Manifestations, Course and Outcome of Schizophrenia in Asia
——Focused on Japan, China, Korea and Taiwan——

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1. Introduction

In this paper the epidemiology and various clinical features of schizophrenia in Asia, in particular its clinical symptoms, course and outcome are discussed. The research referred to is restricted to Japan, China, Korea, Taiwan and Hong Kong.

In my previous papers [24, 28], I have discussed the trends of epidemiological studies of schizophrenia and psychiatric disorders conducted in Asia collectively and have pointed out the following: Because of different diagnostic systems and different research methodologies, including different subject inclusion and exclusion criteria, nature and type of rating scales used, and the amount of training in the use of scales received by members of the research team, the comparability or generalizability of results from different countries is often limited. It is fair to say that, in general, studies in Asia using standardized diagnostic and inclusion criteria and measures and have not been as common or advanced as in North America or Europe. Most studies have used clinical judgements based upon the clinicians general impression. While it is true to say that in the last ten years there has been a significant increase in the introduction of such criteria and measures, they have not been used in most of the studies conducted to date. Bearing this point in mind, the reader is asked to interpret and consider the findings presented in this paper.

2. Epidemiological Studies

The first systematic study on the prevalence rate of mental disorders conducted in Asia was one conducted by Uchimura and his colleagues [41] in Japan. Using the methods established by Brugger [3] and Strömgren [39], the research group investigated the epidemiology of mental disorders on a remote island called Hachijo-jima, which was a part of the Tokyo administrative region. The aim of the study was to obtain information regarding the hereditary nature of mental illness, as well as life-time prevalence rates. This study became the model for quite a number of other studies conducted in rural regions of Japan, as shown in Table 1. Some of these studies chose areas where they expected high prevalence rates (Okabe: 1957, Arai: 1958, Hirayasu: 1969, Shibata: 1978), while others chose areas that were logistically convenient. These studies found life-time prevalence rates of 2-5 per 1000 population, and determined a morbidity risk of between 0.4 to 1.5% (mediam 0.64%). Of 17 studies conducted, 13 examined sex differences. Of these studies 10 found a higher rate of illness in males, 2 found a higher rate in females, and one found no difference. In all studies, however, the differences between the sexes were not significant.

Studies in Asian countries other than Japan include those by Lin and colleagues [19, 20, 32] in Taiwan, Yoo [47] and Lee [16, 17] in Korea, and by Shen [37, 38], Chen and colleagues [5] in China. The study by Chen and colleagues was conducted with the cooperation of the World Health Organization (WHO). These studies are summarized in Table 2. Let us briefly look at the study by Chen and colleagues which was conducted in 12 areas throughout China, and which used specific rating scales and trained its interviewers in its use. As one can see, there appears to be no significant difference in prevalence rates between this study conducted in China and those conducted in Japan. However, according to Lin and Chen, the prevalence rate was a little higher in women than men, the reverse of that found in Japan.

Summarizing the data in this table, we can see that the prevalence rates for mental disorders in Asian countries seems to be lower than those found by the recent ECA study [33] in the United States of America.

There are very few reports in Asia, with the exception of a study conducted at our centre, which have examined the incidence and prevalence rates by nature of the region. In our study [31] conducted in Nagasaki, we did not find regional, social or demographic differences, a finding different from that reported by Faris and Dunham [8] in U.S. and Giggs [9] in U.K. However, Chen and colleagues reported, as a part of their study in China, that the prevalence rate in urban areas (namely life-time prevalence rate of 7.11 per 1000) was higher than that of rural districts (namely 4.26 per 1000).

Table 1 Prevalence studies of schizophrenia in JAPAN*

Researchers	Time of survey	Type of area	Population	Prevalence rate (per 1,000)			Morbidity risk (%)
				total	male	female	
Uchimura	1940	island	8,318	3.8	5.5	2.3	0.91
Mukasa	1941	rural	4,443	3.2			0.74
Hiratsuka	1941	rural	1,703	4.1	4.7	3.5	0.98
Tsugawa	1942	urban	2,712	2.2	2.2	2.2	0.49
Uchimura	1942	island	5,286	2.6	2.3	3.0	0.64
Akimoto	1943	small town	5,207	2.1	2.4	1.8	0.50
Ogino	1943	island	1,651	2.4	0	5.0	0.52
Okabe	1957	island	6,783	7.4	9.0	5.9	1.68
Arai	1958	rural	2,401	11.2			2.47
Arai	1959	island	2,403	5.0	5.4	4.7	0.91
Akimoto	1964	island	12,027	4.7			1.03
Hirayasu	1969	island	2,379	8.8	9.1	8.6	2.11
Haruki	1972	island	2,826	8.5	8.7	8.3	1.37
Shibata	1975	island	1,507	1.9	3.9	0	0.35
Shibata	1978	island	540	17.9	27.1	9.9	2.48

