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REASONS OF ATTENDANCE BY OLDER PATIENTS TO DEPARTMENT OF VENEREAL DISEASES AND THEIR KNOWLEDGE OF SEXUALLY TRANSMITTED DISEASES

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Abstract: Introduction: Several studies have shown increasing rates of many sexually transmitted diseases (STDs) in the population group aged 50 years and older, worldwide. Older persons usually know less about STDs and HIV/AIDS than younger individuals. The aim of the present study was to reveal why older patients seek venereologists' help and to assess their knowledge of STDs. Material and Methods: Data were collected from consecutive patients aged 60 and over who attended counselling for sexually transmitted diseases at the City Institute for Skin and Venereal Diseases in Belgrade from July to December 2017. One dermatologist examined and interviewed all participants by the use of a questionnaire. Results: Out of all participants (174 patients), 23.56% had some of STIs, 58.62% had some other genital disorders and 17.82 came for counselling. The most frequent viral STDs were acute and recurrent genital warts and recurrent genital herpes, while the most frequent bacterial STD was syphilis. Out of non STDs the most frequent were balanitis, in men, and lichen sclerosis in both sexes. The perceived knowledge mean scores for each STD, ranging from "0", meaning not knowledgeable at all, to "5", meaning very knowledgeable, ranged from 0.63 to 2.71. It was the best for syphilis, followed by gonorrhoea, HIV/AIDS, hepatitis B, genital warts and Chlamydia. Correct answers concerning general knowledge of STDs were given by 59% to 96% of participants. Conclusion: A considerable number of older people who sought venereologists' help had an STD. Their general knowledge of STDs as well as perceived knowledge of single STDs were unsatisfactory and did not differ between patients with and without STDs.

Key Words: sexually transmitted diseases, genital disorders, HIV, counselling, elderly, knowledge of sexually transmitted diseases

INTRODUCTION:

Sexually transmitted diseases (STDs) occur predominantly in individuals of younger age groups. Nonetheless, several studies have shown increasing rates of many STDs in the population group aged 50 years and older, worldwide [1-4]. Globally, the share of people aged ≥ 60 has risen from 8% (200 million people) of world population in 1950 to 11% (760 million) in 2011 and people older than 60 years are expected to reach 22% of world population (2 billion) by 2050 [5]. The situation in Serbia is similar: in the last six decades population aged 60-plus increased from 0.6 million in 1948 to 1.8 million in 2011 [6].

Sexual activity and the potential for STDs continue into late life. Several factors contribute

to STD increase in older adults such as: increased longevity, better quality of life due to healthcare advancements, high divorce rates, being widowed, meeting new partners later in life, internet dating, effective pharmacotherapy for erectile dysfunction, no risk of pregnancy and lack of condom use during sex [4]. Moreover, older persons know less about STDs and HIV/AIDS than younger individuals because the elderly have been neglected by those responsible for education and prevention messages [7].

Genitourinary medicine departments predominantly target younger persons but are attended also by many older people. Epidemiological data about incidence of syphilis and gonorrhoea in Serbia in 2016 have shown

that the lowest incidence rates were in patients older than fifty years (0.35 per 100,000 for syphilis and 0.11 per 100,000 for gonorrhoea) [8]. The objectives of our study were to reveal why older patients came to the Department for Sexually Transmitted Diseases at the City Institute for Skin and Venereal Diseases in Belgrade and to assess their knowledge of sexually transmitted diseases.

METHODS:

In this cross-sectional study, the data were collected from consecutive patients, both male and female, aged 60 and over who attended the Department for Sexually Transmitted Diseases at the City Institute for Skin and Venereal Diseases in Belgrade. This is the main institution for patients with sexually transmitted diseases in Belgrade, with a counselling department. The study was conducted between 1 July and 31 December 2017 and covered 174 patients. One dermatologist examined and interviewed all participants by the use of a questionnaire. Data on demographic characteristics (age, education, marital status), reasons for attendance, as well as sexual history data (sexual orientation, steady partner, human immunodeficiency virus (HIV) status, date of last sexual intercourse and condom use during this intercourse, number of sexual partners in past 6 months, and history of sexually transmitted diseases) were also collected. Diagnoses were made by physical and/or laboratory examinations.

The participants' knowledge of sexually transmitted diseases were assessed by a list of

14 questions (7 true and false questions and 7 Likert-style questions with responses ranging from not at all knowledgeable to very knowledgeable), taken from a study conducted by Andrea Jennings [9].

Data were presented as numbers and percentages. According to diagnoses, patients were divided into three groups: patients with STDs, with non-STDs and with no diagnoses. For the analysis of data, all participants were divided into two groups, group of patients with STDs and group of patients without STDs. Throughout the analysis of differences between these groups, chi-square test and t-test were performed. P value <0.05 was considered as significant.

