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RESEARCH REPORT

Attempted suicide, psychological health and exposure to harassment among Japanese homosexual, bisexual or other men questioning their sexual orientation recruited via the internet

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Objective: To investigate the rates of attempted suicide and its association with psychological distress, experiences of bullying and verbal harassment, and demographic characteristics among Japanese homosexual, bisexual or other men questioning their sexual orientation.

Design: A cross-sectional design using Japanese participants recruited through the internet.

Results: Of the 1025 respondents, 154 (15%) of the men reported a history of attempted suicide, 716 (70%) showed high levels of anxiety and 133 (13%) showed high levels of depression. 851 (83%) experienced school bullying and 615 (60%) were verbally harassed because of being perceived by others as homosexual. Independent correlates of attempted suicide were psychological distress, history of being verbally harassed, history of sex with a woman, history of meeting a male through the internet, disclosing sexual orientation to six or more friends and not having a university degree.

Conclusions: Mental health services and prevention programmes are needed to deal with the psychological consequences of social stigma for Japanese men who are homosexual, bisexual or questioning their sexual orientation.

Same-sex sexual behaviour is highly stigmatised in Japan and is commonly regarded as a source of personal and family shame. Japanese men who are gay, bisexual or questioning their sexual orientation (GBQ) may confront interpersonal and social bias because of their sexual orientation and sexual behaviours.

Prior research has suggested that exposure to anti-homosexual bias can have important psychological and public health consequences. Homosexual and bisexual men are vulnerable to mental health problems, including emotional distress, anxiety and depression.^{1–3} High rates of attempted suicide have been documented among homosexual and bisexual men compared with heterosexual men.^{4–6} Mental health problems among homosexuals are related to social stigma and prejudice.^{7–10} A study of young homosexual men (18–27 years of age) in the US found that 37% of respondents had experienced verbal harassment, 22% had experienced discrimination and 5% had experienced physical violence in the recent past.¹¹

Few known studies have examined the psychological well-being of GBQ men in Japan. Japanese culture tends to be conservative about sexuality, and same-sex sexual behaviour in Japan is viewed particularly negatively.^{12–13} Japanese men who experience psychological tension from their homosexual feelings might not identify themselves as homosexual, and might experience difficulty disclosing their same-sex feelings to others. Japanese men who openly acknowledge same-sex behaviour or who identify themselves as homosexual or bisexual may often encounter forms of discrimination, including verbal intimidation or physical abuse. Mental health consequences of anti-homosexual bias might be heightened in Japanese GBQ men, as their culture tends to emphasise public honour and avoidance of shame, both of which can be compromised by societal views of these men's sexual behaviours or sexual identities. Owing to the lack of research into the psychological well-being of Japanese GBQ

men, there is a potential for an overlooked public health problem facing this group. This research examined rates and correlates of mental health functioning, including history of attempted suicide.

METHOD

Recruitment

The internet was used to recruit a sample of Japanese GBQ men. Because of cultural stigma, direct interpersonal forms of outreach were not feasible for accessing a large community sample, and probabilistic sampling of GBQ men in the Japanese national population would arguably achieve a low yield. Use of the internet allowed a greater degree of anonymity with an increased likelihood of participation compared with other recruitment methods. Survey data collected via the internet has been argued to be an acceptable method for collecting large, heterogeneous samples with hard-to-reach populations.^{14–15} Internet technology can be helpful in reaching GBQ men who are less comfortable attending homosexual-themed venues, such as bars and nightclubs, where many studies of this population recruit participants. Data collection through the internet can also increase the opportunity for participants to respond anonymously by avoiding face-to-face interviews.

Recruitment notices and flyers about the study were placed on internet websites and print magazines catering to Japanese homosexual male audiences. This research was described as a study of the experiences of Japanese GBQ men. Potential participants were directed to an internet site to learn more about the study. Participant selection criteria included being:

Abbreviations: GBQ, gay, bisexual or questioning; SDS, Self-rated Depression Scale; STAI, State-Trait Anxiety Inventory; UCLA, University of California at Los Angeles

- a Japanese male who identified as homosexual, bisexual or questioning his sexual orientation,
- currently residing in Japan,
- able to read and write in Japanese and
- able to use the internet.

