Mental Health Care in Japan: Recognition and Treatment of Depression and Anxiety Disorders

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Despite the apparent high availability of psychiatric services in Japan, the quality and type of care have historically been lower than that provided in Western society. However, Japanese psychiatry is undergoing a period of transition. Recent changes in the provision of health care, the adoption of internationally standardized diagnostic criteria, the availability of newer antidepressant drugs such as selective serotonin reuptake inhibitors, and other social and economic factors mean that psychiatric services are improving at various levels. *(J Clin Psychiatry 2001;62[suppl 13]:39–44)*

Japan has one of the highest levels of psychiatric services in the Pacific region, with a rate of over 7 psychiatrists for every 100,000 people (Figure 1).[1] In contrast, other Asian nations fare less well, with 1 to 2 psychiatrists per 100,000 in Hong Kong, Korea, and Singapore and from 0.02 (Fiji) to 0.30 (China) per 100,000 in less industrialized countries. Despite the apparent high availability of psychiatric services in Japan, the quality and type of care have historically been lower than that seen in Western society. This article provides an overview of psychiatric services in Japan and considers issues surrounding the recognition and treatment of depression and anxiety disorders.

PROVISION OF MENTAL HEALTH CARE

Private mental hospitals provide the vast majority of psychiatric care in Japan. Since 1975, the number of mental institutions (with ≥ 20 beds) has steadily risen to current levels of approximately 1050 specialist hospitals providing inpatient care.[2] The owners of these hospitals have traditionally exerted some political power over decision making within the Japanese mental health service, and it is generally considered that they have not furthered the cause of destigmatizing mental illness. The number of psychiatric inpatient beds in Japan has been steadily rising since the 1960s, which is in stark contrast to the situation in Europe and the United States.[3] At present, Japan has the highest number of psychiatric beds in the world, in both absolute and relative terms.[3] Levels reached a peak in 1993 at approximately 290 beds per 100,000 people. This has declined slightly to reach current levels of 280 beds per 100,000 people.[2] Many psychiatric patients are admitted for protracted periods of time (mean time of 1 year). The proportion of long-term beds is much greater in Japan than in other developed countries, but recently there has been a shift toward reducing the numbers of inpatient beds and the duration of stay following action from the Japanese Ministry of Health.

The emphasis on inpatient care has had implications for the way in which psychiatrists are employed. Of over 10,500 psychiatrists in Japan, 87% work in the privately funded mental hospitals treating patients with disorders such as chronic schizophrenia.[2] The remaining 13% of psychiatrists (approximately 1400) work in general hospitals or at private psychiatric outpatient clinics. These are the specialists most likely to see patients with milder forms of mental illness, including depression and the anxiety disorders. In line with recent changes in health care provision, there are now increasing numbers of psychiatric general practitioners working in outpatient clinics and, today, almost 1000 psychiatric general practitioners have membership in the Japanese Association of Neuro-Psychiatric Clinics.[4] Many psychiatric clinics are being set up in big cities and urban areas across the country, and the real number of such services is likely to be in excess of 2000. There is now a greater focus on access to community-based services and the rights of patients, so mental health care provision in Japan is undergoing a period of important change.[3]

