Psychiatry Research 225 (2015) 556–562

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Acute suicidal ideation in middle-aged adults from Brazil. Results from the baseline data of the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil)

André R. Brunoni [a,*], Maria A. Nunes [b], Paulo A. Lotufo [a], Isabela M. Benseñor [a]

[a] University Hospital and Faculty of Medicine, University of São Paulo, São Paulo, Brazil
[b] Hospital das Clínicas and Faculty of Medicine, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

ARTICLE INFO

Article history:
Received 14 August 2014
Received in revised form
27 October 2014
Accepted 24 November 2014
Available online 4 December 2014

Keywords:
Cross-sectional study
Suicidal ideation
Life-weariness thoughts
Suicidal ideation
Major depressive disorder
Common mental disorders

ABSTRACT

Suicidal ideation represents an important burden worldwide. However, little is known about it in low-/middle-income countries. We investigated this issue in a large cross-sectional of Brazilian civil servants (ELSA-Brasil, the Brazilian Health Longitudinal Study, $n=15{,}105$). Logistic univariate and multivariate analyses were performed to evaluate the strength of association (odds ratio, OR) between clinical and sociodemographic variables with acute life-weariness (tiredness of life) and suicidal thoughts. The presence of major depressive disorder (MDD), common mental disorders (CMDs), stressful life-events (SLEs) and poor self-perceived physical health was also collected. MDD and CMDs were strongly associated with suicidal ideation in univariate and multivariate analyses. For life-weariness thoughts, a modest, consistent association was found for female gender, being single, non-White ethnicity and poor education. SLEs and poor self-perceived physical health were also associated with suicidal ideation. Espiritism–Kardecism, but not other religions or Atheism/Agnosticism, was associated with lower rates of life-weariness and suicidal thoughts. To conclude, suicidal ideation does not differ in Brazil compared to developed countries, being primarily associated with psychiatric disorders and, to a lesser but significant extent, to social disadvantage, SLEs, poor self-perceived health and being single.

1. Introduction

Suicide is a leading, soaring cause of death worldwide, with increasing rates over the last 50 years. In addition, suicidal attempts, plans and ideation are common thoughts and behaviors, with lifetime prevalences of 0.4–4.2%, 1.1–15.6% and 2.6–25.4%, respectively (Bertolote et al., 2005). Suicide and suicidal ideation and behaviors present, therefore, an important economic, social and personal burden (Mann et al., 2005).

Classic sociological models propose that suicide is a consequence of low social integration and regulation and its rates vary according to the economical development of the society (Durkheim, 1967). Psychological and psychiatric theories, in turn, associate suicide to mental disorders, personality traits, and acute and chronic distress (Brzozowski et al., 2010). Moreover, several demographic variables are associated with the spectrum of suicide, such as age, gender, ethnicity, religion and socioeconomic position (Hawton and van Heeringen, 2009; Haw et al., 2013; Hawton et al., 2013).

South America presents an historical (however recently increasing (Bando et al., 2012)) low rate of suicide (Hawton and van Heeringen, 2009), which is surprising given that the prevalence of mental disorders in this region seems to be higher than the world average (Bromet et al., 2011), although this can be partly explained by underreporting of suicide (Pritchard and Hean, 2008). Perhaps due to these low rates, data regarding suicide and suicidal ideation and behavior from South American countries are scarce and mainly ecological. In one of a few studies aggregating individual suicide data among 21 countries, Borges et al. (2010) found that suicidal behaviors and their risk factors occur in the same prevalence and frequency for developed and developing countries. Nonetheless, data from Brazil were restricted to some neighborhoods from the city of São Paulo, limiting the generalization of these findings.