History of sex with another man was not a criterion for inclusion, thereby rendering eligible men who had not yet acted on their same-sex feelings.

Procedure

Participants entered a secured site on world wide web to complete the internet-administered questionnaire. The first page of the website provided a statement of informed consent and, if they agreed and understood the purposes of the study, participants then accessed the questionnaire. We created a firewall to protect the data collection process from external sources (hackers), and we programmed “cookies” as a way to prevent people from completing the questionnaire more than once.¹⁴ To identify the potential duplication of participants, we periodically examined internet protocol addresses and internet providers encoded within the data and, if encoded information appeared similar, checked the demographics and body of questionnaire for redundant information; no duplicates were identified. Internet protocol addresses were deleted before conducting analyses. To establish that participants met our inclusion criteria of identifying as homosexual, bisexual or questioning, we included in the survey two Japanese colloquial terms that members of this population tend to be familiar with (which translated into English mean “gay men/gay society” and “heterosexual”), and asked participants to define the terms. Data from men who were unable to define the words were excluded from analysis. In total, 1083 participants attempted to complete the questionnaire, 23 people were excluded due to missing data, 10 because they could not define the colloquial terms and 25 because they did not live in Japan. Data were collected between July and September 1999.

Measures

The survey was written entirely in Japanese. Participants reported demographic characteristics, including age, highest educational level and sexual orientation (homosexual, bisexual, questioning/unsure and other). They described whether they had ever had sex with males or females, whether they were currently in a relationship with a man, and whether they had disclosed their sexual orientation or same-sex feelings to parents and friends. Participants described whether they had ever been verbally harassed (eg, being called the Japanese equivalents of “fagot”, “homo”) or bullied in school by others because of being perceived as gay or homosexual. Participants indicated whether they had ever attempted to commit suicide. They completed four validated measures of psychological health. Anxiety was measured using the Japanese version of the State-Trait Anxiety Inventory (STAI),¹⁶ adapted from the original STAI measure¹⁷; scores >44.0 indicated high levels of anxiety in Japanese samples.¹⁶ Depression was measured using the Japanese version of the Self-rated Depression Scale (SDS),¹⁸ adapted from the original SDS measure;¹⁹ scores >50.0 indicated high levels of depression in Japanese samples.²⁰ Self-esteem was measured using the Japanese version of the Rosenberg Self-esteem Scale,²¹ adapted from the original measure.²² Loneliness was measured using the Japanese version of the Revised UCLA (University of California at Los Angeles) Loneliness Scale,²³ adapted from the original measure.²⁴ Each of these published measures had previously been validated with Japanese samples.

Data analysis

Frequencies for demographic and mental health indicators are reported. χ^2 tests were conducted to examine bivariate associations between ever having attempted suicide (the principal outcome) with demographic characteristics, history of being bullied at school or verbally harassed and psychological factors (dichotomous categories high and low were created on the basis of Japanese standardised cut-off levels for anxiety and depression, and on the basis of sample median for self-esteem and loneliness). Logistic regression was used to examine multivariate correlates of attempted suicide. Following standard statistical analysis procedures,²⁵ we included as candidates for the regression model those variables that showed bivariate associations with attempted suicide at $p < 0.20$. Because psychological variables were all highly correlated at $p < 0.001$, we created a composite measure of psychological distress by standardising and averaging across each variable (self-esteem was reverse scored); this composite variable was entered into the multivariate regression to minimise the effects of multicollinearity.

RESULTS

Sample characteristics

In total, 1025 respondents completed the survey (table 1). The median age was 26.0 years. In all, 65% of the participants had completed a university degree; 68% identified their sexual orientation as homosexual, 18% identified as bisexual and 14% identified their sexual orientation as unsure/questioning or other; 81% reported as having ever had sex with a man and 39% as having ever had sex with a woman; 12% had disclosed their sexual orientation to parents and 51% had disclosed their sexual orientation to at least one friend; 35% currently had a boyfriend and 51% had ever used the internet to meet another man.

