Verbal victimisation, depressive symptoms, and suicide risk among sexual minority adults in France: results from the nationally-representative 2017 Health Barometer survey

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Abstract

Purpose

Our study estimates rates of depressive symptoms and suicide risk according to sexual minority status, and examines the mediating effect of verbal victimisation in the association between sexual minority status and mental health outcomes.

Method

Analysis is based on data from the 2017 French Health Barometer, a general population phone survey, which recruited 25,198 adults aged 18 to 75 years.

Data were weighted to be representative of the French adult population. Four mental health outcomes occurring in the preceding year or currently were examined in relation to sexual minority status using multivariate logistic regressions: a) current depressive symptoms, b) having experienced a major depressive episode, c) suicidal ideation, and d) suicide attempt. Further we conducted mediation analyses to evaluate the contribution that verbal victimisation experienced in the preceding year has in the association between sexual minority status and the listed outcomes. All analyses were also stratified by sex.

Results

Sexual minority adults were more likely to experience verbal victimisation in the last year compared to heterosexual individuals (22% vs 11.4%). They were also more likely to have experienced each of the four mental health outcomes, even after adjusting for potential confounders. In adjusted mediation analysis, verbal victimisation in the preceding year was found to significantly mediate the association between sexual orientation and mental health outcome with mediated proportions varying between 15 to 22%.

Conclusion

Sexual minority individuals are more at risk of depressive symptoms and suicidal ideation compared to heterosexuals, and this may be partially mediated by verbal victimisation. **Key words: Sexual minority; depressive symptoms; minority stress; suicidal ideation; verbal victimisation; LGB**

Introduction

Despite multiple existing definitions, sexual minority individuals generally include persons who have had sexual or romantic relationships with persons of the same sex, and/or who identify as lesbian, gay, or bisexual (LGB) [1]. This group still faces stigma and discrimination even in Western European societies, where civil rights tend to be respected and attitudes towards sexual minorities are relatively favourable [2, 3].

Verbal victimisation or verbal abuse could be defined as "aggressive, insulting or stigmatising language used interpersonally by individuals or groups to discriminate, stereotype, categorise and hurt, harm or exclude other individuals or groups"[4]. It is the most common type of victimisation faced by LGB individuals [5], who also experience disproportionate social rejection, isolation, and physical abuse at different stages of life due to their sexual orientation [6, 7]. Sexual minority individuals are usually the target of homophobic verbal victimisation since childhood [4], and are also at risk of revictimisation throughout adulthood [6].

According to the minority stress model, individuals from socially stigmatised populations experience unique discrimination and abuse stemming from stigma and prejudice that creates a stressful social environment. [8] In turn these "stressors" are an important risk factor for poor mental health outcomes, contributing to the higher prevalence of mental health and depression-related disorders, found among LGB individuals compared to their heterosexual counterpart. A recent systematic review of the literature found that the majority of studies on the subject, including most of high quality ones, reported elevated levels or rates of depression, anxiety, suicide attempts or suicides among sexual minority individuals compared to heterosexuals [9]. Therefore, according to the minority stress model, this increased risk is at least partly due to discrimination and abuse sexual minority individuals are more at risk of because of their sexual

orientation. However few data come from large and/or representative national studies, and are stratified by sex, even if mental health outcomes usually present significant sex-differences [10]. Further, despite considerable evidence documenting the detrimental effect of discriminatory and homophobic behaviours [11], and to our knowledge, no study report national prevalence of verbal victimisation according to sexual orientation among adults. Prevalence of mental health disorders and experience of violence according to sexuality is also mostly examined among teenagers and young adults or specific populations such as veterans or substance users, and rarely reported in general population [12]. Further, to our knowledge no study has estimated the mediating effect of exposure to verbal victimisation on mental health of sexual minority adults.

Therefore, more thorough investigations of mental health disparities among adult sexual minority individuals in general population are needed. There is also a need to identify "modifiable" factors, which could be targeted for public health interventions policies, to improve mental health among sexual minority groups, such as stigma, homophobic verbal and physical abuse, and social support which could serve as a mechanism of resilience.

