Original article

Physical violence against patients with mental disorders in Brazil: sex differences in a cross-sectional study

Violência contra pacientes com transtorno mental no Brasil: diferenças por sexo em estudo transversal

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Abstract

Objectives: Patients with mental illness are more exposed to violence than the general population. This study assessed factors associated with lifetime physical violence against these patients stratified by sex in Brazil. **Methods:** This is a National cross-sectional multicenter study with a representative sample of 2,475 patients randomly selected from 26 public mental health services. Logistic regression was used to evaluate factors associated with physical violence and crude (OR) and adjusted odds ratios (aOR) with 95% confidence interval were estimated. Statistical level considered was 0.05. **Results:** The prevalence of lifetime physical violence against mental patients was similar for women (57.6%) and men (57.8%). Physical violence against women was independently associated with: previous psychiatric hospitalizations (aOR = 2.09), lifetime STD (aOR = 1.75), lifetime alcohol consumption (aOR = 1.59), age of sexual debut (< 16 y.o.) (aOR = 1.40), lifetime sex under alcohol/drugs use (aOR = 2.08), having received/offered money for sex (aOR = 1.73) and lifetime incarceration (aOR = 1.69). Among men, associated factors were: age (18-40 y.o.) (aOR = 1.90), history of homelessness (aOR = 1.71), previous psychiatric hospitalization (aOR = 1.39), lifetime STD (aOR = 1.52), lifetime alcohol consumption (aOR = 1.41), lifetime use of marijuana or cocaine (aOR = 1.54), having received/offered money for sex (aOR = 1.47), lifetime history of incarceration (aOR = 2.07). **Discussion:** The prevalence of physical violence in this population was high for both sexes. Although there were similar factors independently associated with physical violence among men and women, there are important differences, such as age of sexual debut and lifetime sex under alcohol/drugs use for women, but not for men, while younger age, history of homelessness, and lifetime use of marijuana or cocaine were associated factors for men only. Screening for history of violence upon admission and early interventions to decrease vulnerability are needed in mental health public services in Brazil.

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Keywords: Physical violence, prevalence, gender, sex, mental illness, multicenter study, vulnerability, epidemiology, Brazil.

Resumo

Objetivos: Pacientes com transtorno mental estão mais expostos à violência do que a população em geral. Este estudo avaliou os fatores associados à violência física na vida contra esses pacientes, por meio de análise estratificada por sexo, no Brasil. **Métodos:** Trata-se de estudo multicêntrico nacional transversal, com amostra representativa de 2.475 pacientes selecionados aleatoriamente de 26 serviços públicos de saúde mental. A regressão logística foi utilizada para avaliar os fatores associados à violência física, e *odds ratio* brutos e ajustados (ORa), com intervalo de 95% de confiança, foram estimados. O nível de significância considerado foi de 0,05. **Resultados:** A prevalência na vida de violência física contra pacientes com transtornos mentais foi semelhante para mulheres (57,6%) e homens (57,8%). A violência física contra as mulheres esteve independentemente associada com: internações psiquiátricas anteriores (ORa = 2,09), histórico de doença sexualmente transmissível (ORa = 1,75), histórico de uso de álcool (ORa = 1,59), idade de iniciação sexual (< 16 anos) (ORa = 1,40), histórico de sexo sob efeito de drogas/álcool (ORa = 2,08), ter recebido/oferecido dinheiro por sexo (ORa = 1,73) e histórico de encarceramento (ORa = 1,69). Entre os homens, os fatores associados foram: idade (18-40) (ORa = 1,90), histórico de morar na rua (ORa = 1,71), internação psiquiátrica anterior (ORa = 1,39), histórico de doença sexualmente transmissível (ORa = 1,52), histórico de consumo de álcool (ORa = 1,41), uso na vida de maconha ou cocaína (ORa = 1,54), ter recebido/oferecido dinheiro por sexo (ORa = 1,47), histórico de encarceramento (ORa = 2,07). **Conclusão:** A prevalência de violência física nessa população foi elevada para ambos os sexos. Embora haja fatores semelhantes independentemente associados à violência física entre homens e mulheres, há diferenças importantes, tais como a idade de início da vida sexual e o sexo sob uso de drogas/álcool para mulheres, mas não para os homens. Já para os homens, mas não para as mulheres, o histórico de morar na rua e o uso de maconha ou cocaína na vida estiveram associados ao evento. Triagem para a história da violência na admissão e intervenções precoces para diminuir a vulnerabilidade são necessárias nos serviços públicos de saúde mental no Brasil.

