

Mental health and quality of life of gay men and lesbians in England and Wales

Controlled, cross-sectional study

MICHAEL KING, EAMONN McKEOWN, JAMES WARNER, ANGUS RAMSAY, KATHERINE JOHNSON, CLIVE CORT, LUCIE WRIGHT, ROBERT BLIZARD and OLIVER DAVIDSON

Background Little is known about the mental health of gay men and lesbians living in Europe.

Aims To compare psychological status, quality of life and use of mental health services by lesbians and gay men with heterosexual people.

Method Cross-sectional study in England and Wales using 'snowball' sampling.

Results Participants: 656 gay men, 505 heterosexual men, 430 lesbians and 588 heterosexual women. Gay men were more likely than heterosexual men to score above threshold on the Clinical Interview Schedule, indicating greater levels of psychological distress (RR 1.24, 95% CI 1.07–1.43), as were lesbians compared with heterosexual women (RR 1.30, 95% CI 1.11–1.52). Gay men and lesbians were more likely than heterosexuals to have consulted a mental health professional in the past, deliberately harmed themselves and used recreational drugs. Lesbians were more likely to have experienced verbal and physical intimidation and to consume more alcohol than heterosexual women.

Conclusions Awareness of mental health issues for gay men and lesbians should become a standard part of training for mental health professionals, who need to be aware of the potential for substance misuse and self-harm in this group and of the discrimination experienced by many lesbians.

Declaration of interest None. Funding detailed in Acknowledgements.

Lesbians and gay men experience intolerance of their sexuality, discrimination and victimisation (Mays & Cochran, 2000) and appear to have higher rates of anxiety, depression, substance use disorders and suicidal behaviour than heterosexual men and women (Hershberger & D'Augelli, 1995; Fergusson *et al*, 1999; Lock & Steiner, 1999; Cochran & Mays, 2000). Almost all research is North American and there are few data for Europe. Furthermore, many studies did not include a comparison group (Atkinson *et al*, 1988; Coyle, 1993; Pillard, 1998), employed convenience samples, applied unusual definitions of homosexuality (Fergusson *et al*, 1999), or failed to differentiate between findings in gay and bisexual people.

Five per cent of the British population is estimated to be gay or lesbian (Johnson *et al*, 2001), but recruiting a probabilistic sample is unlikely to achieve sufficient numbers (Gilman *et al*, 2001) or candid responses. Probabilistic sampling in predominantly gay and lesbian neighbourhoods has been used in the USA, but it is limited because most gay people do not live in such neighbourhoods. In England and Wales they live more commonly in urban areas (Johnson *et al*, 2001) but gay neighbourhoods are unusual. 'Snowball' sampling is a useful strategy when no adequate sampling frame exists and the target population is dispersed (Gilbert, 1993).

Our hypothesis was that gay men and lesbians in England and Wales differed from heterosexual men and women in terms of mental health, quality of life and experiences of mental health services.

METHOD

We conducted a cross-sectional survey of gay and lesbian and heterosexual people living in England and Wales, identified by snowball sampling.

Identification of gay and lesbian people

We asked participants to indicate their sexual identity as gay or lesbian (homosexual), bisexual or straight (heterosexual), a choice that determined the group in which they were analysed. We also used a six-point scale based on the Kinsey scales to assess same-sex attraction (McWhirter *et al*, 1990). A score of 1 indicated attraction only to the opposite sex; 2, mostly to the opposite sex; 3, both sexes equally; 4, mostly same sex; 5, same sex only; 6 indicated where respondents were unsure.

Recruitment

Snowball sampling begins by identifying participants through advertising or direct contacts and asking each participant to recruit others. It is able to reach individuals who do not visit gay or lesbian venues or who might not respond to advertisements. In order to reach a wide range of first contacts we recruited participants by:

- placing posters and notices in health clubs and public libraries;
- advertising in the national, local and gay press;
- leaving postcards about the study in gay venues;
- mailing gay and lesbian societies;
- placing advertisements on gay and lesbian websites.

The research was described as the 'National Well Being Study' or 'Sexuality and Well Being Study' and included sexuality as one of the factors being explored. We gave three postcards advertising the study to each first-wave participant to pass on to other people who would be prepared to take part. No requirement was made about sexuality and thus participants identified their sexual orientation only during the interview. The only inclusion criterion was age 16 years and over. Our main outcome was psychiatric status as measured by the revised Clinical Interview Schedule (Lewis *et al*, 1988), a structured assessment used to assess mental health in two successive national surveys in Britain (Meltzer *et al*, 1995; Singleton *et al*, 2000). The interview enquires about the presence and severity of 14 non-psychotic psychiatric symptoms during the week prior to interview: somatic complaints associated with low mood or anxiety; fatigue; problems with memory and/or concentration; sleep disturbance;

irritability; worry about physical health; depressed mood; depressive thoughts; non-health-related worry; generalised anxiety; phobic anxiety; panic attacks; compulsive behaviours; and obsessional thoughts. It may be analysed as a continuous score, along a single continuum of severity, or as a dichotomous variable (case threshold ≥ 12) (Lewis *et al.*, 1988).

