

# Comparison of Features in the Evaluation of Symptomatology and Social Adjustment between Mothers and Other Family Members of Schizophrenic Patients in Japan

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This study examined symptomatology and social adjustment evaluated by a key person in the family of schizophrenic outpatients using the Katz Adjustment Scale. Although there were no differences seen in descriptions of symptomatology between 66 cases evaluated by mothers and 38 cases by other family members, significant differences were seen in assessment of social adjustment. Compared to other family members, mothers' expectation toward patients' socially expected activities was higher and mothers showed strong dissatisfaction with patients' free-time activities. Mothers showed more severe attitudes toward patients than other family members, but the evaluation of social adjustment by mothers showed a significant correlation with the severity of BPRS symptom evaluation by psychiatrists.

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**Key words :** Schizophrenia, Katz Adjustment Scale, Social Adjustment, Symptomatology

## Introduction

Many studies have confirmed that symptomatic and behavioral expressions of schizophrenia differ across cultures<sup>6,7,13,14</sup> and that the outcome of schizophrenia is greatly influenced by socio-cultural setting, of which the family is the minimal unit<sup>8,16,19, 20,21,27,30</sup>. This suggests the importance of evaluating schizophrenia synthetically from the viewpoint of both clinical and sociological phenomena<sup>12,25</sup>. Here clinical phenomena refers to syndromes evaluated by specialists using medical instruments of measurement, and sociological phenomena refers to patients' behavior and emotions as observed by the patients' family members and others in the community. The two-dimensional, synthetic evaluation is important because taking family members' thresholds of acceptance and refusal toward the patients' behavioral and emotional characteristics into account in treatment planning is

essential for the long-term social adjustment prognosis of patients with schizophrenia.

With changes in the form of schizophrenic treatment from hospitalization to outpatient clinics, the role of family members in treatment has increased significantly. Considering the nature of schizophrenia, for many patients it is impossible to live on their own due to their lack of occupational ability. In general, it is their mothers that have most face to face contact with the patients in the family. Particularly, in Japan, a country with a family-oriented culture in which mothers have a strong influence on their children's private life even after they are grown up<sup>17</sup>, in order to successfully undertake a treatment strategy for schizophrenia in community, it is important to study how mothers perceive patients' symptoms, social behavior and social adjustment and how they express their attitudes and emotions toward the patients, and to compare these with those of other family members.

## Material and Methods

The subjects were selected at random among schizophrenic patients regularly visiting the psychiatric departments of public general hospitals in a city with a population of 450,000 and a rural area consisting of a small-size city and surrounding towns with a population of 60,000 where we have conducted a long-term schizophrenia outcome study<sup>18,20,21</sup>. For the present study, we selected cases where both the patients and family members understood the purpose of our study. All subjects were diagnosed as having schizophrenia by research psychiatrists according to the International Classification of Diseases, Ninth Revision (ICD-9)<sup>31</sup>, and the validity of the diagnosis of schizophrenia was confirmed by reexamining the patients after at least a one-year observation period.

All data for the subjects were collected during two months in August and September of 1988 through personal interviews with the patients and their family members by psychiatrists. As a key informant, we chose the family member who had most contact with the patient in the family, not necessarily the responsible relative whom we asked for the participation in the study. We thought the information from a family member who actually managed a patient in the family would be most important.

The Katz Adjustment Scale (KAS) was used in the study<sup>19</sup>. KAS consists of five scales. Each type consists of R forms for family members and S forms for self-evaluation by patients. The evaluation period is for a few weeks prior to the evaluation.

Form R1 contains items with which family members evaluate the symptoms and social behavior of patients, and consists of 12 clusters of psychiatric syndromes and a cluster of 'stability' which indicates social communication, from which symptomatology recognized by family members can be evaluated. Form S1 contains items with which patients evaluate their own symptoms of physical and emotional discomfort. Further, family members and patients evaluate the patient according to four types of social adjustment scales using the same questionnaires. They are 1) the level of performance of socially expected activities: Forms R2 and S2, 2) the level of expectations for performance of socially expected activities (self-estimation of their goal level for patients): Forms R3 and S3, 3) the level of performance of free-time activities: Form RS4, and 4) the level of dissatisfaction with free-time activities: Forms R5 and S5.