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Palavras-chave: Violência física, prevalência, gênero, sexo, doença mental, estudo multicêntrico, vulnerabilidade, epidemiologia, Brasil.

Introduction

Violence is defined as the intentional use of physical force or power, whether threatened or real, against oneself, another person, or against a group or community, that either results or has a high likelihood of resulting in injury, death, psychological harm, underdevelopment, or deprivation[1].

Patients with mental disorders suffer more violence than the general population[2,3]. Studies indicate that the prevalence of physical violence against patients with mental disorders varies from 20.5% (in the past 12 months) to 82.1% (lifetime) among women, and from 17.5% (in the past 12 months) to 86.1% (lifetime) among men[2,4-6]. The vulnerability of patients with mental disorders is confirmed in different populations[2,5], including the following types of patients: hospital admissions due to at least one episode of interpersonal violence[7], and people with a history of homelessness[8] or with disabilities[9].

Most published data focus only on females and a few studies focused on males[5,10]. Understanding the magnitude and the factors

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associated with specific violence against patients with mental illness is crucial for planning prevention and early intervention by primary care and public mental health services[1,2]. Such interventions are important due to the stigma against this population, which is reinforced by mass media[11]. This study aimed at assessing the prevalence and factors associated with lifetime physical violence against patients with severe mental illness, stratified by sex, in public mental health services in Brazil.

Methods

This was a national cross-sectional multicenter study (PESSOAS Project) with users of mental health services in Brazil. In 2006, 2,475 users of Brazilian public mental health services registered at the Ministry of Health were randomly selected from 11 psychiatric hospitals and 15 psychosocial care outpatient centers (CAPS). The sample size estimated for this study included 2,401 users and was proportionally divided according to the type of treatment center (CAPS or hospital). The group of researchers predicted a 60% participation rate, which resulted in a total of 3,362 users to be included initially. The sample was distributed proportionally by geographical regions according to the number of AIDS cases reported to the Ministry of Health, with the North, Northeast, South, Southeast and Center-west, responsible for 2%, 9%, 16%, 69%, and 5%, respectively. In the two-stage probability sampling, centers within each region were randomly selected proportionally to the number of patients for the CAPS stratum, or to the number of beds for the hospital stratum. In the second phase of sampling, a random selection of users from each location was performed. The study participants were 18 years of age or more and, in order to obtain socio-demographic, clinical and behavioral data, deemed capable to be part of an interview with a semi-structured questionnaire[12] and of understanding and signing an informed consent. The questionnaires and procedures were tested in a pilot study. A preliminary assessment adapted from the Mini Mental State Examination was carried out by trained mental health professionals to evaluate the users' ability to participate. The study was approved by the participating services, by the UFMG Ethical Research Committee (UFMG/ETIC: 125/05) and by the National Ethical Research Council – CONEP 592/2006. Detailed methodological aspects and general results have been published previously[12-14].

Physical violence was self-reported, and defined as experience any kind of physical aggression, including being hit, spanked, or beaten in their lifetime. This definition has greater sensitivity, as well as good reliability and construct validity[12]. For those who reported having suffered physical violence, the following context characteristics were assessed: 1. who perpetrated the physical violence, i.e., intimate partner, parents, relatives, acquaintances, strangers, health professionals or others, 2. where the physical violence took place, i.e., in the domestic environment, at an institution, in the streets, or somewhere else, and, 3. whether it was reported, and if so, to whom. These were "yes" or "no" questions. The interviewers were mental health professionals trained to apply the instrument, especially the questions related to sexuality and violence.

Socio-demographic, clinical and psychiatric characteristics, as well as HIV/AIDS risk behaviors/situations, were obtained by means of semi-structured questionnaires. All procedures, protocols and questionnaires were tested in a pilot study and reliability was assessed[12-14]. For the psychiatric diagnosis, data were obtained from the medical charts and classified according to the International Classification of Diseases (ICD-10). The main psychiatric diagnoses were categorized as: 1) psychosis (schizophrenia and other non-bipolar psychosis); 2) bipolar disorders; 3) depressive disorders; 4) anxiety disorders; 5) substance abuse disorders; and 6) others (epilepsy, mental retardation, personality disorders or unknown). For analysis purposes, diagnoses 4 to 6 were grouped and considered as reference, because these are not the main diagnoses in this kind of mental service. Among people with disabilities, those with mental disorders are more vulnerable and suffer proportionately more physical violence than people who have only intellectual impairments or other disabilities[15].

