Journal of Affective Disorders 203 (2016) 275–280

Contents lists available at ScienceDirect

Journal of Affective Disorders

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

Research paper

Lifetime suicidal ideation and attempt in adults with full major depressive disorder versus sustained depressed mood

Hye Jin Yoo [a], Jin Pyo Hong [a], Maeng Je Cho [b], Maurizio Fava [c], David Mischoulon [c], Jung-Yoon Heo [a], Kiwon Kim [a], Hong Jin Jeon [a,c,d,*]

[a] Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea
[b] Department of Psychiatry & Behavioral Science, Seoul National University College of Medicine, Seoul, South Korea
[c] Depression Clinical and Research Program, Massachusetts General Hospital, Harvard Medical School, Boston, USA
[d] Department of Health Sciences & Technology, Department of Medical Device Management & Research, and Department of Clinical Research Design & Evaluation, Samsung Advanced Institute for Health Sciences & Technology (SAIHST), Sungkyunkwan University, Seoul, Republic of Korea

ARTICLE INFO

Article history:
Received 1 April 2016
Received in revised form
29 May 2016
Accepted 3 June 2016
Available online 6 June 2016

Keywords:
Sustained depressed mood
Major depressive disorder
Suicidal ideation
Suicide attempt

ABSTRACT

Background: Major depressive disorder (MDD) is a well-known risk factor for suicidality, but depressed mood has been used non-specifically to describe the emotional state. We sought to compare influence of MDD versus sustained depressed mood on suicidality.

Methods: A total of 12,532 adults, randomly selected through the one-person-*per*-household method, completed a face-to-face interview using the Korean version of Composite International Diagnostic Interview (K-CIDI) and a questionnaire for lifetime suicidal ideation (LSI) and lifetime suicidal attempt (LSA).

Results: Of 12,361 adults, 565 were assessed as 'sustained depressed mood group' having depressed mood for more than two weeks without MDD (4.6%), and 810 adults were assessed as having full MDD (6.55%) which consisted of 'MDD with depressed mood group' (6.0%) and 'MDD without depressed mood group' (0.5%). The MDD with depressed mood group showed higher odds ratios for LSI and LSA than the sustained depressed mood group. Contrarily, no significant differences were found in LSI and LSA between the MDD group with and without depressed mood. MDD showed significant associations with LSI (AOR=2.83, 95%CI 2.12–3.78) and LSA (AOR=2.17, 95%CI 1.34–3.52), whereas sustained depressed mood showed significant associations with neither LSI nor LSA after adjusting for MDD and other psychiatric comorbidities. Interaction effect of sustained depressed mood with MDD was significant for LSI but not for LSA.

Conclusions: Sustained depressed mood was not related to LSI and LSA after adjusting for psychiatric comorbidities, whereas MDD was significantly associated with both LSI and LSA regardless of the presence of sustained depressed mood.

1. Introduction

Major depressive disorder (MDD) encompasses a large group of psychiatric disorders dominated by pathological moods that cause clinically significant socio-occupational impairment and related vegetative and psychomotor disturbances (Akiskal and McKinney, 1973; American Psychiatric Association, 2013). But in the real world, the term 'depression' has been used broadly to describe the emotional state of feeling sad and blue. Although depressed mood or being depressed is the essential feature of MDD, this concept should be distinguished from the full blown major depressive episode (MDE). Currently, several epidemiological studies have revealed that subsyndromal conditions with depressive mood also exist in the community without progression to full-blown mood episodes (Akiskal, 2001; Judd and Akiskal, 2000).

The diagnostic criteria of MDD in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) have minimally changed from the DSM-IV-TR; neither the core criterion symptoms nor the requisite symptomatic duration of at least two weeks have changed from the DSM-IV-TR, except for exclusion of bereavement (American Psychiatric Association, 2013). According to the DSM-IV-TR, Depressive Disorder Not Otherwise Specified (NOS) encompasses "any depressive disorder that does not meet the criteria for a specific disorder", and this category has been renamed as unspecified depressive disorder in the DSM-5. Sustained

* Corresponding author at: Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, #50 Irwon-dong, Gangnam-gu, Seoul 135-710, South Korea.
E-mail address: jeonhj@skku.edu (H.J. Jeon).

http://dx.doi.org/10.1016/j.jad.2016.06.007
0165-0327/

depressed mood or diminished interest for at least two weeks is an essential requirement to diagnose a major depressive episode according to criterion A for MDD in both DSM-IV-TR and DSM-5; hence, the subject could be diagnosed as having MDD if he or she experienced diminished interest and had more than four other MDD symptoms without sustained depressed mood.

Suicide is the worst possible outcome of MDD (Holma et al., 2010; Jeon et al., 2010). Suicide usually has mixed etiologies, but major psychiatric disorders such as MDD, bipolar disorder, and schizophrenia are observed in 90% of subjects who commit suicide (Sokolowski et al., 2015; Wasserman et al., 2012). MDD and severity of depression are well-established risk factors for suicide and for suicidality (Roy, 1993). Previous studies have indicated that the incidence of suicide attempts varies depending on the severity of depression; a meta-analysis and 2 nationwide studies indicated that inpatients with MDD have about a 20-fold risk of completed suicide (Harris and Barraclough, 1997; Hoyer et al., 2000; Osby et al., 2001). In a prospective, long-term nationwide study on suicidality in MDD patients, the suicide attempt rate was 21-fold during major depressive episodes and 4-fold during partial remission compared with full remission (Holma et al., 2010). There is no currently available study that compares the influence of sustained depressed mood without MDD versus full MDD on suicidality.

