



Suicidal ideation, plans and attempts among medical college students in china: The effect of their parental characteristics



Long Sun^a, Chengchao Zhou^{a,*}, Lingzhong Xu^a, Shixue Li^a, Fanlei Kong^a, Jie Chu^b

^a Department of Social Medicine and Health Service Management, School of Public Health, Shandong University, Jinan, China

^b Department for Chronic and Non-communicable Disease Control and Prevention, Shandong Center for Disease Control and Prevention, Jinan, China

ARTICLE INFO

Keywords:

Suicidal ideation
Suicide plan
Suicide attempt
Medical college students
Parental characteristics

ABSTRACT

Medical college students are a high-risk population of suicidal ideation, plan and attempt. However, few studies discuss the effect of parental characteristics on suicidal ideation, plans and attempts among medical college students in China. A total of 2198 respondents answered the questionnaires referring social-demographic characteristics, psychological conditions, parental characteristics, suicidal ideation, plan and attempt. The prevalence of suicidal ideation, plan and attempt among the subjects were 17.9%, 5.2% and 4.3%, respectively. The results of multiple logistic regression showed that male, mother's education level, mother's parenting style, relationship in parents and psychological condition were associated with lifetime suicidal ideation. Male, mother's vocation, mother's parenting style, relationship in parents and psychological conditions were associated with suicide plan. Male, relationship in parents and psychological condition were associated with suicide attempt. Those imply that mother may play more roles on suicidal ideation and plan than father among medical college students in China. Psychological condition has a very strong association with suicidal ideation, plan and attempt.

1. Introduction

Suicide was a third leading cause of death among people aged 15–34 years in 1990s in China (Phillips et al., 2002). Recently, although the Chinese suicide rates have decreased rapidly (Zhang et al., 2014), suicide is also an important problem in Chinese society (Sun and Zhang, 2015b). Suicidal ideation and suicide plan have been identified as important predictors for suicide behavior in the worldwide (Kessler et al., 2005, 1999). Thus, it is imperative to explore the characteristics and factors associated with suicidal ideation, plan and attempt.

College students are a specific group who reports high level of suicidal ideation, plan and attempt in the worldwide (Eskin et al., 2016; Miletic et al., 2015). For example, a study in United State (US) reports there were about 12% of college students who experienced suicidal ideation (Wilcox et al., 2010). However, the prevalence in US communities was only about 1.0% (Lee et al., 2007). The similar results are also found for suicide ideation, plan and attempt in Chinese society (Yang et al., 2015; Zhang et al., 2012). Medical college students who are training to promote health are also in a high level of suicide ideation, plan and attempt in China and worldwide (Fan et al., 2011; Tyssen et al., 2001; Van Niekerk et al., 2012). Thus, the problems about

suicide ideation, plan and attempt in medical college students should to be discussed.

Recently, many studies have explored the factors associated with suicidal ideation, plan and attempt among college students. The results identify that the risk factors for suicidal ideation, plan and attempt are complex, including social, psychological, cultural, and biological factors (Shtayermman et al., 2012; Whatley and Clopton, 1992). Some studies also find that parental status also plays roles in suicide behaviors (Qin and Mortensen, 2003).

In exploring the effect of parents on suicide, previous studies have showed that parental bonding, attitudes toward suicide and education level were associated with suicide (Hashimoto et al., 2014). However, few studies discuss the effect of parents on suicide in Chinese college students. Because of the specific characteristics of Chinese suicide (Qin and Mortensen, 2001), these results may not be translated in China.

In this study, we aim to analyze the relationship between parental characteristics and suicidal ideation, plan and attempt among medical college students in China. It is helpful for us to understand the effect of parents on suicide among medical college students in China. It also can give us some evidences for suicide prevention and intervention.

* Corresponding author.

E-mail address: zhouchengchao@sdu.edu.cn (C. Zhou).

¹ Contributes equally to this study and is a co-first author of the paper.

2. Methods

2.1. Participants and survey procedure

All of the respondents are medical undergraduate students in a Chinese college. All of the twelve majors (clinical medicine, anesthesiology, medical imaging, pathergasiology, pharmacy, preventive medicine, general practice, Chinese medicine, social medicine, stomatology, medical statistics and nursing) in this college were involved in this study. For each major, we selected all of the grades (the first grade to the fourth or fifth grade). In each grade, one of the classes would be interviewed in this study. A total of 2198 respondents answered the questionnaires.

The survey was conducted in the classroom. Firstly, all of the students were informed about the purpose of this study and the confidentiality of personal information. The students who agreed with the participation would sign on the consent forms. Secondly, all subjects would fill out the questionnaires which lasted an average of twenty minutes. One of the trained interviewers would be in the class to explain the questions about the interview. Social-demographic characteristics and psychosocial functioning were included in the questionnaire.