A descriptive analysis included the frequency and percentage of physical violence reported and a description of the agent and place of its occurrence by sex. Differences in proportion were assessed using Pearson's chi-square test. The magnitude of the associations between the explanatory variables and self-report of physical violence was estimated by the Odds Ratio (OR), with 95% confidence interval, stratified by sex. The independent effect of potential predictor variables of physical violence was assessed by means of a multivariate logistic model, also stratified by sex[16]. The significance level considered was 0.05. Logistic regression was used for multivariate modeling applying sequential deletion strategy. Variables with $p < 0.20$ in the univariate analysis were selected to start modeling and those with $p < 0.05$ remained in the final model. Fitness of the final model was assessed by means of the Hosmer-Lemeshow test[17]. The data were stored in PARADOX® 9 and the analysis was performed with SAS® 9.0 software.

Results

Of the 3,255 patients recruited, 2,763 (84.9%) were eligible after the preliminary evaluation. Most of those deemed incapable presented some degree of time or spatial disorientation, disorganized thoughts or ideas, or some level of mental retardation. Among the eligible, 2,475 (89.6%) were interviewed and 288 (10.4%) did not participate, mainly because they refused participation, could not be located, or failed to show up at the clinic for interview. While hospitalized individuals had a higher proportion of participation as compared to those under treatment at the CAPS ($p < 0.001$), no statistically significant differences were observed concerning sex, age, schooling or psychiatric diagnosis.

Among those 2,475 interviewed, 1,277 (51.6%) were women. Higher proportions of women came from low-income families (< US$ 175.00) than men (27.1% *versus* 17.8%, respectively), had bipolar disorders (12.4% *versus* 5.3%) and depression (19.4% *versus* 5.8%), and made irregular use of condoms throughout their lives (83.5% *versus* 76.8%). A higher proportion of the following socio-demographic characteristics were found among men when compared to women, respectively: age 18-40 (51.9% *versus* 44.9%), non-white identification (51.2% *versus* 46.0%), schooling < 5 years (52.1% *versus* 49.1%), single status (62.9% *versus* 35.3%), history of homelessness (21.5% *versus* 15.0%), and currently living alone (15.7% *versus* 10.3%). Men also presented higher proportions of markers of psychiatric severity: hospitalization during recruitment (44.8% *versus* 28.3%, respectively), previous psychiatric hospitalization (66.3% *versus* 50.8%), first psychiatric hospitalization under age 18 (11.3% *versus* 7.9%), and diagnosis of psychosis (55.5% *versus* 40.4%). Regarding behavior/risk situations, men presented a higher proportion, as compared to women of lifetime alcohol consumption (77.5% *versus* 52.7%), sexual debut under age 16 (52.8% *versus* 43.9%), lifetime use of marijuana or cocaine (34.4% *versus* 11.2%), lifetime sex under influence of alcohol/drugs (37.8% *versus* 17.2%), received/offered money for sex (40.6% *versus* 13.3%), and lifetime incarceration (41.2% *versus* 10.6%) (Table 1).

The overall prevalence of physical violence was 57.8% (n = 1431), 57.6% (n = 736) (95% CI = 54.9%, 60.3%) among women, and 58.0% (95% CI = 55.2%, 60.8%) (n = 695) among men. The main sources of physical aggression among women were intimate partners (44.8%), and among men acquaintances (34.6%), followed by relatives for both sexes (29.5% and 23.3%, respectively). The proportion of physical violence committed within health institutions by other patients, employees, or health professionals, among women and men was 12.0% and 16.0%, respectively. Place of occurrence was predominantly the domestic environment for women (75.0%) and streets for men (52.3%), with an inversion for the second most common place – streets for women (26.5%) and the domestic environment for men (36.9%).

Previous psychiatric hospitalization (aOR = 1.39; 95% CI = 1.06-1.82) (aOR = 2.09; 95% CI = 1.63-2.68), lifetime STD diagnosis

(aOR = 1.52; 95% CI = 1.11-2.09) (aOR = 1.75; 95% CI = 1.26-2.42), lifetime alcohol consumption (aOR = 1.41; 95% CI = 1.03-1.94) (aOR = 1.59; 95% CI = 1.23-2.06), received/offered money for sex (aOR = 1.47; 95% CI = 1.11-1.95) (aOR = 1.73; 95% CI = 1.09-2.75), and lifetime incarceration (aOR = 2.07; 95% CI = 1.56-2.75) (aOR = 1.69; 95% CI = 1.04-2.74) were independently associated with physical violence among men and women, respectively. Among women, the following factors were also associated with physical violence: age of sexual debut (< 16) (aOR = 1.40; 95% CI = 1.03-1.90) and lifetime sex under influence of alcohol/drugs (aOR = 2.08; 95% CI = 1.40-3.10). Among men, other factors associated with physical violence were: younger age (18-40) (aOR = 1.90; 95% CI = 1.44-2.50), lifetime history of homelessness (aOR = 1.71; 95% CI = 1.20-2.44), lifetime use of marijuana or cocaine (aOR = 1.54; 95% CI = 1.12-2.12) (Table 2).

