

TEENAGE SEXUAL HEALTH IN A UK COMMUNITY GENITOURINARY (GU) MEDICINE CLINIC- CAN WE IMPROVE FURTHER?

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ABSTRACT

Objective: To describe a profile of teenage sexual health problems with an aim to improve the age specific services.

Methodology: A retrospective record analysis of young people (≤ 19 years old) attending a community GU medicine clinic in UK was performed (April 2007 to March 2008). Data was collected on age, gender, contraception use, number of teenage pregnancies, sexually transmitted infections in the past / current, and regular screening for STIs & HIV.

Results: A total of 3328 patients attended our GU medicine clinic over 12 months. Of these, 411 (12.3%) were ≤ 19 years old. Their mean age, mean sexual debut age and average number of sexual partners were 17.6 years, 14.8 years and 5.8 respectively. Ninety percent of males and 29% females had received oral sex. Condom usage was 21% in males and 28% in females. Only 57% of females used contraception, 13% of teenagers having been pregnant. Uptake of STI &/or HIV testing were 92.9% in males and 100% in females. STI rates were higher in females as compared to males (22.5% versus 17.8%, $p = 0.03$). Chlamydia and genital warts were statistically higher in females (8.1% and 12.3 %) than males (5.1% and 5.1%; $p = 0.046$ and 0.023). Fraser competency was documented in only 77% cases.

Conclusion: Teenagers form a significant proportion of our GUM attendees with increase risk of pregnancy and STIs/ HIV, hence a dedicated high quality integrated sexual health clinic may help to reduce morbidity associated with STIs in young people.

Key Words: Teenage, Sexual health, Genitourinary clinic.

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INTRODUCTION

Sexually transmitted infections (STIs) and teenage pregnancy rates in the United Kingdom (UK) are the worst in Western Europe^{1,3}. Sexual

health of young people (YP) in the UK has been declared a crisis⁴. YP are becoming sexually active at an earlier age⁵ and around a third of UK teenagers do not use contraception at first intercourse⁶. In 2000, the Department of Health (DOH) in England launched a national strategy to halve teenage (<18 years) pregnancy rates by 2010⁷. Achieving this government's target by 2010 will require tremendous zeal and effort by all players.

A national survey in 1996 found only 4% of GU medicine clinics had designated sessions for YP⁸. To best address the above problems of both increasing STIs and teenage pregnancy rates amongst YP, a number of settings in the UK since have developed a holistic approach/one stop shop to treatment of sexual health problems with clinics jointly run by genitourinary (GU) medicine and family planning services (FPS)⁹⁻¹². The Department of Health's - "You're Welcome quality criteria: Making health services young people friendly" was published in 2007¹³. We at Macclesfield still see our YP in the general GU medicine clinic.

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The main aim of our study was to find out the proportion of teenagers attending our general GU medicine clinic and whether the numbers seen would justify the development of a dedicated session for this particular group with further future development of a one stop shop. The secondary objective was to determine the demographics, sexual behavior, condom/ contraception usage, reproductive health outcomes and STI diagnoses among YP aged ≤ 19 years so as to help develop interventions and to audit Fraser competency documentation in under 16 year olds.

METHODOLOGY

Retrospective case note review of all teenagers (≤ 19 years) attending between, April 2007- March 2008 was done. Data on age, gender, sexuality, smoking, alcohol, substance use, sexual behavior, condom/ contraception usage, reproductive health outcomes and STI diagnoses were collected. STI testing for *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (GC) was by Aptima Combo 2 assay on urine, vulvovaginal swab, endocervical swab or urethral swab and if clinically indicated from rectum and pharynx. High vaginal swab was used to diagnose bacterial vaginosis (BV), candida and Trichomonas vaginalis in females and serological tests were used for syphilis and HIV testing. The clinic used an opt-out policy for HIV serology testing. The standard for Fraser competency documentation was that it should be documented in all aged <16 in

accordance with the national guidelines¹⁴. "Fraser competent" previously identified under the "Gillick principle" means that some children and young people under 16 years of age will be competent to give valid informed consent to a particular intervention if they have "sufficient understanding and intelligence to enable him or her to understand fully, what is being proposed". Statistical analyses were carried out using SPSS Version 14.

