

# Older Patients Attending STI Clinics

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## Introduction

- Rates of sexually transmitted infections (STIs) in patients over age 50 are increasing.[1]
- Numerous behavioral surveys suggest that many individuals are sexually active into their 8<sup>th</sup> decade of life.[2]
- We sought to compare demographic features, risk behaviors and predictors of acute STI diagnoses in patients  $\geq$ age 50 to those  $<$ age 50 attending STI clinics in Baltimore, stratified by sex.

## Methods

- This was a retrospective study utilizing a large electronic database of all visits to two STI clinics in Baltimore from 2005-2010.
- We examined all first visits in this time period for patients  $\geq$ age 50 and compared them with a random sample of first visits from this time period for patients  $<$ 50.
- Proportions were compared using the  $\chi^2$  test.
- Logistic regression was used to assess predictors of acute STIs. A p value of  $\leq 0.2$  in univariate analysis, or biological relevance was used to select variables for final models.

## Results

- There were 4461 first visits for patients  $\geq$ age 50 from 2005-2010 (approximately 8% of all first visits)

**Table 1. Demographics and Selected Diagnoses**

	Age<50 Men N=2710	Age>50 Men N=3189	P	Age<50 Women N=2183	Age>50 Women N=1270	P
Age Mean(SD)	29.7 (9.0)	56.1 (6.1)		27.2 (8.8)	54.9 (5.4)	
Race						
Black	2393(88.3)	2856(89.6)	<0.01	1918(87.9)	1161(91.4)	<0.01
White	157(5.8)	225(7.1)		140(6.4)	63(5.0)	
Other	160(5.9)	108(3.4)		125(5.7)	46(3.6)	
Self referral for symptoms	1012(37.3)	1146(35.9)	0.12	782(35.8)	420(33.1)	0.05
Self referral for HIV test	194(7.2)	416(13.1)	<0.01	143(6.6)	189(14.9)	<0.01
Self referral for checkup	730(26.9)	596(18.7)	<0.01	639(29.3)	256(20.2)	<0.01
Contact to STI	582(21.5)	491(15.4)	<0.01	340(15.6)	141(11.1)	<0.01
Contact to HIV	8(0.30)	47(1.5)	<0.01	16(0.7)	18(1.4)	0.05
Ref for + STI test	52(1.9)	109(3.4)	<0.01	98(4.5)	38(3.0)	0.03
Ref for + HIV test	14(0.5)	39(1.2)	0.01	10(0.5)	14(1.1)	0.02
NGU (men)/ Genital CT (women)	752(36.4) 752/2067	500(24.7) 500/2024	<0.01	208(14.3) 208/1456	3(0.85) 3/353	<0.01
Genital GC	194(9.2) 194/2111	114(5.5) 114/2087	<0.01	72(4.5) 72/1599	3(0.4) 3/749	<0.01
Trichomonas	N/A	N/A	N/A	216(13.1) 216/1653	163(21.4) 163/761	<0.01
Acute STI*	970(35.8) 970/2710	637(20.0) 637/3189	<0.001	290(13.3) 290/2183	170(13.4) 170/1270	0.93

NGU=Non-gonococcal urethritis, GC=Gonorrhea, CT=Chlamydia \*Acute STI Men: GC, CT, NGU, Early Syphilis, \*Acute STI Women: GC, Trichomonas, Early Syphilis

