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# **OLDER AND SWINGING; NEED TO IDENTIFY HIDDEN AND EMERGING RISK GROUPS AT STI CLINICS**

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# ABSTRACT

## Objective

Identification of STI risk groups is essential for optimal prevention and medical care. Until now, swingers, i.e. heterosexual couples who are practicing mate swapping, group sex, visit sex clubs for couples, are not considered as a specific risk group for STI in health care services and prevention. Here, we compare STI prevalence rates in swingers to other risk groups.

## Methods

At the STI clinic, South Limburg, The Netherlands, we systematically register since 2007 whether an attendee is a swinger. STI clinic surveillance data are analyzed to assess swingers' share in consultations and STI diagnoses; here *Chlamydia Trachomatis* (CT) and/or *Neisseria Gonorrhoea* (NG).

## Results

Of all 8971 consultations, 12% were comprised by swingers (median age 43 years, interquartile range 38-48). Overall, STI prevalence is highest in youth, MSM and swingers. Older swingers show a CT prevalence of 10% and a NG prevalence of 4%. In the older age group with STI diagnosis, swingers have with 55% and MSM with 31% the largest share in STI.

## Conclusions

Swingers comprise substantial part of STI consultations. They are a mainly older group and have an important share in STI diagnoses. While other risk groups for STI, such as young heterosexuals and MSM, are systematically identified at STI health care facilities in order to provide them with fitting services, for swingers this is generally not the case. Swingers, as other groups with risk behaviours, need to be identified and treated as a risk group in STI prevention and care.

## INTRODUCTION

The economic benefits of STI programs can be improved by effectively targeting the groups at risk.[1] Therefore, the continuous evaluation and identification of such groups is essential. Gains are highest when targeting those groups who most fuel the STI epidemic, i.e. sexual networks characterized by frequent partner change, concurrent partners, and less contact with the health care system.[2,3]

Until now, swingers, i.e. heterosexuals whom as a couple practice mate swapping, group sex, visit sex clubs for couples, are (inter)nationally not considered as a risk group for STI in health care services and prevention. However, since swingers connect in networks typed by multiple sex partners, concurrent partnerships and risk behaviour practices,[4-8] i.e. structures enabling quick spread of STI, swingers are a likely target for STI prevention and care. By addressing them properly, more tailored prevention and enhanced STI screening is likely to render gains on the individual and population (reduced STI burden) and economic (costs) level.

At our STI clinic, we started in 2007 to systematically register whether an attendee was a swinger. Here, we present surveillance data comparing STI prevalence among swingers, classic high risk and lower STI risk groups.

## METHODS

The outpatient STI clinic of the South Limburg Public Health Service offers free-of-charge examination and treatment for STI. The clinic is spread over South Limburg (population 0.63 million) with three fixed visit locations. At every new consultation, attendees are tested for *Chlamydia Trachomatis* (CT) and *Neisseria Gonorrhoea* (NG) on first void urine (men) and self swab (women and men) by commercially available NAAT (SDA, Becton Dickinson ProbeTec ET system, Maryland, USA or PCR, Roche Cobas Amplicor, California,

USA). Blood is tested on *Treponema pallidum* (TPPA), hepatitis B (HbsAg and AntiHBc, AXSYM, Abbott, Chicago, USA) and HIV (antiHIV (1/2), Axsym; Abbott, Chicago, USA; reactive samples are confirmed by Western Blot, HIVblot 2.2, Genelabs Diagnostics, Sciencepark, Singapore). Clients comprise persons with and without symptoms including those attending after partner notification. A client is registered as swinger when he or she identifies as heterosexual and as a couple has sex with other heterosexuals.

For statistical analyses, the variable risk category was compiled hierarchically, with non overlapping categories, from heterosexual, female prostitute and MSM to swinger. We here analyse STI clinic surveillance data from January 2007 through December 2008, South Limburg, The Netherlands to assess STI prevalence and share in STI diagnoses of the risk groups and age categories. For the current analyses, STI is defined as a positive CT and/or NG diagnosis. We did not focus on syphilis, hepatitis B or HIV because of low number of positive diagnoses overall. Univariate and multivariate logistic regression analyses are used to assess nationality, risk category, age (and their interaction), as predictors for STI. We considered a p value <0.05 as statistically significant. Analyses were performed with the SPSS package version 14.0.2 (SPSS, Inc., Chicago, IL).