After collecting standard demographic information, we asked participants to complete the following measures:

- (a) the 12-item General Health Questionnaire (Goldberg & Williams, 1988); possible scores range from 0 to 12 and a threshold indicating significant psychological distress of 3/4 was used;
- (b) the 12-item Short Form measure of quality of life (Ware *et al.*, 1996), which provides scores for physical and emotional health (higher scores indicate poorer quality of life);
- (c) a brief version of the Social Support Questionnaire (Sarason *et al.*, 1987), in which we used scores for satisfaction with support ranging from 1 (very satisfied) to 6 (very dissatisfied); a threshold score of 2 or more indicated dissatisfaction with social support;
- (d) the Alcohol Use Disorders Identification Test (AUDIT), which was validated for use in the community by the World Health Organization (Barbor *et al.*, 1989); we used the recommended threshold of over 8 to identify hazardous drinking;
- (e) other questions covered recreational drug use in the preceding month and lifetime; cigarette smoking; previous contacts with mental health professionals and general practitioners; experiences of verbal or physical violence and bullying at school.

The interview was programmed into a laptop computer and took approximately 60 min to complete. Computerised questions have advantages over face-to-face interviews for the collection of potentially embarrassing data (Millsten & Irwin, 1983; Turner *et al.*, 1998). Informed consent was obtained in writing and each participant received £10 to offset the costs of taking part. The study was approved by the Royal Free Hospital ethical practices subcommittee.

Sample size and analysis

Although our main outcome was the threshold score on the Clinical Interview Schedule, we focused on the General Health

Questionnaire in our power calculations as a precaution against the possibility that many participants might agree to complete a postal questionnaire rather than a computerised interview. We expected 25% of heterosexual participants to score above the threshold of the General Health Questionnaire (Goldberg & Huxley, 1992). To detect a difference of at least $\pm 5\%$ (i.e. 20% or 30%) with the gay and lesbian population at 80% power and α set at 0.5, required 1250 participants in each group. A sample of 1250 gay and lesbian participants provides an estimate of prevalence of psychiatric disorder within 95% confidence limits of $\pm 2.5\%$.

Data for men and women were kept separate in the analysis. We report medians and interdecile ranges for scores on the rating scales. We used the chi-squared statistic to compare proportions, and the Mann-Whitney *U*-test and the *t*-test for analysis of non-parametric and parametric continuous variables. Where each test is applied is indicated by reporting of means (s.d.) or medians (interdecile range). We first determined relative risks for scoring above the usual threshold of 11/12 on the Clinical Interview Schedule in the gay and lesbian group compared with the heterosexual group and adjusted them for age. We then used odds ratios to adjust for groups of variables that might confound or mediate this relationship. Adjusting for such factors requires use of logistic regression and odds ratios. The blocks of variables entered were as follows: demographic variables were age, employment *v.* unemployment, White *v.* other ethnicity, having a partner, living alone or with others, and recruitment in the first *v.* subsequent waves; health and lifestyle factors were the Short Form 12 physical scale score, scoring 2 or more on the Social Support Questionnaire (indicating dissatisfaction), scoring 8 or more on the AUDIT questionnaire (indicating hazardous drinking) and having used recreational drugs in the preceding month; discrimination factors were reports of physical attack, property damage or verbal insults in the preceding 5 years, and verbal or physical bullying at school. The data were analysed using Stata version 7.

RESULTS

Recruitment

We collected data between September 2000 and July 2002. Response rates cannot be

reported with snowball sampling. In total 2430 people – 1268 (52%) men, 1149 (47%) women and 13 (0.5%) transgendered people – agreed to participate. There were 505 heterosexual men, 656 gay men, 588 heterosexual women, 430 lesbians, 85 bisexual men and 113 bisexual women; 24 men and 29 women could not describe their sexuality. The results of the 251 participants who identified themselves as bisexual, transgendered or ‘other’ will be reported in a future paper. The following results relate to the main sample of 2179 participants.

