

Relationships among the occurrence of Obsessive-compulsive Disorder of College Students with Personal Coping Style, Family Environment and parental rearing patterns

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Objective To explore the relationships among the occurrence of obsessive-compulsive disorder of college Students with personal coping style, family environment and parental rearing patterns. **Methods** The questionnaires survey was carried out among 94 college students with obsessive-compulsive disorder and 102 controls without mental disorder. Using the Trait Coping Style Questionnaire, Family Environment Scale-Chinese Version (FES-CV) and the Egma Minnen av Bardnosnauppforsffan (EMBU) of Chinese Version. **Results** The scores of case group lower than those of controls in positive coping style, intimacy, emotional expression, entertainment, parents emotional warmth and understanding (all $P < 0.01$), but higher than those of normal controls in contradictions, the father's punishment and strictness ($P < 0.01$). Differences were significant. Logistic regression analysis showed that the contradictions of the family environment (OR=1.424) is a risk factor for college students with obsessive-compulsive disorder, positive coping style (OR = 0.672), intimacy (OR=0.601) and emotional expression (OR = 0.608) are protective factors. **Conclusion** Positive coping style, the intimacy of family members, emotional expression and contradictions are impact factors of college students with obsessive-compulsive disorder.

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Key words: College students; Obsessive-compulsive disorder; Coping style; Family environment; parental rearing patterns; Case-control study

OCD (obsessive-compulsive disorder, OCD) is a kind of neurological disease, with forced impulsive, compulsive behavior, obsessive-compulsive symptoms as its main symptoms^[1]. It is characterized by forced impulsive and anti-impulsive which cause tremendous anxiety and painfulness for the patients and can not be controlled by themselves. In the United States, OCD is the fourth most common psychiatric disorders, following phobias, substance abuse and severe depression^[2]. The prevalence rate of OCD in the general population is 1% to 3%^[3], mainly in the 20 to 24 years old, college students are at high risk of OCD^[4]. The occurrence of OCD may be related to the patient's personality and family environment, but the specific psychological, physiological mechanism is unclear^[5]. In this study, several influencing factors such as personal coping style, family environment and parental rearing patterns were investigated to explore the occurrence of OCD, in order to provide guidance in the prevention and treatment of OCD among college students.

METHODS

Patient enrollment

The case was recruited from the outpatients diagnosed with OCD in two psychiatric hospitals of Henan Province, during the period of September 2009 - July 2011, who were university students with nationality of Han, the first onset of the disease, without systemic therapy. Diagnosis confirmed by two chief physician, in line with the Chinese classification of mental disorders diagnostic criteria (CCMD-3) diagnostic criteria for OCD^[6]. Physiological diseases caused by obsessive-compulsive symptoms were rule out, schizophrenia and affective disorder and other serious mental illness. 94 eligible patients were recruited, 51 males and 43 females, aged 18 to 23 years, with mean age 19.2 ± 2.3 years old. 102 Control were recruited from Zhengzhou University, 57 males, 45 females, with the mean age of 19.7 ± 1.7 years old. Gender, age and other family information (parents' education level, occupation, residence, etc.) between the two groups showed no statistically significant differences (all $P > 0.05$).

Case and control groups in the study are willing to sign an informed consent based on understanding the content and meaning of this study.

Research tools

1. Self-made sociological questionnaire of the population including gender, age, parents' educational level, occupation, residence, family income and other general information.

2. Trait Coping Style Questionnaire [7] The questionnaire was prepared by the Jiang qianjin, a total of 20 questions, divided into positive response (PC) and negative response (NC), each including 10 items, from "definitely not" to "definitely" from 1 to 5 points. The Cologne Bach coefficient of positive response (PC) and negative response (NC) were 0.70 and 0.69 respectively, test-retest coefficients were 0.65 and 0.75.

3. Family Environment Scale-Chinese Version (FES-CV) Family Environment Scale (FES) is developed by Moss et al in 1981, translated into Chinese and revised edition in 1991 by Fei Lipeng, revised in 1999, along with the establishment of the Chinese norm, has good reliability and validity. Scale used in this study is the third revision of the Chinese version [7]. Including 90 true-false, 10 subscales, including intimacy, emotional expression, contradiction, independence, success, knowledge, entertainment, moral religion, organization and control, etc., were 10 different evaluation family environment characteristics. Subscales reflect the situation of family environment, the higher the score is, more prominent the factors of family environment.

4. Parenting Style Scale (Egma Minnen av Bardndosnauppforsffan, EMBU)-Chinese version of the EMBU was jointly developed by C. Perris et al in the Department of Psychiatry, Umea University, Sweden in 1980, is used to evaluate the parents' educational attitudes and behavior, the questionnaire used in this study is the Chinese version of these amendments [7] developed by Yue Dongmei. The father parenting is divided into six factors, namely: emotional

warmth, understanding (F1), punishment, strictness (F2), excessive interference (F3), preference (F4), refusal, denied (F5), over-protection (F6). Mother parenting styles are divided into five factors, namely: emotional warmth, understanding (M1), excessive interference and protection (M2), refused, denied (M3), punishment, strictness (M4), preference (M5). Subjects were asked for assessing their bring-up styles in early childhood with the scale of never, occasionally, often, always. The higher the factor score is, the more prominent the parenting style that the factor represents is.

