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Characteristics of schizophrenia suicides compared with suicides by other diagnosed psychiatric disorders and those without a psychiatric disorder ☆

Juncheng Lyu [a,b], Jie Zhang [a,c,*]

[a] Shandong University, School of Public Health Center for Suicide Prevention Research, China
[b] Weifang Medical University, China
[c] State University of New York College at Buffalo, Department of Sociology, USA

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ABSTRACT

Background: There has been much literature on schizophrenia, but very little is known about the characteristics of suicides with schizophrenia in comparison with the suicides with other diagnosed psychiatric disorders and without psychiatric disorders.
Methods: Thirty-eight suicides with schizophrenia, 150 suicides with other psychiatric disorder, and 204 suicides without a psychiatric disorder were entered in current study. Psychological autopsy (PA) was applied to collect information of the suicides. Social demographic factors and clinical characteristics of the suicides were measured. The well validated standard scales were applied: Beck Hopelessness Scale (BHS), Landerman's Social Support Scale (DSSI), Dickman's Impulsivity Inventory (DII), Spielberger State-Trait Anxiety Inventory (STAI) and Hamilton Depression Scale (HAMD). Suicide intents were appraised by the Beck Suicide Intent Scale (SIS). The SCID based on the Diagnostic and Statistical Manual of Mental Disorders—IV (DSM-IV) was applied to assess the psychiatric status of individuals. Demographic characteristics, clinical characteristics, method of suicide and suicide intents of suicides were compared among the three groups (schizophrenia group, other psychiatric disorders group, and none psychiatric disorders group).
Results: There were 9.7% of suicides who suffered schizophrenia. The current study found that being female was the risk factor for suicides with schizophrenia in rural China, which was opposite to the previous studies. The suicides with psychiatric disorder scored higher on hopelessness, anxiety, and depression, but lower on social support and impulsivity than suicides without psychiatric disorder. The suicides with psychiatric disorder were less impulsive than none psychiatric disorders group, too. The schizophrenia group did not show more violence than other psychiatric disorders group.
Conclusions: This research compared the demographic characteristics, clinical characteristics, method of suicide and suicide intents among the suicides with schizophrenia, with other diagnosed psychiatric disorder and without psychiatric disorders. The result indicated that each groups showed their unique characteristics, which gave us new viewpoints to control and prevent the prevalence of suicides according to their different characteristics.

1. Introduction

Previous studies show that persons with schizophrenia are at high risk for attempted and completed suicide. One previous study estimated that 4.9% of schizophrenics would commit suicide during their lifetimes (Brian et al., 2005), and 20% to 40% of them would attempt suicide. Another review of suicide research indicated that at least 5–13% of schizophrenic patients die by suicide (Pompili et al., 2007). The average life expectancy of people with schizophrenia is 12 to 15 years less than those without (Van Os and Kapur, 2009; Hor and Taylor, 2010). Suicide is the primary cause of premature death for sufferers with schizophrenia.

So far, suicide with schizophrenia has been studied by previous researchers. Resch and Strobl (1989) studied the demographic and psychological features of schizophrenic suicide based on retrospective investigation using hospital records of 44 schizophrenic patients who committed suicide. Another psychologist and epidemiologist studied the risk factors for completed suicide in young Chinese people with schizophrenia (Lui, 2009) and the systematic review of rates and risk

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* Corresponding author at: Department of Sociology, State University of New York College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222, USA. Tel.: +1 716 878 6425; fax: +1 716 878 4009.
E-mail address: zhangj@buffalostate.edu (J. Zhang).

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factors of suicide and schizophrenia (Hor and Taylor, 2010). The relationship among suicide, violence, and schizophrenia (Rogers and Fahy, 2008) and the characteristics comparison of suicide attempters and non-attempters with schizophrenia in a rural community (Ran et al., 2005; Isjanovski et al., 2010) was still researched. Some previous literature reported the relationship between schizophrenia and the gene (Guan et al., 2013; Hu et al., 2013; Wu et al., 2013; Yang et al., 2013) in Chinese populations. The studies on the socio-demographic and clinical characteristics of schizophrenia still have been reported in China (Yan et al., 2013; Zhang et al., 2013a, 2014). Julie et al. (2002), Altamura et al. (2003) and Mauri et al. (2013) compared the demographic and clinical characteristics and variables surrounding between the suicide victims with and without schizophrenia, but very little research has been studied to compare the characteristics of completed suicides with schizophrenia, with other diagnosed psychiatric disorders and without psychiatric disorder.

This current study aimed to compare the demographic characteristics, clinical characteristics and suicide intents of completed suicides with schizophrenia (schizophrenia group), with other diagnosed psychiatric disorders (other psychiatric disorders group) and without psychiatric disorder (none psychiatric disorders group), so as to find the risk factors and put forward the prevention strategy to decrease the death rate for the schizophrenic individuals.