Self-identification as gay, lesbian or straight (heterosexual) accorded closely with reported sexual attraction on the adapted Kinsey scale. Almost all the heterosexual men (494; 99%) were attracted principally to women, 596 (95%) of gay men to other men, 573 (98%) of heterosexual women to men, and 408 (96%) of lesbians to other women. (Small variations in totals are due to missing data for 4 heterosexual men, 27 gay men, 2 heterosexual women and 6 lesbians.)

Six snowball waves of recruitment were obtained, with 841 (40%) recruited in the first and 1239 (60%) in the subsequent waves. Gay men and lesbians were more likely than heterosexual men and women to be recruited in the first wave, as were participants who reported they were White and those aged 16–24 years (Table 1). Participants came from a wide area of England and Wales (Table 2).

Demography

Heterosexual people were older and less likely to describe their ethnicity as White than their gay and lesbian counterparts, whereas the latter were more likely to report being in employment (Table 3). Although 35–43% of respondents were economically inactive (Table 3), only 111 (22%) heterosexual men, 112 (19.4%) gay men, 68 (11.6%) heterosexual women and 65 (15.3%) lesbians were unemployed, seeking work. Gay men and lesbians were less likely to have a partner and were more likely to live alone than the heterosexual participants.

Psychological and social measures

Homosexual men recorded significantly higher scores (indicating psychological distress) than heterosexual men on the Clinical Interview Schedule, General Health Questionnaire and the mental sub-scale of the

Table 1 'Snowball' recruitment patterns and sample profile

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5+	Total n (%) ¹	P value
Participants: n (%) ²	840 (40.4)	776 (37.3)	272 (13.1)	118 (5.7)	73 (3.5)	2079 (100) ³	
Gender: n (%) ²							
Male	432 (38.8)	430 (38.6)	152 (13.7)	58 (5.2)	41 (3.7)	1113 (53.5)	0.525
Female	408 (42.2)	346 (35.8)	120 (12.4)	60 (6.2)	32 (3.3)	966 (46.5)	
Sexual orientation: n (%) ²							
Straight	294 (28.9)	431 (42.4)	142 (14.0)	92 (9.1)	58 (5.7)	1017 (48.9)	<0.001
Gay/lesbian	546 (51.4)	345 (32.5)	130 (12.2)	26 (2.5)	15 (1.4)	1062 (50.1)	
Ethnic group: n (%) ¹							
White	769 (91.6)	699 (90.1)	243 (89.3)	99 (83.9)	61 (83.6)	1871 (90)	0.043
Black	27 (3.2)	35 (4.5)	13 (4.8)	7 (5.9)	2 (2.7)	84 (4.0)	
Asian	17 (2.0)	11 (1.4)	2 (0.7)	4 (3.4)	4 (5.5)	38 (1.8)	
Other	27 (3.2)	31 (4.0)	14 (5.2)	8 (6.8)	6 (8.2)	86 (4.1)	
Age in years: n (%) ¹							
16–24	121 (14.4)	124 (16.0)	68 (25.0)	39 (33.1)	36 (49.3)	388 (18.7)	<0.001
25–34	280 (33.3)	254 (32.7)	90 (33.1)	43 (36.4)	21 (28.8)	688 (33.1)	
35–44	196 (23.3)	186 (24.0)	75 (27.6)	26 (22.0)	12 (16.4)	495 (23.8)	
45–54	123 (14.6)	108 (13.9)	30 (11.0)	8 (6.8)	3 (4.1)	272 (13.1)	
55–64	71 (8.5)	66 (8.5)	4 (1.5)	2 (1.7)	1 (1.4)	144 (6.9)	
65–74	34 (4.1)	29 (3.7)	5 (1.8)	0 (0)	0 (0)	68 (3.3)	
75+	15 (1.8)	9 (1.2)	0 (0)	0 (0)	0 (0)	24 (1.2)	

1. Percentage of column total.

2. Percentage of row total.

3. Data were missing on 100 participants.

Short Form 12 (Table 4). Lesbians recorded higher scores than heterosexual women on the Clinical Interview Schedule, Short Form 12 mental sub-scale and the AUDIT questionnaire (Table 4). Gay and lesbian participants were more likely than heterosexual participants to have used recreational drugs (Table 4). Lesbians were more likely than heterosexual women to report having experienced verbal and physical harassment for whatever reason (Table 4). Reported levels of violence, verbal insults and bullying at school were similar in both groups

of men, whereas property offences were reported more often by heterosexual men. Nevertheless, the latter commonly regarded their sexuality as the provocation for such experiences (Table 5). Lesbians were much less likely than gay men to attribute verbal harassment in adulthood or intimidation at school to their sexuality. More than a quarter of gay men and almost a third of lesbians reported that they had ever harmed themselves deliberately, compared with one in seven heterosexual participants; 65% of gay men and 48% of lesbians who reported

having harmed themselves cited their sexual orientation as wholly or partly the motive.