Measurement methods

Survey was conducted by trained investigators with same guidance, the respondents truthfully and independently answer all the items in the questionnaire. For those items difficult to understand, specific guidance was provided by trained investigator, without any hint on how to answer the items. It take about 30 minutes to finish the questionnaire, all the questionnaires were collected on the spot.

Statistical analysis

Data and analysis was conducted with SPSS13.0 analysis software, t test, χ^2 test and Logistic regression analysis were utilized.

RESULTS

1. The demographic characteristics of the participants

Baseline characteristics were balanced in terms of sex ($\chi^2=0.01$), age ($t = 0.2$), level of education of parents ($\chi^2=5.4$), parental occupation ($\chi^2=3.1$), residence ($\chi^2=1.2, P > 0.05$).

2. Scores of Trait Coping Style questionnaire between the Case and control group

Table 1 comparison of the coping style between two groups ($\bar{x} \pm s$)

Subscale	Case group (n=94)	control group (n=102)	t	P
Positive response (PC)	31.4±6.7	39.5±5.8	-3.241	<0.01
Negative response (NC)	32.1±5.3	29.4±6.1	1.817	0.22

Table 1 shows the positive response scores in the case group was higher than that of the control group, the difference was statistically significant; the negative response scores in the case group was lower than that of the control group, the difference was not statistically significant.

3. Family Environment Scale scores between the case and control groups

Table 2 comparison of the family environment between two groups ($\bar{x} \pm s$)

Subscale	Case group (n=94)	The control group (n=102)	t	P
Intimacy	4.73±1.24	7.71±1.44	-5.314	<0.001
Emotional expression	4.38±1.02	6.10±1.31	-2.743	<0.001
Contradictions	5.36±1.22	3.44±1.05	3.211	<0.001
Independence	5.77±1.32	5.61±1.04	0.462	0.755
Success	6.62±1.75	6.73±2.35	-2.413	0.914
Knowledge	5.69±2.01	5.52±2.19	1.504	0.638
Entertainment	3.15±2.16	5.56±2.07	-4.374	0.002
Moral religion	4.89±1.73	5.11±1.92	-2.352	0.089
Organization	5.94±1.32	6.12±2.13	-2.221	0.542
Control	4.11±1.66	3.93±1.25	0.109	0.511

Table 2 shows the intimacy, emotional expression and entertaining score in the case group were lower than that of the control group, the difference was statistically significant; the contradictions of the case group score higher than the control group, the difference was statistically significant; the score difference in terms of the remaining subscale were not statistically significant.

4. parenting style scale scores between the case and control groups

Table 3 comparison of parenting between two groups ($\bar{x} \pm s$)

Project	Subscale	Case group (n=94)	The control group (n=102)	t	P
F1	Emotional warmth, understanding	42.5±7.1	48.9±8.2	-3.724	0.014
F2	Punishment, strictness	19.6±4.0	16.4±4.9	2.655	0.013
F3	Excessive interference	21.8±4.3	18.4±3.7	-0.721	0.201
F4	Preference	9.0±3.2	8.6±2.7	0.880	0.504
F5	Refusal, denied	10.9±2.3	8.0±2.2	-2.314	0.185
F6	Over-protection	11.5±2.3	10.4±2.4	0.913	0.352
M1	Emotional warmth, understanding	44.5±8.1	51.6±9.0	-4.272	0.016
M2	Excessive interference and protection	35.2±4.1	33.1±5.9	-0.723	0.096
M3	Refusal, denied	14.1±3.8	12.5±3.4	-3.144	0.173
M4	Punishment, strictness	12.2±3.2	11.2±3.7	0.564	0.223
M5	Preference	9.4±4.1	8.3±3.2	0.175	0.344

Table 3 shows the score of the parents' emotional warmth, understanding were lower than that of the control group, the score of the father's punishment, strictness subscale was higher, these differences were statistically significant, and the difference in terms of the remaining subscale was not statistically significant.

