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Assessment of Dissociation Symptoms in Patients with Mental Disorders by the Dissociation Questionnaire (DIS-Q)

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Key Words: Dissociation Questionnaire Japanese version (DIS-Q-J), Dissociative Experience Scale (DES), dissociation, trauma, analysis of variance

Aim: Dissociative symptoms are often found in psychiatric patients and have been implicated in psychotic trauma. We aimed to explore dissociative tendencies in psychiatric patients including dissociative disorders (DDs), obsessive-compulsive disorder (OCD), eating disorder (ED), and post-traumatic stress disorder (PTSD) by using the Dissociation Questionnaire Japanese version (DIS-Q-J).

Methods: We evaluated the reliability and the validity of DIS-Q-J by comparing it with the Dissociative Experience Scale (DES). 107 patients (32 DDs, 28 OCDs, 24 PTSDs, 23 EDs) and 83 controls answered both the DIS-Q-J and the DES questionnaires. In addition, OCD patients were assessed by the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), PTSD patients were assessed by the Impact of Event Scale-Revised (IES-R), and ED patients were assessed by the Bulimic Investigatory Test, Edinburgh (BITE).

Results: The internal consistency of the total DIS-Q-J and DES scale was high in all groups (Cronbach's alpha coefficients, DIS-Q-J; 0.922-0.975, DES; 0.934-0.957, $p<0.01$). The correlation between the total scores of the DIS-Q-J and the DES in all groups was significant (Spearman's rank correlation, 0.613-0.777 ($p<0.01$)). An analysis of variance (ANOVA) showed that the mean total scores of the control and clinical groups were significantly different ($p<0.05$) for both the DIS-Q-J and DES.

Conclusion: These results suggest that the DIS-Q-J is a useful tool for the assessment of dissociative symptoms.

INTRODUCTION

Measures of dissociation have played a crucial role in establishing the clinical significance of dissociative symptoms in psychiatric disorders. In ordinary clinical settings of psychiatry, clinicians often find dissociation symptoms with dissociative disorders (DDs). Further, obsessive-compulsive disorder (OCD), eating disorder (ED), and post-traumatic stress disorder (PTSD) have dissociation symptoms. So, it is necessary to examine whether patients have DDs, OCD, ED, and PTSD. The Dissociation Questionnaire (DIS-Q; Vanderlinden et al., 1993) and the Dissociative Experience Scale (DES; Bernstein & Putnam, 1986) are screening instruments for dissociation that are recommended in the guidelines for

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the assessment/screening for dissociation of the International Society for the Study of Dissociation (ISSD, 1997). Both the DIS-Q and the DES have shown good reliability and validity in different studies (Vanderlinden, 1993; van Ijzendoorn & Schuengel, 1996), and the DIS-Q and the DES are highly correlated (Vanderlinden, 1993). In Japan, the DES Japanese version has shown good reliability and validity for assessing dissociation (Umesue M et al., 1995; Tanabe H et al., 2000). In contrast to the DES, the DIS-Q-J is characteristically designed to be able to illuminate the four-factor structure of the dissociative symptoms, and to obtain traumatic events that the subject has experienced, and socio-educational class.

The Japanese version of the Dissociation Questionnaire (DIS-Q-J) was designed under the guidance of the author, Vanderlinden. We previously developed a reliable and useful screening instrument to detect dissociation among Schizophrenia patients (Jian Hua Song et al., 2001). The aim of the current study was to examine the utility of the DIS-Q-J. In the present study, we found a significant correlation between the DIS-Q-J and the DES. We also used the DIS-Q-J to explore dissociative tendencies such as DDs, OCD, ED, and PTSD in psychiatric patients.

MATERIALS AND METHODS

Participants

The subjects consisted of 83 controls of both sexes (average age 33.8 yr) and 107 patients of both sexes with DDs, OCD, PTSD, and ED (Table 3). The patients were recruited at Kobe University Hospital, Hyogo Institute for Traumatic Stress, and Kobe City Medical Center General Hospital. The study was approved by the research ethics Committee, Kobe University Graduate School of Medicine. Written informed consent was obtained from all subjects. No incentive was provided to participate. The subjects completed both the DIS-Q-J and the DES questionnaires. The subjects were diagnosed by trained psychiatrists according to the Diagnostic and Statistical Manual of Mental Disorders Fourth edition, Text Revision (DSM-IV-TR). DDs are comprised 1 dissociative amnesia, 1 dissociative identity disorder, 2 depersonalization disorder, and 28 dissociative disorder not otherwise specified. In addition, OCD patients were assessed by Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) (Mean=16.11, SD=6.57), PTSD patients were assessed by Impact of Event Scale-Revised (IES-R) (Mean=51.34, SD=20.67), and ED patients were assessed by Bulimic Investigatory Test, Edinburgh (BITE) (Mean=20.5, SD=4.58). These scores showed that each clinical groups were comprised of typical clinical samples.

Dissociation Questionnaire-Japanese (DIS-Q-J)

The DIS-Q is a self-report questionnaire for the assessment of dissociation, developed by Vanderlinden et al. (Vanderlinden, 1993). The DIS-Q is translated and used in several European countries. The DIS-Q-J is the Japanese version of DIS-Q, translated under permission of the author.

