

Profile of Major Depressive Disorder Symptoms Among Patients in Tehran

Mitra Hakimshoostary, MD¹

Javad Alagheband rad, MD²

Vandad Sharifi, MD^{2,3},

Fariba Arabgol, MD⁴

Amir Shabani, MD¹

Zahra Shahrivar, MD²

Elham Shirazi, MD¹

Rozita Davari, MD⁴

Mehdi Tehranidoost, MD²

Homayoun Amini, MD^{2,3}

1 Department of Psychiatry, Iran University of Medical Sciences, Mental Health Research Center, Tehran, Iran

2 Department of Psychiatry, Tehran University of Medical Sciences, Tehran, Iran

3 Psychiatry and Psychology Research Center, Roozbeh Hospital, Tehran University of Medical Sciences, Tehran, Iran

4 Department of Psychiatry, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author:

1 Mitra Hakimshoostary, MD Assistant Professor of Child and Adolescent Psychiatry, Iran University of Medical Sciences, Tehran Institute of psychiatry, Mansuri Street, Niayesh Street, Satterkhan Avenue, Tehran, 1443813444, Iran.
Email:mitra_hakim2000@yahoo.co
Tel:+98-21-44525615

Objectives: Culture may place a differential emphasis on particular emotions. The aim of this study is to find the most frequent symptoms in patients with major depressive disorder in Tehran.

Method: 509 patients were recruited from 5 treatment settings. The sample was used from the project of assessing psychometric properties of CIDI in the Iranian population. The patients were evaluated by conducting clinical interviews and using DSM-IV criteria (American Psychiatric Association, 1994) for major depressive disorder.

Results: Depressed mood (98.7%), sleep change (92.1%) and, fatigue / energy loss (89.4%) were the three highest-ranking symptoms. As cognitive factors, guiltiness and worthlessness were among the lowest ranking symptoms. There were no significant differences between men and women in frequency of symptoms with the exception of suicidal thoughts. Men had significantly higher suicidal thoughts than women. (P: 0. 01)

Conclusion: Data were presented on the depressive symptomatology in population of Tehran. Key findings included a high rate of somatic symptoms in patients who suffered from MDD in this population.

Key Words:

Culture, Iran, Major depressive disorder, Sign and symptoms

Iran J Psychiatry 2007; 2: 35-41

Depressive disorders are a widespread condition around the world and patients suffering from it, represent a great percentage of patients who need or seek mental health care. The expression of depressive mood and symptoms can be effected by culture, due to the fact that psychological distress is related to personal history and is a subjective experience expressed in one's own language. Culture may place a differential emphasis on particular emotions. Some cultures encourage (i.e., Iranians) or discourage (i.e., Navajos) the exhibition of extreme sadness (1-4).

Culture effects neural systems, psychological presentations, and interactional patterns which constitute the affect domain throughout a person's life span. Culture provides categories and a lexicon for emotional experience, making some feelings salient

and others more difficult to articulate. It influences the sources of distress, the form of illness experience, symptomatology, the interpretations of symptoms, modes of coping with distress, help-seeking, and the social response to distress and disability.

Thus, people from different ethnic and cultural backgrounds may represent different symptoms of MDD There is some debate about cultural variations in clinical presentation of each DSM-IV disorders.

The impression that Asians and Africans are more prone to somatize than North Americans, has been chiefly based on anecdotal observations or researches that compared people in very different health care systems (5). In the early study of Kleinman (1986) on those attending a psychiatric outpatient clinic in China; he established that only 1% of the patients were diagnosed as having depression vs. 30% diagnosed as