*:modified from Nakane (1987)

Table 2 Epidemiological surveys of schizophrenia in ASIA

Researchers	Time of survey	Study site	Sample size	Number	Prevalence rate (/1,000)	Morbidity risk (%)
Shen[*1]	1974-1979	Beijin (Haidian, rural)	189,915	341	1.82	0.46
Chen/Shen[*2]	1980-1982	China (12 areas)	38,136	217	5.69	
Lin	1946-1948	Taiwan (3 areas)	19,931	43	2.16	0.59
Rin/Lin	1949-1953	Taiwan (aborigenes)	11,442	10	0.87	
Lin	1961-1963	Taiwan (3 areas)	29,184	41	1.40	
Yeh[*3]	1982-1984	Taiwan (Taipei)	5,005	150	3.00	
		(2 towns)	3,004	69	2.30	
Yoo	1956-1960	Korea (6 rural areas)	11,974	46	3.84	0.96
Lee	1979	Korea (Ko-Jae island)	112,782	-	1.40	
Lee[*3]	?	Korea (Seoul)	3,134	107	3.41	

[*1]: period prevalence,　[*2]: aged 15 and over,　[*3]: aged 18 and over

3. Symptomatic Characteristics

The classical method of classifying schizophrenia into such subtypes as paranoid type or hebephrenic type, which used to be popular in the past, has recently become less attractive because of the uniqueness of Crow's[7] two syndrome classification. Nevertheless, as one can see from Table 3, this type of classification is still routinely used in general clinical practice in Asia. In this table, you can see the distribution of subtypes of schizophrenia in Asia. The proportion of hebepherenic type is higher in Japan, China and Taiwan than is usually reported in Western Countries. It is especially high in Japan, Which suggests that perhaps Japanese psychiatrists have different ideas about the hebephrenic type than psychiatrists from other countries.

Inoue[11], who reviewed diagnoses of hebephrenic schizophrenia in Japan, commented on this trend as follows-the proportion of the hebephrenic type of schizophrenia diagnosed in Japan appears to be generally about 30-40%, with 20% being the lowest figure and about 70% being the

Table 3 Subtype of schizophrenia

	Taiwan Chen (1973)[*1]	Japan Nakane (1985)[*2]	China Chen/Shen (1986)
Paranoid type	41.9%	29.0%	56.7%
Hebephrenic type	34.9	49.5	16.6
Catatonic type	3.5	1.9	0.9
Simple type	1.2	1.9	3.2
Others	18.5	17.7	22.6

[*1]: Data from the Taipei centre (Chief Investigator; C.C.Chen)
   In The International Pilot Study Schizophrenia, World Health Organization, 1973.
[*2]: Data from the Nagasaki centre (Chief Investigator; Y.Nakane).
   In The Collaborative Study on the Determinants of Outcome of Severe Mental Disorders, World Health Organization, 1985.

highest. This feature seems to be consistent throughout the history of Western psychiatry in Japan (including the Meiji, Taisho, Showa and Heisei eras), and is particularly remarkable in relation to outpatients. The frequency of hebephrenic type is high when the diagnoses are made, not upon the criteria provided by ICD, but rather on criteria based on local conventional criteria, derived mainly from the descriptive psychiatry of the German school. The basis of this phenomena, which is influenced and taught by the medical education system in Japan, is the viewpoint that the hebephrenic type is to be considered as the core of schizophrenia, and that there needs to be the presence of a definite systematic delusion for the diagnoses of paranoid type to be made. Further, the frequency of the hebephrenic type diagnosis could be related to a tendency for too much attention to be paid to negative symptoms, something which seems to be characteristic of the Japanese. Finally, it may well be the case that symptomatic differences actually do exist in schizophrenics in different cultures.

