females, 68.8% (31) had vaginal/cervical discharge, 20% (9) had genital warts, 2.2% (1) each had herpetic ulcer and PID, and in rest of the patients, no specific diagnosis could be made. A single TG patient was present in our study and was diagnosed as scabies [Figure 7].

Summary of the results is presented in Table 1.

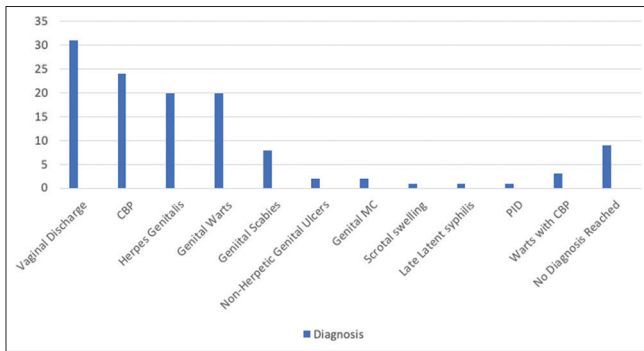


Figure 6: Frequency distribution of the final diagnosis

DISCUSSION

With the rise in the average life expectancy, the geriatric population has risen and there has been reemergence of STIs among this age group.^[4] However, STDs among the elderly remain relatively understudied and there is a paucity of available data, especially from the Indian subcontinent.

In our study, done over a period of 6 years, the number of cases presenting annually demonstrated a rising trend, with the maximum number, that is, 27% (33) of patients presenting in 2018. A similar increase has been reported in a study done among 4461 patients, 50 years and older, attending the STD clinic in Baltimore, Maryland.^[4] The proportion of STD cases above 65 years of age, among the new attendees of the STI clinic at a tertiary care center in the United Kingdom, increased from 0.7% to 0.8% over a period of 5 years, suggesting that the total number of STDs as well as the those among the elderly, both increased.^[7]

Several reasons for this have been suggested, as discussed below [Table 2]. The geriatric population is inherently more susceptible to STDs due to certain physiological reasons. Low estrogen levels in perimenopausal women lead to a thinned out vaginal mucosa and micro abrasions, which contributes to an increased transmission. Furthermore, both the humoral and cellular immunity tend to become impaired with age.

Access to better health services has contributed to increased longevity and rise in the number of new sexual partners among this age group. Other factors include a higher rate of divorce, access to internet dating, and the easy availability of medications for erectile dysfunction.^[4] A high incidence of unsafe sexual practices among the elderly such as a decreased rate of condom usage, contact with male/female sex workers, recreational drug use, and multiple sexual partners was observed and such

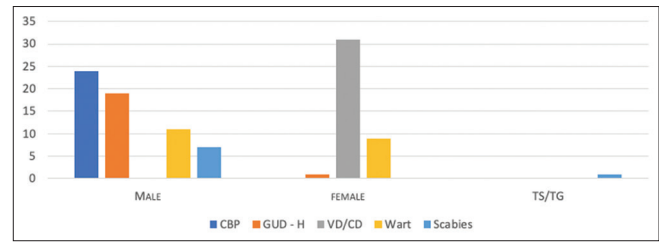


Figure 7: Sex-wise distribution of the final diagnosis

Table 1: Summary of key findings

Parameter	Result
Total number of patients	123
Male: female ratio	1.7: 1
Maximum age at presentation (years)	77
Age-wise distribution	
60-65 years	100
65-70 years	8
70 and above	15
High-risk behavior	
Injection drug use	5
Homosexual contact	3
Most common complaint	
Ulcers over the genitalia	35
Discharge	35
Most common diagnosis, vaginal discharge	31 patients

behaviors may be attributed to the fact that the geriatric population do not perceive themselves as being susceptible to the acquisition of STDs.^[2]

Contact with a regular partner, menopause, and subsequent infertility also contribute to a reduced condom usage.^[3,4] The elderly are in general not considered at a risk for acquiring STDs, leading to a delay in diagnosis and management.^[3]

In our study, men constituted 62.6% of the total cases and a male predominance was seen in among all the STDs. Similarly, males were significantly more affected, contributing to 66.8% of all cases in a multicenter study from the UK done among the elderly. Moreover, the overall male: female ratio increased from 1.6:1 to 2.2:1 over a period of 7 years.^[3] Possible factors include woman receiving more diagnostic opportunities than men, as a result of social and physiological issues related to maternal and child health care, which tends to continue throughout life.^[8] Moreover, it has been reported that females are less likely to develop high-risk sexual behaviors and thus are at a decreased risk of contracting STDs.^[9] In a study, >2/3rd of the women diagnosed with gonorrhoea or chlamydial infection reported never having had any genitourinary symptoms. Thus, women are more likely to remain asymptomatic and may not seek treatment.^[10]