2. Methods

2.1. Subjects and data collection

Data for the current study were obtained from a large scale case control epidemiology study in China that consisted of 16 rural counties from three provinces (Liaoning, Hunan, and Shandong) of China. Liaoning, an industrial province, is in northeast China, Hunan, an agricultural province, lies in south China, and Shandong, a province with prosperity in both industry and agriculture, is located in middle east China. The locations and the development of economies ensure that health services in China are reasonably represented by the three provinces.

In each of the 16 counties, a project coordinator from the Disease Control and Prevention (CDC) monitored suicide occurrences. In each of the three provinces, a project director from the provincial CDC or the university was affiliated with requested reports on suicide cases about each month.

Recognizing the need for clearly defined criteria for suicide as a manner of death (Younger et al., 1990), we excluded cases of accidental or natural death in which suicidal intent was questioned. Since China does not have medical examiner systems and all deaths are supposed to be sent to a health agency for a death certificate, hospitals are the major place for the CDC to locate cases for the study. In the remote rural areas far away from a hospital, village doctors were responsible for furnishing the death certificate and were required to report the death to the *Xiang* (township) health agency. The county CDC oversaw all the hospitals or clinics in the county. Whenever necessary, an investigation with the village board and villagers was conducted by the research team to make sure no suicide cases were either missed or erroneously reported. A total number of 392 completed suicide cases were recruited for the psychological autopsy study.

2.2. Informants interview

The psychological autopsy (PA) was applied to collect information of the suicide cases. The term psychological autopsy was first used by Shneidman (Pompili, 2010). The method of PA, established by Robin et al., 1959, is a data collection approach in suicide research and is well established in the West as the means for obtaining comprehensive retrospective information about victims of completed suicide (Robin et al., 1959; Beskow et al., 1990). The PA is focused on what is usually the missing element; namely, the intention of the deceased in relation to his own death (Pompili, 2010). PA may be the only cost-effective way to study completed suicide and has been used for suicide of schizophrenic (Neuner et al., 2010). PA is particularly critical in studying Chinese completed suicide because of two other culture-specific reasons: first, there is not yet in today's China a sophisticated medical examination system that could help find the causes of a non-criminal death, and second there is no established mental health or hospital system, especially in the rural areas, which could let us know the victims' health problems recorded prior to the completed suicide.

In each selected county, completed suicide cases were enrolled and two informants (one family member and one friend) were interviewed to obtain the before death information. In order to greatest extent minimize the information bias; several measurements were taken, which are the following: suicide informants had to be 18 years of age or older and were selected with recommendations from the village head and the village doctor. Meanwhile, we tried to avoid as much as possible husbands or wives and the in-laws of those married suicides triggered by family disputes. Interviewing these people could result in very biased reports, if marital infidelity and family oppression were possible causes of suicide. Informant #1 was always a parent or spouse, or another important family member, and informant #2 was always a friend, coworker, or a neighbor.

Upon their agreement on the written informed consent, the face to face structure interview was scheduled between two and six months after the suicide incident. Each informant was interviewed separately by one trained interviewer, in a private place of the hospital or the informant's home. We used tape-recording whenever accepted by the interviewee. The average time for each interview was about 2.5 h.

The study received full approval by the ethics committees of several universities in China and USA, which were the cooperation institutes of this research project.

2.3. Measurements

Social demographic factors included age, gender, education, marital status, living alone, number of family members, status in family, personal annual income, relative poverty in village, etc. Table 1 described the demographic characteristics of the suicides among the three different groups based on psychiatric diagnoses in this current study.

The clinical characteristics of the target suicide case, such as physical health status, serious chronic disease, previous suicide behaviors, family history of mental disorder, family history of physical disorder, and family history of suicide behavior were measured by the clinical characteristics scale of completed suicide.

Beck Hopelessness Scale (BHS), Landerman's Social Support Scale (DSSI) and Dickman's Impulsivity Inventory (DII) were applied to assess the suicides' hopelessness level, social support level and impulsivity level separately. Spielberger State-Trait Anxiety Inventory (STAI) was enlisted to measure the target persons' anxiety status. Depression is a major diagnosis among all types of mental disorders that occur before suicide. The Hamilton Depression Scale (HAMD) has been validated and proved to be an excellent measure of depression (Tang, 1984), which was used to assess the target persons' depression mood. Suicide intents and suicide method of the completed suicide were appraised by the first 13 items of the Beck Suicide Intent Scale (SIS) (Beck et al., 1974). The negatively formulated items of the scales mentioned above were all reverse recoded before entering the process of analysis.

The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders—IV (DSM-IV) was applied to assess the psychiatric status of individuals. Using the data from informants, the clinical psychiatric diagnostic evaluations were implemented by two independent psychiatrists, so as to increase the validity of the final DSM-IV diagnosis.

In the current study, the suicides were divided into three groups based on the subjects' psychiatric diagnosis: the group of the suicides with schizophrenia (schizophrenia group), the group of suicides with