RESULTS

The total number of YP ≤ 19 years was 411 {127 males (31%) and 284 females (69%)}, which formed 12.3% of our general GUM new/rebook attendances (3,328). Off the 3,328 new/rebook attendances, 8.3% (127/1519) were males' ≤ 19 years and 15.7% (284/1809) were females' ≤ 19 years. The mean (S.D.) age was 17.6 (1.57) and males (17.62 ± 1.05) were slightly older than females (17.06 ± 1.14). Average (S.D.) age of sexual debut was 14.8 (3.47), with females (14.54 ± 3.25 ,) having earlier sexual debut than males (15.01 ± 3.47 , $P = 0.02$, Independent Sample T test). The average number of sexual partners was 5.8 (males = 6 and females = 5.5). Under 16s formed 5.4% of all teenagers. Among under 16s, 2 females were CT positive, 1 had genital warts, 1 had herpes, 2 had emergency contraception and 2 had BV. While 14 in the under 16s age group (6 males and 8 females) had only STI screen. Fraser competency was documented in only 77% of cases.

Table 1: Demographics and Clinical Characteristics of Teenagers

Variables	Males n/total (%)	Females n/total (%)
< 16 years	6/127 (4.7)	16/284 (5.6)
Heterosexual	122/127 (96)	284/284 (100)
Homosexual	3/127 (2.4)	
Bisexual	2/127 (1.6)	
Smoking	69/127 (54)	135/284 (47)
Alcohol use	47/127 (37)	94/284 (33)
^a H/O substance misuse	39 (31)	30 (10)
Cannabis	35/127 (27)	22/284 (8)
Cocaine	31/127 (24)	8/284 (3)
IVDU	3/127 (2)	0/284 (0)
H/O sexual abuse	0/127 (0)	7/284 (2)
H/O Rape	0/127(0)	2/284 (0.7)
^b Past H/O STIs	7/127 (5.5)	32/284 (11.3)

H/O= History of, IVDU= intravenous drug use, STIs=sexually transmitted infections.

^a = H/O substance misuse was higher in males than females ($P < 0.001$, Pearson Chi Square test).

^b = Past H/O positive STI was higher in females ($P < 0.001$, Pearson Chi Square test) than males

Table 1 shows the demographics and characteristics and Table 2 below shows the STI screening &/or HIV uptake rate with STI diagnoses.

The diagnosis of an STI was marginally higher in females as opposed to males. Three females and one male had concomitant CT and genital wart infection. The diagnoses in 9 patients, who had treatment only, were for genital skin conditions and not for STIs.

Table 3 shows condom use and sexual behavior. Table 4 and figure 1 shows reproductive outcomes and contraceptive usage in females respectively.

Young females who had current or past history of pregnancies (37, 13%) were slightly younger (mean \pm S.D.; 17 ± 1.21) than females who were not pregnant (247, 97%; 17.2 ± 1.14). However, significantly higher number of females with current or past history of pregnancies had BV or candida diagnosis (10/37, 27%) than females with no history of pregnancy (34/247, 13.8%, $P = 0.001$). No significant associations were found between the two groups with regards to CT infection [2 (5.4%) vs. 21 (8.5%)] and genital warts [4 (10.8%) vs. 31 (12.5)].

More than 40% of teenage females were not using any form of contraception.

Table 2: Investigations/ Reasons for Attending Clinic and Diagnoses Made

Variables	Males n/total (%)	Females n/total (%)
STI screen only	60/127(47.2)	90/284 (31.7)
STI screen with HIV test	58/127 (45.7)	194/284 (68.3)
Treatment only	9/127 (7.1)	0/284 (0)
Of the 402(118 males and 284 females) having STI &/ or HIV screen		
Total STIs diagnoses	21/118 (17.8%)	64/284 (22.5%)
^a Genital warts	6/ 118 (5.1)	35/284 (12.3)
^b Chlamydia	6/118 (5.1)	23/284 (8.1)
Gonorrhoea	4/118 (3.4)	0/284 (0)
Genital herpes	2/118 (1.7)	5/284 (1.8)
Molluscum contagiosum	3/118 (2.5)	1/284 (0.4)
Non STI conditions		
Anaerobic infection (/BV)	2/118 (1.7)	25/284 (8.8)
Candida	0/118	19/284 (6.7)
Symptomatic	47/127 (37)	124/284 (44)
STI diagnosis in symptomatic		
Genital warts	6/ 16(37.5)	35/40 (87.5)
Chlamydia	3/16 (18.8)	0/40 (0)
Gonorrhoea	2/16 (12.5)	0/40 (0)
Genital herpes	2/16 (12.5)	5/40 (12.5)
Molluscum contagiosum	3/16 (18.8)	1/284 (0.4)
Non STI conditions in symptomatic		
Anaerobic infection/ (BV)	0/47	8/124 (6.4)
Candida	0/47	12/124 (9.6)

