Psychiatry Research 270 (2018) 257–263

Contents lists available at ScienceDirect

Psychiatry Research

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

Anxiety attacks with or without life-threatening situations, major depressive disorder, and suicide attempt: a nationwide community sample of Korean adults

Hyewon Kim[a], Kwan Woo Choi[a], Eun Jin Na[a], Jin Pyo Hong[a], Maurizio Fava[b], David Mischoulon[b], Hana Cho[c], Hong Jin Jeon[a,d,*]

[a] Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, #81 Irwon-ro, Gangnam-gu, Seoul, Republic of Korea
[b] Depression Clinical and Research Program, Massachusetts General Hospital, Harvard Medical School, Boston, USA
[c] Department of Physiology, Sungkyunkwan University School of Medicine, Samsung Biomedical Research Institute, Suwon 440746, Republic of Korea
[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

Keywords:
Anxiety attack
Suicide attempt
Major depressive disorder
Life-threatening situations

ABSTRACT

Regardless of categorical diagnosis, many psychiatric patients suffer from sudden attack of fear or intense anxiety. In this study, we defined anxiety attacks to refer to these phenomena and investigated their association with depression and suicide attempts. A total of 12,532 adults randomly selected population through the one-person-per-household method completed a face-to-face interview using the Korean version of Composite International Diagnostic Interview (K-CIDI). A total of 5.88% reported to have experienced anxiety attacks. Among them, 46.5% reported to have experienced anxiety attacks without life-threatening situations. 'Anxiety attacks' group reported more suicidal ideation, plan, and attempts, which were even higher frequencies in 'anxiety attacks without life-threatening situations' group than 'anxiety attacks only with life-threatening situations' group and showed stronger association with lifetime suicide attempts when it had comorbid major depressive disorder (MDD) (AOR = 9.69, 95%CI 5.90–15.90), compared with 'never' group. There was no association between each symptom of patients with anxiety attacks and their lifetime suicide attempt. In conclusion, the finding suggests that there are as many individuals who experience anxiety attacks without life-threatening situations as those with life-threatening situations. And anxiety attacks appear to be relevant to an increased risk of suicide attempt, especially without life-threatening situations and with comorbid MDD.

1. Introduction

Many patients with psychiatric illness, regardless of the categorical diagnosis, often complain of sudden attacks of fear or intense anxiety. Often, these events do not meet specific diagnostic criteria on the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), and there is no formal term to refer them. These phenomena are reported in various patients such as anxiety disorders, affective disorders, and psychotic disorders. Since these transdiagnostic symptoms occur paroxysmally, patients report them separately from other anxiety which is associated with their symptoms.

In this study, we propose to name these subjective experiences of sudden frightening or intense anxiety as 'anxiety attacks'. Because 'anxiety attack' has not been used as a formal term, very little research has investigated anxiety attacks. There are two case reports that raised anxiety attack as a cause of subperiosteal hematoma or takotsubo cardiomyopathy, but they did not explain the specific definition of anxiety attacks (Singh et al., 2012; Swanenberg et al., 2013).

Anxiety attacks are distinct from the diagnosis of anxiety disorders and trauma- and stressor-related disorders per DSM-5, although those disorders can elicit anxiety attacks. Anxiety disorders include panic disorder, agoraphobia, generalized anxiety disorder, and others. These disorders share features of excessive fear and anxiety and related behavioral disturbances. Panic disorder features fear response which is common in other anxiety disorders. The criteria for panic attacks consist of 13 physical and cognitive symptoms. Individuals with panic

* Corresponding author at: Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, #81 Irwon-ro, Gangnam-gu, Seoul 06351, Republic of Korea.
E-mail address: jeonhj@skku.edu (H.J. Jeon).

https://doi.org/10.1016/j.psychres.2018.09.050
Received 3 January 2018; Received in revised form 5 August 2018; Accepted 21 September 2018
Available online 21 September 2018
0165-1781/

disorder may have both full-symptom (four or more symptoms) and limited-symptom (fewer than four symptoms) attacks; at least one unexpected full-symptom panic attack is required for the diagnosis of panic disorder (American Psychiatric Association, 2013). Because the definition of anxiety attacks in this study does not contain certain physical or cognitive symptom, an anxiety attack may not meet criteria for a panic attack. Anxiety reported in patients with generalized anxiety disorder (GAD) is different from an anxiety attack, because anxiety in GAD tends to be more chronic and is usually related to a future threat. If a patient experienced anxiety attack after a traumatic event, it can be considered as a symptom of posttraumatic stress disorder (PTSD) or acute stress disorder, but diagnosis of these disorders need other symptoms such as intrusion, avoidance of stimuli, alternations in cognitions and mood or hyperarousal (American Psychiatric Association, 2013).

In this study, we aimed to identity the prevalence of anxiety attacks in the community populations and investigate characteristics including psychiatric illness of individuals with anxiety attacks. To distinguish the predisposing factors, we investigated the anxiety attacks according to the presence or absence of life-threatening situations. Another aim of our study is to investigate the association of the anxiety attacks with depression and suicide attempt. Depression is known to be found in about 60–70% of all suicide s (Sadock et al., 2014). Anxiety and panic attacks have been identified as risk factors for suicide in several studies (Bentley et al., 2016; Capron et al., 2012; Katz et al., 2011; Turecki, 2014; Yaseen et al., 2013). In addition, by measuring the impulsivity item which is suggested as one of the predictors in suicide models, we tried to investigate the effect of anxiety attacks on suicide in various aspects (Gvion and Levi-Belz, 2018; Shelef et al., 2018).