Another viewpoint, which has been expressed in the literature is that the distribution of each sub-classification of schizophrenia has changed in accordance with a decrease in severity of clinical symptoms in recent years. There are several similar reports of this also happening in Asia. For example, Yuan[48] from China compared sub-classification diagnoses in psychiatric hospitals in Nanjing for schizophrenics treated during a certain period before 1962 and for those treated before 1982. There were 100 cases included for each period. Yuan found that for the earlier period the number of patients diagnosed as having a hebephrenic type or paranoid type was 24 and 57 respectively. For the later period it was 9 and 67 cases respectively. This suggests a significant decrease in the hebephrenic type diagnosis. Between the two periods there was also a significant decrease in the catatonic type diagnosis. Yuan also reported an increase in the undifferentiated type diagnosis.

In Nagasaki we have examined the frequency of each subtype of schizophrenia in patients who visited the outpatient clinic of Nagasaki University Hospital Department of Neuropsychiatry for their first consulta-

tion[40]. Up until the 1970s, our own classification of diseases was used. Since the early 1980's an additional classification was made using ICD-9 and subsequently, since 1982, using DSM-III. The proportion of schizophrenics at their first consultation in outpatients has fluctuated between 11 and 20% between 1970 and 1985, with no remarkable trend of increase or decrease. The only major finding has been that, since 1981, the numbers of patients with affective disorders have come to exceed those with schizophrenia.

In Nagasaki, the hebephrenic type has always accounted for between 35-55% of all schizophrenics diagnosed. The paranoid type has only accounted for about 10%. However, since the adoption of DSM-III, the frequeny of the paranoid type diagnosis has tended to increase, together with a decrease in the diagnosis of hebephrenic type. Recently the paranoid type diagnosis was made for 20 to 30% of all the schizophrenics.

Kashiwase and Arai[14] have examined the decrease in the hebephrenic type diagnosis and increase in the "other" diagnosis in the United States and have suggested that the same is true in Japan."Other" are usually classified as "undifferentiated" in America, but Kashiwase believes that this denotation is not always appropriate. Contrary to the report by Inoue, Kashiwase believes that the proportion of each subclassification has gradually changed in Japan. However, this change seems to be due not only to a difference in clinical features but olso to changes in the diagnostic classification systems used in recent years.

As already stated, structured or semi-structured interviews, which are popular in Western countries have rarely been used in clinical investigations in Asia. Instead, studies in Asia have usually been based on routine clinical impressions. Thus, the comparison of symptomatology between Asian and Western countries is extremely difficult and even among Asian countries is unreliable.

While it is possible that certain types of diagnostic criteria for schizophrenia may have been put into early use in Hongkong and Taiwan, it was not until about 1980 that reports in China using Schneider's First Rank Symptoms (FRS)[35] or Carpenter's Flexible System[4] derived from the

Table 4 Distribution of FRS in schizophrenics (%)

Authors	Mellor	Carpenter	Koehler	Bland	Lewine	Ru	Araki
Year	1970	1973	1977	1980	1982	1982	1983
Sample	240	104	209	43	125	160	93
Positive rates of FRS	72	51	33	88	80	62	51
Audible thoughts	11.6	20	1.5	2	-	26.3	4.3
Voices arguing	13.3	-	7.2	-	27	20.6	38.3
Voices commenting	13.3	-	24.6	24	10	28.1	21.3
Thought withdrawal	9.8	15	24.6	-	-	10.6	4.3
Thought insertion	19.7	20	17.4	47	47	11.9	14.9
Thought broadcasting	21.4	33	27.5	24	48	31.3	38.3
Made volition	18.5	39	21.8	26	23	53.8	27.7
Delusional perception	6.4	-	55.1	63	6	16.9	53.2
Somatic passivity	11.6	17	33.7	-	-	-	-

Present State Examination (PSE)[42] in IPSS[43] began to appear. Just before our own publication[1] concerning the usefulness of FRS in Japan, Zhang and colleagues[51] and Ru[30] in Shanghai also realized its potential usefulness and started using it in their own work (see Table 4).

Recently we have trying to encourage greater use of the semi-structured interview, the PSE, in Japan and have published a Japanese version of the interview. In China, too, there have appeared several reports which have used the PSE.

Table 5 indicates the results of PSE interviews used tor assessing clinical symptoms in a nation-wide investigation in China[5]. The average age of the subjects included in this investigation was 39.7 years. About eighty percent had suffered from schizophrenia for more than 5 years, while 56.3% had it for more than 10 years. There were 5 representative clinical symptoms which were recognized in routine examination: apathy (44.8%) delusions of persecution and jealousy with hallucinations (42.0%), poverty of thought (28.7%), parathymia (28.7%), and auditory hallucination in the form of commentary voices (27.6%). These subjects

were extreme chronic cases. Being aware of this fact, we can understand from Table 5 that the most frequent syndrome, out of the 38 syndromes included in the PSE, was the nonspecific psychotic syndrome. Further, the frequency of the nuclear syndrome (NS), the core symptom group of schizophrenia, was not very high. Further the nonspecific neurotic syndromes including irritability (IT), worrying (WO) and social unease (SU) were not rare.