The research was approved by the Ethics Committee of the City Institute for Skin and Venereal Diseases in Belgrade (the Ethics Committee approval number 3/2017).

RESULTS:

The study included 174 patients. Out of them 41 had an STD (26 acute STD and 15 recurrent STD), 102 patients had some other genital disorders and 31 persons visited the STD department for counselling (i.e. erectile dysfunction, drugs for erectile dysfunction, fear of STDs, lubricants) (Table 1). Among men, 23.3% had an STD, and among women 20.8%. The most frequent viral STDs were acute and recurrent genital warts and recurrent genital herpes, while the most frequent bacterial STD was syphilis. Out of non STDs the most frequent was balanitis, in men, and lichen sclerosus both in men and women.

Table 1. Reasons for attendance in the Department for Sexually Transmitted Diseases

Diagnosis	Men (n = 150) Number	Women (n = 24) Number
Acute STDs:		
Trichomoniasis	2	2
Gonorrhoea	2	-
Chlamydia	2	-
Non-specific urethritis	3	-
Early syphilis	5	-
Primary genital herpes	2	-
Genital warts	7	1
Recurrent STDs:		
Recurrent genital herpes	4	3
Recurrent genital warts	8	-
Non-STDs disease:		
Balanitis	50	-

Lichen sclerosus	13	9
Genital eczema	4	4
Candidiasis	5	1
Induratio penis plastica	4	-
Phimosis	6	-
Angiokeratoma	3	3
None/ Counselling	30	1

STD, sexually transmitted disease.

For further analysis, all participants were divided into two groups: a) group of patients with STDs (41 patients) and b) group of patients without STDs which included both patients with

some genital disorders and those coming for counselling (all together 133 persons). Their demographic and some other characteristics are presented in Table 2.

Table 2. Some characteristics of the study participants

Variable	Patients with STD (n = 41) No (%)	Patients without STD (n = 133) No (%)	Total (n = 174) No (%)
Age:			
60 – 64	20 (48.8)	39 (29.3)	59 (33.9)
65 – 69	11 (26.8)	35 (26.3)	46 (26.4)
70 – 74	6 (14.6)	28 (21.1)	34 (19.5)
75 – 79	3 (7.3)	23 (17.3)	26 (14.9)
≥ 80	1 (2.4)	8 (6.0)	9 (5.2)
Gender:			
Men	35 (85.4)	115 (86.5)	150 (86.2)
Women	6 (14.6)	18 (13.5)	24 (13.8)
Marital status:			
Married	21 (51.2)	75 (56.4)	96 (55.2)
Single	5 (12.2)	8 (6.0)	13 (7.5)
Divorced	11 (26.8)	29 (21.8)	40 (23.0)
Widowed	4 (9.8)	21 (15.8)	25 (14.4)
Education (years of school):			
≤ 8	4 (9.8)	6 (4.5)	10 (5.7)
9 -12	18 (43.9)	63 (47.4)	81 (46.6)
> 12	19 (46.3)	64 (48.1)	83 (47.7)
Sexual orientation:			
Heterosexual	36 (87.8)	133 (100.0)	169 (97.1)
Homosexual	3 (7.3)	0 (0.0)	3 (1.7)
Bisexual	2 (4.9)*	0 (0.0)	2 (1.1)
HIV test:			
Positive	0 (0.0)	0 (0.0)	0 (0.0)
Negative	7 (17.1)	9 (6.8)	16 (9.2)
Unknown	34 (82.9)†	124 (93.2)	158 (90.8)
Reason for visiting STD department:			
Suspicion for STDs	2 (4.9)	1 (0.8)	3 (1.7)
Genital symptoms	18 (43.9)	101 (75.9)	119 (68.4)
STD symptoms	21 (51.2)	0 (0.0)	21 (12.1)
Counselling	0 (0.0)*	31 (23.3)	31 (17.8)
Permanent sexual partner:			
Yes	33 (80.5)	87 (65.4)	120 (69.0)
No	8 (19.5)	46 (34.6)	54 (31.0)
Last sexual contact:			
≤ 3 months	31 (75.6)	68 (51.1)	99 (56.9)
> 3 months	10 (24.4)‡	65 (48.9)	75 (43.1)
Number of sexual partners in the last 6 months:			
0	10(24.4)	62 (46.6)	72 (41.4)
1 – 2	23 (56.1)	69 (51.9)	92 (52.8)
≥ 3	8 (19.5)*	2 (1.5)	10 (5.7)
Condom use during last intercourse:			
Yes			
No	2 (4.9)	7 (5.3)	9 (5.2)