Sexuality and psychological distress

The Clinical Interview Schedule was completed by 1134 men (98%) and 999 women (98%). Prevalence of scoring above the standard threshold of 11/12 for common mental disorder was 44% (277) in gay men and 35% (178) in heterosexual men ($\chi^2(1)=8.28$, $P=0.004$). Figures for women were 44% (184) in lesbians and 34% (197) in heterosexual women ($\chi^2(1)=10.34$, $P=0.001$). Thus, gay men and lesbians were at greatest risk of scoring in the higher range on this instrument (Table 6). After stratification for age, this was significant for gay men and lesbians aged 25–34 years. When we explored the relationship between sexual orientation and common mental disorder by adjusting for groups of variables that might confound it, the increased odds for gay and lesbian participants to score above the Clinical Interview Schedule threshold were not affected (Table 7).

Gay men were more likely than heterosexual men (OR 2.9, 95% CI 2.2–3.7) and lesbians were more likely than heterosexual women (OR 2.8, 95% CI 2.1–3.6) to have

Table 2 Region of the country from which participants were recruited

	London	Midlands	Northern England	Wales	Southern England ¹	Other ²	Total
Sexuality ³							
Heterosexual	293	151	186	30	389	13	1062
Gay/lesbian	347	75	320	71	247	14	1074
Wave							
1	299	48	224	16	244	8	839
2	197	62	205	54	245	11	774
3+	111	113	70	31	130	8	463

1. All of southern England, including the south-west and East Anglia, but excluding London.

2. These are participants who were recruited in England and Wales but gave postal codes in Northern Ireland and Scotland.

3. Data not reported by 31 heterosexual and 12 gay and lesbian participants.

Table 3 Demographic characteristics

	Heterosexual men (n=505)	Gay men (n=656)	Heterosexual women (n=588)	Lesbians (n=430)
Age (years): mean (s.d.) ¹	37.5 (14.0)	36.4 (13.55)	38.0 (14.4)	34.2 (10.8)
Ethnicity: n (%) ²				
White	448/505 (88.7)	607/653 (92.5)	508/588 (86.4)	396/430 (92.1)
Black	26/505 (5.2)	9/653 (1.4)	40/588 (6.8)	14/430 (3.3)
Asian	11/505 (2.2)	14/653 (2.1)	13/588 (2.2)	6/430 (1.4)
Other	20/505 (4.0)	26/653 (4.0)	27/588 (4.6)	14/430 (3.3)
Job type: n (%) ³				
Economically inactive	213/500 (42.6)	229/622 (36.8)	244/578 (42.2)	145/420 (34.5)
Managerial	32/500 (6.4)	45/622 (7.2)	22/578 (3.8)	20/420 (4.8)
Non-manual intermediate	194/500 (38.8)	303/622 (48.7)	289/578 (50.0)	230/420 (54.8)
Manual	61/500 (12.2)	45/622 (7.2)	23/578 (4.0)	25/420 (6.0)
Paid employment: n (%) ⁴ Yes	265/500 (53.0)	368/630 (58.4)	303/586 (51.7)	258/424 (60.9)
Partnership status: n (%) ⁵				
Not in relationship	194/499 (38.9)	304/628 (48.4)	209/586 (35.7)	159/424 (37.5)
Home sharing: n (%) ⁶ Living alone	120/494 (24.3)	241/624 (38.6)	115/580 (19.8)	114/423 (27.0)

1. Women $P < 0.001$.
 2. Men $P = 0.03$, women $P = 0.032$.
 3. Men $P = 0.001$.
 4. Women $P = 0.004$.
 5. Men $P = 0.001$.
 6. Men $P < 0.0001$, women $P = 0.008$.