2. Methods

2.1. Data sources, data collection, and study sample

We used the same data sources as in our previous study (Jeon et al., 2014). A nationwide study of Korean adults, named the Korean Epidemiologic Catchment Area Study Replication (KECA-R), was conducted from July 2006 to April 2007 (Cho et al., 2010). The KECA-2011 was conducted from July 2011 to September 2011, using the same study design (Seoul National University College of Medicine, 2011). This study included both populations which consisted of independent samples.

Subjects were selected using multi-stage and cluster sample designs that were based on data from the Korean Population Census (Statistics Korea, 2006). In KECA-R and KECA-2011, subjects were sampled across 12 catchment areas: three metropolitan districts, five districts of mid-sized cities, and four rural counties. One adult who was 18 years or older per selected household was chosen at random, and 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 (an overall response rate of 80.2%) and 825 adults (6.6%) were assessed as having a lifetime history of major depressive disorder (MDD). The lifetime prevalence of 6.6% is slightly higher considering 4.4% globally (World Health Organization, 2017) and 5.0% in South Korea (Ministry of Health and Welfare, 2017). 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.

A total of 160 interviewers were recruited from the catchment areas, including psychiatric nurses, social workers, and medical students who had experience in psychiatric epidemiologic surveys. All interviewers received a 5-day training program with didactic sessions covering general interviewing skills and instrument content; mock interviews and role-play exercises were utilized to facilitate the generalization of new knowledge, and live interviews with psychiatric patients and group discussion were performed to check the inter-rater reliability (World Health Organization, 1997a, b).

2.2. Measures

2.2.1. Assessment of DSM-IV disorders

DSM-IV diagnoses were based on the K-CIDI (World Health Organization, 1990), a fully structured diagnostic interview designed to make psychiatric diagnoses (American Psychiatric Association, 1994). The K-CIDI has been validated by Cho et al. 1999 according to the World Health Organization guidelines (World Health Organization, 1997c). Furthermore, clinical diagnosis with blind clinical re-interviews, using the Structured Clinical Interview for the DSM-IV (SCID), showed modest concordance with the K-CIDI diagnoses (κ values between 0.50 and 1.00) such as MDD ($\kappa = 0.84$), and panic disorder ($\kappa = 0.79$) (Cho et al., 2002). Finally, the K-CIDI was used in the Korean Epidemiologic Catchment Area (KECA) study, conducted between June 2001 and November 2001(Cho et al., 2007).

2.2.2. Assessment of anxiety attacks and life-threatening situations

An anxiety attack is defined as a subjective experience of sudden fear or intense anxiety. Subjects were assessed for the presence of anxiety attacks using a yes or no question such as “Have you ever been frightened or anxious suddenly?”. When the subjects responded that they experienced anxiety attacks, they also asked whether such events occurred during or after life-threatening situations using two questions stated “Did you experience such anxiety attacks when your life seemed to be in danger?” and “Did you experience such anxiety attack when your life was not in danger?”. We classified the “anxiety attacks only with life-threatening situations” group if the anxiety attacks were confined to life-threatening situations and the “anxiety attacks without life-threatening situations” group if the anxiety attacks occurred at least twice without life-threatening situations. Here, we classified only those subjects who had experienced anxiety attacks at least twice into the anxiety attack group to rule out temporary anxiety responses provoked by stress. We also assessed the symptoms of anxiety attacks for the subjects who classified to “anxiety attacks without life-threatening situations” group. We presented 13 symptoms as follows; palpitation, sweating, trembling or shaking, shortness of breath, feelings of choking, chest pain or discomfort, nausea or abdominal distress, feeling dizzy or faint, chills or heat sensations, numbness or tingling sensations, derealization or depersonalization, fear of losing control or "going crazy", fear of dying.

2.2.3. Assessment of impulsiveness

Impulsiveness of subjects was assessed by using Barratt Impulsiveness Scale 11 (BIS-11). BIS-11 is a 30 item self-report instrument designed to assess the personality/behavioral construct of impulsiveness (Stanford et al., 2009).

2.2.4. Assessment of suicidal behaviors

Interviewers asked the subjects about suicidal ideation, plan, and attempts. The questions asked were as follows; ‘Have you ever seriously thought of committing suicide?’ for suicidal ideation, ‘Have you ever made a plan for committing suicide?’ for suicide plan, and ‘Have you ever attempted suicide?’ for suicide attempts. The participants responded to dichotomous questions with “yes” or “no”, and then, where indicated, they provided their age at the first suicide attempt and the number of suicide attempts. The questions showed strong validity between psychiatrists and interviewers included in this study, as well as inter-rater and test-retest reliability with kappa values between 0.74 and 1.00 and 0.84 for MDD in a preliminary study for the KECA-R (Cho et al., 2005). After each question, the age of onset and last suicidal ideation, plan, and attempt were assessed using open questions. Subjects who reported two or more suicide attempts were regarded as