## RESULTS

Of 8965 consultations, 89.1% were by Dutch attendees, 1.6% by German and 4.2% by Belgian attendees; 11.7% were by clients older than 45 years, 15.5% by clients aged between 35 and 45, 60% aged between 20 and 35, and 12.8% between 16 and 20 years. Overall, 11.6% of consultations were comprised by swingers (median age 43 years [interquartile range IQR: 38-48]), 74.8% by heterosexuals (median age: 24 [IQR: 21-29]), 9.6% by MSM (median age 32 [IQR: 23-46]), and 4% by female prostitutes (median age: 35 [IQR: 28-44]).

The prevalence of CT, NG and CT and NG combined was 9.7%, 0.6%, and 10.1%, respectively, in heterosexuals; 10.2%, 6.3%, and 14.2% in MSM; 4.2%, 0.8%, and 4.8% in female prostitutes; and 6.4%, 4.3%, and 10.4% in swingers.

STI prevalence was not associated with nationality, but was associated with age and risk group (both  $p < 0.001$ ). Resulting multivariate modeling including age, group and their interaction ( $p < 0.001$ ) STI prevalence showed a distinct pattern by age and by risk group (table 1): with older age STI prevalence decreased in heterosexuals and increased in swingers (both  $p < 0.001$ ) while remaining stable among MSM and prostitutes. In clinic attendees aging 45 years and over, a higher STI prevalence was observed in swingers (13.7%) and MSM (14.6%) compared to heterosexuals or prostitutes (2.9%). This was the case for both men and women (table 1). Older female swingers had the highest prevalence, even when compared to older male swingers ( $p = 0.032$ ).

Table 1: Proportion of CT and/or NG positive test results and risk estimates by age, risk category and gender following multivariate modelling, South Limburg Public health STI clinic, 2007 and 2008

	Age 45 or younger		Age older than 45	
	STI Prevalence	Multivariate OR, 95% CI	STI Prevalence	Multivariate OR, 95% CI
<b>MALES</b>				
Heterosexuals	10.0	1**	2.4%	1***
MSM	14.1%	1.48 (1.15-1.91)	14.6%	6.96 (2.84-17.08)
Swingers	8.5%	0.83 (0.54-1.29)	10.4%	4.74 (1.89-11.88)
<b>FEMALES</b>				
Heterosexuals	10.9%	1**	4.0%	1***
Prostitutes	5.2%	0.45 (0.27-0.77)	2.9%	0.72 (0.14-3.83)
Swingers	8.3%	0.74 (0.50-1.09)	17.9%	5.28 (1.99-14.01)

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ;

We further evaluated the relative share in STI diagnoses by age and risk categories. Figure 2 shows that in the youngest age groups, heterosexuals contribute the largest part of STI diagnoses. In the older age groups, STI is mostly diagnosed in swingers and MSM. The share in STI diagnoses is for swingers and MSM increasing with age (both  $p < 0.001$ ) reaching 55% for swingers and 31% for MSM in clients with STI who are older than 45

years. Collapsing all age groups, swingers comprised 12% of STI diagnoses (versus MSM; 13%).

## **DISCUSSION**

We confirm previous UK observations suggesting older STI clinic attendees are a notable STI clinic population.[9] Here, we add that swingers are a generally missed target for STI services. To our knowledge, no systematic data on STI diagnoses in these heterosexuals exist except the here presented data from our regional STI clinic showing that swingers considerably contribute to STI consultations and STI diagnoses. They have high STI prevalence, especially in older aged clients. The relative share of swingers in number of STI consultations and STI diagnosis comparable to those of the classic risk group of MSM.

Although exact estimates are unavailable, the swingers population is likely large. One of the largest dating websites for swingers (Swingers Date Club; [www.sdc.com](http://www.sdc.com)) estimate there are millions of swingers worldwide; in the Netherlands 15,000 couples (30,000 individuals) have a profile on this website.[10] The total number of swingers probably is larger. In the Netherlands, awareness of swingers being a risk group is growing, however slowly. The Dutch Ministry recently set up a method to register them in national STI surveillance. However, so far its national implementation is very limited (in 51% of consultations it is not registered), showing 3,296 consultations by swingers in 2008 (personal communication, F. Koedijk, RIVM, 2009). Swingers are probably not properly identified by STI care services; it is also possible that swingers are not optimally attending STI care. (Inter)national data on STI care seeking behaviour or STI rates of swingers however are lacking. To our knowledge, there is not a single country that mentions swingers as a special focus group in national STI prevention. Already in 1986 the Centres for Disease Control reported two female swingers to be infected with HIV in a club (New York Times November 14, 1986). Some outdated studies mention the fear of AIDS or STI among swingers [4] but none were followed by more medical or scientific attention for swingers and STI.



