Comparison of Illness behavior between Japanese and Chinese patients with somatoform disorders

ABSTRACT

Aims: To clarify the differences between Japan and China regarding illness behavior of outpatients with somatoform disorders.
Study design: Cross-sectional study.
Place and Duration of Study: A survey on psychiatric and psychological outpatients with somatoform disorders between Japan and China. Duration of this study was three months between April 1, 2011, and June 30, 2011.
Methodology: The subjects of this research included 43 Japanese outpatients (49.7±10.5 yr., M/F:13/30) in psychiatry clinic at Saga Medical School Hospital, Saga 845-8502, Japan. It also included 38 Chinese outpatients (40.7±8.2 yr., M/F: 14/24) in psychiatry and psychology outpatient clinic in Dalian Medical University Hospital, Liaoning province, China. All psychiatric patients were diagnosed as the somatoform disorders according to the DSM-IV. To investigate the difference of psychological status and illness behavior, we examined them using two psychological instruments: Illness Behavior Questionnaire (IBQ) and General Health Questionnaire-30 (GHQ-30).
Results: It can be found that there were the remarkable statistical differences between the Japanese and Chinese patients with somatoform disorders of each of the subscales of the GHQ-30. All GHQ-30 items were scored significantly higher by the Chinese than by the Japanese. Regarding the IBQ**,** the statistical differences of five subscales of IBQ between the two groups: General Hypochondriasis, Disease Conviction, Affective Inhibition, Affective Disturbance, and Irritability can be found. No obvious difference was found between the two groups of the subscale of Psychological versus somatic focusing (P/S) and Denial (D), however.
Conclusion: The GHQ-30 and the other five subscales of IBQ (except for P/S and D) for Chinese was higher than for Japanese. This finding may be attribute to the socio-cultural and economic factors. P/S and D scores on the IBQ were not significantly different, suggesting the possibility of an essential symptom of somatoform disorders.

Keywords: Illness behavior, Illness Behavior Questionnaire, Japanese, Chinese, Help seeking behavior

1. INTRODUCTION

In the International Statistical Classification of Diseases and Related Health Problems (ICD-10; [1]), somatoform disorders are characterized by multiple, recurring, and clinically significant physical complaints with no sufficient underlying physical explanation. Meanwhile, somatoform disorders are a heterogeneous group of psychiatric disorders that are characterized by enduring bodily complaints and symptoms that are not due to organic dysfunction or disease. These patients perceive a wide range of severe

symptoms like pain, gastrointestinal, cardiovascular, sexual, and/or pseudo-neurological symptoms, which cause permanent worry and distress in the Diagnostic Statistical Manual of Mental Disorders, Fourth Edition (DSM-4) [2]. However, in 2013, the diagnosis of somatic symptom disorder was introduced in place of somatoform disorders with publication of DSM-5 [3].

Illness behavior includes the way people experience, interpret, and cope with the disease. People experience their physical and emotional states based on their sociocultural background and familial socialization. Cultural experiences also structure and shape people's value orientations and behavioral styles [4].

On the other hand, 'abnormal illness behavior' has been introduced to describe the excessive concern with somatic symptoms and inappropriate treatment-seeking observed in patients who are apparently motivated by fear of severe disease or by the potential rewards of the sick role [5,6,7].

Several studies on the illness behavior as measured by the Illness Behavior Questionnaire (IBQ) have been reported from several countries [5]. It is reported that the illness behavior is universal [8]. It is also reported that the socio-cultural background can influence the illness behavior pattern.

Our current study is to investigate the difference on the illness behavior between the Japanese and Chinese psychiatric outpatients who are diagnosed as the somatoform disorders and examine the sociocultural factors and the degree of symptoms.

2. METHODOLOGY

The subjects of this research included 43 Japanese outpatients (49.7±10.5 yr., M/F:13/30) in psychiatry clinic at Saga Medical School Hospital, Saga 845-8502, Japan. It also included 38 Chinese outpatients (40.7±8.2 yr., M/F: 14/24) in psychiatry and psychology outpatient clinic in Dalian Medical University Hospital, Liaoning province, China. All psychiatric patients were diagnosed as the somatoform disorders according to the DSM-IV. As the sociodemographic variables, the following information were collected from medical charts: gender, age, marital status, and education.

To clarify the difference of psychological status and illness behavior, we examined them using two psychological instruments: IBQ and GHQ-30 (30 items of General Health Questionnaire).

IBQ: It is a 62-item self-report instrument that provides information relevant to the delineation of a patient's attitude which developed by Pilowsky and Spence. Seven subscales and their definition: (i) General hypochondriasis (GH) means a fear of illness with some insight as to its excessiveness; (ii) Disease conviction (DC) means a firm belief that a somatic disorder is present and a reluctance to accept a doctor's reassurance; (iii) Psychological versus somatic focusing (P/S) means high scores indicate that the patient feels somehow responsible for the illness and is in need of psychiatric help, whereas low scores indicate a rejection of such ideas and a tendency toward somatization. (iv) Affective inhibition (AI) means difficulty in expressing personal feelings, especially negative ones; (v) Affect disturbance (AD) means feelings of anxiety, depression, and tension; (vi) Denial (D) means a tendency to deny life stresses and to attribute all current difficulties to somatic disorders; (vii) Irritability (I) means a measure of interpersonal frictions. The validity and reliability of a Japanese version of the IBQ (J-IBQ) was reported [9]. While, regarding a Chinese version of the IBQ, two Chinese

students (doctor course) who are fluent in English performed translation and back translation, and concordance rate was high.