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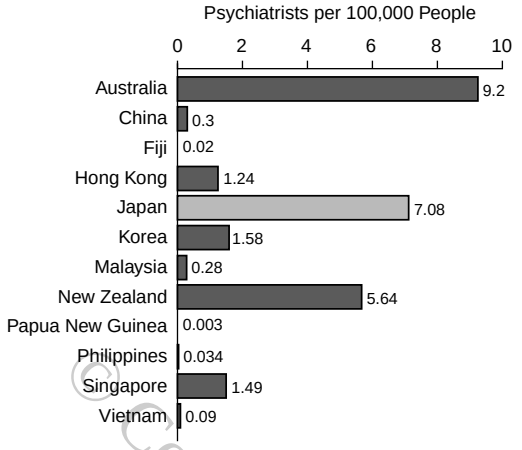
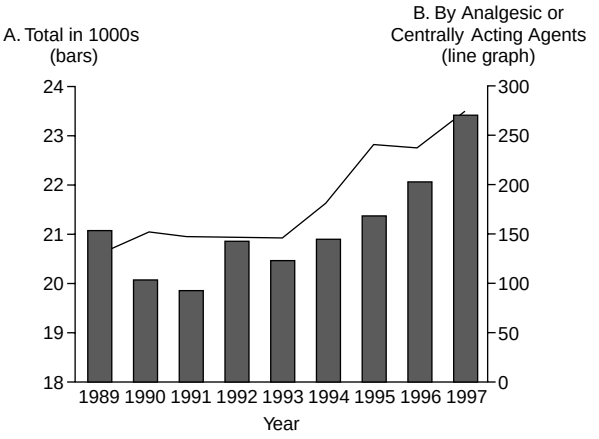
Figure 1. Number of Psychiatrists in the Pacific Region[a]



[a]Data from Shinfuku.[1]

Figure 2. Transitions in the Rate of Total Suicides (A) and Suicides by Drug Overdose (B)[a]



[a]Data from the Ministry of Health and Welfare Information Department, Tokyo, Japan.[2]

Changes are also required, however, in terms of the provision of education in psychiatry, as some fundamental problems still exist. There is no formal or obligatory postgraduate educational system in the discipline, and there is no certification of psychiatric specialists by the Japanese Psychiatric Association. The only routes for qualification are through the Japanese Ministry of Health and Welfare and the Japanese Mental Health Act, the main function of which is to perform involuntary admissions. Recertification in psychiatry, involving a day of educational lectures, is necessary once every 5 years.

CONSEQUENCES OF UNTREATED DEPRESSION: SUICIDE IN JAPAN

As in many other nations around the world, depression is underrecognized and undertreated in Japan, and the serious consequences of this are reflected by the national suicide rate. In the late 1960s, there were fewer than 15,000 suicides in Japan, but since the 1970s, levels have increased and remained at more than 20,000 each year.[5] From the period 1991 to 1997 there was a further significant rise in the number of successfully completed suicides, to reach a peak of approximately 23,000 annually (Figure 2A [bar chart]).[2] This sharp rise observed since 1991 coincides with the end of the "bubble economy" in Japan. A large proportion of the victims were middle-aged men, and the high suicide rate has been attributed to economic difficulties (rather than any change in case collection). Letters to the family left by people committing suicide often support the link between suicide and economic problems. Most recent figures suggest that the total suicide rate in Japan has risen a further 10,000 in the past 2 years, with an alarming 33,000 suicides in 1999.[6] This new peak has been linked to an economic recession following bankruptcies of several large organizations 2 or 3 years ago.

A study of depression and life events has revealed that undesirable events and problems of work specifically play a role in the onset of depression in Japanese individuals.[7] A related study of occupational factors has shown that the incidence of depression has increased with the process of industrialization in Japan and the resultant societal and cultural changes.[8] It has been estimated that 30% to 50% of suicides in younger or "prime" generations can be accounted for by psychiatric disorders.[5] Epidemiologic studies show that the rate of suicide in the elderly (aged 65 years or over) is consistently higher than among younger age groups, irrespective of gender.[5] While elderly individuals make up 12% of the Japanese population, they account for almost one third of all suicide victims.[9] The high rate of suicide in the elderly has been attributed to physical illness and unrecognized depression.[5]

In line with the rise in total suicide rate, the number of suicides by overdose with analgesics or other centrally acting agents has also increased (Figure 2B [line graph]). However, this method accounts for a surprisingly low proportion of all suicides: of over 23,000 suicides in 1997, only around 280 were attributed to drug overdose.[2] Unfortunately, the most common methods of suicide attempts in Japan are also those most likely to be fatal. For example, hanging is a very common method of suicide by both men and women, particularly among older generations.[5] Jumping from a tall building or diving onto railway tracks are also very common methods, such that in Tokyo, the Central Line railway has had regular disruption of train services due to the suicide attempts of Japanese office workers.