STI=sexually transmitted infection, HIV= human immunodeficiency virus, BV= bacterial vaginosis

^a = genital warts presentation was higher in females than males ($P = 0.023$, Pearson Chi Square test).

^b = more females were diagnosed positive with chlamydia infection as compared to males ($P = 0.046$, Pearson Chi Square test)

Table 3: Condom Usage and Sexual Behavior/Practices Among the Study Group

Variables	Males n/total (%)	Females n/total (%)
Condom usage	27/127 (21.2%)	79/284 (27.8%)
Giving oral sex	86/127 (67.7)	109/284 (38.4)
^a Receiving oral sex	114/127 (89.8)	81/284 (28.5)
Vaginal sex	124/127 (97.6)	284/284 (100)
Insertive anal sex	16/127 (12.6)	0/284 (0)
Receptive anal sex	5/127 (3.9)	11/284 (3.8)

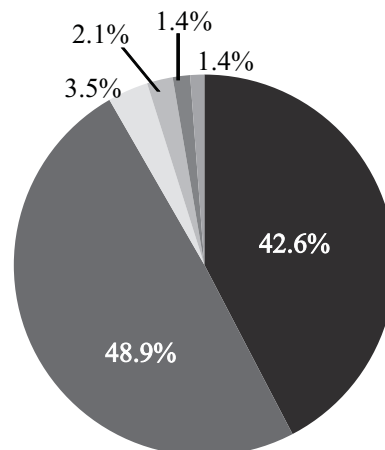
a = Receptive oral sex practice was higher in males as compared to females ($P < 0.001$, Pearson Chi Square test)

Table 4: Pregnancy Outcomes

Of the total 284 female patients seen
29 (10.2%) = pregnant in the past
<ul style="list-style-type: none"> • 21/29 (72.4%) = TOP (TOP = termination of pregnancy) • 4/29 (13.8%) = miscarriage • 4/29 (13.8%) = live child
8 (2.8%) were pregnant at consultation

Figure 1: Contraception Use Among Females

■ None ■ COCP ■ Condoms
 ■ Depo ■ POP ■ Implanon



Depo= Depot provera,
 COCP= combined oral contraceptive pill,
 POP= progesterone oral pill

DISCUSSION

Teenagers formed a significant proportion (12.3%) of our general GU medicine workload. Given that YP pose numerous challenges with regard to consent, confidentiality and child protection issues^{15,16} and teenagers'/ YP view access, confidentiality, non-judgmental staff/ friendly environment as key features of sexual health

services^{6,13,16-18}, development of a dedicated session appropriate to this particular group is justified and long due.

Girls (2/3rds teenage attendees) used our service more than the boys perhaps because of higher rates of past STIs (5.5% vs. 11.3%, $P < 0.001$) and because of greater concerns over pregnancy. Attendance by teenage males was

much lower at only 10% in Burn et al's¹⁹ study as compared to 31% in our study. Majority of teenagers attending our service were asymptomatic.

The mean age for sexual debut of 14.8 in our study is lower than the national average of 16²⁰. Early sexual initiation has been associated with increased risk of pregnancy and STIs²¹⁻²⁴. More than a third of teenagers of both sexes were engaged in alcohol use and about half of both sexes were smoking cigarette. Young males were drinking high quantities of alcohol as compared to young females. Recreational drugs use was reported by a third of males. Frequent alcohol use and recreational drugs are associated with higher numbers of sexual partners and decreased likelihood of using protection⁴. Recreational drug usage has also been found to be associated with lifetime risk of STIs²⁵. In our study we did not find any associations between substance misuse and current or past history of STIs between males and females.