In this study, we estimate the risk for emotional distress among members of sexual minorities, including depression, suicidal ideation and suicide attempts in the preceding year. We also explore the contribution of verbal victimisation in the preceding year to the association between sexual orientation and mental health indicators. We hypothesize that a) experience of this form of violence could be more prevalent among sexual minority individuals, b) that this form of victimisation could have more damaging psychological effects among sexual minority persons, and c) experience of this form of violence could mediate, at least partially, the association between sexual orientation and mental health disorders. Because men and women might suffer from different types of stigma-related discriminations and homophobic violence[5], and because of important sex-differences in most mental health outcomes [10], our analyses are stratified by sex.

Methods

Study design and recruitment

Analyses were based on the 2017 “Health Barometer” (Baromètre Santé) a nationally representative, cross-sectional sample of French adults carried out by the French national public health agency (Santé Publique France) [13].

The study recruited 25,198 French-speakers aged between 18 and 75 years living in Metropolitan France, from January 5th to July 18th, 2017.

The methodology is based on a two-stage random sampling methodology (telephone household, respondent), and the survey was carried out by a polling institute (Ipsos). Randomly-generated mobile and landline phone number lists were used to call participants up to 40 times using a computer-assisted telephone interviewing (CATI) system. In households reached by landline, one participant was randomly selected by the CATI system (Kish method) [14]. Duration of questionnaire was 30 minutes in average and participation rate was 48.5%.

Ethics

The study protocol was registered at the French Commission on Information Technologies and Liberties (Commission Nationale Informatique et Libertés).

Measures

Sexual orientation

Respondents were asked whether they had had sexual relationships only with persons of the opposite sex; of both sexes; or only with persons of the same sex. They were also asked if they identified as heterosexual, homosexual (lesbian or gay), bisexual, other or none. A participant was then classified as belonging to the sexual minority group if he or she had ever had a same-sex sexual relationship, or if he or she identified as lesbian, gay, or bisexual. Participants who did not

identify as either heterosexual or any of the other listed categories were also classified as belonging to the sexual minority group.

Verbal victimisation in the last year

All participants were asked whether they were victim of verbal threats, humiliations, or intimidation in the preceding year (Yes/No). This variable was used as the "mediating" factor.

Mental health outcomes

Major depressive episode (MDE) in the last year, and current depressive symptoms

We used the French version of the World Health Organization Composite International Diagnostic Interview Short Form (CIDI-SF) [15, 16] to estimate MDE according to the DSM−IV classification. Following standard diagnostic criteria, participants were classified as having at least one MDE in the preceding twelve months if they reported having feelings of sadness or diminished interest or pleasure in all or almost all activities most of the day, nearly every day for at least 15 days, accompanied by at least three other secondary symptoms from the following list : fatigue or loss of energy; weight gain or loss of at least five kg without dieting ; difficulties sleeping; feelings of worthlessness or excessive or inappropriate guilt; diminished ability to think or concentrate; recurrent thoughts of death. These symptoms had to had an impact on daily life or disrupt usual daily activities.

Participants who reported having feelings of sadness or diminished interest or pleasure in all or almost all activities most of the day, nearly every day for at least two weeks were also asked whether they are still currently having those depressive symptoms (yes/no), regardless whether they reported other symptoms.

Suicidal ideation and suicide attempts in the last year

Suicidal ideation during the preceding 12 months was examined with the question: 'In the past 12 months, have you considered suicide?' (yes/no). Participants were also asked if they had ever attempted suicide and whether this attempt had occurred in the preceding year (yes/no).

Sociodemographic characteristics and other covariates

Participants reported their age, sex, and educational level. Based on other questions, we were also able to create dichotomous variables for nationality (French by birth yes/no), and living with a partner (yes/no). Participants were also asked whether they had ever been victim of sexual abuse ("During your lifetime, have you ever been forced to perform or receive sexual acts ("touching"/"molestation"), or have you ever been forced to have sex against your will?" yes/no).