having neurasthenia (6). Another study compared the symptoms of depression in Chinese and Australian subjects. The Chinese showed somatic symptoms more frequently while the Australians showed cognitive and anxiety symptoms and a depressed mood (7). The Punjabi model of 'sinking heart' also offers a culture-bound explanation of somatic symptoms. This model is based on specific culturally-based ideas about the person, the self and the heart and it is based on the assumption that physical, emotional and social symptoms of pathology, accompany each other (8). On the other hand, depressed patients in Western countries may also frequently report somatic features (e.g., pain, headache, chest sensation, muscle weakness); this "corporisation" component (Schneider 1920) has long been recognized (9). Depression may lower the threshold at which individuals become aware of their physical functioning problems and they physically experience, a phenomenon termed "somatosensory amplification" (10). Such a possibility is supported by negative studies (e.g. Cheng 1989) which failed to discover the evidence of greater somatisation in non-western regions vs. western regions. This failure allows a conclusion that depressed patients, irrespective of culture, are highly likely to report somatic symptoms (11-13). In the last 30 years, researchers tended to confirm the results of the phenomenological orientations or clinical investigations of the first half of the 20th century. Although the feelings of guilt appeared in the course of depressive disorders of nearly all cultures, they were definitely more frequent in the western world. Nevertheless, hypochondriac ideas were the core ideation of depressives in non-Christians cultures (14). The aim of this study is to find the most frequent symptoms of MDD patients in Tehran.

Materials and Method

In the present study, we examined the symptoms of a sample of MDD patients in five treatment settings in Tehran using DSM-IV criteria. We used the sample from the project of assessing psychometric properties of CIDI in the Iranian population (Alagh-e-band rad et al, 2003). 509 patients were recruited from 5 treatment settings in the form of outpatient or inpatient. The settings included three University Hospitals and two psychiatric clinics in the capital of Iran (Tehran). The patients were referred to these centers from all areas of Tehran. The method of sampling was convenient. Inclusion criteria were speaking Persian, 18-65 years of age, lack of mental retardation and dementia. All the patients who were admitted to the wards were selected sequentially. First and second outpatient cases were selected daily. Two residents of psychiatry conducted clinical assessment and evaluated all the patients using DSM-IV criteria (American Psychiatric Association, 1994) for MDD. The diagnosis was recorded after a consensus was reached by the mentioned residents.

Chi-square tests were utilized to compare categorical variables. The type I error level set on 0.05, was adopted for all the comparisons.

One-way ANOVA was utilized to assess the effects of sociodemographic factors on depressive symptoms. Post hoc contrasts were performed using pooled error terms which were derived from the ANOVA results.

Results

509 patients were evaluated; 151 (29.7%) fulfilled DSM-IV criteria for MDD. 97 (64.2%) of the subjects were male and 54 (35.8%) were female. Table 1 separately demonstrates the characteristics of male and female patients. Male to female ratio in main sample was 1.8:1.

There were no statistically significant differences among patients concerning sociodemographic variables. It should be noted that 65 (43%) and 86 (57%) of the patients experienced single episode and recurrent episodes respectively.

Table 2 illustrates the mean number of depressive symptoms by selected demographic characteristics: including age, education and marital status. Even though young adults reported more symptoms than other age groups and considering that the old adults had the lowest symptoms, no significant differences were observed between different age groups.

In regard to educational status, it was found that as education increases, the mean number of symptoms decreases. (P: 0.03) Post hoc contrasts indicated that patients with academic education differ significantly in the mean number of symptoms compare to patients with high school level of education. (Table 2)

Concerning the mean number of symptoms, no significant difference between the married men and women was observed. All of the significant differences were observed among different marital states.

Table 3 demonstrates the results of DSM-IV criteria by gender differences. Depressed mood (98.7%), sleep change (92.1%) and fatigue / energy loss (89.4%) were the three highest-ranking symptoms.