	39 (95.1)	126 (94.7)	165 (94.8)
STD in personal history:			
Yes	29 (70.7)	37 (27.8)	66 (37.9)
No	12 (29.3)*	96 (72.2)	108 (62.1)

HIV, human immunodeficiency virus; STD, Sexually transmitted disease; For comparison between patients with and without STD: * $p < 0.001$ † $p < 0.05$ ‡ $p < 0.01$

More than half of participants (63.3%) were 60-69 years old, 34.4% were 70-79 years of age and only 5.2% were 80 and more years old. Majority of them were men (86.2%) with secondary (46.6%) or university (47.7%) education and nearly half of them (44.9%) were single, divorced or widowed. Only 5 (2.8%) patients declared as homosexual or bisexual and 90.8% of all participants were never tested for HIV. With the exception of 31 patients who visited STD department for counselling, all others came because of genital symptoms (68.4%), STD symptoms (12.1%) or suspicion of STIs (1.7%). As much as 69.0% had a regular sexual partner and 56.9% had their last sexual contact in the preceding 3 months. In the last 6 months, 41.4% had no sexual partner, 52.8% had 1-2 and only 5.7% had 3 or more sexual partners. During the last intercourse, 94.8% of participants did not use a condom. STD in personal history was reported by 37.9% of participants.

Compared groups significantly differed in several characteristics. Homosexual and bisexual orientation was reported only by patients with STD ($p < 0.001$), and in this group higher proportion of patients have been tested for HIV ($p < 0.05$). In comparison with patients without STD, those who had STDs more frequently came

to the STD department because of their suspicion of STDs or STD symptoms than because of genital symptoms or for counselling ($p < 0.001$), more frequently had their last sexual contact in the preceding 3 months ($p < 0.01$), had sexual partners more frequently, and greater number of sexual partners in the last 6 months ($p < 0.001$), and had an STD more frequently in their past history ($p < 0.001$).

General knowledge of STDs (resulting from the true and false knowledge questions) among study participants is presented in Table 3. Almost all participants knew that STDs are transmitted by sexual contact (97.7%) and that STDs if not diagnosed or treated can affect sexual and reproductive organs (99.4%). More than a half of participants knew that STDs are sometimes incurable (60.3%), as well as that one can have an STD without any signs and symptoms (61.5%). However, considerable number of patients thought that STDs are only a problem for young people (59.2%), but a very small percentage of patients think that there is no need to get treated for STDs when you are older (3.4%), and that only young men can get an STD if they are exposed to an infection (8.0%). Compared groups, patients with and those without STDs, did not significantly differ in their general knowledge of STDs.

Table 3 General knowledge of sexually transmitted infections among study participant

Statement	Patients with STD (n = 41)	Patients without STD (n = 133)	Total (n = 174)
	True vs. False	True vs. False	True vs. False
Sexually transmitted disease (STD) is a disease that is transmitted by sexual contact.	97.6% vs. 2.4%	97.7% vs. 2.3%	97.7% vs. 2.3%
STDs are sometimes incurable	58.5% vs. 41.5%	60.9% vs. 39.1%	60.3% vs. 39.7%
If not diagnosed or treated, STDs can affect sexual and reproductive organs.	100.0% vs. 0.0%	99.2% vs. 0.8%	99.4% vs. 0.6%
STDs are only a problem for young people.	58.5% vs. 41.5%	59.4% vs. 40.6%	59.2% vs. 40.8%
One could have a STD without any signs and symptoms.	70.7% vs. 29.3%	58.6% vs. 41.4%	61.5% vs. 38.5%
There is no need to get treated for STDs when you are older.	2.4% vs. 97.6%	3.8% vs. 96.2%	3.4% vs. 96.6%
Only young people can get an STD if they are exposed to an infection.	9.8% vs. 90.2%	7.5% vs. 92.5%	8.0% vs. 92.0%

STD, Sexually transmitted disease.

Perceived knowledge mean scores for single STD among the study participants (Table 4) ranged from 0.61 to 2.80. Perceived mean scores were the best for syphilis (2.71), gonorrhoea (2.69) and HIV/AIDS - acquired immunodeficiency syndrome (2.56), followed by hepatitis B (1.43), herpes (1.31) and genital warts (1.10), and the

poorest for Chlamydia (0.63). There were no significant differences between patients with and without STDs. The only exception was perceived knowledge of genital warts which was better in patients with STDs in comparison with patients without STD (1.51 vs. 0.98, $p < 0.05$).