In Nagasaki, we have been clarifying the features of psychiatric symptoms in schizophrenics at onset in the course of a WHO collaborative study[12] started in 1979. These subjects have been examined by researchers (psychiatrists) who received strict training in their use of instruments to ensure that the level of accuracy in the data collected is high. Clinical features of the subjects were rated using various scales, such as the PSE and those especially developed by WHO. Details of the method of case collection has already been reported elsewhere and so will not be repeated here[29].

The distribution of the age of onset for the cases included in this study is shown in Table 6. The annual incidence rate, determined from the population of the subject area, is also presented. Psychiatric symptoms based on the PSE are illustrated in Figure 1. Since, the

Table 5 Distribution of syndrome checklists (PSE-SCL) in chinese schizophrenics (n=181)

List of SCL	cases (%)
NP: nonspecific psychotic syndromes	86(47.5)
SF: sexual and fantastic delusions	72(39.8)
AF: affective flattening	69(38.1)
NG: self-neglect	67(37.0)
NS: nuclear syndrome	65(35.9)
IT: irritability	63(34.8)
RE: delusions of reference	60(33.1)
PE: delusions of persecution	54(29.8)
RS: residual syndromes	52(28.7)
SL: motor slowness	48(26.5)
HM: hypomania	47(26.0)
WO: worrying	46(25.4)
AH: auditory hallucinations	40(22.1)
SU: social unease	33(18.2)
OV: overactivity	29(16.0)

Table 6 Number of cases and annual incidence rates (/10,000 population) by age group and sex

Age/sex	Number of cases			Incidence rate		
	male	female	total	male	female	total
15-19	22	9	31	6.3	2.6	4.4
20-24	12	17	29	3.9	4.4	4.2
25-29	15	8	23	4.0	1.9	2.9
30-34	6	4	10	1.7	1.0	1.3
35-39	3	3	6	1.0	0.9	1.0
40-44	3	3	6	1.1	0.9	1.0
45-49	0	1	1	-	0.3	0.2
50-54	0	1	1	-	0.3	0.2
TOTAL	61	46	107	2.4	1.6	2.0

symptoms include quite a few depressive or neurotic symptoms, the core symptoms of schizophrenia do not appear to be relatively prominent. For instance, if we look at the distribution of the four Subscores, summarized from the Syndrome Check List (SCL) of the PSE, nonspecific neurotic syndromes (NSN) is the highest (see Figure 2). Such a distribution of symptoms is not so different from that obtained by other collaborating centers in the study.

There are very few studies which have examined the manifestation of schizophrenia comparing the results of simultaneous rating by Asian and Western investigators. In one study Schooler and Caudill[36] compared the presence of 50 symptom items in Japanese and American schizophrenics. According to the researchers, symptoms such as being physically assaultive, withdrawn, euphoric, insomnic, apathetic and emotionally labile were prominent in Japanese schizophrenics, while in American schizophrenics, hallucination, bizarre ideas and confusion were prominent. They explained this difference by referring to differences in the way the two cultures perceived the nature of human relations, and the way they recognized and interpreted reality.

It has been said that schizophrenia is becoming less symptomatic, milder and more neurotic. The same idea has also been suggested in Japan, but is based upon general clinical impressions rather than empirical research. Indeed,

Figure 1 PSE/SCL distribution in schizophrenics in Nagasaki

Figure 2 Distribution of mean PSE subscore in schizophrenics (Nagasaki)

our data has also suggested an increase of neurotic syndromes, but this cannot be confirmed because comparable data for an earlier period is lacking.

Kasahara[13] has recently proposed the concept of "outpatient clinic schizophrenia". According to him, this group has the following characteristics: 1) voluntarily visits the clinic regularly for a long period of time, and seems to have a sense of "ill being" or even some insight into the disease, 2) is orderly, serious, and not rejective in the clinic, 3) is able to describe his/her experience, 4) following an acute period, there comes a rather long period of inactivity/ regression, 5) is supported by the family (i.e.not rejected), and 6) is able to keep making an effort toward social adaptation with a low degree of personality change. While such cases are quite often found in clinics, this does not necessarily mean that schizophrenia is becoming milder. It may simply be a reflection of the fact that conditions have changed so that patients with schizophrenia can more easily hospital services.

