Psychiatry Research 219 (2014) 443–449

Contents lists available at ScienceDirect

Psychiatry Research

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

Impact of childhood exposure to psychological trauma on the risk of psychiatric disorders and somatic discomfort: Single vs. multiple types of psychological trauma

Subin Park [a], Jin Pyo Hong [b], Jae Nam Bae [c], Seong-Jin Cho [d], Dong-Woo Lee [e], Jun-Young Lee [f], Sung Man Chang [g], Hong Jin Jeon [h], Bong-Jin Hahm [i], Young Moon Lee [j], Sujeong Seong [a], Maeng Je Cho [i,*]

[a] Department of Psychiatry, Seoul National University Hospital, Seoul, South Korea
[b] Department of Psychiatry, Asan Medical Center, Ulsan University College of Medicine, Seoul, South Korea
[c] Department of Psychiatry, College of Medicine, Inha University, Incheon, South Korea
[d] Department of Psychiatry, Gachon University of Medicine and Science, Incheon, South Korea
[e] Department of Psychiatry, College of Medicine, Inje University Sanggye Paik Hospital, Seoul, South Korea
[f] Department of Psychiatry, Seoul National University Boramae Hospital, Seoul, South Korea
[g] Department of Psychiatry, Kyungpook National University College of Medicine, Daegu, South Korea
[h] Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea
[i] Department of Psychiatry and Behavioral Science, Seoul National University College of Medicine, Seoul, South Korea
[j] Gongju National Hospital, Gongju, South Korea

ARTICLE INFO

Article history:
Received 13 August 2013
Received in revised form
17 February 2014
Accepted 5 June 2014
Available online 12 June 2014

Keywords:
Trauma
Mental disorders
Pain

ABSTRACT

We examined whether childhood exposure to multiple types of potentially traumatic events (PTEs) relative to a single type of PTE is associated with a higher prevalence of psychiatric disorders and greater somatic discomfort in Korean adults. The Composite International Diagnostic Interview 2.1 (K-CIDI 2.1) was administered to 6027 subjects aged 18–74 years. Subjects who experienced a traumatic event before the age of 18 years, the childhood trauma exposure group, were compared with controls without childhood exposure to PTEs. In the childhood trauma exposure group, subjects who experienced only a single type of PTE and subjects who experienced two or more types of PTEs were compared further. Childhood exposure to PTEs was linked to a wide range of psychiatric comorbidities, with a higher risk for exposure to multiple types of PTEs than for exposure to a single type of PTE. Obsessive–compulsive disorder, generalized anxiety disorder, and somatoform disorder were significantly associated with exposure to multiple types of PTEs but not with exposure to a single type of PTE. Exposure to multiple types of PTEs was associated with reports of marked fatigue and pain. Future research should examine the psychiatric sequelae associated with various types of childhood PTEs.

1. Introduction

Significant associations between retrospectively reported childhood exposure to potentially traumatic events (PTEs) and adult psychiatric illness have been documented in numerous studies. The first of such studies focused only on a single type of childhood trauma, such as sexual/physical abuse or parental death, and a specific mental disorder, most often mood and anxiety disorders (Mullen et al., 1993; Kendler et al., 2000; Molnar et al., 2001; McLaughlin et al., 2010a). Subsequent studies showed because individuals are often exposed to multiple types of PTEs, such as experiencing sexual and physical abuse and witnessing violence, it is necessary to assess the effect of exposure to multiple types of PTEs simultaneously (Kessler et al., 1997; Edwards et al., 2003; Finkelhor et al., 2007; McLaughlin et al., 2010b). These studies also found a general association between childhood exposure to PTEs and mental disorders, making it useful to examine various mental disorders to avoid an overly narrow interpretation. Furthermore, childhood exposure to PTEs has been associated with high levels of functional impairment (Cloitre et al., 2001; Drapeau and Perry, 2004; Kessler et al., 2010) worse course of illness (Kessler et al., 1997; Enns and Cox, 2005; Klein et al., 2008; Green et al., 2010; McLaughlin et al., 2010a), and increased risk for chronic fatigue or pain (Heim et al., 1998, 2006, 2009; Kempke et al., 2013). Of particular importance, the severity of health and psychological

* Corresponding author. Department of Psychiatry and Behavioral Science, Seoul National University College of Medicine, 28 Yeongeon-dong, Jongno-gu, Seoul 110-744, South Korea. Tel.: +82 2 2072 3155; fax: +82 2 722 7241.
E-mail address: mjcho@snu.ac.kr (M.J. Cho).

http://dx.doi.org/10.1016/j.psychres.2014.06.009
0165-1781/

consequences increases with the number of categories of PTEs to which an individual is exposed (Edwards et al., 2003; Kessler et al., 2010; McLaughlin et al., 2010b; Lu et al., 2013).