Table 1: Sociodemographic characteristics of 151 MDD patients in Iran

| Variable | Male (N=97) | Female (N=54) | Statistical tests for comparing males and females |
|------------------------------|-------------|---------------|---|
| Age, Mean | 35.2(10.6) | 35 (12.6) | P: NS† |
| Marital status, N (%) | | | |
| Married | 53 (35.1%) | 31(20.5%) | |
| Divorced | 12 (7.9%) | 7(4.7%) | |
| Single | 33 (21.9%) | 15 (9.9%) | P: NS |
| Education, N (%) | | | |
| None | 5 (3.4%) | 6 (3.9%) | |
| 1-8years | 42 (27.8%) | 15 (9.9%) | |
| 9-11years | 15 (9.9%) | 4 (2.7%) | |
| >=12 | 36 (23.8%) | 28 (18.6%) | P: NS |

† NS= Non significant

Table 2. The mean number of MDD symptoms by demographic characteristics

| Variables | Mean number of MDD symptoms | Statistical tests for comparing groups (ANOVA) |
|-----------------------|-----------------------------|--|
| Age groups | | |
| <39 years | 7.2 | P: NS† |
| 40-59 years | 7.1 | |
| >=60 | 6.5 | |
| Marital status | | |
| Married | 7.1 | P: NS |
| Divorced | 6.8 | |
| Single | 7.7 | |
| Education | | |
| None | 7.7 | P: 0.03 |
| 1-8 years | 7.4 | |
| 9-11 years | 7.1 | |
| >=12 years | 6.8 | |

† NS= Non significant

The second and third most frequent symptoms in males were fatigue (90.7%) and sleep change (88.7 %) respectively; sleep change was more common than fatigue in females (98.1% vs. 87%). However, cognitive factors, guiltiness and worthlessness were among the lowest ranking symptoms.

There were no significant differences between men and women in frequency of symptoms with the exception of suicidal thoughts. Men had significantly higher suicidal thoughts than women. (P: 0.01)

Discussion

Differences by gender are often difficult to disentangle from confounding factors such as education, and marital status (15). Therefore, selected confounders that could mystify the associations between gender and depressive symptomatology based on prior research were included. These confounders included individual-level characteristics such as age, education and marital status.

Our results suggest that there were not any significant differences in depressive symptomatology between different age groups. This finding is not consistent with the evidence that the prevalence of depressive symptomatology appears to be higher among the young adults, lower in the middle aged and ascending among the adults in their late 60s or older (16, 17). There is a curvilinear relationship between age and depressive symptomatology. Nevertheless, the authors did not use the DSM-IV criteria for the evaluation of depressive symptoms. It should be noted that there are only 2 patients in the old adult group; therefore, the results should be interpreted with caution.

The patients' educational status indicated that persons with higher education, report lower symptoms; this result is consistent with previous studies (18).

This result may be due to their higher level of coping skills and problem solving abilities. Moreover, educated persons probably hold better occupations and experience less financial problems. They have higher sources for support and social security.

In regard to marital status, it was found that persons with different marital states did not report symptoms

differently. The low number of divorced patients in this study, declines the generalization ability of the findings.

No difference between married men and women were observed in regards to the mean number of the symptoms.

The overall pattern of MDD symptoms in the sample was almost similar to pattern of MDD in the patients observed in other studies. Depressed mood was the most frequent symptom in the patients. In a study carried out in Kenya, similar results were obtained; 95% of their patients reported depressed mood (19). With examining manifestations of depressive symptomatology among undergraduate students in East Asia, North and South America, the Japanese reported a significantly higher level of low positive affect compare to North and South American students (20).

The literature indicates that the threshold at which "normal" is demarcated from "abnormal" may vary by gender and cultural group (21-27). However, in this study, depressed mood was the most frequent symptom in both sexes.

In this study, the patients showed fatigue (somatic symptom) as the second most common symptom in males and the third most frequent symptom in females. This finding is consistent with some studies conducted on Asians. In one study which compared two sets of depressed patients (Chinese and Australians) it was found that the Chinese were more likely to nominate a somatic symptom as their presenting complaint (60% vs. 13%), while the Australians were more likely to nominate depressed mood, cognitive and anxiety items (7).