4. Characteristics of Clinical Course

Although the models for different types of clinical courses proposed by Bleuler[2], Ciompi[6] and others are widely known in Japan, few reports have used their methods, with the majority using their own original models. As this is true for other Asian countries an Asian comparison seems to be impossible.

In Japan, Yamada[45] made a close investigation on the course of 148 schizophrenic patients selected from those who were first admitted to the Kanazawa University Hospital Department of Psychiatry between 1943 and 1950, who were resident in Ishikawa Prefecture during their admission, and whose examination by direct interview was possible in 1960, 10 to 17 years after first admission. In this investigation, Yamada examined the outcome of subjects, as well as the illness' clinical course, using a classification system similar to that proposed by Bleuler. The results showed that 21% of cases took a straight evolution (Bleuler's I-IV types) compared to 25-50% noted by Bleuler, while those with phasic evolution (Bleuler's V-VII types) appeared to be less than 35%, compared to 35-45% noted by Bleuler. Yamada observed remission in 45% of patients, compared to 25-35% by Bleuler. Consequently, Yamada concluded that there were no significant differences between the Japanese results and those reported by Bleuler.

In our own studies[25, 26, 27], we have examined the clinical course at 2, 5 and 10 years after onset, for schizophrenic patients included in the WHO collaborative study mentioned earlier. The symptomatologic course chart proposed by WHO at the time of the 2-year follow-up was used for arranging the data. Since details of the different tyoes of course at the 2-year follow-up are reported elsewhere[22, 26],
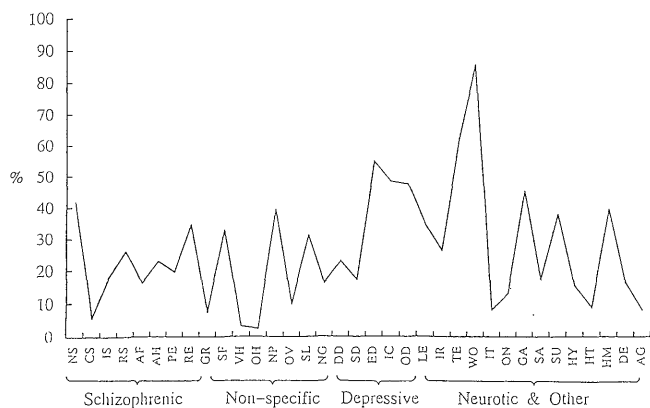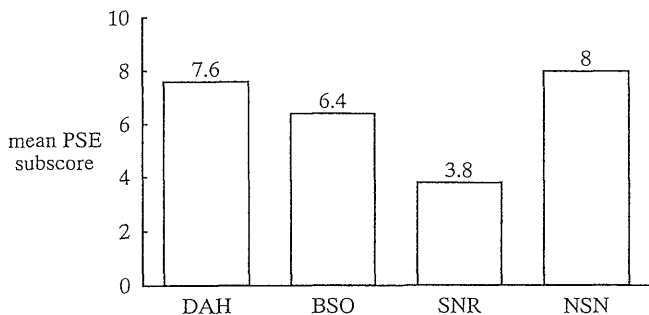
Table 7 Pattern of 2-year course in Nagasaki, all developed and developing countries

Pattern of caurse*	1	2	3	4	5	6	7	8	9
NAGASAKI (n=70)	5.7	21.4	2.9	-	20.0	17.1	32.9	-	-
DEVELOPED COUNTRIES (n=604)	15.7	17.4	6.2	5.3	14.7	21.2	17.1	2.3	-
DEVELOPING COUNTRIES (n=474)	37.1	11.6	6.5	2.3	19.0	10.6	11.2	1.1	0.6

*1. single psychotic episode, complete remission
2. single psychotic episode, incomplete remission
3. single psychotic episode, nonpsychotic episodes complete remission
4. single psychotic episode, nonpsychotic episodes incomplete remission
5. 2 + psychotic episode, complete remission
6. 2 + psychotic episode, incomplete remission
7. continuous psychotic illness, no remission
8. continuous non-psychotic illness
9. not known

only the comparison of results from developed countries and developing countries including the Nagasaki results, is reported here (Table 7). The assessments at 2, 5, and 10 year follow-ups are shown in Figure 3. Figure 3 also indicates the distribution of the course types for those cases of the original 107 cases for which it was possible to collect data. The proportion of cases who had only one psychiatric episode, showed a decreasing degree of remission. However, fot those cases with continuation of psychiatric symptoms, there was an unexpectedly high rate of 20% who showed little improvement even after 10 years. Ogawa and others[30], who are also conducting a long-term follow-up study, also reported that 23% of the subjects showed little improvement in their psychopathology.