Therefore, the aim of the present study was to investigate suicidal ideation and its association with clinical and demographic variables. This is important to define prevention strategies in Brazil and South American countries, as well as to better understand the phenomenon of suicidal ideation in a country with a relatively low suicide

* Correspondence to: Av. Prof. Lineu Prestes 2565, 3o andar, CEP: 05508-000; Centro de Pesquisas Clínicas, Hospital Universitário, Universidade de São Paulo, São Paulo, Brazil. Tel.: +55 1130912941.
E-mail address: Brunoni@usp.br (A.R. Brunoni).

http://dx.doi.org/10.1016/j.psychres.2014.11.047
0165-1781/

rate. In this study, we analyzed the baseline data of the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). The ELSA-Brasil is a prospective study of 15,105 civil servants, men and women, aged 35–74 years, living and working in six major cities in Brazil. Thus, the present study describes suicidal ideation and its association with several predictors in the sample of ELSA-Brasil.

2. Methods

2.1. Overview and study design

The present study used a cross-sectional design based on the assessments of participants of the ELSA-Brasil cohort at baseline. ELSA-Brasil is a multi-centric cohort study enrolling civil servants from six universities located in different regions of Brazil (corresponding to the metropolitan areas of São Paulo, Rio de Janeiro, Salvador, Porto Alegre, Belo Horizonte and Vitoria) (Aquino et al., 2012). Its main aim is to investigate the risk factors associated with the development and progression of diabetes and cardiovascular diseases. All active or retired employees of the six institutions aged 35–74 years were eligible for the study. The recruitment was non-probabilistic, observing specific quota regarding gender, age and occupational status (Aquino et al., 2013a). Exclusion criteria were current or recent (<4 months) pregnancy, intention to quit working at the institution, severe cognitive or communication impairment, and living outside the metropolitan area of the corresponding study center. Informed, written consent was obtained for all participants and all local ethics committees approved the study. Data collected from all participants were anonymized using numeric codes and the staff was trained to preserve the comfort and security of all participants, as previously reported (Aquino et al., 2013b).

Baseline characteristics of the sample are described elsewhere (Schmidt et al., 2014). In short, 54% are females; 22%, 39%, 28% and 11% present between 35 and 44, 45 and 54, 55 and 64 and 65 and 74 years, respectively. Also, 52.2% of participants considered themselves to be White, 16.1% Black and 28.2% Brown ("pardo"). Regarding demographic regions in Brazil, 72.9% were from the Southeast, 13.4% from the Northeast and 13.7% from the South. Common mental disorders (CMDs) were observed in 26.7% of the sample and major depressive disorder (MDD) in 4.22% of the sample. The data here presented corresponds to the first examination of ELSA, which occurred from August 2008 to December 2010. Data from participants were collected in two phases. The first, lasting approximately 1 h, included obtaining informed consent and conducting the initial interview at the participant's job site. The second, comprising additional interviews and examinations, lasted approximately 6 h and was conducted at a study clinic.

2.2. Assessments

2.2.1. Sociodemographic characteristics

For the present study, we considered the following variables: gender, age (categorized in 35–44; 45–54; 55–64 and 65–74 years-old), ethnicity (White, Brown/Mixed, Black, Asian and Indigenous), years of schooling (categorized in "below high school", i.e., <11 years of schooling; "high school", i.e., 11–15 years of schooling; and "college", i.e., >15 years of schooling), monthly income (categorized in below and above the median of the sample, which corresponds to approximately eight 2010 Brazilian minimum wages), partner status (single vs. not-single) and religion (categorized in no religion – agnosticism and atheism; Catholicism; Non-Catholic Christianism – corresponding to Protestant congregations; Espiritism and other religions).

2.2.2. Self-reported physical condition

Physical health perception was assessed through the following question: "How well do you describe your general physical condition lately?" Answers ranged from "very good" to "very poor" in a five-item, Likert scale. This was further dichotomized in "very good and good" and "fair, bad and very bad".

2.2.3. Stressful life events

We assessed whether at least one of the following stressful life events (SLEs) occurred in the past 12 months prior to the interview: "assault/robbery"; "hospitalization"; "death of close relative"; "severe financial difficulties" and "ending of intimate relationship".