Psychosocial measures

Overall, 15% had ever attempted suicide; 83% reported having ever been bullied at school and 60% reported having ever been verbally harassed by others; 71% reported high levels of anxiety and 13% showed high levels of depression according to psychological measures validated with Japanese samples.¹⁶⁻¹⁸ Table 1 shows the medians for each psychological measure. All psychological measures were highly correlated ($p < 0.01$) and were each standardised and combined into a composite measure of psychological distress such that higher values reflected increased levels of psychological distress (self-esteem was reverse scored).

Correlates of attempted suicide

Table 1 presents the bivariate correlates of attempted suicide. Attempted suicide was more common among those who had not completed a university degree; had higher levels of anxiety, depression and loneliness; had lower levels of self-esteem; had ever been bullied at school owing to being perceived as homosexual; had ever been verbally harassed; had disclosed their sexual orientation to parents; had disclosed their sexual orientation to at least one friend; and had ever met a male through the internet.

Multivariate regression analyses were conducted to identify independent correlates of attempted suicide (table 2). Completion of a university degree was associated with a lower likelihood of attempted suicide (odds ratio (OR) 0.54, 95% confidence interval (CI) 0.37 to 0.79). Variables independently associated with a higher likelihood of attempted suicide were psychological distress (OR 2.1, 95% CI 1.7 to 2.5), being verbally harassed by others for being perceived as homosexual (OR 1.6, 95% CI 1.1 to 2.6), having ever had sex with a woman (OR 1.7, 95% CI 1.2 to 2.5) and meeting a man through the internet (OR 1.6, 95% CI 1.1 to

Table 1 Associations between sample characteristics and history of attempted suicide

	Total sample	Ever attempted suicide		
	n	% Yes	n	p Value*
Overall	1025	15.1	155	
Age group, years (median 26)				
14–19	92	15.2	14	0.870
20–24	302	15.6	47	
25–29	298	15.8	47	
30–39	262	13.4	35	
40–	66	18.2	12	
Sexual orientation				
Homosexual	696	15.4	107	0.245
Bisexual	190	17.4	33	
Other	139	10.8	15	
Educational background				
No university degree	358	19.8	71	0.003
University graduate	667	12.6	84	
Anxiety† (median 50)				
Low	301	9.6	29	0.002
High	724	17.4	126	
Depression‡ (median 40)				
Low	894	12.8	114	<0.001
High	131	31.3	41	
Self-esteem§ (median 33)				
Low	505	19.0	96	0.001
High	520	11.3	59	
Loneliness§ (median 44)				
Low	496	11.3	56	0.001
High	529	18.7	99	
Ever been bullied at school				
No	177	8.5	15	0.006
Yes	848	16.5	140	
Ever been verbally harassed				
No	414	10.1	42	<0.001
Yes	611	18.5	113	
Ever had sex with a man				
No	194	12.9	25	0.374
Yes	831	15.6	130	
Ever had sex with a woman				
No	623	13.5	84	0.074
Yes	402	17.7	71	
Disclosed sexual orientation to parents				
No	904	13.8	125	0.003
Yes	121	24.8	30	
Disclosed sexual orientation to any friends				
No	504	10.7	54	<0.001
Yes	521	19.4	101	
Currently have a boyfriend				
No	663	14.2	94	0.274
Yes	362	16.9	61	
Ever met a man through the internet				
No	501	12.6	63	0.029
Yes	524	17.6	92	

*p Values are associated with χ^2 tests with $df=2(R-1)$, where R is the number of categories for each variable.

†Dichotomous categories based on Mizuguchi *et al.*¹⁶

‡Dichotomous categories based on Kawano *et al.*²⁰

§Dichotomous categories based on scores falling below or above the median.

2.3). Disclosing sexual orientation to six or more friends was also independently associated with attempted suicide (OR 3.2, 95% CI 1.9 to 5.5); however, telling 2–5 people was only marginally associated with attempted suicide (OR 1.6, 95% CI 1.0 to 2.6) and telling one person was not associated with attempted suicide.

DISCUSSION

Japanese GBQ men are hard to reach and are an understudied population, and these findings offer an insight into the social and psychological experiences among these men. In all, 15% of the participants reported attempting suicide. Over two thirds of the participants reported high levels of anxiety and 13% were at risk for clinical depression. Significant independent correlates of attempted suicide were psychological distress, history of being verbally harassed or of having sex with a woman or of meeting a man through the internet, disclosing sexual orientation to ≥ 6 friends, and not having a

university degree. Although these cross-sectional data do not permit directional interpretations with regard to predictors of suicidality, the findings depict Japanese GBQ men as a psychologically vulnerable group that warrants increased preventive mental health and treatment services.