We decided to focus on the difference in the influence of sustained depressed mood versus full MDD on suicidality. We hypothesized that MDD may be more strongly associated with suicidality than sustained depressed mood. We aimed to compare the influence on suicidality from MDD versus sustained depressed mood that does not meet full MDD criteria, after adjusting for other suicide-related correlates.

2. Methods

2.1. Data sources, data collection, and study sample

The data for this study were retrieved from a nationwide study of Korean adults, named the Korean Epidemiologic Catchment Area Study Replication (KECA-R), which was performed from July 2006 to April 2007 (Cho et al., 2010), and KECA-2011 with the same study design (Seoul National University College of Medicine, 2011). Subject sampling was based on a multi-stage cluster sample design, based on data from the Korean Population Census (Korea National Statistical Office, 2006). The sampling of the subjects was carried out across 12 catchment areas using a multistage, cluster-sampling design. The target population included all eligible community-dwelling residents $\geq$18 years-of-age. Face-to-face interviews were conducted using the Korean version of Composite International Diagnostic Interview (K-CIDI) (Cho et al., 1999). A total of 12,532 adults were included from the KECA-R and KECA-2011 populations, and 825 adults were assessed as having MDD. The institutional review board of Seoul National University College of Medicine approved this study. All subjects were fully informed about the aims and methods of the study prior to completing the interview and informed consent was obtained prior to participation.

2.2. Measures

2.2.1. Assessment of MDD

Based on the mood section of K-CIDI, all participants were initially screened by questioning whether they had experienced either depressed mood and/or loss of interest in the last 12 months. The participants who responded “YES” to any of these items were queried further to assess whether they met the DSM-IV-TR (American Psychiatric Association, 1994) criteria for MDD. Questions administered were related to a total of 25 depressive symptoms, including items about mood, vegetative symptoms such as volition, sleep, appetite, concentration, and psychomotor speed. Duration and number and the first and last onset of depressive episodes were also measured.

2.2.2. Assessment of DSM-IV-TR psychiatric comorbidities

Psychiatric comorbidities were defined when the subjects suffered from more than one DSM-IV-TR psychiatric disorders assessed in the KECA study within the previous 12 months. Psychiatric disorders such as nicotine dependence, somatoform disorder, phobia and other anxiety disorders, depression and dysthymia, mania and bipolar disorder, schizophrenia and other psychotic disorders, eating disorder, alcohol use disorder, obsessive compulsive disorder and posttraumatic stress disorder, and gambling disorder were assessed by the K-CIDI diagnostic interview.

2.2.3. Assessment of suicidality

Based on the suicidality section, all participants were asked about suicidal ideation, plan, and attempts. Assessment of suicidality was conducted using dichotomous questions as follows: ‘Have you ever seriously thought about committing suicide in your lifetime? ’ for lifetime suicide ideation (LSI), ‘Have you ever made a plan for committing suicide in your lifetime? ’ for lifetime suicide plan, and ‘Have you ever attempted suicide in your lifetime? ’ for lifetime suicide attempt (LSA) (Jeon et al., 2009; Lee et al., 2007). After each question, we assessed the first and the last reported suicidal ideation, plan, and attempt through an open question.

2.3. Statistical analysis

A total of 12,532 adults were included from the KECA-R and KECA-2011 populations, but we excluded 171 samples with missing values from the statistical data analysis. We divided the subjects into four groups according to the history of sustained depressed mood and MDD: individuals with neither sustained depressed mood nor MDD (the ‘neither’ group, n=10,986), individuals with sustained depressed mood without MDD (the ‘sustained depressed mood’ group, n=565), individuals with MDD without depressed mood group (the ‘MDD without depressed mood’ group, n=66), and individuals with MDD with depressed mood group (the ‘MDD with depressed mood’ group, n=745). We compared the sociodemographic and clinical profiles of the four groups. The four groups were compared in terms of age, both mean age and age groups, gender, education, marital status, household income, living area, and psychiatric comorbidities including any anxiety disorder, alcohol use disorder, panic disorder, post-traumatic stress disorder, and generalized anxiety disorder, with the Chi-square test. Obsessive-compulsive disorder was compared with the Fisher's exact test, because of the smallness of the sub-sample with this condition.

Multivariate logistic regression models were applied to investigate the group difference after controlling for variables including gender, marital status, and education years which showed a statistically significant difference among groups when compared by the Chi-square test. *P*-values were corrected by the Bonferroni method ($p<0.0083$) in case of multiple testing and considered significant at the level of $p<0.001$. Then, we performed multivariate logistic regression to investigate main effect and combination effect of MDD and sustained depressed mood associated with increased risk of LSI and LSA. We also evaluated the interaction plot of sustained depressed mood with DSM-IV-TR psychiatric comorbidities such as MDD, alcohol use disorder, panic disorder, post-traumatic stress disorder, generalized anxiety disorder, and