Genital wart (12.3%) was the commonest STI in females followed by chlamydia (8.1%), whereas in males both warts and chlamydia rates were similar (5.1%) followed by gonorrhoea at 3.4%. Genital herpes infection was almost similar in both sexes. Half of all males with CT and GC diagnoses were asymptomatic whereas all females with CT were asymptomatic in our cohort.

Condom usage for STI prevention was low with only a quarter of both sexes using it; half of young females did not use contraception thus risking pregnancy. Thirteen percent (37/284) of teenage females had been &/ or pregnant in our study, 7.4% (21/284) had undergone a termination of pregnancy (TOP) and a further 1.4% (4/284) each had had a miscarriage and a live birth. In contrast, Burn et al in an urban London YPs' clinic reported a higher rate of 17% of 331 females < age 20 undergoing TOP with a further 7% having had at least one live birth¹⁹.

Oral sex was common with 90% of males and nearly a third of females having received it. Stone et al suggested that many young people in the United Kingdom remain ignorant of the ways in which STIs can be transmitted; a quarter of those surveyed (total 1,373 students aged 16-18) were unaware that STIs could be transmitted via oral-genital contact²⁶. Some adolescents engage in oral or anal sex as perceived less risky alternatives to vaginal sex²⁷, however both have been implicated in the transmission of nonviral and viral STIs^{28,29}.

Receptive anal sex was similar in females and men having sex with men in our study (3.8% versus 3.9%). In contrast, in Stone et al's study 9.3% of 721 females and 7.4% of 555 males had

ever had anal sex.

It is thus important to educate YP of the risks of STI transmission with other sexual behaviors and not just limit education to safer vaginal sex, which mostly is the case in schools. Use of condoms and dental dams is key in reducing transmission.

Proper sexual history taking by health professionals is vital- a fact that some health professionals may overlook but that which has direct bearing in targeting appropriate sites for taking swabs, assessing HIV risk factor and providing proper health education.

Only in 77% cases was Fraser documentation noted. In order to improve on this we since, introduced a YP proforma for <16s' and an audit three months later showed documentation to reach 98%. Though a vast improvement, still short of the standard of 100% and endeavors are being made to achieve this.

An unpublished young peoples' questionnaire survey in Eastern Cheshire in 2006 in various settings (total number =230, age group 13-21: of which 179- surveyed in secondary schools, 40- at local sexual health clinics and 11 at young offenders/drug intervention centers) showed higher proportion of YP in vulnerable group to have had initiated sex aged 14 compared to those in education (9% versus 2%)¹⁸.

Though high quality clinical services and good sex and relationship education are important, it has got to be combined with outreach work. Government data clearly shows that those most vulnerable to becoming teenage parents or contracting an STI are also those least able or likely to go to a clinic for advice and information³⁰. Thus it is important to take out holistic clinical and educational services out to YP where they need them, in their own environment.

We, healthcare professionals are faced with challenges. Prevention strategies need to aim at reducing risk behavior across various activities. It is important to be aware of the factors that hinder safer sex practices among young people. In order to reduce the incidence of such risk-taking behavior more comprehensive and focused research is needed to explore why, despite knowledge of adverse sequelae, young men and women are not practicing safe sex.

A dedicated high quality integrated sexual health clinic with involvement of YP in planning and implementation - thus targeting their specific needs, with their involent in the evaluation of the programme may best serve this population and help drive decrease in teenage pregnancies and STI rates.

CONCLUSION

Teenagers form a significant proportion of our GUM attendees - justifying the need for the development of a dedicated YPs' clinic. Condom usage for STI prevention is low with half of teenagers not using any contraception. Oral sex is common with receptive anal sex being similar in both sexes. Proper sexual history to target proper sites for taking swabs and assess HIV risk is vital. A dedicated high quality integrated sexual health clinic with involvement of YP in planning, implementation and in targeting their specific needs may help reduce teenage pregnancies and STI rates.

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CONTRIBUTORS

SZ and MM, contributed equally to the research and preparation of the manuscript. All authors listed contributed significantly to the research that resulted in the submitted manuscript.

GRANT SUPPORT, FINANCIAL DISCLOSURE AND CONFLICT OF INTEREST

None Declared