## Results

**Table 2: Risk Behaviors Stratified by Age and Sex**

	Age<50 Men	Age>50 Men	P	Age<50 Women	Age>50 Women	P
Genital Sex	2449(90.4)	2677(83.9)	<0.01	1881(86.2)	1009(79.5)	<0.01
Anal Sex	108(4.0)	63(2.0)	<0.01	135(6.2)	36(2.8)	<0.01
Oral Sex	1039(38.3)	828(26.0)	<0.01	819(37.5)	272(21.4)	<0.01
# Partners						
0	65(2.4)	271(8.5)	<0.01	59(2.7)	210(16.5)	<0.01
1	752(27.8)	1279(40.1)		1073(49.2)	714(56.2)	
2	744(27.5)	664(20.8)		509(23.3)	104(8.2)	
$\geq 3$	911(33.6)	523(16.4)		270(12.4)	28(2.2)	
Unk	238(8.8)	452(14.2)		272(12.5)	214(16.9)	
Condom						
Never	547(20.2)	941(29.5)	<0.01	631(28.9)	512(40.3)	<0.01
Sometimes	843(31.1)	817(25.6)		599(27.4)	227(17.9)	
Often	691(25.5)	488(15.3)		351(16.1)	91(7.2)	
Always	389(14.4)	422(13.2)		282(12.9)	137(10.8)	
Unk	240(8.9)	521(16.3)		320(14.7)	303(23.9)	
IDU last month	9(0.33)	29(0.91)	0.01	11(0.5)	9(0.7)	0.45
Cocaine past month	23(0.85)	70(2.2)	<0.01	20(0.92)	23(1.8)	0.02
Sex for money/ drugs	20(0.7)	30(0.9)	0.40	13(0.6)	6(0.47)	0.64
Sex with ETOH/drugs	223(8.2)	186(5.8)	<0.01	104(4.8)	37(2.9)	0.01
ED drugs past year	9(0.33)	71(2.23)	<0.01	N/A	N/A	N/A

**Table 3. Predictors of Acute STI\*\*\***

	Age<50 Men OR (CI)	Age>50 Men OR(CI)	Age<50 Women OR(CI)	Age>50 Women OR(CI)
Black Race*	2.2(1.47-3.35)	1.2(0.79-1.73)	2.67(1.34-5.30)	1.2(0.43-3.15)
Older age	0.98(0.96-0.99)	0.99(0.98-1.01)	1.0(0.99-1.03)	0.94(0.89-0.98)
Sex for money/ drugs	0.33(0.09-1.21)	N/A**	7.1(1.67-29.9)	N/A**
Reported symptoms	2.6(2.14-3.04)	3.8(3.07-4.64)	1.5(1.13-1.93)	4.0(2.65-6.16)
Number partners (Ref 0)				
1	6.7(2.03-21.85)	2.9(1.77-4.73)	3.6(0.87-15.29)	1.85(0.98-3.50)
2	8.5(2.59-27.86)	2.8(1.71-4.71)	5.0(1.19-21.41)	3.8(1.75-8.15)
$\geq 3$	9.0(2.75-29.62)	3.6(2.14-5.98)	8.2(1.90-35.08)	2.2(0.66-7.18)
Unk	3.6(0.82-15.80)	1.2(0.52-2.85)	0.46(0.05-4.17)	0.31(0.06-1.72)

\*reference=white race. \*\*Did not reach  $p \leq 0.2$  in univariate analysis. \*\*\*Also controlled for "other" race, sexual identity, average condom use, partners met on the internet, anonymous partners, sex with alcohol/drugs in last month, IV drug use in the last month

## Limitations

- Retrospective study design: Information and selection biases
- Men and women over 50 were not routinely tested for chlamydia.

## Conclusions

- Older patients make up a small, but significant portion of patients attending STI clinics.
- Many of these patients engage in risk behaviors, but are more likely than younger patients to report never using condoms.
- Race, a strong predictor of acute STI diagnoses in younger patients, does not predict acute STI in older patients.

## References

- Minichiello et al. Perspect Public Health 2012. 132: 178-181.
- Lindau et al. NEJM 2007. 357: 762-774.



	<b>Age&lt;50 Men N=2710</b>	<b>Age&gt;=50 Men N=3189</b>	<b>P val</b>	<b>Age&lt;50 Women N=2183</b>	<b>Age &gt;=50 Women N=1270</b>	<b>P val</b>
Genital sex	2449(90.4)	2677(83.9)	0.00	1881(86.2)	1009(79.5)	0.00
Anal sex	108(4.0)	63(2.0)	0.00	135(6.2)	36(2.8)	0.00
Oral sex	1039(38.3)	828(26.0)	0.00	819(37.5)	272(21.4)	0.00
# partners last 6 mos						
0	65(2.4)	271(8.5)	0.00	59(2.7)	210(16.5)	0.00
1	752(27.8)	1279(40.1)	0	1073(49.2)	714(56.2)	
2	744(27.5)	664(20.8)		509(23.3)	104(8.2)	
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