2.2.4. Common psychiatric disorders

Mental diagnoses were assessed by trained interviewers using the validated, Portuguese version of the Clinical Interview Schedule-Revised (CIS-R) (Nunes et al., 2011). This interview occurred in a private room. If the participant requested and/or if questions regarding suicidal ideation were/was positive, a physician who was available at the study center would promptly interview the participant. According to his/her evaluation, a psychiatrist could be called and would interview the patient within 2 h. The physician or psychiatrist would then evaluate the severity of the suicidal thought to decide whether hospitalization would be necessary or not. Participants diagnosed with possible psychiatric disorders would be further referred to appropriate treatment in the institution of the research center, treatment to the institution of the research center, to the health plan of the institution or to the Brazilian unified health system (Bensenor et al., 2013).

The CIS-R is a structured interview for measurement and diagnosis of non-psychotic psychiatric morbidity in community developed by Lewis et al. (1992). It contains 14 sections covering symptoms of CMD that are present at a level that causes distress and interference in daily activities. The symptoms are somatic (pain), fatigue, concentration and forgetfulness, sleep problems, irritability, worry about physical health, depression, depression ideas, worry, anxiety, phobias, panic, compulsions and obsessions. Each section begins with a number of mandatory filter questions that establish the existence of a particular symptom in the past month. The presence of a positive symptom leads to a more detailed assessment of the specific symptom in the past week (frequency, duration, severity and time since onset) to determine a score for each section. Possible scores range from 0 to 4 on each section (except the section on depressive ideas, which has a maximum score of 5). Each symptom is considered clinically relevant if the score reaches 2 or more in the corresponding section. The total sum of the 14 section scores has been used to indicate the presence and the severity of a CMD. A score of 12 or more indicates the presence of a current CMD – a set of somatic, anxiety and depressive symptoms with sufficient severity to cause a breakdown in normal functioning and therefore a negative impact on quality of life. In the present study, we assessed whether CMD was associated with suicidality.

Additionally, mental diagnoses according to the International Classification of Diseases, 10th edition (ICD-10) can also be obtained using specific algorithms according to the presence of symptoms. We also specifically explored the correlation between major depressive disorder (MDD) and suicidal ideation due to their high correlation. Finally, we did not explore the correlation between MDD and CMD because all cases of MDD score ≥ 12 in the CIS-R, i.e., CMD includes all cases of MDD.

2.2.4.1. Acute suicidal ideation. Acute (in the previous week) suicidal ideation was explored with the two questions from the CIS-R examining this behavior, respectively coded as H8 and H9:

a) Life-weariness thoughts (tiredness of life or *tedium vitae*) – "*In the past week have you felt that life isn't worth living*?"
b) Suicidal thoughts – "*In the past week have you thought of killing yourself*?"

2.2.4.2. Heavy (excessive) drinking. Alcohol consumption was assessed using a structured questionnaire that surveyed the frequency, quantity and type (beer, wine etc.) of alcohol beverage consumed by participants. Those consuming ≥ 210 g (men) or 140 g (women) of ethanol per week were classified as heavy (excessive) drinkers.

2.2.5. Psychotropic use

All participants were asked regarding use of antidepressant and benzodiazepine medicines (for a complete description, see Brunoni et al. (2013)). Briefly, benzodiazepines and antidepressants were commonly used medicines with an overall rate of 3.88% and 6.87% in the entire sample. Four drugs (sertraline, paroxetine, citalopram and amitriptyline) were associated with nearly half of all antidepressant prescriptions, while the most commonly used benzodiazepines were diazepam, clonazepam, alprazolam and bromazepam.

2.3. Statistical analysis

Clinical and demographic data were described using percentages. To explore the association of life-weariness and suicidal thoughts, we performed bivariate and multivariate logistic regressions using the variables above described. Independent variables statistically associated with clinical and demographic variables at a $p<0.05$ were identified by bivariate logistic regression analysis and used in the multivariate logistic regression models. As the association of life-weariness and suicidal thoughts was higher with CMD than MDD, we only used CMD in the multivariate model. In addition, as gender was significantly associated with life-weariness thoughts, we repeated the multivariate analysis for this variable depicting for gender. The odds ratio (OR) was the measure used to describe the strength of association: OR ≥ 1 and ≤ 1 respectively reflects a direct and inverse association between the dependent and independent variable.