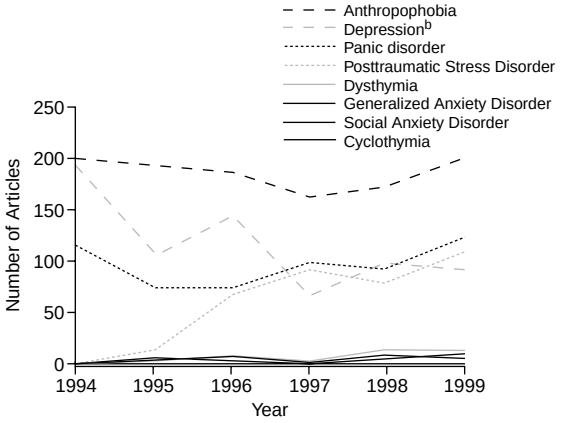
The high rate of suicide, especially in those facing economic crisis and among the ever-increasing elderly population, highlights that effective prevention underlies the

Table 1. Frequency of Mental and Behavioral Disorders in a Nagasaki Outpatient Clinic[a]

Disorder	ICD-10 Code	Prevalence[b] (%)
Alcohol dependence syndrome	F10.2	3.7
Harmful use of alcohol	F10.1	2.5
Depressive episode or recurrent depressive disorder	F32.0/F33.0	2.6
Persistent mood disorders	F34.0	0.4
Agoraphobia	F40.0	0.0
Panic disorder	F41.0	0.2
Generalized anxiety disorder	F41.1	5.0
Somatization disorder	F45.0	0.1
Hypochondriacal disorder	F45.2	0.4
Neurasthenia	F48.0	3.4

[a]Data from Nakane.[13] Abbreviation: ICD-10 = *International Classification of Diseases*, Tenth Edition.
[b]Point prevalence.

Figure 3. Frequency of Terminology of Depression and Anxiety Disorders Used in Japanese Medical Literature[a]



[a]Data from Japana Centra Revoo Medicine (Database of Japanese Medical Journals).
[b]Includes bipolar disorder.

need for detection and appropriate management of depression, which should become an urgent priority for Japanese psychiatric services.[5,9,10]

EPIDEMIOLOGY OF DEPRESSION AND ANXIETY DISORDERS

As observed in other countries around the world, the number of people with mood and anxiety disorders in Japan has significantly increased in recent years.[11] Data from the Ministry of Health and Welfare show the number of people with ICD-10 mood disorders has risen from 97,000 in 1984 to 433,000 in 1996.[2] This almost 5-fold elevation has been attributed mostly to an increased rate of unipolar major depression. Rates of ICD-10 neurotic, stress-related, and somatoform disorder have also significantly increased, from 260,000 in 1984 to 466,000 in 1996.[2] While these data give an indication of the number of patients recognized and treated, there are likely to be many more that remain undiagnosed and untreated.

Epidemiologic studies of psychiatric disorders using structured interviews and operational diagnostic criteria are rare in Japan.[12] In collaboration with the World Health Authority, Nakane[13] examined the prevalence of mental and behavioral disorders in patients attending the outpatient clinic of internal medicine, general hospital of Nagasaki (Table 1). Patients were diagnosed and classified according to ICD-10 criteria.[14] Depression (defined as a depressive episode or recurrent depression) was observed in 2.6% of patients, which is a lower rate than described in many other studies either within Japan or in other developed countries (see review by J.-P. Lépine, this issue[15]). Similarly, the rate of panic disorder (0.2%) was somewhat lower than might be expected, whereas rates of alcohol dependence (3.7%) were high. Almost 15% of individuals had 1 coexistent disorder or more, and 3% had 2 or more comorbid conditions. Differences in the prevalence of individual disorders in the Nagasaki study,[13] compared with studies in other regions, might be accounted for by the rural nature of the district, and may not be a true reflection of experience in everyday clinical practice across Japan.