Observed associations between attempted suicide and bullying by others corroborate findings from studies conducted in the UK and the US.^{3 10 11} Associations between educational level and attempted suicide in this Japanese sample also correspond to other reports on the possible protective effects of education attainment on mental health among young men who have sex with men in the US.²⁶ Associations between attempted suicide and history of sex with a woman reflect earlier findings that bisexual individuals, compared with homosexuals and heterosexuals, might experience a higher degree of mental health problems, due partially to their not having a clear sexual orientation category.²⁷ Along these lines, it is possible that Japanese

Table 2 Multivariate correlates of attempted suicide

	Have you ever attempted suicide?	
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Educational background		
No university degree	1.00	1.00
University graduate	0.58 (0.41 to 0.82)	0.54 (0.37 to 0.79)
Psychological distress*	1.8 (1.4 to 2.2)	2.1 (1.7 to 2.5)
Ever been bullied at school		
No	1.00	1.00
Yes	2.1 (1.2 to 3.7)	1.2 (0.59 to 2.3)
Ever been verbally harassed		
No	1.00	1.00
Yes	2.0 (1.4 to 2.9)	1.6 (1.1 to 2.6)
Ever had sex with woman		
No	1.00	1.00
Yes	1.4 (0.98 to 1.9)	1.7 (1.2 to 2.5)
Disclosed sexual orientation to parents		
No	1.00	1.00
Yes	2.1 (1.3 to 3.2)	1.6 (0.93 to 2.6)
Disclosed sexual orientation to friends		
No	1.00	1.00
Yes, to 1 person	1.5 (0.86 to 2.7)	1.5 (0.81 to 2.8)
Yes, to 2–5 people	1.8 (1.2 to 2.8)	1.6 (1.0 to 2.6)
Yes, to ≥6 people	2.7 (1.7 to 4.3)	3.2 (1.9 to 5.5)
Ever met a man through the internet		
No	1.00	1.00
Yes	1.5 (1.1 to 2.1)	1.6 (1.1 to 2.3)

*Composite measure of psychological distress computed by averaging standardised scores for each participant on the STAI, SDS, Rosenberg Self-esteem Scale (reverse scored) and UCLA Loneliness Scale. This composite measure was entered into the logistic regression as a continuous variable, with higher values reflecting increased levels of psychological distress. STAI, State-Trait Anxiety Inventory; SDS, Self-rated Depression Scale; UCLA, University of California at Los Angeles.

men who are highly conflicted with their same-sex feelings or who have not disclosed them to others might lack access to supportive networks or gay-friendly resources such as counsellors or internet websites; therefore, their psychological distress might be exacerbated. Associations between a high degree of sexual orientation disclosure and attempted suicide suggest that being more open about sexual orientation can result in higher degrees of stigma and discrimination, thereby increasing the potential for psychological adversity. The descriptive findings reported here offer compelling hypotheses on the mechanisms contributing to attempted suicide among Japanese GBQ men, which can be tested in further investigations.

These findings should be interpreted in light of possible cultural differences in sexuality and sexual identity in Japan. Arguably, homosexuality as a discrete category is a recent concept in Japan, which may explain why nearly one third of our GBQ sample identified as bisexual, unsure/questioning, or other.¹³ Homosexual communities have not developed to the extent as they have in Western cultures, leaving many GBQ men feeling isolated and turning to the internet as a primary medium for identifying sexual partners and other GBQ men. Because homosexuality remains a taboo issue and a potential source of personal and familial dishonour, many Japanese GBQ men conceal their same-sex sexual attractions to minimise social shame and vulnerability to discrimination or bullying. Japanese culture tends to value collectivism and often discourages non-traditional expressions of character.²⁸

Because this study lacks a heterosexual comparison group to contextualise findings, no conclusions can be stated as to whether prevalence and associations of bullying, psychological distress and attempted suicide are unique to GBQ men. Reports have depicted suicide as an escalating public health issue in Japan, with an estimated national suicide rate of 25 per 100 000 (which exceeds rates observed in Germany and the UK).²⁹ According to one national study, suicide is the leading cause of death among young adults aged 25–39 years in Japan and the second leading cause of death among the

aged 15–24 years.³⁰ GBQ men might contribute to these Japanese national estimates.