The study by Simon et al. (1999) that covered Western regions, China, India, and a range centers across Europe, Africa, Asia, and South America demonstrated similar results (28). They classified depression by DSM-IV MDD criteria. The prevalence of the diagnosed depression varied considerably across the centers. Furthermore, the proportion of the assigned depressed patients who reported the presence of somatic symptoms as their reason for consultation was also differed (ranging from 45% in Paris to 95% in Turkey). Thus, establishing the rates of somatization as a presenting phenomenon is culturally determined.

In another study, a community sample of Canadian immigrants from three different ethno cultural groups (Afro-Caribbean, Vietnamese, and Filipino) was examined (29). There were differences between the groups in the prevalence of emotional distress. However, when the level of distress was controlled, some evidence of higher levels of somatic symptoms was observed among the Vietnamese men.

Similarly, a comparison between Asian and Caucasian patients, demonstrated more somatic and depressive symptoms in Asians. One research conducted between Turkish and German patients, illustrated higher frequencies of somatic preoccupation and hypochondriasis in Turkish patients (30).

Table 3. Frequency of DSM-IV Criteria for MDD in 151 Patients in Iran

| MDD symptoms | Males | Females | Total | Statistical tests for comparing Males and females |
|---------------------------------|------------|------------|-------|---|
| Depressed mood | 95 (97.9%) | 54 (100%) | 98.7% | NS † |
| Fatigue or loss of energy | 88 (90.7%) | 47 (87%) | 89.4% | NS |
| Insomnia or hypersomnia | 86 (88.7%) | 53 (98.1) | 92.1% | NS |
| Markedly diminished interests | 81 (83.5%) | 41 (75.9%) | 80.8% | NS |
| Recurrent thoughts of death | 79 (82.3%) | 34 (63%) | 74.8% | P-value: 0.01 |
| Diminished concentration | 73 (75.3%) | 47 (87%) | 79.5% | NS |
| Significant weight loss or gain | 71 (73.2%) | 41 (75.9%) | 74.2% | NS |

† NS= Non significant

In our study, insomnia was the second most common symptom in females and the third most common symptom in male patients. Insomnia is a particularly interesting symptom as a number of Asian psychiatrists have argued that it is one of the most common reasons for the depressed Chinese and Indian patients seeking assistance (7). This may suggest that insomnia is a culture-based proxy symptom of depression, and is likely to be reported in certain regions. However, it is debatable whether insomnia is truly a proxy of depression in some cultures, directly correlated to it, or a consequence of depression per se. Certain somatic features may well be true concomitants of depression (induced or amplified by it) and therefore not be distinctly and culturally determined. To our knowledge, no comparison data about insomnia are available in the literature.

As a cognitive symptom, guiltiness occurred less in these patients. Our findings in this regard are in accordance with those of Murphy, who suggests that ideas of guilt seem to be infrequent in Eastern cultures unlike European and North American cultures (26). Some authors reported 65% guilt feelings in depressed patients in Kenya (19). The difference was often interpreted as a consequence of socialization in a culture bearing the Judaic-Christian faith.

However, El Islam proved that feelings of guilt are frequent in Islamic countries (31). Kimura claimed that this also holds true for Vietnam and Japan; the main difference lies in the guilt-inspiring instances and in the values regarded as threatened by certain actions or omissions (32).

We observed the gender differences of symptoms only in suicidal thoughts. There was a meaningful difference between males and females in reporting suicidal thoughts.

We are unaware of any studies that have compared suicidal thoughts in MDD male and female patients. Silverstein indicated that female subjects exhibit higher prevalence of somatic depression (33).

Greater likelihood of somatisation by these depressed patients is likely to reflect a number of determinants

including: 1) idiomatic reporting; 2) emotional language being linked to metaphors and physical symbolization; 3) differences in "psychological mindedness"; 4) greater stigma associated with illness 5) a view of any emotionality as being weak-willed.