5. Characteristics of Outcome of Illness

When we refer to the outcome of a certain disorder, we need to look at outcome at the levels of psychiatric symptomatology, social adaptation (including human relations and occupational achievement), and length of life span. However, as mentioned earlier, both diagnostic criteria and methods of examination tend not to be standardized and further information about outcome in reports is scarce, so that making comparison is very difficult. In Asia, studies in this area are well behind those conducted in Europe. Bleuler[2], Huber[10] and Ciompi[6] published the results of their 20-year long follow-up study in the 1970s. Since then, studies on those factors that can predict outcome have also begun to appear.

In Japan, investigations on the outcome of schizophrenia have been independently conducted in different institutions

	2-year follow-up (n=64)	5-year follow-up (n=65)	10-year follow-up (n=58)
	8%	7%	4%
	21	21	4
	20	23	25
	18	34	45
	33	15	20
Other			2
	100%	100%	100%

psychotic state   incomplete remission   —— complete remission
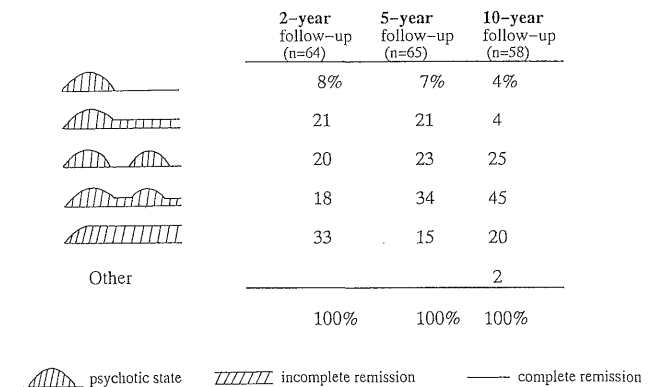
Figure 3 Symptomatologic course of schizophrenics in Nagasaki

based on the experience of treating many schizophrenic patients. Some results of these studies are given in Table 8. Most studies include cases treated in university hospitals, and examined after a certain time interval. The subjects in Yuasa's report[49] have special characteristics in that they are patients treated by Yuasa himself throughout their hospitalization in the university hospital within the time period given in the table, and also continued to be treated by him after their discharge. Further, the subjects from Kuwahara's report[15] are also characteristic in that they were treated at another university hospital until the time shown and then subsequently Kuwahara for more than 10 years. Therefore, the proportion of cases in the reports who were self-supportive or in remission is extremely high. In the other reports, 25 to 40% of cases had a self-supportive/remissive outcome a significantly long time after onset (the length of the period varies greatly among the reports). The investigations which call special attention are those by Miya et al.[23] and by Ogawa et

Table 8 Outcome studies of schizophrenia in Japan

Authors (year)	treatment period	follow-up period	number of cases	self-supportive in remission	hospitali-zation	death	other
Hayashi (1939)	1917-1936	12-21	164	26.8%	28.7%	37.8%	6.7%
Yamada (1961)	1943-1950	10-17	148	33.1	13.5	25.7	27.7
Murata (1973)	1956-1963	2- 9	148	28.4	36.4	9.5	25.8
Yuasa (1978)	1964-1968	10	110	53.6	12.7	10.9	22.7
Kuwahara (1985)	-1972	11-37	130	56.9	3.8	0.7	38.3
Ishikawa (1988)	1963-1983	2-20	294	26.5	31.0	10.5	32.0
Miya (1984)	1958-1962	16-21	130	40.8	26.2	16.2	16.9
Ogawa (1987)	1958-1962	21-27	130	37.7	25.4	19.2	17.7

al.[30]. They examined the same subjects every 5 years. They also set up strict criteria for determining social adjustment as shown in Table 9.