The items of KAS were asked in everyday language for use by non-specialists, as it was translated into Japanese in 1983 for clinical use as an instrument for the 'WHO Collaborative Study on Standardized Assessment of Depressive Disorders' (WHO/SADD)<sup>20</sup> and the 'WHO Collaborative Study on Determinants of Outcome of Severe Mental Disorders' (WHO/Outcome Study)<sup>9,14,20</sup>.

The psychiatric symptoms of the subjects were evaluated by psychiatrists using the Brief Psychiatric Rating Scale (BPRS), a semi-structured interview, which gives brief definitions and severity scales<sup>22</sup>. The Wilcoxon Rank Sum Test, the X<sup>2</sup> test, the Fisher's Exact Test and the Pearson's Product Moment Correlation were used for the analysis of the results. The analysis for Form S1 was excluded from the study.

## Results

In 66 cases (63.5%) the mother evaluated KAS, and in 38 cases (36.5%) an other family member did. In the latter 38 cases the key informant was the father for 16 cases, the spouse for 11 cases, a sibling for 7 cases and some other person for 4 cases.

**Table 1.** Socio-demographic and clinical characteristics of schizophrenic patients

Reporter of KAS Variable	Mother (N : 66)	Others (N : 38)	P
Age (years)			
~19	4( 6.1%)	0	NS
20~29	30(45.5%)	5(13.2%)	**
30~39	27(40.9%)	18(47.4%)	NS
40~49	4( 6.1%)	9(23.7%)	*
50~	1( 1.5%)	6(15.8%)	**
Sex			
Male	38(57.6%)	24(63.2%)	NS
Female	28(42.4%)	14(36.8%)	NS
Marital status			
Never married	60(90.9%)	21(55.3%)	**
Married	2( 3.0%)	13(34.2%)	**
Separated/divorced	4( 6.1%)	4(10.5%)	NS
Education (years)			
Compulsory education ( $\leq 9$ )	24(36.4%)	17(44.7%)	NS
Higher education ( $> 9$ )	42(63.6%)	21(55.3%)	NS
Occupation			
No job	40(60.6%)	25(65.8%)	NS
Primary industry	10(15.2%)	6(15.8%)	NS
Secondary industry	1( 1.5%)	3( 7.9%)	NS
Tertiary industry	6( 9.1%)	1( 2.6%)	NS
Student	4( 6.1%)	0	NS
Housewife	5( 7.6%)	3( 7.9%)	NS
Household type			
One person household	1( 1.5%)	3( 7.9%)	NS
With spouse and child	2( 3.0%)	13(34.2%)	**
With parents	63(95.5%)	18(47.4%)	**
With sibling	0	3( 7.9%)	*
Others	0	1( 2.6%)	NS
Duration from latest discharge (years)			
0~1	9(13.6%)	7(18.4%)	NS
1~2	14(21.2%)	5(13.2%)	NS
2~5	17(25.8%)	9(23.9%)	NS
5~10	20(30.3%)	11(28.9%)	NS
10~	6( 9.1%)	6(15.8%)	NS
Number of previous hospitalizations			
0	19(28.8%)	12(31.6%)	NS
1	19(28.8%)	8(21.1%)	NS
More than 2	28(42.4%)	18(47.4%)	NS
Subtype of schizophrenia (ICD-9)			
Hebephrenic	51(77.3%)	17(44.7%)	**
Catatonic	2( 3.0%)	4(10.5%)	NS
Paranoid	9(13.6%)	13(34.2%)	*
Acute episodic	0	2( 5.3%)	NS
Residual	0	1( 2.6%)	NS
Schizo-affective	3( 4.5%)	1( 2.6%)	NS
Others	1( 1.5%)	0	NS

