

## Depression and its Correlation with Self-esteem and Social Support among Iranian University Students

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**Objective:** Considering the effects of the level of social support and self-esteem as risk factors in the onset and continuation of depression, the purpose of the current study (in addition to studying the demographic items of depression) was to investigate the correlation between depression and level of social support and self-esteem in Iranian university students studying non medical majors.

**Method:** The study was a cross-sectional descriptive-analytic research carried out on the students of Ferdowsi University of Mashhad in 2006. Self administered questionnaires on socio-demographic information (age, gender, marital status, and educational level), Eysenk self-esteem scale, Beck Depression Inventory and Cassidy social support scale were randomly given out to students who were selected by multi stage randomized sampling. The data were analyzed using SPSS version 14 using the  $\chi^2$ -test .

**Results:** 1200 students responded to the anonymous questionnaires. A total of 57.2% of the participants had depression (36.3% mild, 14.4% moderate and 6.5% severe). Depression was significantly higher in males, singles and in 25-29-year-old students. Results showed that 9.4%, 18.3% and 72.3% of the participants reported low, moderate and high levels of social support respectively. 1.8% and 6.3% of the participants reported low and moderate levels of self-esteem respectively; while 91.9% reported high levels of self-esteem.

**Conclusion:** Depression has a higher rate in non-medical university students of Iran than general population. Levels of social support and self-esteem were negatively associated with frequency of depression..

**Keywords:** Depression, Iran, Self-esteem, Social support, Students, Universities

*Iran J Psychiatry 2009; 4: 17-22*

**B**ased on the WHO reports, depression is the fourth urgent health problem in the world (1). It makes severe changes in mood, affect, behavior and thought and is accompanied by many physical complaints (2, 3). Depression is known to be disabling, recurrent and in some cases chronic (4). It interferes with the patient's interpersonal relationships and has effects on the everyday activities of the sufferer (5). In addition to its high lifetime prevalence, depression occurs in all ages and all social classes. In numerous cases, its first episode occurs during adolescence and early adulthood (3, 4) and it is more common among women (6, 7).

Nowadays there is a raised attention to occupational stresses. The fact that human stressful experiences in the first years of their adult life could lead to the presence of depression (8) and the great influence depression has on one's attitude towards his/her profession, the concern about depression in college students is fundamental (3). On the other hand, students are prone to have more psychiatric problems including depression (9, 10) due to their interpersonal and emotional conflicts as well as economic and

academic problems (7, 11-13).

Low level of social support is an important risk factor for depression (14-16). Social support includes sympathy, encouragement and support of colleagues, supervisors, friends and immediate family members (17). Higher levels of family support were shown to be associated with lower levels of depression and lower levels of suicide ideation (18, 19).

Researchers consider the human need for self esteem as a basic aspect of feeling well and a great desire to view the self positively. People prefer to make self-serving attributions to use self-enhancing and self-presentational strategies and to make self-serving assessments of ability rather than having dysfunctional attitudes about their self image (2, 20). According to cognitive theories of depression, a certain negative way is considered as the main way in which self-concept is biased (20, 21). It has been accepted that depressive people think in a negative manner and report lower self-esteem than non-depressed people (10). Low self-esteem has also been associated with suicidal attempts especially in adolescents (22). Depression and self-

esteem tend to be highly correlated with each other (23-25).

In different studies, lots of genetic and environmental factors which influenced the onset, course, and outcome of depression have been discussed. In comparison to genetic risk factors, environmental risk factors, considering their possible reversible nature, have a great role in prevention and treatment of depression. Therefore, as early detection and management of depression can lead to improvement in the field of general healthcare (26), in the current study we insisted to explore the correlation between the two important environmental risk factors of depression: 1) levels of social support and self-esteem, and 2) depression in university students.

Furthermore, in addition to studying the demographic items of depression in a large sample of students, we tried to investigate probable differences in epidemiological issues of depression in Iranian non-medical university students compared to the same parameters in medical university students which had been reported previously. This comparison could further clarify the future directions for suitable interventions.

## Materials and Method

### Participants

The present study is a descriptive-analytic and cross-sectional research carried out in Mashhad, the second largest city in Iran with a population of over 3 millions, in 2006. The target population was the students of Ferdowsi University of Mashhad.

It is worth mentioning that in Iran medical courses such as medicine, dentistry, obstetrics, etc are held in medical universities separate from non-medical majors such as veterinary, literature, engineering, basic sciences, etc. Medical study fields are officially under the supervision of ministry of health and non-medical fields of study are under the supervision of ministry of higher education.