Somatic symptoms serve as cultural idioms of distress in many ethno cultural groups. The most common somatic symptom of depression is musculoskeletal pain and fatigue.

The implication of cultural shaping of illness experience is that symptoms cannot simply be interpreted as indices of disorder but should be understood as interpersonal communications by the clinician.

To summarize, data were presented on the depressive symptomatology in the population of Tehran. Key findings included a high rate of somatic symptoms in patients who suffered from MDD. In addition, only suicidal thoughts were different between males and females. These findings may be used as a clinical guideline for mental health care providers differently. The low number of divorced patients in this study, declines the generalizability of the findings.

No difference between married men and women were observed in regards to the mean number of the symptoms.

The overall pattern of MDD symptoms in the sample was almost similar to pattern of MDD in the patients observed in other studies. Depressed mood was the most frequent symptom in the patients. In a study carried out in Kenya, similar results were obtained; symptomatology among undergraduate students in East Asia, North and South America, the Japanese reported a significantly higher level of low positive affect compared to North and South American students (20). The literature indicates that the threshold at which "normal" is demarcated from "abnormal" may vary by gender and cultural group (21-27). However, in this study, depressed mood was the most frequent symptom in both sexes.

In this study, the patients showed fatigue (somatic symptom) as the second most common symptom in

males and the third most frequent symptom in females. This finding is consistent with some studies conducted on Asians. In one study which compared two sets of depressed patients (Chinese and Australians) it was found that the Chinese were more likely to nominate a somatic symptom as their presenting complaint (60% vs. 13%), while the Australians were more likely to nominate depressed mood, cognitive and anxiety items (7).

The study by Simon et al. (1999) that covered Western regions, China, India, and a range of centers across Europe, Africa, Asia, and South America demonstrated similar results (28). They classified depression by DSM-IV MDD criteria. The prevalence of the diagnosed depression varied considerably across the centers. Furthermore, the proportion of the assigned depressed patients who reported the presence of somatic symptoms as their reason for consultation also differed (ranging from 45% in Paris to 95% in Turkey). Thus, establishing the rates of somatization as a presenting phenomenon is culturally determined.

In another study, a community sample of Canadian immigrants from three different ethno cultural groups (Afro-Caribbean, Vietnamese, and Filipino) was examined (29). There were differences between the groups in the prevalence of emotional distress. However, when the level of distress was controlled, some evidence of higher levels of somatic symptoms was observed among the Vietnamese men.

Similarly, a comparison between Asian and Caucasian patients, demonstrated more somatic and depressive symptoms in Asians. One research conducted between Turkish and German patients, illustrated higher frequencies of somatic preoccupation and hypochondriasis in Turkish patients (30).

In our study, insomnia was the second most common symptom in females and the third most common symptom in male patients. Insomnia is a particularly interesting symptom as a number of Asian psychiatrists have argued that it is one of the most common reasons for the depressed Chinese and Indian patients seeking assistance (7). This may suggest that insomnia is a culture-based proxy symptom of depression, and is likely to be reported in certain regions. However, it is debatable whether insomnia is truly a proxy of depression in some cultures, directly correlated to it, or a consequence of depression per se. Certain somatic features may well be true concomitants of depression (induced or amplified by it) and therefore not be distinctly and culturally determined. To our knowledge, no comparison data about insomnia are available in the literature.

As a cognitive symptom, guiltiness occurred less in these patients. Our findings in this regard are in accordance with those of Murphy, who suggests that ideas of guilt seem to be infrequent in Eastern cultures unlike European and North American cultures (26). Some authors reported 65% guilt feelings in depressed patients in Kenya (19). The difference was often

interpreted as a consequence of socialization in a culture bearing the Judaic-Christian faith.