Socio-demographic characteristics and other covariates

We adjusted for known risk factors for depressive symptoms and suicide risk in multivariate analysis. We tried to limit collider bias (i.e. when the association between an exposure such as sexual minority status, and an outcome such as depressive symptoms is adjusted on a variable causally influenced by one or both of these variables such as smoking for example) by not adjusting for variables that are likely causally influenced by victimisation or mental health problems[17].

The macro we used for mediation analysis only allows the use of binary or continuous variables[18]. Covariates therefore included sex (for non-stratified analysis) age, and education level. Based on other questions, we were also able to create and include in our models dichotomous covariates for nationality (French by birth yes/no), living with a partner (yes/no), and lifetime sexual victimisation (yes/no).

Statistical analyses

Descriptive data were weighted based on the probability of being solicited through the Kish method (that is the ratio of the number of eligible individuals to the number of telephone lines in a household), and to match the structure of the French population of 2016 with respect to sex, age groups, region of residency, urban unit size, household size and education level, using data from the National Institute of Statistics and Economic Studies (INSEE) [19].

For each mental health outcome, we first used logistic regression to examine bivariate associations between:

1) sexual orientation status and mental health outcomes,

2) sexual orientation status and verbal victimisation,

3) mental health outcomes and victimisation.

Then, using multivariate logistic regression models, we examined if these three associations were statistically significant after adjusting for covariates.

Finally, we analysed associations between sexual orientation and each mental health outcome in mediation analysis models, as defined by VanderWeele and colleagues, and according to our conceptual model (figure 1) [18, 20]. This method allows the identification of direct and indirect effects of sexual orientation status (our exposure) on mental health in a single model. The exposure, mediator and outcome were dichotomized and all covariates were either binary or continuous. Direct and indirect effects of sexual orientation status and the proportion of the association with mental health mediated by victimisation were estimated using the method described by VanderWeele and Vansteelandt [18]. Logistic regressions were used since outcomes are rare (<10%), and exposure-mediators interaction were tested for mediation analysis. The mediation analysis was carried out on complete observations (n=24,968). All analyses were

conducted with SAS 9.4. Mediation analyses were implemented using the SAS macro "%mediation" developed by Valeri and VanderWeele [21].

Stratified analysis

In supplementary analyses (supplementary data), to examine the possible role of sex, we repeated the multivariate logistic regression models and the mediation analyses stratifying by sex. We also stratified the results by age (<35 yes or no), in order to see if the mediating effect of verbal victimisation was comparable between younger adults (≤35 years) and older adults.

Results

The main characteristics of our weighted sample (unweighted n= 25198) are presented in Table 1, by sexual minority status, and sex. One in twenty (5.01%) participants belonged to the sexual minority group. Sexual minority individuals were nearly two times more likely to be victim of verbal threats, intimidation or humiliation in the preceding year (21.9% vs 11.4%) compared to heterosexuals. The prevalence of depressive symptoms, and suicide risk were also at least two times higher among sexual minorities compared to heterosexual individuals. Around 1 in 10 (10.7%) sexual minority individuals reported current depressive symptoms (vs 5.8% among heterosexuals), 18.3% reported at least one MDE in the last year (vs 9.3%), 10.7% had suicidal ideation in the preceding year (vs 4.4%), and 1.2% of sexual minority adults attempted suicide in the last year compared to 0.4% among heterosexual individuals. In adjusted multivariate logistic models (supplementary data), sexual minority status was associated with verbal victimisation (adjusted OR (aOR) = 1.64 [95% CI, 1.41 to 1.89], and all mental health outcomes (aOR *current depressive symptoms* = 1.45 [95% CI, 1.19 to 1.78]; aOR *MDE* = 1.65 [95% CI, 1.40 to 1.93]; aOR *suicidal ideation* = 1.72 [95% CI, 1.41 to 2.11] ; aOR *suicide attempt* = 2.31 [95% CI, 1.30 to 4.10]). Verbal victimisation was also associated with all outcomes, therefore mediation analyses were possible.