Discussion

The present study assessed factors associated with physical violence among patients with mental illnesses in Brazil. We found an equally high prevalence of physical violence among men (57.8%) and women (57.6%), with values higher than found in other studies of different populations in Brazil, which found 26.0% to 49.6% in a variety of

Table 1. Descriptive characteristics of the study population, stratified by gender – Brazil, 2007 (n = 2,475)

Characteristics	Women (%) n = 1,277	Men (%) n = 1,198	
Socio-demographic:			
Recruitment center (hospital)	28.3	44.8	**
Age (18-40 y.o.)	44.9	51.9	**
Skin color (nonwhite)	46.0	51.2	**
Schooling (< 5 years)	49.1	52.1	
Family income in the last month (< $ 175,00)	27.1	17.8	**
Current marital status (single)	35.3	62.9	**
Lives alone at present	10.3	15.7	**
History of homelessness	15.0	21.5	**
Current place of residence (institution or others)	8.5	16.8	**
Medical/Psychiatric:			
Previous psychiatric hospitalization	50.8	66.3	**
Age of first psychiatric hospitalization (< 18 y.o.)	7.9	11.3	**
History of lifetime STD diagnosis	20.4	26.4	**
Main present psychiatric diagnosis:			
Other diagnosis or ignored	27.8	33.3	**
Bipolar disorder	12.4	5.3	**
Depressive disorder	19.4	5.8	**
Schizophrenia and other psychosis	40.4	55.5	**
HIV/AIDS risk behaviors/situations:			
Lifetime alcohol consumption	52.7	77.5	**
Lifetime use of marijuana or cocaine	11.2	34.4	**
Age of sexual debut (< 16 y.o.)	43.9	52.8	**
Lifetime sex under use of alcohol/drugs	17.2	37.8	**
Lifetime irregular use of condoms	83.5	76.8	**
Received or offered money for sex	13.3	40.6	**
Lifetime incarceration	10.6	41.2	**

(a) * p-value < 0.05; ** p-value < 0.01.

Table 2. Final multivariate model of physical violence stratified by gender – Brazil, 2007

	Women		Men	
	ORaj[c]	(IC 95%)[c]	ORaj[c]	(IC 95%)[c]
Age (*18 to 40 years old*)	-		1.90	(1.44-2.50)**
History of homelessness	-		1.71	(1.20-2.44)**
Previous psychiatric hospitalization	2.09	(1.63-2.68)**	1.39	(1.06-1.82)*
History of lifetime STD diagnosis	1.75	(1.26-2.42)**	1.52	(1.11-2.09)**
Lifetime alcohol consumption	1.59	(1.23-2.06)**	1.41	(1.03-1.94)*
Lifetime use of marijuana or cocaine	-		1.54	(1.12-2.12)**
Age of sexual debut (< 16 y.o.)	1.40	(1.03-1.90)*	-	
Lifetime sex under use of alcohol/drugs	2.08	(1.40-3.10)*	-	
Received or offered money for sex	1.73	(1.09-2.75)*	1.47	(1.11-1.95)**
Lifetime incarceration	1.69	(1.04-2.74)*	2.07	(1.56-2.75)**

(c) *Odds Ratio* and 95% confidence intervals; * p-value < 0.05; ** p-value < 0.01.

Hosmer-Lemeshow's test: p = 0.850 (women), degrees of freedom = 8.

Hosmer-Lemeshow's test: p = 0.348 (men), degrees of freedom = 8.

sampled populations[18-22]. Only one study in a metropolitan area in Brazil reported that the proportion of physical violence against women interviewed (aged 15 to 49 years) was higher than ours (58.6% throughout life)[23], but the sample size was small (n = 278) and was not representative of the women population in Brazil. Regarding international comparisons, our percentages lie within those found in different studies conducted elsewhere with mental illness patients such as the United States, Australia and New Zealand (17.5% to 86.1% for men and 20.5% to 82.1% for women)[2,4-6].

In our study, women and men with mental illness had several similar factors associated with physical violence (i.e., previous psychiatric hospitalization, history of lifetime STD diagnosis, lifetime alcohol consumption, having received or offered money for sex and lifetime incarceration). Other studies found similar results for both sexes, highlighting the vulnerability to STD, but with no sex stratification and/or distinction between sexual and physical violence[6,24]. Therefore, our study adds to the current literature because it observes important differences in both magnitude and type of characteristics, including young age of sexual debut (< 16 years old) and lifetime sex under the influence of alcohol/drugs for women. For men, age was found as an important factor (18 to 40 years old), as well as history of homelessness and lifetime use of marijuana or cocaine.