NS : not significant    \*P<0.05    \*\*P<0.01

X<sup>2</sup> Test, Fisher's Exact Test

**Table 2.** Comparison of BPRS scores between schizophrenic patients whose KASs were assessed by mothers and schizophrenic patients whose KASs were assessed by other family members

Reporter of KAS	Mother (N : 66)	Others (N : 38)	P
BPRS			
1. Somatic concern	2.6±1.5	2.6±1.3	NS
2. Anxiety	2.7±1.4	2.3±1.3	NS
3. Emotional withdrawal	2.9±1.0	2.6±1.2	+
4. Conceptual disorganization	2.5±1.0	2.6±1.1	NS
5. Guilt feelings	1.4±0.8	1.2±0.6	NS
6. Tension	2.3±1.1	2.3±0.9	NS
7. Mannerisms and posturing	2.0±1.0	1.7±0.8	NS
8. Grandiosity	1.1±0.6	1.1±0.5	NS
9. Depressive mood	1.7±0.9	1.9±1.0	NS
10. Hostility	1.5±1.1	1.5±1.0	NS
11. Suspiciousness	1.8±1.3	2.0±1.2	NS
12. Hallucinatory behavior	1.8±1.3	1.4±1.0	NS
13. Motor retardation	2.3±1.0	2.2±1.2	NS
14. Uncooperativeness	1.7±0.9	1.8±1.0	NS
15. Unusual thought content	2.1±1.2	2.0±1.2	NS
16. Blunted affect	2.7±1.0	2.5±1.2	NS
17. Excitement	1.3±0.8	1.1±0.5	NS
18. Disorientation	1.0	1.0	NS
19. Total score of BPRS	35.2±9.9	33.9±7.6	NS

NS : not significant +P<0.1  
Wilcoxon Rank Sum Test

**Table 3.** Comparison of KAS variables between schizophrenic patients whose KASs were assessed by mothers and schizophrenic patients whose KASs were assessed by other family members

Reporter of KAS Variable	Mother (N : 66)	Others (N : 38)	P
Clusters of symptoms & social behavior			
1. Belligerence	4.6±1.3	4.5±1.0	NS
2. Verbal expansiveness	6.4±2.2	6.5±1.9	NS
3. Negativism	8.5±3.2	9.0±3.9	NS
4. Helplessness	7.3±2.5	7.5±2.9	NS
5. Suspiciousness	5.3±2.2	5.5±2.5	NS
6. Anxiety	7.1±1.9	7.5±2.7	NS
7. Withdrawal and retardation	10.8±3.4	11.8±3.9	NS
8. General psychopathology	36.7±9.7	37.2±10.8	NS
9. Nervousness	7.0±3.1	7.1±2.6	NS
10. Confusion	3.5±1.1	3.5±1.3	NS
11. Bizarreness	6.3±2.3	6.3±1.9	NS
12. Hyperactivity	5.0±2.0	4.7±1.8	NS
13. Stability	14.6±4.8	13.9±4.7	NS
14. Total score #	108.3±27.1	111.0±28.5	NS
Level of performance of socially expected activities	27.5±5.6	26.8±6.3	NS
Level of expectation for performance of socially expected activities	33.6±6.1	31.6±6.1	+
Level of free-time activities ##	47.9±8.5	48.9±10.4	NS
Level of dissatisfaction with free-time activities	32.8±7.5	28.7±7.5	*

# Cluster "Stability" is excluded  
## Low score indicates high level  
NS : not significant +P<0.1 \*P<0.05  
Wilcoxon Rank Sum Test

Socio-demographic and clinical characteristics are shown in Table 1, and significant differences were seen between a group of patients whose KASs were assessed by their mothers (Group A) and a group of the patients whose KASs were assessed by other family members (Group B). The subjects of Group A were mostly in their 20s, were unmarried and lived with their parents. Clinically, most of them were of hebephrenic type and a few were of paranoid type.