Table 2: Causes and the factors contributing to rise in sexually transmitted infections among the geriatric population

Proposed causes for rise in geriatric STDs	Contributing factors
Increased life span	Availability and access to health care
New/multiple sexual partners	Sexual activity up till eighth decade Do not perceive themselves as vulnerable to STIs and HIV/AIDS Internet dating Availability of medications for erectile dysfunction Higher divorce rate
High-risk sexual behaviors	Decreased rate of condom usage Contact with commercial sex workers Multiple partners Recreational drug usage Ease of foreign travel to countries with easy to access sex industries
Physiological susceptibility	Thinner genital mucosa Decreased vaginal secretions Vaginal dryness and micro abrasions Decreased immunity (humoral and cellular)
Late diagnosis	Routine STI screening not done Omission from STI prevention and health promotion programs STDs are not suspected by physicians Lack of communication about sexual health and HIV risk Late presentation to healthcare providers

STI: Sexually transmitted infections, STD: Sexually transmitted diseases, HIV: Human immunodeficiency virus

Patients in our study were evaluated for high-risk behaviors and 4% patients gave a history of IDU. In a study among 4461 elderly attendees of the STI clinic, 0.9% of cases gave a history of IDU and 2.1% had consumed cocaine in the past month, emphasizing the fact that high-risk behaviors, continue to be reported among the elderly.^[2] In our study, 2.4% (3) of patients had a history of homosexual contact. Among these, 2 men belonged to the MSM or men having sex with men group, whereas the 3rd patient was a TG. Similarly, in a study done among 3189 elderly men, 3.2% were reported to be gay or bisexual.^[2] MSM may practice anal sex, and the rectal mucosa is uniquely susceptible to certain STD pathogens. In addition, multiple sex partners, substance use, and the sexual network dynamics of MSM increase their risk for acquiring HIV and STDs. A large number of MSM continue to be sexually active into their later years placing them at a higher risk of acquiring STIs.^[4]

The most common complaints suggestive of an STI were a history of ulcers over the genitalia and genital discharge. Other common presentations were raised lesions over the genitalia in 17.8% and genital itching/soreness in 16% of our patients. In a study done among 219 attendees of the STI clinic, aged 50 years or older, 14% of patients presented with symptoms suggestive of an STI such as discharge, ulcer, or warts, whereas almost half of the patients presented with only genital soreness/itching. This study concluded that even though only 18% of men and 2.4% of women in this study had a STI, the majority had genital symptoms and therefore

differentiation between STIs and other genital pathology (including dermatological and hormonal problems) is required for appropriate management.^[11]

VD, diagnosed in 25% of cases, was the most common syndromic diagnosis overall, as well as among women and this may be attributed to age-related reduction of the estrogen levels, changes in the normal acidic pH which promotes colonization by pathological bacteria like *Gardnerella vaginalis*.^[12] In a study done among 1270 women aged >50 years, around 31% of women were diagnosed with VD, which was the most common diagnosis among women.^[2]

The next most common diagnosis was CBP, a condition which has classically been categorized under non-STDs as the importance of sexual transmission in CBP has not been clearly described. However, screening of partners for candidial vaginitis is recommended, in chronic and recurrent cases of CBP, in order to prevent reinfection.^[13] Patients diagnosed with CBP present with classical STD symptoms, as was the case in our study, underlining the importance of a detailed evaluation of all patients presenting with genital complaints, to prevent exclusion of any case with STD.

HG was reported in 16.2% of our patients, and in a study among people aged 45 years or more, 4445 selected diagnoses were made over a period of 8 years, out of which genital herpes comprised 19%, a proportion similar to our study.^[1] The other viral STI, genital wart, was diagnosed among 16.2% of our patients, constituting the third most common

diagnosis. In a study among 1230 patients aged 65 years and older, genital wart was diagnosed among 13.5% of the patients, and in another study with 242 men, it constituted the third most common diagnosis.^[14,15] Genital scabies was diagnosed among 6.5% of our patients and other studies have also reported a higher proportion of genital scabies among the older age groups as compared to the younger population. Studies suggest that sexual contact before acquisition of scabies in the elderly is often present, but may be underestimated. This was elucidated by a study, wherein almost 1/3rd of the patients diagnosed with scabies and history of preceding sexual contact could be established.^[16] Pruritus in the genital region is common and may be attributed to STDs as well as other causes such as eczema, contact dermatitis, lichen planus, lichen sclerosus atrophicus, lichen simplex chronicus, prolapse, incontinence, and carcinoma.^[13]

In our study, late latent syphilis was reported among 0.8% of the cases. In a study comparing rates of STDs among patients, it was found that 2% of those <50 years of age had late/unknown stage of syphilis versus 7.5% in the elderly age group, signifying that the geriatric age group is more likely to present with late or unknown stage of syphilis.^[2] PID was diagnosed in 0.8% of cases (1 patient), and in a similar study, it was diagnosed among 0.94% of cases. PID may lead to several long-term complications and older women are more likely to be affected with non-STI organisms.^[17] Among 7.3% of the patients, no specific diagnosis could be reached. These patients included those whose partners had been diagnosed with some STD and others who presented with ulcers, discharge, and/or itching.