2.2. Measures

2.2.1. Suicidal ideation, suicide plan and suicide attempt

Four questions about lifetime suicidal ideation, 12-month suicidal ideation, suicide plan and suicide attempt were asked in the questionnaire. For the lifetime suicidal ideation, we asked the respondents that "whether they ever seriously thought about killing themselves?" The 12-month suicidal ideation was estimated by the question "whether they had these thoughts in the past 12 months?" For suicide plan, they would be asked "whether they ever made a plan for suicide?" For suicide attempt, they would be asked "whether they ever attempted suicide?" All of the answers could be chose from "yes" or "no." Those questions were also used in the US National Comorbidity Survey (NCS) (Kessler et al., 2005).

2.2.2. Parental characteristics

As there were few stepfamilies and single parents, family composition was categorized as regular or not. Father or mother's education level was measured by "elementary or below," "junior high school," "senior high school," and "bachelor or above." We recoded them into "junior high school or below," and "senior high school or above." Father or mother's vocations were estimated by peasants, workers, officer, and others. As there were few officers and others, we recoded it into peasants or not.

Father or mother's parenting styles were assessed by communication, authoritarian and others (Baumrind, 1967). The communication parenting style is one that communicates in a warm, accepting and nurturing manner. The authoritarian parenting style is an extremely strict form of parenting that expects a child to adhere to rules and regulations set out by the parents with little or no input or communication from the child. Other parenting style mainly contains the uninvolved parenting style. It means the parents are totally disengaged and emotionally uninvolved in their child's life. As there were few "others," we recoded the parenting styles into communication or not. The relationship in parents was estimated by "good," "general" and "bad." As there were few bad relationships, we recoded into good or not.

2.2.3. Social-demographic characteristics and psychological conditions

In this study, we interviewed the gender, age and registered residence region for the subjects. The registered residence region was classified into urban and rural. Kessler-10 (K10) questionnaire was

used to estimate the subjects' psychological conditions. This questionnaire was also used in the previous studies about suicide (O'Connor et al., 2012). The Chinese version of K10 had been validated and proved to be a good measurement in Chinese populations (Zhou et al., 2008). The higher level of the score means the worse psychological condition.

2.3. Statistical analysis

SPSS for Windows (version 21.0) was used for data analysis. *T*-tests were used to compare the differences on continuous variables across groups. Chi-square tests were used to analyze the differences on categorical variables across groups. Logistic regression analyses were performed to examine the factors related to suicidal ideation, suicide plan and suicide attempt. Significance was set at $P < 0.05$.

3. Results

3.1. Participations and single factor analysis for the samples

The demographic characteristics of the sample were presented in the second row of Table 1. The single factor analyses for the lifetime suicidal ideation, suicide plan and suicide attempt were conducted in this study. The results showed that gender ($p < 0.001$), family composition ($p=0.008$), mother's education level ($p=0.073$), father's parenting style ($p=0.010$), mother's parenting style ($p=0.000$), relationship in parents ($p < 0.001$) and psychological condition ($p < 0.001$) were associated with suicidal ideation. Gender ($p < 0.001$), age ($p=0.023$), family composition ($p=0.066$), mother's vocation ($p=0.015$), mother's parenting style ($p < 0.001$), relationship in parents ($p=0.012$) and psychological condition ($p < 0.001$) were associated with suicide plan. Gender ($p < 0.001$), age ($p=0.003$), family composition ($p=0.001$), relationship in parents ($p=0.021$) and psychological condition ($p < 0.001$) were associated with suicide attempt.

3.2. Prevalence of suicidal ideation, suicide plan and suicide attempt

Table 2 illustrated that the prevalence of lifetime suicidal ideation, 12-month suicidal ideation, plan and attempt were 17.9%, 8.2%, 5.2% and 4.3%, respectively. There were 27.9% of the ideators who have a plan, 22.1% of the ideators who have an attempt, 63.2% of the planners have an attempt, and 6.7% of ideators who had no plan but made an attempt.

3.3. Logistic regression analysis

The logistic regression analyses of lifetime suicidal ideation, suicide plan and suicide attempt were shown in Table 3. Male ($p < 0.05$), mother's education level ($p < 0.05$), mother's parenting style ($p < 0.05$), relationship in parents ($p < 0.01$) and psychological condition ($p < 0.001$) were associated with lifetime suicidal ideation. Male ($p < 0.001$), mother's vocation ($p < 0.05$), mother's parenting style ($p < 0.05$), relationship in parents ($p < 0.05$) and psychological conditions ($p < 0.001$) were associated with suicide plan. Male ($p < 0.05$), relationship in parents ($p < 0.05$) and psychological condition ($p < 0.001$) were associated with suicide attempt.

4. Discussion

In this study, we analyzed the prevalence of suicidal ideation, plan and attempt among medical college students in China. The prevalence of suicidal ideation, plan and attempt among medical college students in China were 17.9%, 5.2% and 4.3%, respectively. We also analyzed the association between parental characteristics and suicidal ideation, plan and attempt. The results showed that male, mother's education level, mother's parenting style, relationship in parents and psycholo-

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