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THE EFFECT OF BEREAVEMENT DUE TO SUICIDE ON SURVIVORS' DEPRESSION: A STUDY OF CHINESE SAMPLES*

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Abstract

The affective effect of suicide on people around is assessed with the Center for Epidemiologic Studies Depression Scale (CES-D), and some correlates are examined to identify characteristics of the bereaved individuals who score high on depression. We used the informants of 66 suicides as subjects for study and the informants of 66 living people as the control group. For each suicide and living person, we interviewed two informants: one family member and one friend. Data collection was accomplished in China in the summer of 2003. Results indicate that the bereaved people (informants of the suicides) are more likely to experience depression than those people in the control group. The closer the relationship to the suicide, the higher the degree of depression. While the survivor's education and income are negatively correlated with his or her depression level, neither age nor gender is a predictor of depression in the sample. Given the strong relationship between suicide and depression, the bereaved survivors of suicide could be a high risk group of suicide. Further and larger study is warranted to investigate more details of the high risk group so as to recommend prevention measures.

INTRODUCTION

Suicide as a major mental health problem dramatically affects a significant portion of the population in the world (McIntosh, 1987; WHO, 1999). In the United States, each year there are approximately 30,000 people who die of suicide (NCIPC, 2000), and there are even more people left as survivors in bereavement. A very conservative estimate indicates that each suicide will affect six to eight individuals in their daily lives, and a more liberal estimate argues that as many as 28 people can be put in bereavement after one suicide (Bland, 1994). Studying psychological well-being of such a large population after the suicide of a loved one is of great significance in public health and may provide information on further suicide prevention.

Bereavement is referred to as the state of having suffered a loss, though it is often used to refer to both the state of having suffered a loss and the process of adjusting to the loss. These losses usually include the death of a spouse, an adult child, another family member, or a close personal friend (Kalish, 1981). Grief is a process of the psychological, social, somatic reactions to the

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perception of loss and has been defined as “a primarily emotional (affective) reaction to the loss of a loved one through death” (Stroebe, Hansson, Stroebe, & Schut, 2001). Researchers support the idea that it is more accurate to refer grief as a process rather than as a singular emotional state (Jacobs, 1993). However, a bereaved person may not necessarily experience grief. A bereaved person is someone suffering a loss. It is more about the fact that a loss has occurred. Though the word “suffering” is used, some resilient people may go through that loss without showing much emotional distress or physiological symptoms.

Suicide is an unexpected, violent death. Each suicide has severe and prolonged effects on the family members and friends left behind. The survivors of the suicide tend to experience a very complicated form of bereavement. This is due to the combination of the sudden shock, the unanswered question of “why,” and possibly the trauma of discovering or witnessing the suicide. Survivors’ grief reactions can become even more exacerbated by inappropriate responses from the community to the suicide (Knieper, 1999). For example, a survivor of suicide may be unable to mourn as do survivors who lost someone to other conditions due to the stigma associated with suicide (Mishara, 1995). Further, along with sudden accidental death and homicide, suicide is one of the most difficult deaths with which a mourner must contend. Researchers assert that suicide is the precipitant for the worst kind of bereavement experience and the most disturbed mourning (e.g., Stroebe & Stroebe, 1983; Worden, 1982), placing survivors at a risk for physical and mental health problems greater than that for individuals bereaved due to other causes of death (e.g., Gonda, 1989; Osterweis, Solomon, & Green, 1984). However, after reviewing the literature, van der Wal (1989-1990) concluded that “there is no empirical evidence to support the popular notion that survivors of suicide show more pathological reactions, a more complicated and prolonged grief process, than other survivor groups” (p. 149). Yet, he did find support for the thesis that bereavement after suicide is qualitatively different from that following other causes of death (van der Wal, 1989-1990).

Bereavement after the death of a loved one usually has great impact on the survivors’ life to follow. For example, the mortality rate after widowhood increases for both elderly and young people (Jones, 1987; Kaprio, Kosenvuo, & Rita, 1987; Kraus & Lilienfeld, 1959). Further, secondary morbidity, physical or mental, often occurs among those bereaved (Mor, McHorney, & Sherwood, 1986; Prigerson et al., 1997; Prigerson et al., 1996; Prigerson et al., 1995; Stroebe & Stroebe, 1993). In addition, suicidal ideation is one of the psychiatric morbidities that are likely to catch a survivor (Lund, Dimond, & Caserta, 1985; Szanto, Prigerson, Houck, Ehrenpreis, & Reynolds, III, 1997).