GHQ-30: It is the most extensively used screening instrument for common mental disorders, in addition to being a more general measure of psychiatric well-being. Its brevity makes it attractive for use in busy clinical settings, as well in settings in which patients need help to complete the questionnaire [10]; its psychometric properties have been studied in various countries [11] and with various types of population, for example, elderly people [12], and urological patients [13]. Seven subscales of GHQ-30 were also reported: anxiety set, depression set, anxiety & depression set, insomnia & anergia, social dysfunction, and anhedonia. The validity and reliability of the Japanese version of the GHQ was reported [14]. The validity of the Chinese version of the GHQ also was reported [15].

In addition, patients at psychiatry and psychology clinic were asked for a brief explanation and medical history when handing over the questionnaire with the permission of the professor and director.

Statistical analysis: Comparison of the numerable data between the two groups was tested by the Student's *t* test, while categorical data by the Chi square test and Fisher's exact test (SPSS version 16, 2007 and R version 4.1.2, 2021).

3. RESULTS

The sociodemographic characteristics of the two groups of patients were shown in Table 1. The Japanese group was significantly older than the Chinese group in terms of age. There was significant difference between the two groups with respect to education. However, there were no significant differences between the two groups with respect to sex and marital status.

Table 1 : *Sociodemographic characteristics of the two groups of patients*

		Japanese group (N=43)	Chinese group (N=38)	P value
		N (%)	N (%)	
Age years	Mean age	49.7	40.7	0.0024
Sex	Male	13 (30.2)	14 (36.8)	0.69, X^2=0.15, df=1, n.s.
	Female	30 (69.8)	24 (63.2)	
Marital status	Married	24 (61.5)	26 (68.4)	0.36 Fisher's exact test
	Widowed	3 (7.7)	2 (5.2)	
	Divorced/ separated	2 (5.1)	5 (13.2)	
	Never married	10 (25.7)	5 (13.2)	
Education	Elementary school	1 (2.5)	0 (0.0)	0.04 Fisher's exact test
	Junior high school	6 (15.0)	4 (10.8)	
	High school	21 (52.5)	10 (27.0)	
	Junior college	8 (20.0)	12 (32.5)	
	College/University	4 (10.0)	11 (29.7)	

The comparison of the GHQ-30 between the Japanese and Chinese psychiatric outpatients with somatoform disorder was shown in Table 2.

Table 2 ：*The comparison of the GHQ-30 between the Japanese and Chinese psychiatry and psychology outpatients with somatoform disorders*

	Japanese group (N=43)	Chinese group (N=38)	T value	P value	Cohen's d
	Mean (SD)	Mean (SD)			
Total scores	13.5 (8.8)	25.9 (4.6)	-7.513	<0.0001	1.7
Anxiety set	3.2 (1.8)	5.3 (1.0)	-6.292	<0.0001	1.4
Depression set	2.8 (2.5)	5.1 (1.2)	-5.398	<0.0001	1.2
Anxiety & depression	4.3 (3.3)	7.7 (1.5)	-5.770	<0.0001	1.3
Insomnia & anergia	2.5 (1.8)	4.5 (0.7)	-6.355	<0.0001	1.4
Social dysfunction	1.6 (1.5)	3.4 (1.1)	-6.016	<0.0001	1.4
Anhedonia	1.3 (1.3)	3.3 (1.0)	-7.586	<0.0001	1.7

Table 3 ：*The comparison of the IBQ between the Japanese and Chinese psychiatry and psychology outpatients with somatoform disorders*

	Japanese group (N=43)	Chinese group (N=38)	T value	P value	Cohen's d
	Mean (SD)	Mean (SD)			
GH	4.9 (2.3)	7.3 (1.0)	-5.877	<0.0001	1.3
DC	3.2 (1.8)	5.2 (0.9)	-6.121	<0.0001	1.4
P/S	2.3 (1.0)	2.1 (0.8)	0.974	0.333	0.2
AI	3.1 (1.5)	2.5 (0.9)	-2.123	0.037	0.5
AD	3.0 (1.7)	4.7 (0.6)	-5.778	<0.0001	1.3
D	2.6 (1.6)	2.5 (1.4)	0.326	0.745	0.1
I	1.6 (1.3)	4.1 (1.1)	-9.167	<0.0001	2.1

It can be found that there were the remarkable statistical differences between the Japanese and Chinese patients with somatoform disorders of each of the subscales of the GHQ-30. The scores of Chinese patients were all higher than that of the Japanese ones. All GHQ-30 items were scored significantly higher by the Chinese than by the Japanese.