There are two major universities in Mashhad: Mashhad University of Medical Sciences and Ferdowsi University for non-medical courses.

Considering the structural differences between medical and non-medical universities and the differences in their educational system including restriction of continuous doctorate courses with long periods (over 6 years) and medical students having to work night shifts, and also the fact that most studies on student depression have been done on medical students, we decided to perform our study on students of Ferdowsi university.

A total of 1300 students aged 18 and older were asked to complete the questionnaires. 1200 questionnaires were answered and response rate was 92.31%. Subjects who had chronic medical illnesses or severe disabilities, or had had major stresses in the last 6 months prior to research and females with premenstrual dysphoric disorder were excluded.

*Procedures:* In the first stage, the number of samples

was calculated on the basis of other surveys on depression done in similar populations with 95% confidence interval, 5% error and 3% precision. A self administered questionnaire was randomly given out to students who were selected by multi stage randomized sampling proportional to the population size of each college and with respect to both age and gender of the respondents to maintain a sample representative of these two parameters. In the second stage, the goals of the study were explained to the potential participants. Collected data were analyzed by appropriate descriptive and analytic statistical tests including  $\chi^2$ -test using SPSS version 14. Reported differences were significant at the 0.05 level or less.

### Instruments

Everyone answered some questions about their socio-demographic information (age, gender, marital status, and educational level), Beck Depression Inventory (BDI), Eysenk self-esteem scale and Cassidy social support scale were also used.

Eysenk self-esteem scale has 7 items. The minimum score is 0 and the maximum is 140 (27). The reliability and validity of this scale have been examined in Iran by Sahebi (28) and Dolatabadi (29).

The Cassidy social support scale consists of 7 questions and is answered by "yes/not sure/no". Each question has 0 to 2 scores and the total score ranges between 0-14; which signifies poor (0-4), medium (5-9) and satisfactory social support (10-14). The validity of this scale was confirmed by Cassidy in 1989 (30, 31). This scale's validity was confirmed by Korke Abadi ( $R=0.89$ ) in Iran (32).

Beck Depression Inventory is still one of the most common and valid depression scales (33). It is applicable to all social levels and environments and is neither age nor culture based (34). It has a high content validity and good discriminative power to distinguish between depressed and non-depressed people (35). The scores between 0 to 9, 10 to 19 and 20 to 29 indicate normal, mild and moderate depression respectively. The score of 30 and more shows severe depression (36).

## Results

Of the 1200 students who responded to the anonymous questionnaires, 36.7% ( $n=440$ ) were male and 63.3% ( $n=760$ ) female, 89.2% ( $n=1071$ ) single and 10.8% ( $n=129$ ) were married. Demographic variables are shown in Table 1. A total of 57.2% of the participants had depression (36.3% mild, 14.4% moderate and 6.5% severe). It was shown that some degrees of depression was present in 53.6% ( $n=406$ ) of the females and 63.6% ( $n=280$ ) of the males. Rate of depression was higher in males and the difference was significant ( $P=0.001$ ,  $\chi^2=16.209$ ,  $df=3$ ). 57.4% ( $n=615$ ) of the single students and 55% ( $n=71$ ) of the married ones reported depression respectively. Rate of depression was higher in singles and the difference between the

two groups was significant ( $P=0.405$ ,  $\chi^2=9.355$ ,  $df=9$ ). In the present study, students were divided into three age groups: 1) under-20, 2) 20-24 and 3) 25-29 age groups. Depression was experienced less in the age group of under-20 and was more reported in the 25-29 age group. In terms of depression, the difference between the three groups was significant ( $P=0.002$ ,  $\chi^2=20.347$ ,  $df=6$ ).

The results showed that 9.4% ( $n=113$ ) of the participants reported low levels of social support, 18.3% ( $n=219$ ) reported moderate levels and 72.3% ( $n=868$ ) reported high levels of social support. There was a significant negative relation between levels of depression and social support ( $P=0.000$ ,  $\chi^2=118.135$ ,  $df=6$ ) (Table 2).

According to our results 1.8% ( $n=22$ ) of the participants reported low levels of self-esteem, 6.3% ( $n=75$ ) reported moderate levels and 91.9% ( $n=1103$ ) reported high levels of self-esteem. A significant relation between level of self-esteem and depression was found ( $P=0.000$ ,  $\chi^2=113.209$ ,  $df=6$ ) (Table 3).