Our findings regarding sexual debut are in agreement with previous studies, given that in a number of settings, sexual initiation is forced on women and girls in the general population[1,22,25,26]. Indeed, early sexual initiation (before age 14) has been associated with increased risk of physical violence against women as perpetrated by their intimate partners[25]. The associations found between alcohol consumption (both sexes), marijuana or cocaine use (men only), and sex under the influence of alcohol/drugs (women only) are corroborated by the current literature in Brazil[27]. Violence is also associated with a younger age and use of illicit drugs for men[1,5,28,29].

A number of results, in different settings and countries, corroborate our study findings. A study in Australia with patients with mental illnesses found that among individuals with psychosis[30], violence in the previous year was positively associated with the female sex, homelessness, a lifetime history of substance abuse, being arrested in the previous 12 months, poorer social and occupational function, and higher the disorganization summary scores. In Connecticut (USA), a study with patients with mental disorders and/or substance use disorders, had significantly more episodes of victimization compared to those with either a psychiatric or a substance use disorder only[31]. In a study with inmates (men and women), physical victimization within the past 6 months for men with mental disorders was 60% (inmate-on-inmate) higher than among males with no mental disorder. For women, this figure was 70% higher[32].

Context variables in this study showed that most physical violence against women with mental illness is perpetrated by intimate partners and parents and relatives, making the domestic environment[5] the setting where violence occurred most frequently. However, physical violence against women with mental illness does not occur only in the domestic environment, as 27% of the reported physical violence occurred in the streets, in addition to other settings such health institutions (12%). On the other hand, men with mental illness are more exposed to physical violence perpetrated by acquaintances or strangers, usually occurring away from the domestic environment. It is likely that men with mental illnesses would benefit from interventions mostly related to the non-domestic environment, while the focus of prevention among women should be in the domestic environment[5,10].

Physical violence perpetrated against this population may have been underestimated by the exclusion of patients deemed incapable of participating or by difficulties in interviewing the more severe patients. Moreover, because the interview used a semi-structured instrument that depended on self-report of a sensitive issue (physical violence), there is always a possibility of underestimation. The instrument, however, was shown to have a good reliability, especially for questions related to violence and sexuality, for which the mental health professionals were trained as interviewers. Finally, the study did not include referral and treatment centers which dealt specifically with individuals with psychoactive substance abuse disorders[14]. This potential underestimation only emphasizes the public health relevance of our findings, which already indicate a high magnitude of physical violence among this population. Finally, one must be careful in interpreting the associations and avoid causal inferences from cross-sectional designs.

There are opportunities in mental health services to raise awareness among health professionals and society as a whole about physical violence perpetrated against individuals with mental disorders[34]. Since both women and men with mental disorders suffer more violence than the general population in Brazil, preventive and healthcare measures can have a significant impact on the pattern of service use. While it is important to notify violence against patients with mental illness as a fundamental public health concern[33,34] it is also necessary to implement actions that address the problem of violence in the context of mental health[3]. Information on violence against this population should be disseminated to all health services and sectors of society[35]. We recommend that health teams, particularly those in mental health services, are trained to work on the prevention and care of victims of violence, enabling the reduction of barriers to health care, especially to individuals with mental illness in these treatment services[35]. The information produced in this study points to the importance of actions in mental health services, both in day hospitals (CAPS) and psychiatric hospitals.

Services must consider the specificities in the types of violence experienced. Physical violence is very common in both sexes, predominantly in the home for women and in the streets for men. Such differences between the sexes should be considered when researching violence against individuals with mental disorders[5].

The use of psychoactive substances (alcohol or drugs) is strongly related to violence against the person with mental disorder and needs greater attention in public health policies, with innovative programs to mitigate the influence of these psychiatric comorbidities[35]. Because violence has an important domestic context and can happen in the early life, preventive interventions should be introduced sooner among individuals with mental disorders[3,5].

This study is the first to investigate physical violence against patients with mental illnesses in a large and nationally representative sample of psychiatric hospitals and mental health outpatient services (CAPS) including both men and women in Brazil. It highlights the need of further assessing their vulnerability profiles, since they suffer a higher degree of stigmatization and have limited access to comprehensive health care[3,26,36]. Our results indicate the urgency to develop public preventive and treatment actions in order to change the situation of violence in the context of mental health services.

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