Table 4 Psychological, social and lifestyle measures and use of services

	Heterosexual men (n=505)	Gay men (n=656)	Heterosexual women (n=588)	Lesbians (n=430)
CIS score (M 27, F 19): ¹ median (range) ²	7.00 (0–25)	9.00 (0–29)**	7.0 (1–24)	9.0 (1–29)**
GHQ score (M 58, F 35): ¹ median (range) ²	1.0 (0–8)	2.0 (0–9)***	2.0 (0–9)	2.0 (0–10)
SF–12 physical score (M 58, F 35): ¹ median (range) ²	53.2 (31.4–58.8)	53.1 (36.8–58.9)	52.3 (34.3–58.7)	52.4 (33.2–59.1)
SF–12 mental score (M 58, F 35): ¹ median (range) ²	50.1 (28.3–57.9)	47.8 (25.5–57.1)*	49.1 (27.5–57.6)	45.3 (25.2–56.6)***
SSQ score (M 59, F 35): ¹ median (range) ²	1.3 (1.0–3.2)	1.3 (1.0–3.0)	1.2 (1–2.5)	1.3 (1–2.7)
Audit score (M 58, F 35): ¹ median (range) ²	8.0 (2–19)	7.0 (2–19)	5.0 (1–14)	7.0 (1–17)***
Substance use: n/N (%) ³				
Recreational drugs used in past month	223/498 (45)	327/626 (52)*	194/583 (33)	185/422 (44)***
Recreational drugs used ever	361/499 (72)	480/627 (77)	350/586 (60)	334/424 (79)***
Cigarette smoker	208/499 (45)	283/627 (45)	210/586 (36)	189/424 (45)
Verbal and physical harm: n/N (%)				
Attacked in past 5 years	177/499 (35)	239/628 (38)	126/586 (22)	131/424 (31)***
Property damage in past 5 years	187/499 (37)	185/627 (30)**	180/586 (31)	118/424 (28)
Verbally harassed in past 5 years	229/499 (46)	324/628 (52)	252/586 (43)	212/424 (50)*
Verbally harassed at school	343/499 (69)	427/628 (68)	284/586 (48)	208/424 (49)
Bullied physically at school	232/499 (47)	319/627 (51)	117/586 (20)	128/424 (30)***
Emotional problems: n/N (%)				
Self-harm considered	166/499 (33)	311/627 (50)***	193/586 (33)	240/424 (57)***
Self-harm actually carried out	66/166 (41)	166/310 (54)**	89/194 (50)	135/241 (56)*
MHP seen for emotional difficulties	162/499 (33)	363/627 (58)***	253/586 (43)	287/424 (68)***
Talked to GP about emotional difficulties	185/499 (37)	334/627 (53)***	281/586 (48)	243/425 (57)
Known to be HIV-positive	4/505 (1)	35/621 (5)	10/588 (2)	3/430 (1)

CIS, Clinical Interview Schedule; GHQ, General Health Questionnaire; GP, general practitioner; MHP, mental health practitioner; SF–12, Short Form 12; SSQ, Social Support Questionnaire.

1. M, F indicate numbers of male and female participants with missing values.
 2. Interdecile range.
 3. Denominators show number of participants who answered each question.
 * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

Table 5 Perceived role of sexual orientation in discrimination: a comparison of gay men and lesbians

	Men, n/N (%) ¹	Women, n/N (%) ¹
Personal attack in previous 5 years	121/240 (50.4)	53/129 (41.1)
Property damage in previous 5 years	74/190 (39.0)	36/117 (30.8)
Verbal insults in previous 5 years ^{**}	257/324 (79.3)	144/210 (68.6)
Verbal insults at school ^{***}	295/427 (69.1)	71/209 (34.0)
Bullied at school ^{***}	183/317 (57.7)	25/129 (19.4)

1. The numerator is those who perceived the discrimination to be due to sexual orientation, the denominator is the total reporting a serious discrimination event (the latter varies slightly from Table 4 because of missing data).
^{**} $P=0.005$, ^{***} $P<0.0005$.

Table 6 Relative risk of scoring above the threshold score of the Clinical Interview Schedule

Age (years)	Gay v. heterosexual men		Lesbian v. heterosexual women	
	RR (95% CI)	n	RR (95% CI)	n
All ages	1.24 (1.07–1.43)	1134	1.30 (1.11–1.52)	999
16–24	1.32 (0.96–1.80)	222	1.22 (0.82–1.82)	179
25–34	1.38 (1.05–1.81)	346	1.36 (1.06–1.74)	364
35–44	1.06 (0.82–1.36)	292	1.05 (0.76–1.44)	211
45–54	1.07 (0.68–1.67)	138	1.36 (0.90–2.04)	142
55 and over	1.09 (0.57–2.07)	136	1.35 (0.64–2.86)	85

Bold numerals denote significant results (confidence intervals do not include unity).

Table 7 Adjustment for other predictors of scoring above the threshold of the Clinical Interview Schedule

	Men OR (95% CI)	Women OR (95% CI)
Gay or lesbian sexuality	1.42 (1.12–1.81)	1.53 (1.18–1.98)
Sexuality adjusted for demographic factors	1.37 (1.05–1.80)	1.47 (1.10–1.96)
Sexuality adjusted for health and lifestyle factors	1.54 (1.18–2.00)	1.58 (1.19–2.09)
Sexuality adjusted for reported discrimination	1.38 (1.07–1.78)	1.45 (1.10–1.89)
Sexuality adjusted for all other predictors	1.48 (1.09–2.01)	1.50 (1.09–2.07)

consulted a mental health professional (see Table 4). This difference was not affected by adjustment for Clinical Interview Schedule score. Gay men were also more likely than their heterosexual counterparts to have sought advice from their general practitioners for emotional difficulties (Table 4).