Table 2 shows the clinical symptoms (BPRS) of the patients. Only emotional withdrawal scores were higher in the patients of Group A than those of Group B, but no significant differences were seen between the two groups in the scores of each BPRS items or the BPRS total scores. In a clinical setting, the patients in both groups showed similar psychiatric symptoms. The top part of Table 3 shows the scores of each cluster of Form R1 and the total scores, but no significant differences were found between the two groups here either. This indicates that although there were differences in the KAS evaluators, symptoms and social behavior recognized in the social setting were similar to those recognized in the clinical setting.

In spite of the similarity of symptomatology in the patients in the two groups, differences were seen in the evaluation by relatives of the other four social adjustment levels, R2, R3, RS4 and R5 shown in the lower part of Table 3. In the evaluation of the level of performance of socially expected activities there was no difference between the evaluation by mothers and that by other family members. Although it was not statistically significant, the level of expectations for patients' performance of socially expected activities was higher for mothers than for other family members. In the assessment of the level of patients' free-time activities there were no differences between the two groups, but the level of dissatisfaction with patients' free-time activities was significantly higher for mothers than for other family members.

Table 4 shows the comparison in four social adjustment scales between the relatives' reports and patients' self-reports. With socially expected activities, the level evaluated by mothers was rather higher than that by patients, but the difference was not statistically significant. However, mothers expected patients to perform a higher level of socially expected activities than patients' own goal level for socially expected activities. As for the evaluation of free-time activities, mothers thought that patients were enjoying their free-time activities at a level much higher than the patients' self-evaluations. Though the difference was not significant, the mothers' dissatisfaction with patients' free-time activities tended to be stronger than the patients' own dissatisfaction. As such, a discrepancy was seen in the evaluation of socially expected activities and free-time activities between mothers and patients, but there was not any discrepancy observed in evaluation between other relatives and patients.

**Table 4.** Comparison of KAS scores between relatives' reports and patients' self-reports

Schizophrenic groups Reporter of KAS Variable	Schizophrenic patients whose KASs were assessed by mothers (n : 66)			Schizophrenic patients whose KASs were assessed by other family members (n : 38)		
	Mother	Patient	P	Others	Patient	P
Level of performance of socially expected activities	27.5±5.6	26.3±5.2	+	26.8±6.3	27.1±6.0	NS
Level of expectation for performance of socially expected activities	33.6±6.1	31.5±6.5	*	31.6±6.1	31.7±6.5	NS
Level of free-time activities #	47.9±8.5	50.9±8.0	*	48.9±10.4	49.3±7.9	NS
Level of dissatisfaction with free-time activities	32.8±7.5	30.8±8.8	+	28.7±7.5	28.8±9.1	NS

# Low score indicates high level

NS : not significant +P&lt;0.1 \*P&lt;0.05

Wilcoxon Rank Sum Test

**Table 5.** Pearson correlation coefficients for KAS variables and BPRS total scores in schizophrenic patients whose KASs were assessed by mothers and schizophrenic patients whose KASs were assessed by other family members

Reporter of KAS Variable		Mother (N : 66)		Others (N : 38)	
BPRS	& KAS-R1	0.31	*	0.24	NS
BPRS	& KAS-R2	-0.28	*	-0.13	NS
	& KAS-R3	-0.25	*	-0.06	NS
	& KAS-RS4	0.17	NS	0.04	NS
	& KAS-R5	0.27	*	0.22	NS

BPRS : Brief Psychiatric Rating Scale (Totale Score)

KAS-R1 : Symptoms and social behavior (Cluster "Stability" is excluded)

KAS-R2 : Level of performance of socially expected activities

KAS-R3 : Level of expectations for performance of socially expected activities

KAS-RS4 : Level of free-time activities (Low score indicates high level)

KAS-R5 : Level of dissatisfaction with free-time activities

NS : not significant \*P&lt;0.05

Pearson's Product Moment Correlation

Table 5 shows the correlations between symptom evaluation by psychiatrists (BPRS total scores) and symptoms and social behavior as evaluated by relatives (Form R1 total scores) and their evaluations of four social adjustment scales (Forms R2, R3, RS4, R5). There was a positive correlation between the BPRS total scores evaluated by psychiatrists and the total scores for Form R1 evaluated by mothers. For cases scored 'severe' for symptoms by psychiatrists, mothers also scored 'severe' for their symptoms and social behavior. Further, significant correlations were also seen in the BPRS total scores and the three social adjustment scales (R2, R3, R5) evaluated by mothers. As symptom evaluation by psychiatrists was severer, the evaluation of performance of socially expected activities by mothers and mothers' expectation level of performance of socially expected activities were lower and mothers' dissatisfaction with free-time activities was higher. However, no correlation was observed between the BPRS total scores by psychiatrists and the evaluation of

R1 total scores, R2, R3, RS4 or R5 by other relatives.