### Discussion

The self-reported mild, moderate, and severe depression rates were 36.3%, 14.4% and 6.5% respectively among students of Ferdowsi University of Mashhad. Men reported depression more than women (63.6% vs. 53.6%). Single students experienced more depression than the married (57.4% vs. 55%). 42.8% of the students did not report any depression. The observed high rates of depression were comparable to previously published studies over the last 20 years on Iranian university students (37-39). High rates of depressive symptoms among college students were reported by other researchers in different countries as well. 55%, 49% and 50.1% of the students in Rockville, Rochester and Thailand reported different levels of depression respectively (10, 40, 41). Nevertheless, according to most publications, prevalence of depression in general population is 15-25% which is lower than the rates of our study (42, 43).

**Table 1. Demographic characteristics among a sample of the students of Ferdowsi University of Mashhad**

variable	Non depressed				Depressed				Total		Result	
			<i>mild</i>		<i>moderate</i>		<i>severe</i>					
	No.	%	No.	%	No.	%	No.	%	No.	%		
<b>Gender</b>	male	160	36.4	174	39.5	66	15	40	9.1	440	36.7	$P=0.001$ $\chi^2=16.209$ $df=3$
	female	354	46.6	261	34.3	107	14.1	38	5	760	63.3	
<b>Marital status</b>	single	456	42.6	392	36.6	156	14.6	67	6.3	1071	89.2	$P=0.405$ $\chi^2=9.355$ $df=9$
	married	58	45	43	33.3	17	13.2	11	8.5	129	10.8	
<b>Age</b>	< 20 years	187	51.8	108	29.9	40	11.1	26	7.2	361	30.1	$P=0.002$ $\chi^2=20.347$ $df=6$
	20-24 years	303	39.2	301	39	121	15.7	47	6.1	772	64.3	
	25-29 years	24	35.8	26	38.8	12	17.9	5	7.5	67	5.6	

**Table 2. Frequency of depression and social support and their correlation among a sample of the students of Ferdowsi University of Mashhad**

Variable	Non depressed				Depressed				Total		Result	
			<i>mild</i>		<i>Moderate</i>		<i>severe</i>					
	No.	%	No.	%	No.	%	No.	%	No.	%		
<b>Social support score</b>	Low	25	22.1	28	24.8	40	35.4	20	17.7	113	9.4	$P=0.000$ $\chi^2=118.135$ $df=6$
	Moderate	63	28.8	90	41.1	44	20.1	22	10	219	18.3	
	High	426	49.1	317	36.5	89	10.3	36	4.1	868	72.3	

**Table 3. Frequency of depression and self-esteem and their correlation among a sample of the students of Ferdowsi University of Mashhad**

Variable	Non depressed				Depressed				Total		Result	
			<i>Mild</i>		<i>Moderate</i>		<i>severe</i>					
	No.	%	No.	%	No.	%	No.	%	No.	%		
<b>Self-esteem score</b>	Low	1	4.5	6	27.3	9	40.9	6	27.3	22	1.8	$P=0.000$ $\chi^2=113.209$ $df=6$
	Moderate	13	17.3	19	25.3	24	32	19	25.3	75	6.3	
	High	500	45.3	410	37.2	140	12.7	53	4.8	1103	91.9	

However, in comparison to general population norms, the students' reports of higher symptom levels cannot be assumed to indicate higher levels of more serious mental health conditions. As attending university is usually the first major transition in the lives of students, the way they navigate this transition may be a risk factor for feeling depressed (44) and this is not to deny the genuine distress and severe problems that some students experience (9).

Mild depression was reported to be 6 times more prevalent than severe depression and it was more prevalent in the 20-24 age group. This could be considered as a kind of maladaptive behavior in the first years of entering colleges (44). As the impact of perceived social efficacy was mediated through low level of depression and perceived self-regulatory efficacy was related to academic achievement, special attention to even mild depression is necessary (45).

Our study revealed that the incidence of depression was higher in men and the difference had a statistical significance. This finding was not in accordance with other reports which found that women experienced higher depression levels than men during their educational years (7, 46, 47). Age was associated with depression. Depression was more prevalent in the 25-29 age group, and so was the moderate and severe depression although mild depression was more prevalent in the 20-24 age group. In the Lodz Medical University, 28.8% of the 2nd year students and 14% of the 4th year medical students were diagnosed with depressive symptoms which showed a decrease in self-reported depressive symptoms during their educational years (48); however, our findings were not in accordance with theirs. These interesting findings could notify an important point of view which concerns the increased worries and stresses during the educational years especially in male students. Many factors may relate to this deterioration. One of the probable factors is that male students had lower social support levels than female students (based on our findings); and this could be a cultural issue. In other words, Iranian men may believe that receiving support such as sympathy or encouragement from others even from first degree relatives could interfere with their role of being "a man". Another possible factor which could explain our results is that older students had lower self-esteem levels than younger ones so did male students in comparison to female ones. Job satisfaction was strongly associated with self-esteem (49) and men showed a greater association of depression with long-term unemployment than women (50). Based on the results obtained in Iran, students' attitude towards the social ranking of their field of education, as an indicator of their professional perspective, was worsened after entering college, and this was also true for males (51).