However, El Islam proved that feelings of guilt are frequent in Islamic countries (31). Kimura claimed that this also holds true for Vietnam and Japan; the main difference lies in the guilt-inspiring instances and in the values regarded as threatened by certain actions or omissions (32).

We observed the gender differences of symptoms only in suicidal thoughts. There was a meaningful difference between males and females in reporting suicidal thoughts.

We are unaware of any studies that have compared suicidal thoughts in MDD male and female patients. Silverstein indicated that female subjects exhibit higher prevalence of somatic depression (33).

Greater likelihood of somatization by these depressed patients is likely to reflect a number of determinants including: 1) idiomatic reporting; 2) emotional language being linked to metaphors and physical symbolization; 3) differences in "psychological mindedness"; 4) greater stigma associated with illness 5) a view of any emotionality as being weak-willed.

Somatic symptoms serve as cultural idioms of distress in many ethno cultural groups. The most common somatic symptom of depression is musculoskeletal pain and fatigue.

The implication of cultural shaping of illness experience is that symptoms cannot simply be interpreted as indices of disorder but should be understood through interpersonal communications by the clinician.

To summarize, data were presented on the depressive symptomatology in the population of Tehran. Key findings included a high rate of somatic symptoms in patients who suffered from MDD. In addition, only suicidal thoughts were different between males and females. These findings may be used as a clinical guideline for mental health care providers.

References

1. Good BJ, Good MJD, Moradi R. The interpretation of Iranian depressive illness and dysphoric affect. In: Kleinman A, Good BJ, eds. *Culture and depression: Studies in the anthropology and cross-cultural psychiatry of affect and disorder*. Berkeley: University of California Press; 1985. p. 369-428.
2. Good MJD, Good BJ. Toward a meaning-centered analysis of popular illness categories: "FRIGHT ILLNESS" and "HEART DISTRESS" in IRAN. In: Marsella AJ, White GM, eds. *Cultural Conceptions of Mental Health and Therapy*. Boston: D. Reidel 1982. p. 141-166.
3. Miller SI, Schoenfeld LS. Suicide attempt patterns among the Navajo Indians. *Int J Soc Psychiatry* 1971; 17: 189-193.
4. Witherspoon G. *Language and Art in the Navajo Universe*. Ann Arbor, MI: University of Michigan Press; 1977.