Swingers differ from non-swinging heterosexual adults by their sexual network, typed by concurrent sexual partners and high rate of unprotected sex.[4-8] These risk behaviours make swingers more prone to STI[3] as confirmed by our study. Potentially, they may act as an STI transmission bridge to the entire population. By identifying and testing swingers (regularly) for STI, individual and population burden of STI as well as STI spread can be reduced. Yet, (inter)nationally, swingers are underrepresented in the STI services population.

### **Key messages**

1. Swingers are a hidden risk group who need to be addressed in STI prevention and care services
2. Identification of high risk groups is essential for effective STI control
3. Older STI clinic clients should not be overlooked as a potential risk group in STI care services

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### **Conflict of interest statement**

There are no conflicts of interest. The corresponding author has had full access to all the data in the study and had final responsibility for the decision to submit for publication.

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### **References**

- 1) Chesson HW, Collins D, Koski K. Formulas for estimating the costs averted by sexually transmitted infection (STI) prevention programs in the United States. *Cost Eff Resour Alloc.* 2008 May 23;6:10.
- 2) Wasserheit JN, Aral SO. The dynamic topology of sexually transmitted disease epidemics: implications for prevention strategies. *J Infect Dis.* 1996 Oct;174 Suppl 2:S201-13
- 3) Kretzschmar M, Morris M. Measures of concurrency in networks and the spread of infectious disease. *Math Biosci.* 1996 Apr 15;133(2):165-95.

- 4) Jenks RJ. Swinging: a review of the literature. Arch Sex Behav. 1998 Oct;27(5):507-21
- 5) Van der Poel A, Boon B. Swingers en hepatitis B. Onderzoek naar seksueel risicogedrag van swingers en kansen voor hepatitis-B-preventie. JAARGANG 5, NUMMER 1 - APRIL 2008.  
[http://www.soaaidsmagazine.nl/artikel\\_onderzoek/862](http://www.soaaidsmagazine.nl/artikel_onderzoek/862) [IN DUTCH]
- 6) Niekamp AM, Hoebe CJP, Dukers-Muijters NHTM. SWAP study: The Spread of Sexually Transmitted Diseases in a ongoing Swingers Network, Combining Sexual and Biological Network Data. Oral presentation, International Network for Social Network Analysis (INSNA) 24th Sunbelt Network Congress, San Diego, US, March 8th -17th 2009.
- 7) Niekamp AM, Hoebe CJP, Dukers-Muijters NHTM. SWAP Study; Identification of STD spread within a sexual network of swingers. Oral presentation, ISSTD in conjunction with BASHH Congress. London, United Kingdom 28th June - 1st July 2009.
- 8) Niekamp AM, Dukers-Muijters NHTM, Hoebe CJP. Swingers, a hidden sexual culture at risk for STD. Oral presentation, International Conference of the Society for Medical Anthropology of the American Anthropology Association, Yale University, September 24th - 27th 2009.
- 9) Bodley-Tickell AT, Olowokure B, Bhaduri S, White DJ, Ward D, Ross JD, Smith G, Duggal HV, Goold P. Trends in sexually transmitted infections (other than HIV) in older people: analysis of data from an enhanced surveillance system. Sex Transm Infect. 2008 Aug;84(4):312-7. Epub 2008 Jun 27.
- 10) [http:// www.soaaidsmagazine.nl/ veiligvrijen/ swingers](http://www.soaaidsmagazine.nl/veiligvrijen/swingers); last accessed December 1 2009

#### **Contributions of the authors**

Contributions: ND analyzed the data and wrote the manuscript; EB and AN contributed to the data collection; AN and CH organized STI clinic procedures; all authors contributed to the final draft of the manuscript.

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#### **Appendices:**

Figure 1: Share of risk categories in positive CT and/or NG diagnoses by age-group, South Limburg Public health STI clinic, 2007 and 2008