Mediation analysis

No exposure-mediator interaction was statistically significant. Natural direct and indirect effects and proportions of associations between sexual minority status and mental health outcomes mediated by verbal victimisation are presented in Table 2.

Major depressive episode (MDE) in the preceding year, and current depressive symptoms

We found a significant natural direct effect (nde) of belonging to the sexual minority group and current depressive symptoms (OR^{nde} = 1.35 [95% CI 1.10 to 1.66]). We also observed a statistically significant natural indirect effect (nie) of sexual minority status on current depressive symptoms via verbal victimisation in the preceding year (OR^{nie} = 1.09 [95% CI 1.06 to 1.12]). The proportion mediated (PM) by verbal victimisation for this outcome was 22.4%

Sexual minority status was associated with MDE in the preceding year (OR^{nde} = 1.40 [95% CI 1.19 to 1.65]). Overall, we estimated that 22.1% of the effect of sexual orientation on MDE was mediated by verbal victimisation in the preceding year (OR^{nie} = 1.10 [95% CI 1.07 to 1.13]).

Suicidal ideation and suicide attempts in the last year

We found a significant natural direct effect of belonging to a sexual minority group on suicidal ideation in the preceding year (OR^{nde}= 1.74 [95% CI 1.42 to 2.13]). We also observed a statistically significant natural indirect effect of sexual minority group on suicidal ideation in the preceding year via victimisation (OR^{nie} = 1.10 [95% CI 1.06 to 1.13]). Overall, we estimated that 14.8% of the effect of sexual minority group on suicidal ideation in the preceding year was mediated by verbal victimisation.

For suicide attempt in the preceding year, the direct effect of sexual minority group was not statistically significant after controlling for verbal victimisation (OR^{nde} = 1.77 [95% CI 0.92 to

3.41]), however the indirect effect was statistically significant (OR^{nie}= 1.16 [95% CI 1.08 to 1.24]). The proportion of effect mediated by verbal victimisation was 20.7%.

Stratified analysis

In stratified analyses by sex (table 2); the proportion of the association between sexual minority group and MDE mediated by verbal victimisation was comparable between the two sexes. However, the mediating effects of verbal abuse in the associations between sexual minority group and current depressive symptoms, suicide ideation and attempt were greater in men than in women, especially for current depressive symptoms (PM =30.7% vs 19.0%).

In another stratified analyses by age (supplementary table 4); the mediated proportions of the association between sexual minority group and mental health outcomes were more important among adults older than 35 years compared to younger adults.

Discussion

Key results

In a large nationally representative sample of adults living in France, we found that sexual minority individuals have an increased risk of having mental health problems in the preceding year such as a major depressive episode, suicidal ideation and attempt, even after adjusting for multiple potential confounders. Our study adds to prior data by quantifying the substantial contribution of exposure to verbal abuse in the preceding year to this association (between 15 to 22%). Prevention of violence and discrimination of sexual minority individuals is greatly needed to reduce the risk of mental health problems in this population.

Interpretation

Our findings that non-heterosexual individuals are at elevated risk of mental health problems, and that this association is partly mediated by the experience of violence that is verbal victimisation are in line with theoretical models such as the minority stress model [8], and the psychological mediation framework [22], as well as previous empirical data [6, 23]. Intimidating behaviours and verbal or physical abuse are known to have detrimental effects on the well-being, mental health and life satisfaction of members of sexual minority individuals [3, 6].

According to the minority stress model, violence, even when it is non-explicit or not overtly aggressive (such as a homophobic remarks), can remind the victims that they belong to a minority group, a group of lower status and power, and evoke in them other deep feelings of rejection [8]. This is in line with the "self-stigmatization" phenomenon, or the internalization of negative societal perceptions of one's stigmatized status or group. Therefore, by experiencing victimisation and in most cases revictimisation, sexual minority individuals develop negative feelings about their identity and are conditioned to expect intolerance and rejection, which can lead to increases in depression and suicidality [23]. The psychological mediation framework also stipulates that over time, the effort required to cope with stigma diminishes individuals' psychological resources, causing elevations in general emotional dysregulation and psychopathology [22].