5. Kawanishi Y. Somatization of Asians: An Artifact of Western Medicalization? *Transcult Psychiatry* 1992; 29: 5-36.
6. Kleinman A. *Social Origins of Distress and Disease: Depression, Neurasthenia, and Pain in Modern China*. New Haven: Yale University Press; 1986.
7. Parker G, Cheah YC, Roy K. Do the Chinese somatize depression? A cross-cultural study. *Soc Psychiatry Psychiatr Epidemiol* 2001; 36: 287-293.
8. Krause IB. Sinking heart: a Punjabi communication of distress. *Soc Sci Med* 1989; 29: 563-575.
9. Schneider K. The stratification of emotional life and the structure of the depressive states. *Zentralblat fuW r Neurologie, Psychiatrie* 1920; 59: 281.
10. Barsky AJ. Amplification, somatization, and the somatoform disorders. *Psychosomatics* 1992; 33: 28-34.
11. Bhatt A, Tomenson B, Benjamin S. Transcultural patterns of somatization in primary care: a preliminary report. *J Psychosom Res* 1989; 33: 671-680.
12. Cheng TA. Symptomatology of minor psychiatric morbidity: a crosscultural comparison. *Psychol Med* 1989; 19: 697-708.
13. Escobar JI, Gomez J, Tuason VB. Depressive phenomenology in North and South American patients. *Am J Psychiatry* 1983; 140: 47-51.
14. Stompe T, Ortwein-Swoboda G, Chaudhry HR, Friedmann A, Wenzel T, Schanda H. Guilt and depression: a cross-cultural comparative study. *Psychopathology* 2001; 34: 289-298.
15. Kessler RC, Neighbors HW. A new perspective on the relationships among race, social class, and psychological distress. *J Health Soc Behav* 1986; 27: 107-115.
16. Kessler RC, Foster C, Webster PS, House JS. The relationship between age and depressive symptoms in two national surveys. *Psychol Aging* 1992; 7: 119-126.
17. Newmann JP. Aging and depression. *Psychol Aging* 1989; 4: 150-165.
18. Manton KG, Stallard E, Corder L. Education-specific estimates of life expectancy and age-specific disability in the U.S. elderly population: 1982 to 1991. *J Aging Health* 1997; 9: 419-450.
19. Cawthron PA, Acuda SW. The clinical presentation of depressive illness at Kenyatta National Hospital, Nairobi. *East Afr Med J* 1981; 58: 843-847.
20. Iwata N, Buka S. Race/ethnicity and depressive symptoms: a cross-cultural/ethnic comparison among university students in East Asia, North and South America. *Soc Sci Med* 2002; 55: 2243-2252.
21. Chance NA. Conceptual and methodological problems in cross-cultural health research. *Am J Public Health Nations Health* 1962; 52: 410-417.
22. Good BJ, Good MDJ. The cultural context of diagnosis and therapy: A view from medical anthropology. In: Miranda M, Kitano H, eds. *Mental Health Research and Practice in Minority Communities: Development of Culturally Sensitive Training Programs*. Washington. DC: Department of Health and Human Services; 1986. p. 1-27.
23. Guarnaccia PJ, Good BJ, Kleinman A. A critical review of epidemiological studies of Puerto Rican mental health. *Am J Psychiatry* 1990; 147: 1449-1456.
24. Jenkins JH. Conceptions of schizophrenia as a problem of nerves: a cross-cultural comparison of Mexican-Americans and Anglo-Americans. *Soc Sci Med* 1988; 26: 1233-1243.
25. Manson SM, Shore JH, Bloom JD. The Depressive Experience in American Indian Communities: A Challenge for Psychiatric Theory and Diagnosis. In: Kleinman A, Good BJ, eds. *Culture and depression: Studies in the anthropology and cross-cultural psychiatry of affect and disorder*. Berkeley: University of California Press; 1985. p. 331-368.
26. Murphy JM, Hughes CC. The use of psychophysiological symptoms as indicators of disorder among Eskimos. In: Murphy JM, Leigh ton AH, eds. *Approaches to Cross-Cultural Psychiatry*. Ithaca, NY: Cornell University Press; 1965. p. 108-160.
27. Robins LN. Cross-cultural differences in psychiatric disorder. *Am J Public Health* 1989; 79: 1479-1480.
28. Simon GE, VonKorff M, Piccinelli M, Fullerton C, Ormel J. An international study of the relation between somatic symptoms and depression. *N Engl J Med* 1999; 341: 1329-1335.
29. Kirmayer LJ, Young A. Culture and somatization: clinical, epidemiological, and ethnographic perspectives. *Psychosom Med* 1998; 60: 420-430.
30. Ebert D, Martus P. Somatization as a core symptom of melancholic type depression. Evidence from a cross-cultural study. *J Affect Disord* 1994; 32: 253-256.
31. Gibbs HAR, Lewis B, Pellat CH, Bosworth C, eds. *The Encyclopedia of Islam*, 2nd edition, 11 vols. Leiden: E.J. Brill; 1960-2002.
32. Leon H. A recent Japanese study of Lao-tzu: Kimura Eiichi's Rshi no shin-kenky. *Monumenta Serica* 1961; 20: 311-367.
33. Experimental Cognition Faculty [homepage on the Internet]. Silverstein, B: The Cognitive Neuroscience, Inc; c [updated 2006 Feb 21; cited 2004 Oct 15]. Available from: http://origin.admin.ccny.cuny.edu/psychology/ECog/EC_Silverstein.htm.