Limitations

The limitations of our study included a small sample size, retrospective analysis, and categorization of the STDs as syndromes, following standard guidelines developed by the NACO and the WHO.^[5,6]

CONCLUSION

Better availability of health care has prolonged the average lifespan, leading to an increase in the geriatric population and a better quality of life.^[1] It has been reported that STDs among the geriatric age group are on the rise and the elderly continue to remain sexually active well into their eighties, often engage in high-risk behaviors, are less likely to use condoms, and are less likely to be approach a STI clinic.^[2-4] Furthermore, symptoms such as genital pruritus and discharge may be attributed to non-STD causes by the physician, leading to complications and continued transmission of the infection in the community.^[12] Thus, the geriatric population

must be deemed a “high-risk group” that warrants inclusion in national STI programs. Destigmatization, awareness, knowledge, and sensitization amongst the health-care provider, the elderly, and the community are necessary to ensure a targeted approach for diagnosis and management.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Caring for Our Elders: Early Responses India Ageing Report 2017 [Internet]. UNFPA India. 2017 [cited 2019 Jul 1]. Available from: <https://india.unfpa.org/en/publications/caring-our-elders-early-responses-india-ageing-report-2017>.
2. Tuddenham SA, Page KR, Chaulk P, Lobe EB, Ghanem KG. Patients fifty years and older attending two sexually transmitted disease clinics in Baltimore, Maryland. *Int J STD AIDS* 2017;28:330-44.
3. Bodley-Tickell AT, Olowokure B, Bhaduri S, White DJ, Ward D, Ross JD, *et al.* Trends in sexually transmitted infections (other than HIV) in older people: Analysis of data from an enhanced surveillance system. *Sex Transm Infect* 2008;84:312-7.
4. Poynten IM, Grulich AE, Templeton DJ. Sexually transmitted infections in older populations. *Curr Opin Infect Dis* 2013;26:80-5.
5. Van Dyck E, Meheus AZ, Piot P. Laboratory diagnosis of sexually transmitted diseases [Internet]. [cited 2019 Jul 1]. Available from: <https://apps.who.int/iris/handle/10665/41847>.
6. Das A, Ghosh P, Ghosh I, Bhattacharya R, Azad Sardar AK, Goswami S, *et al.* Usefulness and utility of NACO regime in the management of sexually transmitted infections: A pilot study. *Indian J Dermatol* 2017;62:630-4.
7. Sexually transmitted infections (STIs): Annual data tables [Internet]. GOV.UK. [cited 2019 Jul 1]. Available from: <https://www.gov.uk/government/statistics/sexually-transmitted-infections-stis-annual-data-tables>.
8. Andrade J, Ayres JA, Alencar RA, Duarte MT, Parada Cristina MG. Vulnerability of the elderly to sexually transmitted infections. *Acta Paul Enferm* 2017;30:8-15.
9. Foster V, Clark PC, Holstad MM, Burgess E. Factors associated with risky sexual behaviors in older adults. *J Assoc Nurses AIDS Care* 2012;23:487-99.
10. Farley TA, Cohen DA, Elkins W. Asymptomatic sexually transmitted diseases: The case for screening. *Prev Med* 2003;36:502-9.
11. Tobin JM, Harindra V. Attendance by older patients at a genitourinary medicine clinic. *Sex Transm Infect* 2001;77:289-91.
12. Kaur J, Kalsy J. Study of pruritus vulvae in geriatric age group in tertiary hospital. *Indian J Sex Transm Dis AIDS* 2017;38:15-21.
13. Edwards SK, Bunker CB, Ziller F, van der Meijden WI. 2013 European guideline for the management of balanoposthitis. *Int J STD AIDS* 2014;25:615-26.
14. Rogstad KE, Bignell CJ. Age is no bar to sexually acquired infection. *Age Ageing* 1991;20:377-8.
15. Bilenchi R, Poggiali S, Pisani C, De Paola M, Sculco R, De Padova LA, *et al.* Sexually transmitted diseases in elderly people: An epidemiological study in Italy. *J Am Geriatr Soc* 2009;57:938-40.
16. Poggiali S, Pisani C, De Padova LA, Ghilardi M, Bilenchi R. Sexually transmitted scabies in elderly people. *J Eur Acad Dermatol Venereol* 2006;20:341-2.
17. Carr S, Espey E. Intrauterine devices and pelvic inflammatory disease among adolescents. *J Adolesc Health* 2013;52:S22-8.