Bereavement after suicide has many different psychological impacts on survivors than bereavement after other causes of death (Irwin, Daniels, & Weiner, 1987; Jacobs et al., 1990). Shame and self-blame are standard reactions of suicide survivors (Seguin, Lesage, & Kiely, 1995). Furthermore, there can be feelings of rejection, abandonment, and/or personal diminishment (lowered self-esteem, shattered self-worth, and feelings of inadequacy, deficiency, failure, and even guilt) and anger. Survivors of suicide are often viewed more negatively than other type of survivors, resulting in communication dysfunction, social isolation, projection of guilt, and blaming of others and scapegoating (Lindemann & Greer, 1953). Also, stigmatization deprives the survivors of necessary support or interferes with the receipt or experience of appropriate social and religious ritual required for healthy confirmation of the death and mourning (Mishara, 1995). More important, in search of understanding, there can be concerns for survivor’s own suicidality (Latham & Prigerson, 2004; Prigerson et al., 1999; Worden, 1982).

Among the above-listed possible symptoms of bereavement after suicide, grief is a major process and a state of psychological, social, and somatic reaction to the loss (Stroebe et al., 2001), although all bereaved may not necessarily experience grief. Depression is one of the

many manifestations of grief, but the principal emotion of grief (Aneshensel, Pearlin, Mullan, Zarit, & Whitlatch, 1995; Jacobs, Nelson, & Zisook, 1987).

As part of their reaction to the loss, some grieving individuals present with symptoms characteristic of Major Depressive Episode (e.g., feelings of sadness, loss of interest and associated symptoms such as insomnia, poor appetite, and weight loss). The duration and expression of “normal” bereavement vary considerably among different cultural groups, and the diagnosis of Major Depressive Disorder (MDD) is generally not given unless symptoms are still present two months after the loss (American Psychiatric Association, 1994).

In the current study with Chinese samples, we focus on depression as the primary type of grief as emotional reaction to suicide. We hypothesize that: 1) the bereaved individuals are more likely than non-bereaved to experience grief (depression); and 2) among the bereaved individuals, those with certain social backgrounds are more likely than those without these social backgrounds to suffer depression.

METHODS

Subjects and Data Collection

Data for study are from a large psychological autopsy project investigating correlates of completed suicide in comparison with a group of living controls. Interviews were performed in two rural counties around Dalian, Liaoning Province, China, between 2001 and 2002. Suicide cases were consecutively selected in Jinzhou and two townships in Zhuanghe. Community living controls were randomly selected with the help from the local contact people. The controls were matched with the suicides in gender and closeness in age. Sixty-six suicides that occurred within one year prior to the interview were sampled, with 66 age-, gender-, and location-matched living individuals as the community control group. For each suicide case, there were two informants who were either next of kin or the best friend of the suicide. For each normal control, two informants and the control him/herself served as the sources of information. The interviews with the living normal control themselves provided a basis of validity tests. The total number of interviews was 330, and it took approximately six months and six interviewers to accomplish all the interviews. Each interview began with reading and signing the consent form, and the whole interview lasted about 2.5 hours. For a detailed account of the data collection, please refer to Zhang et al. (2002; 2003). For the current study, we only use the information on the informants provided by themselves: 132 subjects from the suicide group and 132 subjects from the control group. Table 1 presents some demographic characteristics of the two samples.

Measures

Depression was measured by the Center for Epidemiologic Studies–Depression Scale (CES-D) constructed by Radloff (1977). The scale consists of 20 items asking respondents how frequently they had felt or behaved that way in the past one week. The scale has four choices for respondents: 0 (less than 1 day), 1 (1–2 days), 2 (3–4 days), and 3 (5–7 days). Therefore, the maximum possible score could be 60, and the minimum should be 0. The Chinese version of the CES-D was tested earlier with Chinese samples in China, and the testing yielded excellent reliability and validity for the scale in Chinese (Zhang & Norvilitis, 2002).