There was also a significant difference in depression rates between single and married students. This finding is in accordance with those reported by previous surveys (52-54). High marital quality was associated

with lower stress, less depression, higher satisfaction with life and higher supportive network. Likewise, marriage may be distinctive as evidence further suggests that the support from one's network does not compensate for the effects of being single (55). Findings support the idea of marriage protecting individuals against psychological distress (18, 50, 56-58).

9.4% of the participants reported low levels of social support and moderate and high levels were reported in 18.3% and 72.3% of the subjects respectively. Multivariate analysis demonstrated that family and peer connections protected the students against depression (46). Emotional support of family members can improve mental health by reducing anxiety, stress and depression (10, 55, 59). Behaviors such as substance abuse or burnout symptoms in depressives were related to a lack of social support and external attribution style (41).

In previous studies, students reported the greatest perceived negative academic impact related to experiencing interpersonal concerns (concerns about troubled friends or family members, death of a friend or family member, and relationship difficulties) and mental health concerns (depression, anxiety, seasonal affective disorder and stress) (60). Our research produced similar results. This study demonstrates the importance of health education and health promotion programs including prevention of initiation as well as treatment for students attending universities. These interventions demonstrated promising effects on changing the patterns of specific challenges associated with acute adjustment as well as long-term stressors. Many university students lack knowledge about depression and its treatment. Therefore, simple and cheap media, such as postcards and posters might help to improve awareness in areas where current knowledge is low (4) and counseling services should be provided in every college of each university to assist students to handle issues that constitute a source of stress in their psychosocial environment (61).

## Conclusion

Results showed that depression has a high rate in Iranian university students studying non-medical majors. Levels of social support and self-esteem were negatively associated with frequency of depression

## References

1. Akiskal MS. Mood disorder, Historical Introduction and Conceptual Overview. In: Sadock BJ, Sadock VA, eds. *Comprehensive Textbook of psychiatry* (8th ed). Lippincott: William and Wilkins; 2005. p. 1559.
2. Franck E, De Raedt R. Self-esteem reconsidered: unstable self-esteem outperforms level of self-esteem as vulnerability marker for depression. *Behav Res Ther* 2007; 45: 1531-1541.

