

Depression and sexual behaviour among men who have sex with men in the UK

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Background

- During 2013, 3250 men who have sex with men (MSM) were newly diagnosed with HIV
- Elevated levels of mental health problems have been demonstrated among MSM
- Psychological symptoms may be linked to sexual risk behaviour
- A small number of US and Canadian studies have investigated this relationship among HIV negative (or unknown status) MSM but less information is available from UK

Aims

Using data from the AURAH Study of sexual health clinic attendees across the UK we assessed:

1. Prevalence of current depressive symptoms, factors associated with symptoms and the association between symptoms and sexual behaviours among MSM
2. Proportion of MSM with current depression who are diagnosed and treated

Methods: The AURAH Study

- The Attitudes to and Understanding of Risk of Acquisition of HIV (AURAH) Study is a self-administered health & lifestyle questionnaire study in 20 sexual health clinics across UK (2013-2014)
- HIV negative/unknown status and ≥ 18 years (N=2630)
- Data available **N=2187** (1646 men)
- MSM **N=1287**
- MSM reporting any anal/vaginal sex in past 3 months **N=1173**
(88.4% sex with men only, 3.9% with women only and 7.7% both men and women)

Methods: Depression measures

PHQ-9 ≥ 10 *

'Are you receiving medical treatment or therapy for depression?'

'Have you ever been told by a doctor that you have a mental health condition?'

*Compared to mental health professional validation interviews, PHQ-9 score of ≥ 10 found to have sensitivity and specificity of 88% for major depression

'Over the past two weeks, how often have you been bothered by any of the following problems?'

Response options: Not at all (0)/Several days (0)/More than half the days (1)/Nearly every day (1)

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself-or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed/being so restless that it is hard to sit still
9. Thoughts that you would be better off dead, or of hurting yourself in some way (several days coded as 1)

Methods: Sexual behaviour measures

Three measures of condomless sex (CLS) in past 3 months:

- Any CLS
 - CLS with two or more partners
 - CLS with unknown/HIV positive status partner(s)
-
- Self-reported STI diagnosis in past year
 - More than 10 new sexual partners in past year
 - Group sex in past 3 months

Methods: Data-analysis

- Association of current depressive symptoms (PHQ-9 ≥ 10) and sexual behaviours assessed using χ^2 tests and Poisson regression with robust variance estimator
- Model 1: Adjusted for socio-demographic factors (age, ethnicity, education, ongoing relationship and study recruitment region)
- Model 2: Adjusted for socio-demographic factors above and lifestyle factors (recreational drug use, heavy drinking and smoking)

Socio-demographic and lifestyle characteristics

| N=1173 MSM reporting anal or vaginal sex in the past 3 months | n (%) |
|--|--------------|
| Median (IQR) age | 31 (13) |
| Age 40+ years [N=1158] | 287 (24.8%) |
| White ethnicity [N=1159] | 948 (81.8%) |
| University degree or higher | 764 (65.1%) |
| Currently in an ongoing relationship | 515 (43.9%) |
| Recruited from a clinic in London | 853 (72.7%) |
| Smoke cigarettes regularly | 300 (25.6%) |
| At least 20 units of alcohol per week | 139 (11.9%) |
| Used recreational drugs in past 3 months | 668 (57.0%) |

Burden of current depressive symptoms

| N=1173 MSM reporting anal or vaginal sex in the past 3 months | Prevalence | 95% CI |
|--|-------------------|---------------|
| Current depressive symptoms on PHQ-9 (≥ 10) | 147 (12.5%) | 10.8%, 14.6% |
| Level of depression severity, PHQ-9 score | | |
| None | 282 (24.0%) | 21.7%, 26.6% |
| Minimal, 1-4 | 494 (42.1%) | 39.3%, 45.0% |
| Mild, 5-9 | 250 (21.3%) | 19.1%, 23.8% |
| Moderate, 10-14 | 82 (7.0%) | 5.7%, 8.6% |
| Moderately severe, 15-19 | 44 (3.8%) | 2.8%, 5.0% |
| Severe, 20-27 | 21 (1.8%) | 1.2%, 2.7% |