Table 4 Perceived knowledge mean scores* for single sexually transmitted diseases among the study participants

Disease	Patients with STD (n = 41) Mean (SD)	Patients without STD (n = 133) Mean (SD)	Total (n = 174) Mean (SD)
Gonorrhoea	2.75 (1.68)	2.67 (1.59)	2.69 (1.61)
Syphilis	2.80 (1.63)	2.68 (1.62)	2.71 (1.62)
Genital Warts	1.51 (1.61)†	0.98 (1.46)	1.10 (1.61)
Herpes	1.32 (1.52)	1.31 (1.45)	1.31 (1.46)
Hepatitis B	1.34 (1.59)	1.46 (1.62)	1.43 (1.61)
HIV/AIDS	2.54 (1.70)	2.57 (1.70)	2.56 (1.69)
Chlamydia	0.68 (1.17)	0.61 (1.19)	0.63 (1.18)

SD, standard deviation; STD, Sexually transmitted disease;

* Perceived knowledge was ranged from "0" meaning not knowledgeable at all to "5" meaning very knowledgeable; † $p < 0.05$ for comparison between patients with and without STD.

DISCUSSION:

Out of patients 60 and more years old who came to the Department for Sexually Transmitted Diseases at the City Institute for Skin and Venereal Diseases, 23.6% had STD, 59.2% had some genital disorders, and 17.2% came for counselling. Their general knowledge of STDs as well as perceived knowledge of single STDs were unsatisfactory and did not differ between patients with and without STDs.

Similar to young people, elders express sexual desire, while sexual activity for them is a means of affirming their physical functioning, establishing self-confidence, as well as a mode of pure physical pleasure [10]. However, sexuality in the elder is particularly affected by different problems that are common in this age group such as medical disorders, depression or death of a partner [11].

Unprotected sexual intercourse is a risk factor for contracting STDs and literature data have shown increasing rates of many STDs in older people which correlates with knowledge deficit about venereal diseases and risky sexual behaviour among elderly [4, 9]. Although the majority of our patients visited the Department for some genital disorders or counselling, venereal diseases were diagnosed in ¼ of participants which is in line with other studies [12, 13]. Genital herpes, genital warts and

syphilis were the most prevalent diseases among our patients. Griffiths & David reported that 23% of older people who attended genitourinary medicine service had some STDs, predominantly genital herpes [12]. In the study of Tobin et al. 18% of men and 2% of women older than 50 years attended genitourinary medicine departments with an STD [13].

In comparison with non-STDs patients our STDs patients were significantly more frequently men who have sex with men. All early syphilis cases in our sample were diagnosed among homosexual men. Moreover, homosexual men accounted for the most cases of syphilis during an early syphilis outbreak in Belgrade in 2014, and 5% of them were older than 50 years [14]. Matched to heterosexuals, older homosexual men are at higher risk of getting HIV and some other STDs [15]. Our STD cases also had greater number of sexual partners in the past 6 months, last sexual contact in the preceding 3 months, have been tested for HIV and had some venereal diseases in their personal history.

Although STD cases were more sexually active, their general knowledge of STD did not differ from non-STD patients. There was lack of knowledge regarding the following statements: STDs are sometimes incurable, STDs are only a problem for young people, and one could have a

STD without any signs and symptoms. Our results are in line with study conducted among older veterans in Ohio [9]. Taking into account the results from the true and false knowledge statements, we suppose that the statement "STDs are only a problem for young people" was misunderstood by some participants as a statement that STDs are more frequent in younger compared with older and consequently present problem for them only. The perceived knowledge mean scores for each STD were particularly low and warrants concern. The best mean scores were for syphilis, gonorrhoea and HIV/AIDS and the worst was for Chlamydia. It may be explained by the fact that syphilis and gonorrhoea are "old STDs", while Chlamydia is a "new" one, and HIV/AIDS is the most dangerous followed by stigma and fear. Patients with STDs had significantly better knowledge about genital warts, moreover 40% of them had warts and received education from physicians during the treatment.

The limitation of this study is that it was not performed in a representative population sample, but it was restricted to older patients

who attended Department for STD. Because of that, it is questionable whether the study results could be generalized.

CONCLUSION

The findings of our study show that a considerable number of older people who attended Department for STD (23.56%) had some venereal diseases. The perceived knowledge mean scores for each STD ranging from "0", meaning not knowledgeable at all, to "5", meaning very knowledgeable, ranged from 0.63 to 2.71. Correct answers concerning general knowledge of STDs were given by 59% to 96% of participants. The knowledge deficit about sexually transmitted infections in older people and low rate of condom use in this group highlight the need for targeted public health campaigns. Healthcare providers should offer adequate, age appropriate education about sexually transmitted infections to older adults in order to improve their knowledge and diminish risks of contracting sexually transmitted infections and their consequences. Health workers should take sexual history of the elderly and offer them tests for STDs.

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