5. Factor analysis of obsessive-compulsive disorder

When OCD was used as the dependent variable, with demographic characteristics of college students, coping style, family environment and parental rearing patterns as the independent variables, chi-square test was conducted for univariate analysis, showing the difference of F1 ($\chi^2=13.1$), F2 ($\chi^2=10.3$), M1 ($\chi^2=10.8$), PC ($\chi^2=58.2$), Intimacy ($\chi^2=10.3$), Emotional expression ($\chi^2=12.1$), Contradiction ($\chi^2=21.7$), Entertainment ($\chi^2=15.4$) between two groups were statistically significant ($P < 0.05$). We take

the statistically significant factors as independent variables and a further Logistic regression was conducted, we found that positive response (PC), intimacy, emotional expression and contradiction are four main factors determining whether OCD was present, with the contradiction of family environment a risk factor for OCD (OR = 1.424), and positive response (OR = 0.672), family intimacy (OR = 0.601) and emotional expression (OR = 0.608) protective factors for OCD. Regression results were showed in Table 4:

Table 4 non-conditional Logistic regression of influencing factors of OCD

Factor	β	SE	χ^2	P	OR	OR 95% CI
Positive response	-0.481	0.174	6.144	0.009	0.672	0.425~0.890
Intimacy	-0.452	0.171	6.215	0.008	0.601	0.319~0.866
Emotional expression	-0.267	0.125	4.832	0.031	0.608	0.488~0.924
Contradiction	0.616	0.162	6.012	0.014	1.424	1.179~1.984

DISCUSSION

OCD is a highly heterogeneous mental disorders^[8] with complex causes, the results of this study showed that college students who had active coping styles are less likely to suffer from OCD risk than those with passive coping styles. This indicates that college students, when encountered with difficulties, can resolve their conflicts and anxieties if they can resort to reasonable assistance and underplay their problems, therefore protect themselves. If, instead, they use such negative emotional coping styles as fantasy, self-blame, avoidance, they may make intensify their conflict with the outside world, which can contribute to the occurrence of obsessive-compulsive symptoms. This results are similar to that of Libin et al^[9] who found in their study that patients with obsessive-compulsive disorder are more likely to use immature coping styles rather than the mature coping mechanisms such as sublimation, humor, to deal with their problems.

Individual's mental health and family environment are closely correlated^[10]. In the family environment factors, this study showed college students from families with high intimacy, good emotional expression and entertaining are less likely to suffer from OCD. Whereas college students from families with high-contradiction are at an increased risk of developing OCD. This result was consistent with the views of the experts^[11,12]. Contradictions among the family members show anger, aggression, and the degree of conflict in high-contradiction families, family members are more prone to fight and attack each other, therefore expose the family member in the state of tension and anxiety. Jin Shenghua^[13] argue that there are conflicts in any family, if the family cannot deal with their conflicts in a constructive way, there will be a crisis, and the negative effects of this crisis will be shown on the children who have not developed the ability to live independently, therefore affecting their self-esteem and self-harmony, giving rise to obsessive-compulsive symptoms.

For those families with low family intimacy and poor emotional expression, lack of communication between family members and reluctance to offer help, support and commitment, can lead to the family member being too sensitive, paranoid, result in insecurity and fear of loneliness. For those families

with poor provision of entertainment for their members, they cannot provide enough cultural activities and more opportunities for their family members, which can further lead to the low level of individual socialization, poor interpersonal skills. After entering the university, when a person was suddenly encountered with an open environment and a variety of social activities, they tend to become frustrated, withdrawn, unwilling to take the initiative to communicate with others, social interaction function may therefore be inhibited. A study from abroad found that self-restraint of OCD is the psychological basis leading to forced impulsive and anti-impulsive^[14]. Therefore, the optimization of the family environment is an important measure to prevent occurrence of OCD, parents are obligated to create a harmonious family atmosphere to enhance the communication and understanding between family members and therefore from their childhood. When it comes to the treatment of students suffering from OCD, their family members should also be involved to accept guidance and training so that they can provide the patients with family support, therefore promoting the rehabilitation of the patients.

For the individual, early environment, particularly his ways of bring-up are very important in the formation of character. In this study the Logistic regression analysis shows, parental styles factors can not enter the final model, this result shows no obvious correlation between the parental styles and OCD. However, emotional warmth of parents, understanding and father's punishment, strictness in the case group, were statistically significant compared with the control group, indicating that individual lack of parental love, understanding, are more prone to feel loneliness and a sense of abandonment; individual whose father is too harsh or use punishment are more likely to do something cautiously, develop rigid thinking, self-blame, regret, fear, anxiety, depression and inferiority. The children are unaware of their status in the hearts of their parents, such as care, love, value, therefore constantly wander between emotional recognition and emotional denial, difficult to integrate these two dramatically opposite sense of self-worth, which often leads to chronic conflict on parent-child relationship, accordingly, perfectionism, and repeated behavior were formed to ensure that self-cuteness and importance in the eyes of their parents^[15]. Therefore,

parents need to change their improper way of education, learn to accept, recognize and encourage their children to develop a good character from an early age.

In conclusion, this study shows the individual's coping style and family environment factors are closely associated with the incidence of obsessive-compulsive disorder, positive response, high intimacy and emotional expression helps reduce the incidence of OCD, and high family contradictions will promote the occurrence of OCD among college students. Through analysis of these factors, it should be noted that, aside from genetic factors, we can improve the family environment and increasing social support to optimize individual growth environment, improve the ability of students to actively cope with life, thus reducing the risk of college students suffering from OCD. At the same time, for those college students with OCD more family and social support should be provided to them in order to help control their symptoms and promote their recovery.

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