In contrast to the abundant data in Western countries, there is still a paucity of data providing evidence that childhood exposure to PTEs, particularly exposure to multiple types of PTEs, is closely linked to adult psychopathology in Asian populations. Culture and ethnicity may influence the adulthood psychiatric outcome of childhood trauma exposure. For example, previous studies suggest that Asian cultures are more likely to somatize emotional symptoms, and this may partially explain the lower MDD prevalence in Asian countries (Chen et al., 1993; Kawakami et al., 2004; Cho et al., 2007). In this respect, it can be hypothesized that childhood trauma is more likely to be associated with somatic symptoms, but less likely to be associated with emotional symptoms in Asian population compared to Western population. The impact of childhood trauma exposure may also be affected by the social atmosphere of the collectivistic, group-oriented society that exists in Asian cultures in which expression of individual difficulties is considered as an assault on social harmony (Yoo, 2001). For this reason, findings from Western countries may not be applicable to other socio-cultural contexts. Therefore, we examined whether childhood exposure to multiple types of PTEs relative to a single type of PTE is associated with a higher prevalence of psychiatric disorders and greater somatic discomfort in a representative sample of Korean adults.

2. Methods

2.1. Sample

The Korean Epidemiologic Catchment Area (KECA) study was conducted in 2001 (Cho et al., 2007) and 2006 (Cho et al., 2010) using the Korean version of the Composite International Diagnostic Interview 2.1 (K-CIDI 2.1) (Cho et al., 2002). In 2011, a follow-up to the KECA study was conducted. This follow-up was designed to determine the lifetime and 12-month prevalence, socioeconomic correlates, and comorbidities of major mental disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) among Korean adults. Subjects were selected using a stratified, multi-stage, clustered sample design, based on a population census conducted by community registry offices in 2010. One individual per selected household, with the earliest birthday, with reference to the day of the birth month, was randomly chosen. From an initially selected 8196 subjects (aged 18–74 years), a total of 6027 face-to-face interviews (73.5% response rate) were conducted.

In all, 79 interviewers were recruited from each catchment area. These interviewers were psychiatric nurses, social workers, and medical students, all of whom were familiar with psychiatric epidemiologic surveys. The three psychiatrists who served as trainers were certified by the Composite International Diagnostic Interview (CIDI) training center at the University of Michigan. All interviewers participated in a five-day training session that included didactic sessions to review general interview skills and the interview instrument, mock interviews, and role-playing exercises (World Health Organization, 1997a, b). Trainers monitored interviews on closed-circuit television and provided feedback to the interviewers.

The study protocol was approved by the institutional review board of the Seoul National University College of Medicine. Each subject was fully informed of the study objectives and methods before the interview. Written informed consent was obtained from all subjects prior to their participation in the study.

2.2. Measurement

2.2.1. Childhood trauma

Using the PTSD section of the K-CIDI 2.1 (Cho et al., 2002), exposure to the following PTEs (at any time during an individual's life) was initially assessed: military combat, sudden injury/accident to the subjects, natural disaster, seeing someone hurt or killed, rape, sexual assault, physical assault, threat/kidnaping, torture, or other' traumatic event. The subject's age at the time of the event was also collected. Subjects who experienced a traumatic event before age of 18 years were placed in the CTE group, and subjects who did not experience such an event were placed in the control group. The CTE group was further divided into the single type of trauma group (i.e., subjects who experienced only a single type of trauma) and the multiple types of trauma group (i.e., subjects who experienced two or more types of trauma).

2.2.2. Psychiatric disorders

Trained lay interviewers administered the Korean version of the Composite International Diagnostic Interview (K-CIDI) (Cho et al., 2002) to each subject. The CIDI (World Health Organization, 1990) is a fully structured diagnostic modality that is designed to establish psychiatric diagnoses based on the definitions and criteria of the DSM-IV (Amerian Psychiatric Association, 2000). The K-CIDI (Cho et al., 2002) was developed according to World Health Organization (WHO) guidelines (World Health Organization, 1997c). The inter-rater reliability, test/retest reliability, and validity of the K-CIDI showed kappa values ranging from 0.86–1.00, 0.42–0.89, and 0.50–1.00, respectively. In the present study, we analyzed the relationships between childhood trauma exposure and lifetime prevalence of specific psychiatric disorders.

2.2.3. Somatic discomfort

The Korean version of Euroqol-5D (EQ-5D) (Kim et al., 2005) was used to estimate perceived somatic problems. EQ-5D (The EuroQol Group, 1990) is a generic health-related quality-of-life measurement tool that consists of five multiple choice questions on mobility, personal care, usual activities, pain/discomfort, and anxiety/depression. The respondent is required to select one of three ordinal statements (e.g., no problems, moderate problems, and extreme problems) that best describes his/her health state in relation to these five domains. Among the five domains included in the EQ-5D, mobility and pain/discomfort were measured in this study, and response was dichotomized into no problems and moderate or extreme problem in each domain. The Korean version of the Fatigue Severity Scale (FSS) (Krupp et al., 1989; Chung and Song, 2001) was used to estimate disabling fatigue. This is a 9-item scale that measures the physical, social, or cognitive effects of fatigue (e.g., function, work, motivation). Respondents answer items on a 7-point Likert-type scale (ranging from 'strongly disagree' to 'strongly agree'). The scores for each item are summed and then averaged to produce a global score. Respondents with scores of 3.22 and above were included in the 'fatigue group', based on a previous validation study conducted in Korea (Chung and Song, 2001).

2.2.4. Other variables

Self-reported questionnaire data from the 2006 KECA-R study were used to obtain information on gender, age, area of residence, marital status, level of education, family income, and occupation.

2.3. Statistical analysis

We calculated weighted values for each respondent to approximate the national population with respect to age and gender for each