The comparison of the IBQ between the Japanese and Chinese psychiatry and psychology outpatients with somatoform disorders was shown in Table 3.

The statistical differences of five subscales of IBQ between the two groups: GH, DC, AI, AD, I can be found. No obvious difference was found between the two groups of the subscale of P/S and D.

4. DISCUSSION

The study revealed that Chinese patients with somatoform disorders were higher on all items of the GHQ-30 than their Japanese counterparts. Second, IBQ scores showed that Chinese patients scored significantly higher than Japanese patients on a variety of items, except for somatic versus psychological perception of illness and denial. The difference of the GHQ-30 and the other five subscales of IBQ is attribute to the socio-cultural and economic factors.

Sociocultural factors and the degree of symptoms

According to previous study [], high level of somatic symptom severity was more common in females, married patients, rural dwellers, less educated, and those with lower socioeconomic status. Recent study in China reported that patients with somatoform disorder accounted for a higher rate of city, dwellers and a higher education status, and possibly higher incomes than the Chinese average, however. This might be explained by the study being conducted mostly in large cities.

In our study, patients with somatoform disorders in Japan were significantly older and less educated than those in China. Concerning sociodemographic characteristics, the following risk factors are known based upon former studies: childhood adversities and family history of chronic illness [16, 17, 18]. In addition, the city size is important according to the study of Cao et al. [19]. A comparison between Japan and China would require a research study that included the same size of cities and several regions. More in-depth studies are needed to identify the difference of sociocultural factors and the degree of symptoms in patients with somatoform disorders between Japan and China. Moreover, methodology needs to be reconsidered to clarify the cultural difference of illness behavior.

Results of the GHQ-30

Therefore, we would like to consider the illness behavior of the Chinese. According to reports of Shek, in East Asia and Southeast Asia, Chinese have reported a high level of self-reported distress [4]. Past research reports have shown that Chinese differ from European Americans in the level of psychological distress they experience and in the way they express their distress. Among college samples, Chinese and Chinese American students have reported higher levels of emotional distress than European American students. In a self-report study [4], Chinese American students reported significantly more interpersonal and intrapersonal distress than their European American counterparts, even after their culturally deprived response tendencies (i.e. social desirability) and personality styles (i.e. self-consciousness and self-monitoring) were controlled. This difference was particularly pronounced among foreign-born Chinese students [20]. A similar trend was thought to be observed in the comparison of symptoms between Japanese and Chinese patients with

somatoform disorders. It was suggested that the Chinese may over-express their symptoms compared to the Japanese.

Results of the IBQ

The scores of cognitions (GH, DC) and emotional experience (AD, I) in the Chinese patients group were higher than those in the Japanese patients group. On the other hand, the Japanese patients' group had a more prominent tendency in affective inhibition (AI). This fully reflects the influence of culture on the expression of disease symptoms in different social groups. It is interesting to note that there was no significant difference in scores between Japanese and Chinese with respect to P/S and D. Psychological versus somatic focusing (P/S) means high scores indicate that the patient feels somehow responsible for the illness and needs psychiatric help, whereas low scores indicate a rejection of such ideas and a tendency toward somatization. Denial (D) means a tendency to deny life stresses and to attribute all current difficulties to somatic disorders. The nature of somatoform disorders is characterized by the lack of findings on clinical examination that support subjective complaints. Furthermore, it is difficult to attribute the cause of physical symptoms to psychological factors. This finding was considered interesting because it is common to both Japanese and Chinese in patients with somatoform disorders. In other words, the same phenomenon was observed even though the ethnic groups were different.

Differences in Insurance Systems

Japan has adopted a universal health care system, and medical costs are the same in both urban and rural areas. Meanwhile, in China, many Chinese still have not received the wealth of the health insurance systems. Here, the amount of medical costs is expensive for local area of China and some people can not get medical caring service. Therefore, there is a tendency not to go to the hospital unless the condition becomes severe to some extent. Health care system differences may play a role in the differences in symptom levels.

4. CONCLUSION

The scores of GHQ-30 of the Chinese patients were higher than the Japanese patients. The five of the subscales of IBQ of Chinese patients were higher than Japanese. It is due to the different socio-cultural and economic background of the Japanese and Chinese patients. However, the subscales of Psychological versus somatic focusing and the denial have no significant differences between the Japanese and Chinese. It is just because the patients with somatoform disorder have the same manifestation.

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COMPETING INTERESTS

The authors declare that they have no competing interest

AUTHORS' CONTRIBUTION

Authors may use the following wordings for this section. Author TS and TT designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the

manuscript. Author NY managed the analyses of the study. All authors read and approved the final manuscript.

ETHICAL APPROVAL

This research was conducted by getting approved by the Institutional Review Board of the Faculty of Medicine, Saga University, and an additional application was submitted to add some items, which was approved by the Institutional Review Board in 2010.

Consent

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

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