NEO Five-Factor Inventory (NEO-FF-I) is a personality scale consisting of 60 items derived from the 240-item NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1992). NEO-FF-I is a short form of NEO PI-R that measures five dimensions of human personalities: (N) Neuroticism, (E) Extraversion, (O) Openness to Experiences, (A) Agreeableness, and (C) Conscientiousness. The Chinese version of the instruments has been validated in China with

excellent reliability and validity results (Yang et al., 1999). We used the NEO-FF-I in our data collection, and in this current study, only the four items on trait depression were used for analyses: (Item 16) “I rarely feel lonely or blue (R)””; (Item 26) “Sometimes I feel completely worthless”; (Item 41) “Too often, when things go wrong, I get discouraged and feel like giving up”; and (Item 46) “I am seldom sad or depressed (R).” The responses range from 0 (strongly disagree) to 4 (strongly agree).

DATA ANALYSES

Depression measured by CES-D was trichotomized into: 1) no depression (CES-D score = 15); 2) possible depression (CES-D score = 16 through 19); and 3) Depression (CES-D score ≥ 20) (Zhang, 1993, p. 29). Table 2 shows the depressive status difference between the respondents of the suicide group and the control group. Suicide informants are more likely to be depressed than the informants for the control group. The mean score of depression for the suicide informants is 13.2 ($sd = 14.7$), and that for control informants is only 6.1 ($sd = 9.5$). The two mean scores constitute a significant difference between the two groups for their depression levels ($t = 4.63, p < .000$).

Taking depression as an indicator of bereavement, we scrutinize the sample of suicide informants and try to find the characteristics of those bereaved who have lost someone due to suicide. First, Table 3 compares depression levels among the suicide informants by three demographic variables. A person feels much more depressed: 1) if the suicide is his/her family member rather than a neighbor or friend; 2) if the he/she lives in a rural rather than urban area; and 3) if he/she had lived together with the suicide.

Second, Table 4 illustrates the correlates of depression among the informants of the suicide sample. The more education (measured by the number of years) a person has or the more income (measured by the family annual income in Chinese *Yuan*) the person's family has, the lower his/her depression degree. The longer the interval between the suicide time and the interview time (measured by the number of months), the lower the level of depression. On the other hand, the depression of the respondents observed after a suicide is positively correlated with trait depression measured NEO-FF-I. The same analyses have found that neither age nor gender of the informants in the suicide sample has an effect on their depression level.

To find the most important factors that are related to depression among those who have lost someone due to suicide, we have tried several multiple linear regression models. Table 5 presents the important factors that predict depression in the multiple regression model with all other variables controlled for (stepwise, entry 0.05, removal 0.1, $R^2 = .40$).

The trait depression measured by NEO-FF-I is the strongest predictor of depression after a loss due to suicide. The second strongest predictor is the interval after suicide. The shorter the time after the suicide, the higher the level of depression for the respondents. Having lived with the suicide or not comes as a third predictor of depression. A respondent who had lived with the suicide must feel much more depressed than another respondent who had not lived with the suicide. Further, a respondent feels more depressed if the suicide was a family member than not.

DISCUSSION

Given the large number of people affected by suicide each year in the world, Studying psychological well-being of the survivors is of significance in public health and may provide information on further suicide prevention. Bereavement after suicide has many different psychological impacts on survivors than bereavement after other causes of death. For a suicide survivor, there could be feelings of rejection, abandonment, and/or personal diminishment

(lowered self-esteem, shattered self-worth, and feelings of inadequacy, deficiency, failure, and even guilt), and anger. Further, survivors of suicide are often viewed more negatively than other types of survivors, resulting in communication dysfunction, social isolation, projection of guilt and blaming of others and scapegoating (Lindemann & Greer, 1953). Therefore, in search of understanding, there could be concerns for survivor's own suicidality (Worden, 1982).

As grief is a major process and state of psychological, social, somatic reactions in bereavement (Stroebe et al., 2001), depression is one of the many manifestations of grief, but the principal emotion of grief (Aneshensel et al., 1995). The current study with Chinese samples (suicide survivors and community controls) focused on depression as the primary type of grief as emotional reaction to suicide, and we have found that: 1) the bereaved individuals are more likely than non-bereaved to experience grief (depression); and 2) among the bereaved individuals, those with certain social backgrounds are more likely than those without these social backgrounds to suffer depression.