The DIS-Q-J is comprised of 63 items with a five-point Likert scale, and is designed to contain 4 subscales: identity confusion/fragmentation, 25 items; loss of control over behavior, 18 items; amnesia, 14 items; absorption, 6 items. The subject was asked to circle one of 5 answers, indicating to what extent that item or statement is applicable to him or her (1=Not at all; 2=A little bit; 3=Moderately; 4=Quite a bit; 5=Extremely). A total score and 4 subscale total scores are calculated by dividing the total score by the number of included items. The DIS-Q-J also asks the subject about age, sex, educational level, civil status, and previous traumatic experiences.

Procedure

We analyzed the internal consistency of the DIS-Q-J for the controls and patients and examined the degree of correlation of the DIS-Q-J and DES in each group. For both the DIS-Q-J and the DES, differences in total scores between the clinical groups and the controls were calculated using ANOVA. We conducted statistical analysis by SPSS version 15.0 for Windows. Values of $p<0.05$ were regarded as statistically significant.

RESULTS

Internal consistency of the DIS-Q-J

The DIS-Q-J and the DES were found to be internally consistent in the control group, as well as in the clinical groups (Cronbach's alpha coefficients, DIS-Q-J; 0.922-0.975, DES; 0.934-0.957, $p<0.01$) (Table I).

Table I. Internal consistency of the DIS-Q-J and the DES

	control	DDs	PTSD	ED	OCD
DIS-Q-J	.970	.971	.973	.965	.975
DES	.934	.943	.947	.957	.955

Cronbach's α coefficients $p<0.01$

DDs, dissociative disorders; PTSD, post-traumatic stress disorder; ED, eating disorder; OCD, obsessive-compulsive disorder.

Correlation between the DIS-Q-J and the DES

The correlation between the total scores of the DIS-Q-J and the DES in all groups was significant (Spearman's rank correlation, 0.613-0.777 ($p<0.01$)) (Table II).

Table II. Correlation between the DIS-Q-J and the DES

	control	DDs	PTSD	ED	OCD
ρ	.788	.613	.762	.777	.709

ρ; Spearman's rank correlation $p<0.01$

Comparison between the clinical group and the controls

Total DIS-Q-J and the DES scores of the clinical groups except OCD were significantly higher than those of the control group (Table III).

Table III. Mean score of DIS‐Q‐J and DES scale in control, DDs, PTSD, ED, OCD

		Age	Range	Sex	DIS-Q-J			DES		
Group	N	(yr)	(yr)	(M/F)	Mean	SD	range	Mean	SD	range
control	83	33.8±11.75	19-61	(37/46)	1.56	0.48	1.11-2.89	6.7	8.65	1.14-36.9
DDs	32	33.3±12.6	15-58	(6/26)	2.91	0.89	1.51-4.65	33.52	21.92	7.14-70.2
PTSD	24	38.4±12.08	21-61	(6/18)	2.65	0.87	1.38-4.35	24.81	18.7	4.64-62.6
ED	23	26.0±8.22	16-52	(1/22)	2.51	0.7	1.35-3.56	23.04	20.23	4.75-59.9
OCD	28	34.5±14.68	12-64	(11/17)	1.73	0.62	1.12-3.40	10.77	14.24	2.32-37.0

DDs, dissociative disorders; PTSD, post-traumatic stress disorder; ED, eating disorder; OCD, obsessive-compulsive disorder.

ANOVA showed that the mean total scores of the control and clinical groups were significantly different ($p<0.05$) for both the DIS-Q-J and DES (Figure 1, 2).

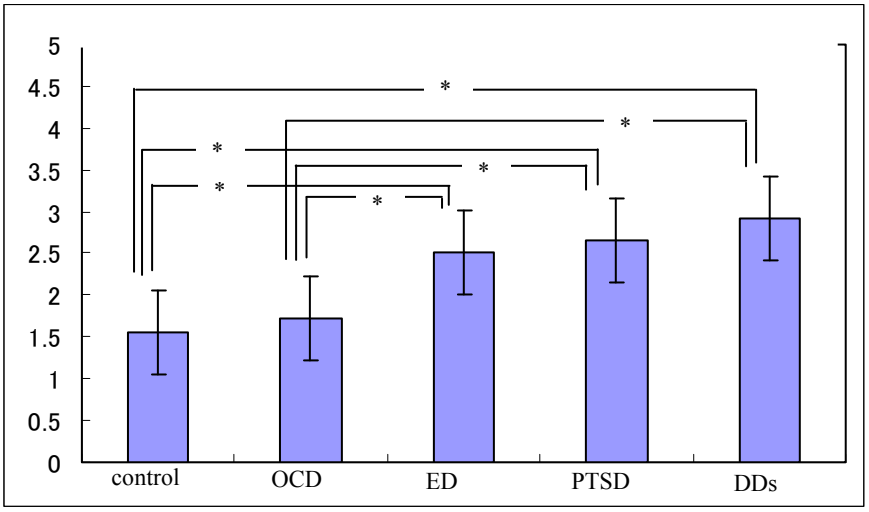


Figure 1 Comparison between the clinical group and the controls of the DIS-Q-J; The mean total scores of the DDs (2.91 ± 0.89) was significantly higher than those of the OCD (1.73 ± 0.62) and the control (1.56 ± 0.48). The mean total scores of the PTSD (2.65 ± 0.87) was significantly higher than those of the OCD and the control. The mean total scores of the ED (2.51 ± 0.70) was significantly higher than those of the OCD and the control.