Sixty-three gay men (10%) and 14 lesbians (3%) had considered seeking treatment to change their sexual orientation, of whom 15 men and 2 women had actually received it. Sixty-two per cent of gay men who had considered seeking help to change their sexual orientation scored above the threshold of the Clinical Interview Schedule

compared with 39% of those who had not done so ($\chi^2(1)=9.58$, $P=0.002$; data missing for 3 men). The figures for women were 54% and 42% respectively ($P=0.41$; data missing for 1 woman).

DISCUSSION

Gay men and lesbians reported more psychological distress than heterosexual men and women, despite similar levels of social support and quality of physical health. They were also more likely to have used recreational drugs, and lesbians were more likely than heterosexual women to drink

excessively. Violence and bullying were more commonly reported by lesbians than heterosexual women, but there were few differences on these factors between the gay and heterosexual men. Bullying at school was reported no more often in gay than heterosexual men, but the gay men who had been bullied regarded their sexual orientation as the main provocation. Gay and lesbian participants were more likely than heterosexual participants to have consulted a mental health professional in the past, regardless of current mental state.

Strengths and limitations of the study

The main strength of our research is the power of the study. No European study in mental health has recruited over a thousand gay and lesbian participants. The main limitation, however, is the method of recruitment. Although there is little alternative to snowball sampling to obtain these numbers, the prevalence of mental disorders was much higher than expected. In the two national studies in Britain that used the Clinical Interview Schedule, prevalence rates were approximately 12% in men and 20% in women (Meltzer *et al*, 1995; Singleton *et al*, 2000). Although the most important finding in our study concerns the differential in rates rather than the prevalence in each group, why common mental disorder was more common than expected in the heterosexual participants is not clear. Although providing respondents with a small sum of money for their expenses might have played a part by attracting people experiencing difficult circumstances, the amount given was small. Our sample contained fewer people aged over 55 years than the national population and since this older group has the lowest rate of psychiatric disorder (Meltzer *et al*, 1995) this might have contributed to the higher rate. It is difficult to see how snowball sampling would have differentially affected prevalence of psychiatric disorder in the gay and heterosexual groups.

It could also be argued that our study might have been more relevant to gay and lesbian participants. However, sexuality was only one of several factors mentioned in our advertisements about the research and thus first-wave gay and lesbian participants should not have been more motivated to take part. We cannot know whether this possible bias occurred in subsequent recruitment waves. However,

we had no difficulty recruiting heterosexual participants and thus salience of the study did not seem to affect entry to the study.

Our definition of homosexual or heterosexual is also important. Same-sex attraction and behaviour occur in a social context and we would argue that participants' own view of their sexuality is the most valid construct. In making comparisons between gay and heterosexual people, we were not assuming that the latter constitute a standard of normality. Rather, placing the mental health of gay men and lesbians within the context of the wider population is useful for the purposes of comparison and for service planning.

Self-harm

The increased risk of contemplating suicide and actually harming oneself in gay and bisexual people has previously been reported in the USA (Fergusson *et al*, 1999; Herrell *et al*, 1999; Russell & Joyner, 2001) and requires much greater attention, particularly in adolescents (Muehrer, 1995). Although our data cannot identify the reasons for this susceptibility, it would seem to have less to do with confusion about sexuality than confusion about how to express it openly in society (Herdt & Boxer, 1993). No study has examined whether gay and lesbian people have elevated rates of completed suicide, but there are indications from medical examiners' reports of suicides in males that this may be the case (Bagley, 1992).

Discrimination

Experiences of violence and verbal abuse as an adult and intimidation at school were reported frequently by both groups of men and women, a finding that underscores the need for comparison groups in studying these risks in gay and lesbian people (Kessler *et al*, 1999). Reports that gay and lesbian people are vulnerable to such experiences because of their sexuality are often taken at face value and are not judged in the context of the prevalence of such events in society. Nevertheless, our data show that lesbians are at greater risk of verbal or physical violence than heterosexual women. Contrary to other reports, perceived discrimination did not attenuate the association between psychological distress and sexual orientation.

CLINICAL IMPLICATIONS

- Gay men and lesbians report more psychological symptoms than heterosexual people.
- Recreational drug use is more common in gay and lesbian people than in the heterosexual population, and lesbians are at greater risk of alcohol problems than heterosexual women.
- Gay and lesbian people are greater users of mental health services in primary and secondary care than heterosexual people.