Current depressive symptoms by socio-demographic factors

| N=1173 MSM reporting anal/vaginal sex (past 3 months) | | PHQ-9≥10 | |
|---|----------------------|----------|--------------------------|
| | | % | p value (χ^2 test) |
| Age | <25 | 21 | <0.001 |
| | 25-29 | 14 | |
| | 30-39 | 8 | |
| | 40+ | 9 | |
| Money to cover basic needs | Always/Mostly | 9 | <0.001 |
| | Sometimes/Never | 52 | |
| University Education | Yes | 9 | <0.001 |
| | No | 19 | |
| Ongoing relationship | Yes | 11 | 0.090 |
| | No | 14 | |
| Study region | South | 14 | 0.054 |
| | London | 12 | |
| | Midlands & Yorkshire | 21 | |

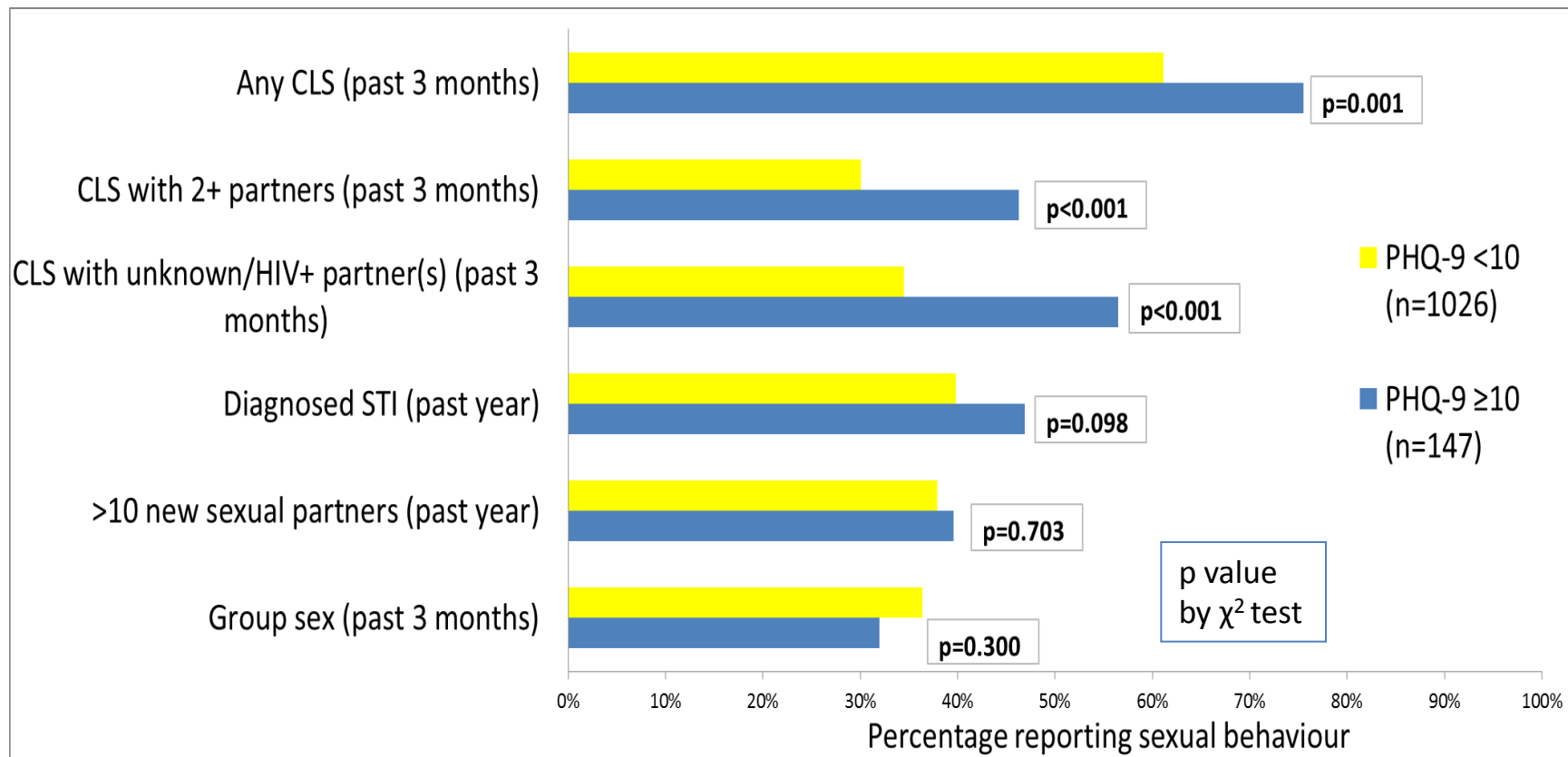
Current depressive symptoms by lifestyle factors