## Discussion

The majority (63.5%) of relatives who were mainly dealing with patients in the family were mothers. This might be partly due to the fact that only a few subjects were married, but it also reflects the fact that in Japan fathers do not attend to patients' daily life very much, while mothers play the main role inside the family.

Comparing background factors between the two groups, the patients in Group A were younger, only a few of them were married, and most of them lived with their parents. Looking at the subtypes of schizophrenia, in the patients of Group B, 45% of them were the hebephrenic type and 34% of them were the paranoid type, while in the patients of Groups A, 77% of them was the hebephrenic type and only 14% of them was the paranoid type. The unmarried

status of the patients in Group A and the fact that they tended to live at home with their parents without working probably connected with the characteristics of the hebephrenic type.

According to ICD-9, the hebephrenic type is a subtype which has symptoms distinguished rather easily from the paranoid type among other types of schizophrenia, and judging from the difference in subtypes between the two groups, a significant difference in symptom distribution was expected between the two groups. However, no differences were seen in symptomatic and behavioral expression in the community setting or the clinical setting according to R1 clusters evaluated by relatives and BPRS scores by psychiatrists between the two groups. This seems to indicate that the differences in the subtype of schizophrenia and other background factors hardly influence the scores for the four social adjustment scales evaluated by relatives.

Between the two groups, there were significant differences in the recognition of patients' social adjustment levels comparing patients who had similar symptoms. Compared to other relatives, mothers tended to have slightly higher expectation with regard to patients' socially expected activities and have stronger dissatisfaction with patients' free-time activities.

Comparing mothers' evaluations and patients' self-evaluations, although mothers gave relatively favorable evaluations of the level of performance of socially expected activities, at the same time they expected a higher level of performance of socially expected activities than the patients' own goal level. Mothers' evaluation was that patients were enjoying their free-time activities at a higher level than the patients' self-estimation, and the mothers' dissatisfaction with patients' free-time activities was slightly stronger than the patients' own dissatisfaction with their free-time activities. This seems to indicate the mothers' negative feelings about the patients' free-time activities: 'Patients are enjoying their free-time activities more than enough'. The important point here is that such a discrepancy was not seen between other relatives and the patients. In cases with mothers as the patients' key relative, the dissatisfaction with patients' free-time activities appears at the same time as a high expectation with regard to patients' performance of social and productive activities, and this could lead to friction in face to face contact in daily life and produce a stressful family situation for patients.

Mothers evaluated patients severely, but surprisingly the symptom evaluation and the evaluation of social adjustment scales by mothers showed high correlations with the symptom evaluation by psychiatrists. Such correlations were not seen between the symptom evaluation by other relatives and that by psychiatrists. This indicates that the level of the mothers' recognition of the patients' actual psychiatric conditions and social everyday

abilities was closer to that of the psychiatrists compared to that of the other relatives. From the viewpoint of a psychiatrist, mothers could ally with psychiatrists for the patients' treatment.