In Nagasaki we have also examined the course and outcome of the schizophrenics included in the WHO collaborative study after 2, 5, and 10 years. Selected items from the Disability Assessment Schedule (DAS) developed by WHO, were rated and used to score and classify the patients' condition during the 6 months prior to the rating, into one of 4 levels- "very favorable (healthy)", "favorable", "unfavorable" and "very unfavorable", or as "hospitalized". Since there are so few cases with the rating of "very favorable", which is essentially a healthy level (i.e. at the 10 year follow-up 3% in males and 8% in females, average 5%), social outcome was divided into 3 main groups:" good outcome" which is made up of "very favorable" and "favorable","poor outcome" which is made up of "unfavorable" and "very unfavorable", and "hospitalized". Hospitalized patients were also rated according to the "good outcome" and "poor outcome" classification.

Of the 107 subject cases, 10 years after onset, 86 were still alive, 5 (3 males and 2 females) were dead and the whereabouts of 16 cases were unknown. The mortality rate was 4.7% for the 107 cases. The cause of death was suicide in 2 cases, unnatural in 1, and a complication from physical diseases in the other 2.

Overall assessment of social outcome was also mede 2,5, and 10 years after onset, and subjects were grouped according to good/poor outcome and "hospitalized", as shown in Table 9. The distribution is almost even, at one third at each time of assessment.

Ogawa and colleagues[30] reported the 15 and 20 year outcome after discharge for subjects who had been inpatients of the university hospital (Table 10). In this report, the proportion of patients who were "self-supportive" or in "remission" was high.

In our Nagasaki study, we followed up all subjects who

Table 9 Course of social outcome of new schizophrenics in Nagasaki

	Follow-up after 2 years 1981-1982	Follow-up after 5 years 1984-1985	Follow-up after 10 years 1989-1990
Number of cases at follow-up	64	65	58
Good outcome	34.4%	44.6%	36.2%
Poor outcome	34.4	35.4	34.5
Hospitalized	31.3	20.0	29.3%

DAS overall evaluation (including cases in the hospital)
with good outcome 39.1%   50.8%   44.8%
with poor outcome 60.9   49.2   55.2

Table 10 Social outcome of schizophrenic patients in the Gunma survey using Eguma's social scale*(%)

	16-21 ys (n=109)	21-27 ys (n = 105)
Self-supportive	48.6	46.7
Semi-self-supportive	10.1	7.6
Socially adjusted to family or community	7.3	11.4
Maladjusted	2.8	2.9
Hospitalised	31.2	31.4

*Self-supportive
1. Has returned to a level of social functioning similar to that prior to onset of illness
2. Maintains an independent social life with or without asking any advice from psychiatrists or acqaintances
3. Maintains a normal family life
Semi-self-supportive
1. Displays vocational ability, with some occasional failures
2. Maintains a positive attitude towards work, but needs supervision and guidance
3. Maintains a normal life at home, but hesitates to return to the job held prior to onset of illness
Socially adjusted to family or community
1. Works when encouraged with continuous significant support from others
2. Needs more time before being ready to return to previously held job
Maladjusted : Social adjustment not possible
1. Non-productive life (able to be cared for at home)
2. Anti-social (admission to psychiatric hospital necessary)
Hospitalised : In psychiatric hospital

Table 11 2-year overall outcome (%) in Taipei and Nagasaki centres

Otcome groups	1 very favorable		2 favorable	3 inter-mediate	4 un-favorable		5 very unfavorable
Developed Countries (n=249)	14.5	37.0	24.5	23.7	12.9	36.6	23.7
Taipei (n=78)	15.2	38.0	22.8	26.6	20.3	35.5	15.2
Nagasaki (n=64)	9.4	37.5	28.1	20.3	18.8	42.2	23.4

satisfied the inclusion criteria without depending on a certain degree of improvement. Thus it is inevitable that there will be some difference in the frequency reported for each category .

There are no adequate investigations on outcome in other Asian countries. Taipei, which took part in the IPSS, have data for outcome after 2 years according to the form set by IPSS. Table 11 shows the comparison of the 2-year outcome of the Taipei Center with that of the Nagasaki Center modified according to the standard set by IPSS[44]. As can be seen from the table, out data are very similar to those from Taipei. In addition, they are also similar to data from other collaborative centers in developing countries.