In addition to lacking a heterosexual comparison group, there are other important limitations to this study. Although internet survey methodology has been shown to be a viable and scientifically appropriate method for collecting personal information from diverse community samples,^{14–31} these surveys are prone to sampling bias and reduced researcher control over the participant recruitment and response process. Owing partly to the “digital divide” between those who have access to the internet versus those who do not, samples collected via the internet are not representative of general target populations, as is also the case for other purposive or convenience sampling methods. Indeed, the profile of our sample suggests an over-representation of younger and more educated men, which might limit the generalisability of findings. Participants for this study were recruited through advertisements and announcements placed on gay-themed internet websites and print magazines in Japan; these participants might not represent men who do not use these internet or media outlets. Other rigorous alternative methods, such as household probability-based sampling, venue-based sampling or response-driven sampling, are necessary to produce more generalisable data.^{4–32–33} However, researchers have argued that many preconceptions against internet methods are unfounded, such as the risk of false data or repeat participants, and have suggested that internet surveys are at least as rigorous as traditional pencil-and-paper surveys and can enhance researchers’ access to non-traditional populations.^{15–31} Furthermore, it can be proposed that the use of the internet to recruit and survey participants is one of the innovations of this research study. Because of the stigma attached to homosexual men in Japan, it would have been extremely difficult to recruit an equivalent sample of men directly from gay-themed community venues to take part in the study, which is the approach taken in most Western studies of GBQ groups. The societal conditions experienced among GBQ men in

What this study adds

- This is the first known study of attempted suicide, psychological health, and stigma in a large sample of Japanese gay, bisexual or other men questioning their sexual identity.
- In all, 15% of the participants reported attempting suicide, more than 71% reported high levels of anxiety and 13% were at risk for clinical depression.
- Independent correlates of attempted suicide were identified.
- This study can prompt further research into the mental health of Japanese men who have sex with men and guide the development of preventive interventions to reduce their risk for psychological problems.

Policy implications

- Japanese men who have sex with men are psychologically vulnerable to social stigma and warrant preventive mental health and treatment services.
- There is a potential need for intervention policies to reduce stigma, bullying and discrimination against men who have sex with men in Japan.
- Use of the internet can be a successful strategy for reaching members of this hard-to-reach population.

Japan—for example, hidden populations, social stigma, hard-to-access venues—reflect those conditions previously described that merit use of the internet for conducting social research.^{15–34} Internet methods provided a good first step toward learning more about Japanese GBQ men, and further research can build on and refine these findings.

Another limitation of this research, owing to the cross-sectional design, is the inability to infer directional associations between attempted suicide and other variables. The survey items did not specify time frames for suicide attempts, so it is possible that some participants attempted suicide before experiencing other factors such as bullying at school. Indeed, the lack of temporal clarity in these data might explain the significant independent associations of attempted suicide with meeting another male through the internet and disclosing sexual orientation to six or more friends: Some men who survived an earlier suicide attempt may have developed adaptive coping resources as a way to offset psychosocial stressors, such as meeting other GBQ men via the internet and disclosing their sexual orientation to supportive friends.

Future research on the psychological health of Japanese GBQ men should adopt additional outreach and recruitment methods to assess the comparability of the findings observed here. Surveys should specify time frames of attempted suicide, experiences of discrimination, etc, to better establish patterns of association. A comparison group of Japanese heterosexual men can provide a larger context for interpreting the findings observed here, which are limited to patterns within this group of GBQ men.

Despite the limitations to this study, the findings here expose the need for further research and appropriate psychological and health services for GBQ men in Japan. Practices and policies should be sensitive to the cultural context of homosexuality in Japan. Intervention policies to

reduce stigma, bullying and discrimination against GBQ men in Japan might be warranted. Furthermore, use of the internet can be a successful strategy for reaching members of this hard-to-reach population and providing services and referrals.

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