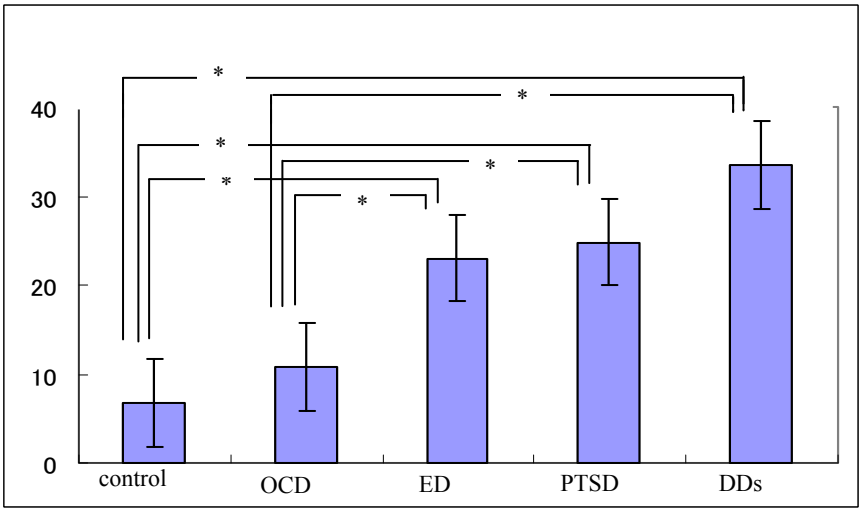


Figure 2 Comparison between the clinical group and the controls of the DES; The mean total scores of the DDs (33.52 ± 8.65) was significantly higher than those of the OCD (10.77 ± 14.24) and the control (6.70 ± 8.65). The mean total scores of the PTSD (24.81 ± 18.7) was significantly higher than those of the OCD and the control. The mean total scores of the ED (23.04 ± 20.23) was significantly higher than those of the OCD and the control.

Gender differences

In the clinical group, the females had higher mean DIS-Q-J scores than the males ($p<0.01$) (Table IV).

Table IV. Total score on the DIS-Q-J and DES in relation to sex

			DIS-Q-J		DES	
	Sex	N	Mean	SD	Mean	SD
control	male	37	1.52	0.41	6.71	8.48
	female	46	1.61	0.59	6.88	9.73
clinical	male	24	2.29	0.81	23.3	16.2
	female	83	2.53	0.93	23.9	21.8

DISCUSSION

In Japan, fewer studies have used the DIS-Q than in other countries. It is thus important to evaluate the psychometrics of the DIS-Q and its relevance to dissociation in Japan. The present results show that the reliabilities of the DIS-Q-J total scales are good to excellent. We found a strong correlation between the DIS-Q-J and the DES. The DIS-Q-J and DES scores of patients with DDs were significantly higher than those of the normal group and patients with OCD. We previously found test-retest results of the DIS-Q-J in a control group satisfactory ($p<0.01$) (Matsui Y et al., 2010)

Internal consistency of the DIS-Q-J was shown to be good to excellent for the control group ($\alpha=0.970$), and was in line with the values obtained in our former pilot study and all other studies where the DIS-Q has been used (Vanderlinden et al., 1993).

Our hypothesis that there should be a significant difference in the DIS-Q-J between the control and clinical groups was also verified. This finding is consistent with our prior study and other studies (Jian Hua Song et al., 2001; Vanderlinden et al., 1993). In the present study, the DIS-Q-J scores of DDs were higher than those of PTSD and ED but the difference is not significant because of the low sample sizes. Sequence of the total scores of each clinical groups coincided with former studies (Putnam et al., 1986; Vanderlinden et al., 1993), although there was no significant difference between clinical groups.

Further studies are needed to evaluate the subscales of the DIS-Q-J in clinical participants. Such studies should include more participants to increase the confidence about the factor structure and to establish the most suitable cut-off score for the DIS-Q-J

We previously found that dissociative symptoms were more prevalent in females than in males. These gender differences were confirmed, with females having higher scores than males.

In this study, the DIS-Q-J questionnaire had good construct validity in that the total scores are highly correlated with the DES. Further, the questionnaire was able to differentiate between subjects with and subjects without clinical diagnosis of dissociative disorders. The correlation between the DIS-Q-J and the DES is significant, and the DIS-Q-J is a useful tool for the assessment of dissociative symptoms in patients of PTSD, DDs, and ED. Further adjustments and tests must be made before the DIS-Q-J can be used as a screening instrument for dissociation in clinical practice. Further studies are needed to evaluate the usefulness of the DIS-Q-J in other clinical populations.

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