Specifically among survivors of suicide, family members of the suicide rather than non-family members, rural residents rather than urban residents, and those who had lived with the suicide rather than those who had not lived with the suicide, scored higher on depression. It is not difficult to understand that the proximity to the suicide in time, space, and relationship increases the impact on the survivor. However, we are not exactly sure why rural survivors scored higher than urban survivors on depression. One possibility is that rural people living in the same village are closer to each other than the urban, also among non-family members.

Although age and gender were not found to be related to the depression degree of the bereaved individuals, we have found that a survivor's education and family income are negatively correlated with the depression level after a suicide. Additionally, the longer the time interval after the suicide, the lower the depression level for survivors. The multiple linear regression analyses including several of the above continuous variables that were also controlled for each other further confirmed their relationships with depression. Among all independent variables, the set of depression variables in the NEO-FF-I is the best predictor of depression measured by CES-D, followed by the time interval after suicide. Again, the closer the relationship with the suicide, the higher the level of depression experienced by the survivor.

Suicide survivors' depression is an important issue of public health. Given the strong correlation between major depression and suicidal behaviors in both China (Zhang et al., 2004) and the West (Conwell et al., 1996), the bereaved individuals due to suicide should be a high-risk population of suicide. Identification of those individuals and then possible intervention could be another agenda in suicide prevention.

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Table 1

Descriptions of Informants

	Suicide group (<i>n</i> = 132)	Control group (<i>n</i> = 132)
Characteristics	<i>N</i> (%)	<i>N</i> (%)
Gender		
Male	52 (39.4)	35 (26.5)
Female	80 (60.6)	97 (73.5)
Age [Mean]	50.1	42.8
(<i>SD</i>)	(12.5)	(13.0)
Family income [Median ¥]	7500.00	10000.00
Educational years [Mean]	6.5	7.6
(<i>SD</i>)	(2.96)	(3.6)
Marital status		
Single	5 (3.8)	10 (7.6)
Married, together	105 (79.5)	116 (97.9)
Remarried	2 (1.5)	1 (0.8)
Divorced	2 (1.5)	0 (0)
Widowed	18 (13.6)	5 (3.8)
Residence status		
Urban	8 (6.1)	18 (13.6)
Rural	124 (93.9)	114 (86.4)
Live with target person		
Yes	43 (32.6)	46 (34.8)
No	89 (67.4)	86 (65.2)
Relation to the target		
Family members	63 (47.7)	63 (47.7)
Other relation	69 (52.3)	69 (52.3)

Table 2

Descriptions of Informants on CES-D Scale

CES-D status	Suicide informants		Control informants		<i>t</i>	<i>p</i>
	<i>N</i> (%)	Mean (<i>SD</i>)	<i>N</i> (%)	Mean (<i>SD</i>)		
No depression	88 (66.7)	4.05 (4.51)	115 (87.1)	2.98 (3.99)		
Possible depression	5 (3.8)	17.2 (1.30)	4 (3.1)	18 (0.816)		
Depression	39 (29.5)	33.26 (9.69)	13 (9.8)	30.15 (8.04)		
Total score	132 (100)	13.17 (14.75)	132 (100)	6.11 (9.49)	4.626	0.000

Note: No Depression (CES-D ≤ 15), Possible Depression (CES-D = 16 ~ 19), and Depression (CES-D ≥ 20).

Table 3

Comparing Depression Levels among the Suicide Informants

	Mean	SD	T	p
Relation to suicide				
Family member	19.1	17.0	4.76	0.000
Other relation	7.8	9.7		
Residence				
Urban	5	8.9	-2.55	0.03
Rural	13.7	14.9		
Lived with suicide				
Yes	22.2	16.6	5.39	0.000
No	8.8	11.5		

Table 4

Correlates of Depression among the Suicide Informants

	Spearman's rho
Educational years	−0.241 **
Family income	−0.348 **
Time interval after suicide	−0.245 **
Depression by NEO	0.413 **

** Correlation is significant at the .01 level (2-tailed).

Table 5

Factors Related to Individual Depression: A Multiple Linear Regression Analysis

Factors	β	S.E.	β'	t	Sig.
Constant	-2.254	4.751		-0.474	0.636
Depression by NEO	1.808	0.378	0.343	4.777	0.000
Time interval after suicide	-1.025	0.276	-0.256	-3.714	0.000
Live with target	7.361	2.603	0.235	2.828	0.005
Relation to the target	5.751	2.398	0.196	2.398	0.018