| N=1173 MSM reporting anal/vaginal sex (past 3 months) | | PHQ-9≥10 | |
|---|-----|----------|--------------------------|
| | | % | p value (χ^2 test) |
| Smoke regularly | Yes | 19 | <0.001 |
| | No | 10 | |
| At least 20 units of alcohol per week | Yes | 19 | 0.019 |
| | No | 12 | |
| Recreational drug use (past 3 months) | 0 | 9 | 0.002 |
| | 1 | 14 | |
| | 2-4 | 14 | |
| | 5+ | 20 | |

Sexual behaviour measures

| N=1173 MSM reporting anal or vaginal sex in past 3 months | n | % |
|--|----------|----------|
| Any CLS (past 3 months) | 738 | 63% |
| CLS with two or more partners (past 3 months) | 377 | 32% |
| CLS with unknown/HIV positive status partner(s) (past 3 months) | 437 | 37% |
| Self-reported STI diagnosis (past year) | 477 | 41% |
| >10 new sexual partners (past year) | 413 | 35% |
| Group sex (past 3 months) | 420 | 36% |

Sexual behaviour measures by depressive symptoms



Adjusted associations

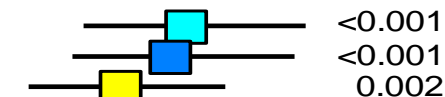
N=1173 MSM reporting anal/vaginal sex (past 3 months)

PHQ-9 score of at least 10

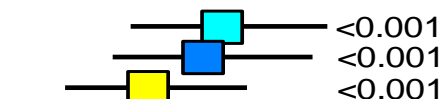
Any CLS (past 3 months)



CLS with 2+ partners (past 3 months)



CLS with unknown/HIV+ partner(s) (past 3 months)



Diagnosed STI (past 3 months)



PR= Prevalence ratio

p value by Wald test

■ Unadjusted model [N=1173]

■ Age, ethnicity, education, relationship (not STI) & region [N=1157]

■ Socio-demographic factors plus drugs, smoking (not STI) and drinking (not any CLS or STI) [N=1157]

1 1.5 2

Proportion with current depression diagnosed and treated

| N=1173 MSM reporting anal/vaginal sex in past 3 months | n/N | % | 95% CI |
|---|------------|----------|---------------|
| All current depression (symptoms or treatment) | | | |
| %diagnosed | 125/215 | 58.1% | 51.4%, 64.6% |
| %receiving treatment | 112/215 | 52.1% | 45.4%, 58.7% |

Conclusions

- Strong association found between current symptoms of depression and recent CLS (including with multiple partners and partners of unknown/HIV positive status)
- Given both symptoms of depression and sexual behaviours were measured at the same time it is not possible to conclude which one affects the other
- About half of all those with evidence of current depression were receiving treatment
- Suggests importance of identification and management of depression among MSM

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