No interaction was detected between sexual minority status and verbal victimisation, which means that our second hypothesis is not confirmed: the experience of verbal violence does not seem to have a more damaging psychological effect among sexual minority persons compared to heterosexuals.

Verbal victimisation mediated a more important proportion of the association between sexual minority group and suicidal ideation among men than among women. This could be due to lesbian and bisexual women facing other stressors in daily life such as gender-specific discrimination and

prevalent violence against women that contribute more substantially to mental health distress [24]. Additionally, lesbian and bisexual women's sexuality could be less "visible" than that of gay and bisexual men, making them less prone to overt discrimination [25, 26].

The effect of verbal victimisation in the association between sexual minority status and mental health outcomes was more important among adults older than 35 years compared to younger adults. This could be due to younger people internalising less homophobic sentiment compared to older adults who grew up in a lesser tolerant society.

Limitations

Several limitations of our study should be noted. First, the proposed mediator, verbal victimisation in the preceding year, is not specific to the types of discrimination that are experienced by sexual minority groups, who also face other types of discrimination. However, it is very likely that the increased rates of victimisations among sexual minority persons compared to heterosexuals (even after adjusting for many covariates such as sex, nationality, and education level) are directly linked to sexual orientation. Also, any type of victimisation could be felt by sexual minority individuals differently than by heterosexuals, especially due to an accumulation of negative experiences over the life course. Stigma has been reported to exacerbate certain social and psychological processes (social support, psychological and behavioural responses, stress, etc.) that ultimately lead to adverse health outcomes [27]. Still, it is likely that the estimated mediating effect of verbal victimisation could be under-estimated, because we did not include sexual minority-specific homophobic remarks that could have not been perceived as verbal violence but contribute to emotional distress nonetheless. Second, we did not collect data on past experiences of bullying and victimisation especially during adolescence, which could also contribute to poor lifelong mental health.

Third, we could not identify whether victimisation occurred before the occurrence of three of the four mental health outcomes or vice versa. It could be that persons who experience psychological distress are more likely to be victim of violence and be impacted by it. Nevertheless, verbal victimisation incidents are seldom isolated. They usually occur as part of a continuum from non-explicit remarks to outright physical abuse, and start at a young age [6]. Further, temporality is most likely respected concerning the fourth outcome (current depressive symptoms), whose mediation analysis' results are comparable to the other outcomes. Fourth, the recall of experiences of abuse could be underreported, in part because of recall or desirability bias or because verbal victimisation was not perceived as such. The study was conducted anonymously by telephone, which should limit the extent of this desirability bias. Also verbal victimization not perceived as such is not likely to have an effect of mental health. Moreover, under-reporting of sexual minority status among individuals surveyed is possible; however our estimates (5%) are comparable or higher than other national estimates from western countries.[28–30] Fifth, our data did not permit the identification of intersex or trans-sexual persons who also face stigma and violence, and likely have mental health problems as a result. Other studies are therefore needed. Finally, another limitation of this study is potential selection bias from selective non-response to our survey, with a participation rate at 49%. However, to mitigate this potential source of bias, we statistically weighted analyses to render data representative of adults living in France.

Implications

Our study is the first one to examine the effect of verbal victimisation on mental health in a large representative sample of adults. Our findings could help optimise interventions aimed at reducing emotional distress among sexual minority individuals, such as the ones centred on social support and intergroup relations [31].

Our study adds to a large body of evidence that support more effort to curb homophobia and homophobic and lesbophobic acts, and offer adequate mental health services and support to sexual minorities persons. Our findings also encourage health professionals, especially mental health professionals to address the experience of verbal abuse among LGB individuals. Public policy initiatives that aim to structurally reduce stigma and victimisation against sexual minority individuals could have a significant impact on the mental health and well-being of this population.