LIMITATIONS

- Fewer older people were recruited than we would have expected.
- The representativeness of our gay and lesbian sample cannot be estimated as there are no statistics for gay men and lesbians living in England and Wales.
- It is not clear why mental disorders were more common in the heterosexual participants than expected.

MICHAEL KING, MD, EAMONN McKEOWN, PhD, Department of Psychiatry and Behavioural Sciences, Royal Free and University College Medical School, London; JAMES WARNER, MD, Department of Psychiatry, Imperial College, London; ANGUS RAMSAY, PhD, KATHERINE JOHNSON, PhD, CLIVE CORT, MSc, LUCIE WRIGHT, MSc, ROBERT BLIZARD, MSc, Department of Psychiatry and Behavioural Sciences, Royal Free and University College Medical School, London; OLIVER DAVIDSON, PhD, Department of HIV & Sexual Health Psychology, London, UK

Correspondence: Dr Michael King, Department of Psychiatry and Behavioural Sciences, Royal Free Campus, Rowland Hill Street, London NW3 2PF, UK. E-mail: m.king@rfc.ucl.ac.uk

(First received 3 April 2003, final revision 26 June 2003, accepted 22 July 2003)

Use of services

Gay men and lesbians are greater users of mental health services in primary and secondary care than heterosexual men and women. We need to know more about the quality of treatment they receive, particularly because mental health professionals may be insensitive or even hostile to their needs (Golding, 1997; Project for Advice Counselling and Education, 1998). Psychoanalysts in particular may continue to hold outdated views on homosexuality and pathology (Bartlett *et al*, 2001; Friedman & Lilling, 2001). We shall report later on a qualitative sub-study, in which 23 of the gay and lesbian participants provided accounts of their experiences of mental health services.

Interpretation

There are several potential explanations for our findings. It may be that prejudice in

society against gay men and lesbians leads to greater psychological distress and higher use of services than in the heterosexual population (Savin-Williams, 1994). It is also possible that gay people might place greater emphasis on the value of psychological therapy in helping them through these hardships. Conversely, gay men and lesbians may have lifestyles that make them vulnerable to psychological disorder. Such lifestyles may include increased use of drugs and alcohol. Until the past 25 years, homosexuality was considered to be a deviation from normal development that was accompanied by psychological symptoms (King & Bartlett, 1999). There is no evidence, however, for other developmental or physical abnormalities in gay men and lesbians that would lend support to the view that it is a developmental error (Bailey, 1999). In a further stage of our study we shall examine predictors of psychological distress within the gay and lesbian sample.

ACKNOWLEDGEMENTS

We thank all the men and women who participated in the study. We also thank Robert Cabaj and Graham Hart, who advised us on the original protocol, and Catherine Chin, Jeanette Copperman, Sophie Corlett, Julienne Dickie, Rita Glynn, Fiona Hill, Frank Keating, Alan McNaught, Margaret Pedlar, Helen Schoenberg, Amy Sheehan and Melba Wilson, who advised on the study and/or served as members of the Study Steering Group. We also thank Athina Bakalexi for her help in data collection.

The study was funded by the Community Fund in collaboration with Mind, the mental health charity.