Indeed, prevalence rates of depression may not be much lower in Asia than in Western countries. Using standardized diagnostic criteria and methods, a prevalence rate of over 20% for depression was found across 3 Asian centers in Shanghai, Seoul, and Nagasaki.[16] Similarly, recent community studies in Japan have shown a lifetime prevalence of major depressive episode of 19% to 24%.[12]

DIAGNOSTIC INCONSISTENCIES

Reporting and Terminology in Japanese Medical Literature

Use of internationally standardized diagnostic criteria is still in its early stages in Japanese psychiatry. Traditionally, Japanese psychiatry has its origin in German psychiatry, and psychiatrists, of the older generation in particular, are still somewhat skeptical about putting DSM diagnostic theory[17] into practice. Figure 3 shows the number of publications in Japanese medical journals that reported the use of DSM diagnostic categories and related terms in psychiatry (Japanese Medical Abstract Society [JMAS] database).

Anthropophobia, or *taijin kyofusho*, is a disorder that is widely recognized and written about in Japanese medical literature—the subject of over 200 papers in 1999. It is a concept diagnostically distinct from Western psychiatric categories of DSM or ICD-10 criteria.[18] Taijin kyofusho shares some symptoms with DSM-IV social anxiety disorder (social phobia), most notably the fear of making eye contact and blushing/flushing of the face.[19] However the origin of taijin kyofusho covers a very broad rubric of anxieties and symptoms, and includes other conditions

that are separately categorized in DSM-IV, including major depression, dysmorphophobia, and personality disorders[18,19]; in more severe cases, the disorder can be a delusional state. The syndrome of taijin kyofusho is widely acknowledged in Japan; it is considered by some as almost part of an individual's personality or culture, rather than a medical illness. Therefore the condition remains largely undertreated.

DSM Depression and Anxiety Disorders

The diagnostic terms *dysthymic disorder*, *generalized anxiety disorder*, *social anxiety disorder*, and *cyclothymic disorder* are rarely used in daily clinical practice in Japan, and were each cited in fewer than 20 articles in 1999. Although many more manuscripts were published on bipolar disorder, the number has somewhat decreased in the last few years. In contrast, panic disorder is well recognized, and interest in the diagnosis of posttraumatic stress disorder (PTSD) has risen 10-fold in the past 6 years (JMAS). Increased recognition of PTSD, in particular, was forced by 2 national disasters in 1995: the devastating Hanshin-Awaji earthquake, in which over 5000 people were killed instantly in the crush of buildings and fire, followed 2 months later by the Tokyo subway terrorist attacks in which many commuters suffered acute sarin poisoning.

In the immediate aftermath of the earthquake, 48% of people in the areas that were most seriously damaged experienced symptoms of PTSD; 18 months later, symptoms persisted in almost 13% of these individuals.[20] While fear and anxiety were the immediate psychological effects of the earthquake, development of secondary depression was also common.[21] Research following the Tokyo subway terrorist attacks showed that while the immediate physical effects of sarin poisoning have diminished, the psychological impact of the incident, such as symptoms of PTSD, has been more persistent.[22–24] Effective management of PTSD is currently an urgent need in Japan. As in other advanced nations, there is increasing interest in trauma-related psychopathology and the utility of pharmacologic treatments (such as selective serotonin reuptake inhibitors [SSRIs]) and cognitive-behavioral therapies, which treat immediate psychological symptoms and may prevent the onset of comorbid disorders such as depression.[25]

TREATMENT AVAILABILITY AND UPTAKE

Japan is no exception to other industrialized countries in its undertreatment of depression.[26] Of those who are treated, tricyclic and tetracyclic antidepressants and the partially selective noradrenergic reuptake inhibitor maprotiline have formed the mainstay of antidepressant therapy.[27] Benzodiazepines are the most widely available and commonly prescribed anxiolytics. Owing to strict governmental legislation and difficulty enrolling patients in treatment studies, no new antidepressants were launched in Japan between the years 1991 and 1999 (Table 2). Therefore, until recently, SSRIs were not available for the treatment of depression and anxiety disorders.