Angermeyer<sup>1)</sup>, who directly observed family interaction between male schizophrenic patients and their parents, has pointed out that fathers' outward-directed hostility and criticizing rejecting attitudes could lead to their sons' rehospitalization, while mothers' autoaggressive and self-punitive inwardly-directed hostility and feelings of guilt and inferiority associated with fear of disgrace and stigmatization by society could reinforce her caring attitudes and produce overprotection and emotional overinvolvement at the same time, which becomes a risk factor for their sons' rehospitalization. Although the subjects of Angermeyer's study were limited to male schizophrenic patients, it is suggested that the fathers' recognition of the patients is directly related to their attitudes and emotions toward the patients, while the mothers' recognition of the patients is first related to the mothers themselves in the form of self-criticism and self-rejection and changes to the form of overprotection and emotional overinvolvement when it relates to the patients. Such a two-stage psychological structure is assumed to lead to a mixture of therapeutic and antitherapeutic atmospheres. Leff and his colleagues have pointed out that the evidence both for and against the presence of emotional overinvolvement implies both relatives' intense emotional reaction to the illness and their encouragement of the patients' efforts to recover and become independent<sup>16)</sup>. In general, emotional overinvolvement is mostly seen in mothers<sup>21)</sup>, and the two-stage psychological structure leaves possibility for psychiatrists to intervene. Our results also supported this theory, though indirectly.

The findings measured by KAS indirectly expressed relatives' emotions about the patients. KAS enables us to measure internal emotional difficulties as expressed in words by evaluating the discrepancy appearing in the responses to the same question by patients and relatives. It has been confirmed that 'Expressed Emotion' has a significant relation to the relapse of schizophrenia not only in Western countries but also in non-Western countries, but socio-cultural differences seem to exist in the degree of 'Expressed Emotion'<sup>10,11,16)</sup>. In Anglo-American families, criticism is centered on faulty personality traits and psychotic symptoms and behavior, while in Latin-American societies, those symptoms and behavior are not the subjects of criticism. In Mexican families, criticism tends to be centered not on psychotic symptoms and behavior or personalities, but on rude and destructive behavior which affects family life. As such, each socio-cultural background seeks for individuals to have the culture's own form of sociality, and determines the contents and targets of criticism on its own.

Shand<sup>28)</sup> studied and compared the modes of recognition of the maternal role and childcare between Japanese women and Anglo-American women whose various background factors were matched, and remarked that Japanese mothers strongly wanted to raise their children to fit into the social structure and understood childcare in its social connection, while American women understood the maternal role as being to give children physical care and love and not many of them mentioned the relationship between the maternal role and society. She concluded that these differences were due to the features of cultural development in each country.

When Japanese and Western cultures are discussed comparatively, the differences in ideas of work and leisure are often mentioned as one index. It has often been pointed out that Japanese people consider it as a virtue to have a strong sense of duty and loyalty to various meaningful groups which they belong to and a willingness to work and to persevere toward long range goals, and lack the ideas of life as being to enjoy free-time activities subjectively and tend to think of free-time negatively as unproductive time<sup>4,8,18)</sup>. Leisure satisfaction consists of several factors<sup>9)</sup>, but it seems that Japanese people only consider aesthetic, physiological and relaxation factors and do not evaluate the other factors such as psychological, educational and social factors. Many studies have reported that in the decision-making process Japanese people attach great importance to collectivism rather than individualism, and decision-making is done to maintain conformity in the community (e.g. family, company) rather than to solve personal discord<sup>12,5,15,23,24)</sup>. That is, heteronomous aspects, such as caring other people's views of one and keeping harmony with people around them, are essential characteristics of Japanese society. Though it is said that Japan is a society in which mother-child bonds are extremely strong, the features of the maternal role of Japanese mothers noted by Shand could be understood as expected culturally acceptable behavior.

Relatives' attitudes and emotions expressed toward the patients at the time of KAS evaluation represent the attitudes and emotions relatives had toward the patients during the patients' childhood and adolescence<sup>29)</sup>. The characteristics of mothers' symptom evaluation and social adjustment evaluation clarified in this study indicate that Japanese mothers' ideas to childcare as bringing up their children to fit into society are reflected in mothers' attitudes toward the patients after the onset of schizophrenia, always testing strictly whether the patients could perform in social life in concert with other people in the community. This means that it is essential to consider these features in dealing with relatives.

This study suggests the importance of the relationship between the basic mechanism of schizophrenia and socio-cultural factors in determining patients' social outcome, and also suggests a path for therapeutic participation.

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