REFERENCES

- Atkinson, J. H., Grant, L., Kennedy, C., et al (1988)** Prevalence of psychiatric disorders among men infected with immunodeficiency virus. *Archives of General Psychiatry*, **45**, 64–89.
- Bagley, C. (1992)** Changing profiles of a typology of youth suicide in Canada. *Canadian Journal of Public Health*, **83**, 169–170.
- Bailey, J. M. (1999)** Homosexuality and mental illness. *Archives of General Psychiatry*, **56**, 883–884.
- Barbor, T. F., de la Fuente, J. R. & Saunders, J. (1989)** *The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Health Care*. Geneva: World Health Organization.
- Bartlett, A., King, M. & Phillips, P. (2001)** Straight talking: an investigation of the attitudes and practice of psychoanalysts and psychotherapists in relation to gays and lesbians. *British Journal of Psychiatry*, **179**, 545–549.
- Cochran, S. D. & Mays, V. (2000)** Lifetime prevalence of suicide symptoms and affective disorders among men reporting same-sex sexual partners: results from NIHANES III. *American Journal of Public Health*, **90**, 573–578.
- Coyle, A. (1993)** A study of psychological well-being among gay men using the GHQ-30. *British Journal of Clinical Psychology*, **32**, 218–220.
- Fergusson, D. M., Horwood, L. J. & Beautrais, A. L. (1999)** Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry*, **56**, 876–880.
- Friedman, R. C. & Lilling, A. A. (2001)** An empirical study of the beliefs of psychoanalysts about scientific and clinical dimensions of male homosexuality. *Journal of Homosexuality*, **32**, 79–89.
- Gilbert, N. (1993)** *Researching Social Life*. London: Sage.
- Gilman, S. E., Cochran, S., Mays, V., et al (2001)** Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the national comorbidity survey. *American Journal of Public Health*, **91**, 933–939.
- Goldberg, D. & Huxley, P. (1992)** *Common Mental Disorders*. London: Routledge.
- & Williams, P. (1988)** *A User's Guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Golding, J. (1997)** *Without Prejudice: the MIND Lesbian, Gay and Bisexual Health Awareness Research*. London: MIND.
- Herd, G. & Boxer, A. (1993)** *Children of Horizons: How Gay and Lesbian Teens are Leading a New Way Out of the Closet*. Boston: Beacon Press.
- Herrell, R., Goldberg, J., True, W. R., et al (1999)** Sexual orientation and suicidality: a co-twin study in adult man. *Archives of General Psychiatry*, **56**, 867–874.
- Hershberger, S. L. & D'Augelli, A. R. (1995)** The impact of victimisation on the mental health and suicidality of lesbian, gay, and bisexual youths. *Developmental Psychology*, **67**, 65–74.
- Johnson, A. M., Mercer, C. H., Erens, B., et al (2001)** Sexual behaviour in Britain: partnerships, practices and HIV risk behaviours. *Lancet*, **358**, 1835–1842.
- Kessler, R. C., Mickelson, K. D. & Williams, D. R. (1999)** The prevalence, distribution and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behaviour*, **40**, 208–230.
- King, M. B. & Bartlett, A. (1999)** British psychiatry and homosexuality. *British Journal of Psychiatry*, **175**, 106–113.
- Lewis, G., Pelosi, A. J., Glover, E., et al (1988)** The development of a computerized assessment for minor psychiatric disorder. *Psychological Medicine*, **18**, 737–745.
- Lock, J., Steiner, H. (1999)** Gay, lesbian and bisexual youth risks for emotional, physical and social problems: results from community-based survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, **38**, 297–304.
- Mays, V. M. & Cochran, S. D. (2000)** Mental health correlates of perceived discrimination among lesbian, gay and bisexual adults in the United States. *American Journal of Public Health*, **91**, 1869–1876.
- McWhirter, D. P., Sanders, S. A. & Reinisch, J. M. (1990)** *Homosexuality/Heterosexuality*. New York: Oxford University Press.
- Meltzer, H., Gill, B. & Petticrew, M. (1995)** *The Prevalence of Psychiatric Morbidity Among Adults Aged 16–64 in Private Households in Great Britain*. London: HMSO.
- Millsten, G. M. & Irwin, C. E. (1983)** Acceptability of computer-acquired sexual histories in adolescent girls. *Journal of Paediatrics*, **103**, 815–819.
- Muehrer, P. (1995)** Suicide and sexual orientation: a critical summary of recent research and directions for future research. *Suicide and Life-threatening Behavior*, **25**, 72–81.
- Pillard, R. (1998)** Sexual orientation and mental disorder. *Psychiatric Annals*, **18**, 51–56.
- Project for Advice Counselling and Education (1998)** *Diagnosis: Homophobic (The Experience of Lesbians, Gay Men and Bisexuals in Mental Health Services)*. London: PACE.
- Russell, S. T. & Joyner, K. (2001)** Adolescent sexual orientation and suicide risk: evidence from a national study. *American Journal of Public Health*, **91**, 1276–1281.
- Sarason, I. G., Sarason, B. R., Shearin, E. N., et al (1987)** A brief measure of social support: practical and theoretical implications. *Journal of Social and Personal Relationships*, **4**, 497–510.
- Savin-Williams, R. C. (1994)** Verbal and physical abuse as stressors in the lives of lesbian, gay male, and bisexual youths: associations with school problems, running away, substance abuse, prostitution, and suicide. *Journal of Clinical and Consulting Psychology*, **62**, 261–269.
- Singleton, N., Bumpstead, R., O'Brien, M., et al (2000)** *Psychiatric Morbidity Among Adults Living in Private Households*. London: HMSO.
- Turner, C. F., Ku, L. & Rogers, S. M. (1998)** Adolescent sexual behaviour, drug use and violence: increased reporting with computer survey technology. *Science*, **280**, 867–873.
- Ware, J. E., Kosinski, M. & Keller, S. D. (1996)** A 12-item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Medical Care*, **34**, 220–233.