Table 2. Launch Year of Antidepressants and Antianxiety Agents in Japan

Antidepressant	Year	Antianxiety Agent	Year
Imipramine	1959	Chlordiazepoxide	1961
Amitriptyline	1961	Diazepam	1964
Trimipramine	1965	Oxazolam	1970
Nortriptyline	1971	Medazepam	1971
Clomipramine	1973	Cloxazolam	1973
Sulpiride	1979	Bromazepam	1977
Amoxapine	1980	Lorazepam	1978
Lithium carbonate	1980	Clotiazepam	1979
Lofepramine	1981	Fludiazepam	1981
Maprotiline	1981	Prazepam	1981
Mianserin	1983	Alprazolam	1984
Dothiepin	1985	Etizolam	1984
Setiptiline	1989	Flutazolam	1984
Trazodone	1991	Flutoprazepam	1986
Fluvoxamine	1999	Ethyl loflazepate	1988
Paroxetine	2001	Tandospirone citrate	1996

In 1999, fluvoxamine was the first SSRI to be launched into the Japanese market (indicated for depression and obsessive-compulsive disorder), and was closely followed by paroxetine (for depression and panic disorder). As has been observed with the launch of these agents in other countries, prescribing practice in Japan is undergoing rapid change. The launch of SSRIs, with the expectation of improved efficacy and tolerability, has led to a doubling in the sales of antidepressants in Japan since 1998, with sales currently standing at approximately U.S. $270 million (over 27,000 million yen).[28] Sales of anxiolytics, however, have remained stable at approximately U.S. $450 million (over 45,000 million yen) per year. The interest in the use of SSRIs for the treatment of depression and anxiety disorders is felt not just among psychiatrists and other medical professionals, but also among lay people who would welcome new therapies for these disorders. However, even now the market for antidepressants is small in Japan relative to other developed countries, which may reflect a lack of knowledge about the new generation treatments among Japanese psychiatrists.

A SURVEY OF PRIMARY CARE PHYSICIANS

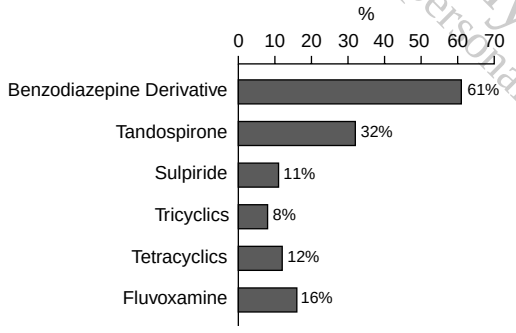
Preliminary results of a survey conducted in primary care have shed light on the current recognition and treatment of depression and panic disorder in Japan (O.T., unpublished data, 2000). Data are available from 74 primary care physicians, working mostly in internal medicine (69%). The majority of respondents (64%) were of the older generation, aged 60 years or more, which reflects the mean age of primary care physicians in Japan. A summary of results is shown in Table 3.

Table 3. Survey of Recognition and Treatment of Depression and Panic Disorder in Primary Care[a]

Question	Response[b]	%
Do you make the diagnosis depression?	Yes	37
	Diagnose possible depression	18
	Diagnose depressive mood	29
	Difficult to diagnose even depressive mood	16
Do you prescribe antidepressants for depressive mood?	No	23
	Use antianxiety agents (including tandospirone)	33
	Use antidepressants (including sulpiride)	44
Do you prescribe a selective serotonin reuptake inhibitor for depressive mood?	No	58
	Sometimes	26
	Frequently	15
Have you diagnosed panic disorder?	Never	47
	Diagnosed possible panic disorder	28
	Diagnosed panic disorder	24
How do you treat repeated hyperventilation-like episodes (or panic disorder)?	No treatment	9
	Use antianxiety agents	49
	Use antidepressants	3
	Refer to a psychiatrist or psychosomatic physician	50

[a]O. Tajima, M.D., Ph.D., unpublished data.
[b]Includes multiple answers.