Declaration of Interests

The authors declare no conflict of interest.

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Tables

Table 1: Characteristics of participants in the Health Barometer survey (weighted, %). France, 2017. Unweighted n = 25,198.

Characteristic		**Women** Unweighted n = 13642		**Men** Unweighted n = 11556	
		Heterosexual n=12971, weighted % = 94.91%	Sexual minority n=671, weighted % = 5.09%	Heterosexual n=10936, weighted % = 95.09%	Sexual minority n=620, weighted % = 4.91%
Age	≤35	28.9%	48.5%	30.3%	41.4%
	>35	71.1%	51.5%	69.7%	58.6%
Educational level	High School or two year university degree	81.5%	77.3%	82.8%	75.9%
	At least a three year university degree	18.5%	22.7%	17.2%	24.1%
Living with a partner	No	36%	60.3%	34%	58.8%
	Yes	64%	39.7%	66%	41.2%
Nationality	Non-French, or French by naturalization	11.2%	9.3%	11.7%	7.4%
	French by birth	88.8%	90.7%	88.3%	92.6%
Lifetime sexual victimisation	No	91.5%	72.2%	98.4%	91.2%
	Yes	8.5%	27.8%	1.6%	8.8%
Verbal victimisation	No	88%	77.2%	89.3%	79.1%
	Yes	12%	22.8%	10.7%	20.9%
MDE in the preceding year	No	87.5%	77.7%	94%	86%
	Yes	12.5%	22.3%	6%	14%

Current depressive symptoms	No	92.3%	86.4%	96.3%	92.4%
	Yes	7.7%	13.6%	3.7%	7.6%
Suicidal ideation in the preceding year	No	95%	87.8%	96.2%	90.9%
	Yes	5%	12.2%	3.8%	9.1%
Suicide attempt in the preceding year	No	99.6%	98.4%	99.7%	99.2%
	Yes	0.4%	1.6%	0.3%	0.8%

Table 2: The mediating effect of verbal victimisation in the association between sexual orientation and mental health outcomes. N=24,968.

Outcome		NIE (OR (95% CI)	NDE (OR (95% CI)	Mediated Proportion *
Current depressive symptoms	All participants	1.09 (1.06-1.12)	1.35 (1.10-1.66)	22.37%
	Women	1.17 (1.11-1.24)	1.43 (1.02-2.02)	18.95%
	Men	1.06 (1.03-1.08)	1.29 (1.00-1.67)	30.62%
MDE in the preceding year	All participants	1.10 (1.07-1.13)	1.40 (1.19-1.65)	22.07%
	Women	1.15 (1.09-1.20)	1.55 (1.18-2.02)	23.37%
	Men	1.08 (1.05-1.11)	1.29 (1.05-1.59)	24.48%
Suicidal ideation in the preceding year	All participants	1.10 (1.07-1.13)	1.74 (1.42-2.13)	14.73%
	Women	1.11 (1.07-1.16)	1.81 (1.32-2.49)	14.13%
	Men	1.09 (1.05-1.13)	1.69 (1.30-2.20)	14.84%
Suicide attempt in the preceding year	All participants	1.16 (1.08-1.24)	1.77 (0.92-3.41)	20.68%
	Women	1.16 (1.03-1.31)	1.54 (0.53-4.45)	19.21%
	Men	1.15 (1.05-1.26)	1.80 (0.76-4.23)	25.49%

*Mediated Proportion = ln(NIE)/ln(NDE)

Note. DE: natural direct effect, NIE: natural indirect effect. The models are adjusted for sex (non-stratified models), age, education level, living with a partner, lifetime sexual victimisation, and nationality. n=24,968, The French Health Barometer survey, 2017.

Figure 1: Directed acyclic graph (DAG) for the association between sexual minority status and mental health outcomes, showing the confounders (red) and mediator (green) used in the final model.