Lo and Lo[21] from Hongkong made a 10-year follow-up of 133 patients with schizophrenia who visited the Hongkong Psychiatric Center for the first time in 1965. Among the 82 cases which could be followed up, 65.9% were in complete remission and 12.2% had remaining psychiatric symptoms. Lee and others[18] made an investigation of 153 subjects who visited the psychiatric outpatient clinic of Hongkong University Hospital for the first time and who had been treated there for at least 1 year. The duration of illness was between 1 and 18 years and 30% of subjects were sick for more than 3 years, Symptomatically, 75.5% were "in remission" and the others were in a "subchronic" or "chronic" state according to the outcome category suggested by DSM-Ⅲ-R. Viewed from their degree of social functioning, 46.4% were able to be continuously at work. On the other hand, Chen and colleagues[5], in their study of 217 schizophrenics collected from various parts of China, found 14.7% were in full remission at the time of examination, 22.1% were in partial remission, and 62.1% were in a deteriorated state or recognized to have remarkable psychiatric symptoms. The disparity between the first two reports and the latter may be due to the difference in the backgrounds of the subject cases in each investigation.

Finally, there have been some studies which have looked at those factors which affect outcome. Lo and Lo concluded that being female, having an illness of short duration and an acute onset, having predominant symptom groups other than disturbances of emotion and volition, and having the presence of supportive relatives,

were all good prognostic predictors. Chen and others concluded that the following 4 factors-higher economic status, harmonious family environment, reasonable attitude towards patients, and broad social support had a role to play for a good prognosis.

In Nagasaki we have obtained the following results concerning outcome at the time of 2-year follow up (see Figure 4). In the group with poor outcome, inconsistent thought (IS) was frequently seen in the PSE interviews conducted at the first consultation. In the group with good outcome, depressive delusions and hallucinations (DD) and simple depression (SD) were frequently observed. Nuclear Symptoms (NS) did not predict either a good nor poor outcome. Among the socio-economic factors, generally unfavorable factors, such as lower economic status,
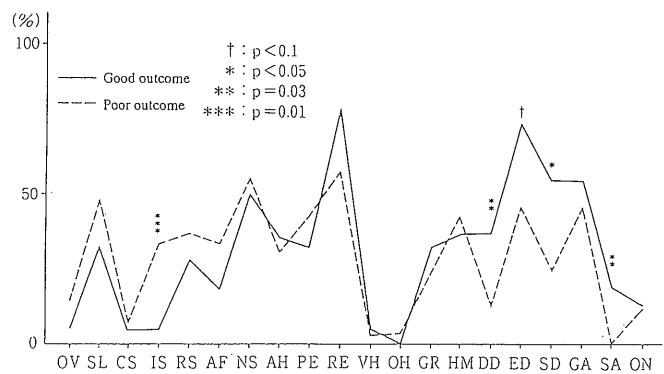
Figure 4 SCL distribution by 2-year outcome
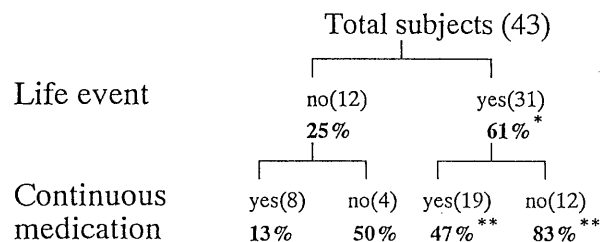
( ): number of cases, *: p=0.0353, **: p=0.05

Figure 5 Recurrent rate 2-year after the onset of schizophrenia

were often observed in the poor outcome group at the first consultation. Finally, as Figure 5 indicates, a high recurrence rate 2 years after onset was found for subjects who had experienced a particular life event and/or were on continuous drug treatment.

The results of the above three studies concerning the factors affecting outcome, are not largely different from those which have been found and reported in Western countries.

6. Conclusion

In conclusion, it seems that there is no real evidence to suggest that schizophrenia in Asian countries is different from that found in other parts of the world, especially in terms of its symptomatology, course and outcome. Of course, the possibility that differences do exist cannot be neglected. Differences which reflect the psychosocial characteristics of each area may become evident when detailed and standardized comparisons are made in the future.

The important challenge facing Asian investigators today is the need to examine closely how the various criteria and rating scales devaloped in the West can be applied to non-Western cultures. Most of the criteria and rating scales already introduced to Asia are being used without careful consideration for their appropriateness. It is possible that there are items which are not actually suitable for certain cultures and which therefore need to be omitted or amended.

Due to the language barrier, many local studies conducted in Asia have little chance of being introduced to the rest of the world. As a result, most advances in the knowledge of mental illnesses in Asia will contiue to come from international collaborative studies, such as those conducted under the auspices of the World Health Organization.

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