Figure 4. Frequently Prescribed Medication for Depressed Mood From a Survey Among Primary Care Practitioners (N = 74)[a]



[a]O. Tajima, M.D., Ph.D., unpublished data.

The survey revealed that only around one third of respondents stated they could confidently make a diagnosis of depression, with 16% of physicians reporting that it was difficult to diagnose even depressive mood. While around half of those who diagnosed depressive mood prescribed antidepressants, 33% prescribed antianxiety agents, and 23% do not prescribe antidepressants. A breakdown of the most frequently prescribed medications for depressive mood is provided in Figure 4, showing high usage of benzodiazepines. The recently licensed SSRI fluvoxamine was frequently prescribed for depression by only 16% of physicians. Around half of those surveyed reported never prescribing an SSRI, which may be due to the adverse tolerability profile of fluvoxamine (a reported high incidence of nausea) as well as a lack of experience with this drug class. Evaluation of fluvoxamine by physicians who frequently prescribed it (N = 35) showed that only around one third of them viewed it as both effective and safe.

The questionnaire also demonstrated that panic disorder may be greatly underdiagnosed in primary care. When presented with a case history of panic disorder, only 2% of respondents accurately diagnosed the condition, while half of respondents made a diagnosis of hyperventilation syndrome. Less than one third of respondents had ever made a diagnosis of panic disorder, 50% of physicians questioned in the survey referred hyperventilation syndrome cases to a psychiatrist or psychosomatic physician for specialist treatment, while in 49% of cases an antianxiety agent was prescribed.

CONCLUSIONS

The recognition and treatment of depression and anxiety disorders in Japan have historically been lower than those observed in Western nations. However, Japanese psychiatry is undergoing a period of important change. Improvements in health care provision have permitted a greater focus on accessible psychiatric services. Adoption of internationally standardized diagnostic criteria and terminology in psychiatry will provide additional advances in assessing prevalence and facilitating accurate diagnosis. Furthermore, experience with new and effective treatment options, notably the SSRIs, will contribute to reducing the burden of depression and anxiety disorders in Japanese society.

Drug names: alprazolam (Xanax and others), amitriptyline (Elavil and others), amoxapine (Asendin and others), bromazepam (Parlodel and others), chlordiazepoxide (Librium and others), clomipramine (Anafranil and others), diazepam (Valium and others), fluvoxamine (Luvox), lorazepam (Ativan and others), nortriptyline (Pamelor and others), oxazolam (Serax and others), paroxetine (Paxil), trazodone (Desyrel and others), trimipramine (Surmontil).

REFERENCES

1. Shinfuku N. Mental health services in the western Pacific region with specific reference to developing countries. Seishin Igaku 1994;36:230–238
2. MHW (Ministry of Health and Welfare) Statistics and Information Department. Statistical Abstracts on Health and Welfare in Japan. Health and Welfare Statistics Association; 1998
3. Shinfuku N. Mental health services in Asia: international perspective and challenge for the coming years. Psychiatry Clin Neurosci 1998;52: 269–274
4. JANPC (Japanese Association of Neuro-Psychiatric Clinics) listing. Tokyo, Japan: JANPC; 1999
5. Yoshioka N. Epidemiological study of suicide in Japan: is it possible to reduce committing suicide? [in Japanese] Nippon Hoigaku Zasshi 1998; 52:286–293
6. Health and Welfare Statistics Association. J Health Welfare Statistics 2000;47
7. Nanko S, Demura S. Life events and depression in Japan. Acta Psychiatr Scand 1993;87:184–187
8. Otsuka K, Kato S. Relationship between diagnostic subtypes of depression and occupation in Japan. Psychopathology 2000;33:324–328
9. Takahashi Y, Hirasawa H, Koyama K, et al. Suicide and aging in Japan:

an examination of treated elderly suicide attempters. Int Psychogeriatr 1995;7:239–251
10. Takahashi Y, Hirasawa H, Koyama K, et al. Suicide in Japan: present state and future directions for prevention. Transcultural Psychiatry 1998;35: 271–290
11. Cross-National Collaborative Group. The changing rate of major depression: cross-national comparisons. JAMA 1992;268:3098–3105
12. Kitamura T. Psychiatric epidemiology in Japan: towards psychological understanding of the etiology of minor psychiatric disorders. Psychiatry Clin Neurosci 1998;52(suppl 1):S275–S277
13. Nakane Y. International cooperative study on mental diseases [in Japanese]. Seishin Shinkeigaku Zasshi 1995;97:471–484
14. World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders: clinical descriptions and diagnostic guidelines. Geneva, Switzerland: World Health Organization; 1992
15. Lépine J-P. Epidemiology, burden, and disability in depression and anxiety. J Clin Psychiatry 2001;62(suppl 13):4–10
16. Nakane Y, Ohta Y, Radford M, et al. Comparative study of affective disorders in three Asian countries, 2: differences in prevalence rates and symptom presentation. Acta Psychiatr Scand 1991;84:313–319
17. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Washington, DC: American Psychiatric Association; 1994
18. Ono Y, Yoshimura K, Sueoka R, et al. Avoidant personality disorder and taijin kyoufu: sociocultural implications of the WHO/ADAMHA International Study of Personality Disorders in Japan. Acta Psychiatr Scand 1996; 93:172–176
19. Russell JG. Anxiety disorders in Japan: a review of the Japanese literature on shinkeishitsu and taijinkyofusho. Cult Med Psychiatry 1989;13:391–403
20. Tainaka H, Oda H, Nakamura S, et al. Workers' stress after Hanshin-Awaji earthquake in 1995: symptoms related to stress after 18 months [in Japanese]. Sangyo Eiseigaku Zasshi 1998;40:241–249
21. Shioyama A, Uemoto M, Shinfuku N, et al. The mental health of school children after the Great Hanshin-Awaji Earthquake, 2: longitudinal analysis [in Japanese]. Seishin Shinkeigaku Zasshi 2000;102:481–497
22. Ohbu S, Yamashina A, Takasu N, et al. Sarin poisoning on Tokyo subway. South Med J 1997;90:587–593
23. Murata K, Araki S, Yokoyama K, et al. Asymptomatic sequelae to acute sarin poisoning in the central and autonomic nervous system 6 months after the Tokyo subway attack. J Neurol 1997;244:601–606
24. Yokoyama K, Araki S, Murata K, et al. Chronic neurobehavioral and central and autonomic nervous system effects of Tokyo subway sarin poisoning. J Physiol Paris 1998;92:317–323
25. Wada H. Psychopathology and treatment of traumatic mental disorders: on the vicissitude and controversy around theory and practice [in Japanese]. Seishin Shinkeigaku Zasshi 2000;102:335–354
26. Furukawa TA, Kitamura T, Takahashi K. Treatment received by depressed patients in Japan and its determinants: naturalistic observation from a multi-center collaborative follow-up study. J Affect Disord 2000;60: 173–179
27. Oshima A, Higuchi T, Fujiwara Y, et al. Questionnaire survey on the prescribing practice of Japanese psychiatrists for mood disorders. Psychiatry Clin Neurosci 1999;53(suppl):S67–S72
28. New aged antidepressants [editorial]. Gekkan MIX 2000:28:40–57