3. Furegato AR, Santos JL, Silva EC. Depression among nursing students associated to their self-esteem, health perception and interest in mental health. *Rev Lat Am Enfermagem* 2008; 16: 198-204.
4. Merritt RK, Price JR, Mollison J, Geddes JR. A cluster randomized controlled trial to assess the effectiveness of an intervention to educate students about depression. *Psychol Med* 2007; 37: 363-372.
5. Blazer D, Williams CD. Epidemiology of dysphoria and depression in an elderly population. *Am J Psychiatry* 1980; 137: 439-444.
6. Brown GW, Bifulco A, Andrews B. Self-esteem and depression. III. Aetiological issues. *Soc Psychiatry Psychiatr Epidemiol* 1990; 25: 235-243.
7. Rosal MC, Ockene IS, Ockene JK, Barrett SV, Ma Y, Hebert JR. A longitudinal study of students' depression at one medical school. *Acad Med* 1997; 72: 542-546.
8. Modrzejewska R, Bomba J. [Prevalence of depression in Krakow population of 17 years old students in years 1984 and 2001]. *Psychiatr Pol* 2004; 38: 13-27.
9. Andrews B, Hejdenberg J, Wilding J. Student anxiety and depression: comparison of questionnaire and interview assessments. *J Affect Disord* 2006; 95: 29-34.
10. Ross R, Zeller R, Srisaeng P, Yimmee S, Somchid S, Sawatphanit W. Depression, stress, emotional support, and self-esteem among baccalaureate nursing students in Thailand. *Int J Nurs Educ Scholarsh* 2005; 2: Article25.
11. Cole DA. Relation of social and academic competence to depressive symptoms in childhood. *J Abnorm Psychol* 1990; 99: 422-429.
12. Modabber-Nia MJ, Shodjai-Tehrani H, Moosavi SR, Jahanbakhsh-Asli N, Fallahi M. The prevalence of depression among high school and preuniversity adolescents: Rasht, northern Iran. *Arch Iran Med* 2007; 10: 141-146.
13. Stewart SM, Betson C, Marshall I, Wong CM, Lee PW, Lam TH. Stress and vulnerability in medical students. *Med Educ* 1995; 29: 119-127.
14. Kim O. Sex differences in social support, loneliness, and depression among Korean college students. *Psychol Rep* 2001; 88: 521-526.
15. Olsson G. Adolescent depression. Epidemiology, nosology, life stress and social network. Minireview based on a doctoral thesis. *Ups J Med Sci* 1998; 103: 77-145.
16. Rawson HE, Bloomer K, Kendall A. Stress, anxiety, depression, and physical illness in college students. *J Genet Psychol* 1994; 155: 321-330.
17. Talaei A, Soltanifar A, Mokhber N, Mohammadnejad M. Depression among Iranian health workers and its correlation with self-esteem and social support. In Press ;2008.
18. Galambos NL, Barker ET, Krahn HJ. Depression, self-esteem, and anger in emerging adulthood: seven-year trajectories. *Dev Psychol* 2006; 42: 350-365.
19. Harris TL, Molock SD. Cultural orientation, family cohesion, and family support in suicide ideation and depression among African American college students. *Suicide Life Threat Behav* 2000; 30: 341-353.
20. De Raedt R, Schacht R, Franck E, De Houwer J. Self-esteem and depression revisited: implicit positive self-esteem in depressed patients? *Behav Res Ther* 2006; 44: 1017-1028.
21. Kearney-Cooke A. Gender differences and self-esteem. *J Gend Specif Med* 1999; 2: 46-52.
22. Wild LG, Flisher AJ, Lombard C. Suicidal ideation and attempts in adolescents: associations with depression and six domains of self-esteem. *J Adolesc* 2004; 27: 611-624.
23. Andrews B, Brown GW. Self-esteem and vulnerability to depression: the concurrent validity of interview and questionnaire measures. *J Abnorm Psychol* 1993; 102: 565-572.
24. Brown GW, Andrews B, Harris T, Adler Z, Bridge L. Social support, self-esteem and depression. *Psychol Med* 1986; 16: 813-831.
25. Johnson SL, Meyer B, Winett C, Small J. Social support and self-esteem predict changes in bipolar depression but not mania. *J Affect Disord* 2000; 58: 79-86.
26. Alexander JL. Quest for timely detection and treatment of women with depression. *J Manag Care Pharm* 2007; 13: S3-11.
27. Eysenck HJ, Wilson G. Know your own personality. London: Maurice Temple Smith; 1975.
28. Abdollahi S. [Evaluation of effect of social phobia on self esteem in high school students, Thesis for psychology PhD]. Mashhad Ferdowsi University; 1996.
29. Dolat Abadi H. [Comparison of self esteem level with depression severity in employed and unemployed physical disabled persons, Thesis for psychology PhD]. Mashhad Ferdowsi University; 1997.
30. Carranza-Lira S, Valentino-Figueroa ML. Estrogen therapy for depression in postmenopausal women. *Int J Gynaecol Obstet* 1999; 65: 35-38.
31. Cassidy T, Long C. Problem-solving style, stress and psychological illness: development of a multifactorial measure. *Br J Clin Psychol* 1996; 35 ( Pt 2): 265-277.
32. Korke Abadi M. [Comparison of depression in employed and unemployed mothers in Mashhad in 1997, Thesis for PhD]. Mashhad University of Medical Sciences; 1997.
33. Golden J, Conroy RM, O'Dwyer AM. Reliability and validity of the Hospital Anxiety and Depression Scale and the Beck Depression Inventory (Full and FastScreen scales) in detecting depression in persons with hepatitis C. *J Affect Disord* 2007; 100: 265-269.

34. Tashakkori A, Barefoot J, Mehryar AH. What does the Beck Depression Inventory measure in college students? Evidence from a non-western culture. *J Clin Psychol* 1989; 45: 595-602.
35. Furlanetto LM, Mendlowicz MV, Romildo Bueno J. The validity of the Beck Depression Inventory-Short Form as a screening and diagnostic instrument for moderate and severe depression in medical inpatients. *J Affect Disord* 2005; 86: 87-91.
36. Ghassemzadeh H, Mojtabei R, Karamghadiri N, Ebrahimkhani N. Psychometric properties of a Persian-language version of the Beck Depression Inventory--Second edition: BDI-II-PERSIAN. *Depress Anxiety* 2005; 21: 185-192.
37. Foroughan M, Emami H, Abdi Farkoush B, Parto Azar B. [An epidemiological survey in students of Bandarabbas medical students]. *Tavanbakhshi* 2000; 1: 19-29.
38. Amani F, Sohrabi B, Sadeghie S, Mashoufi M. [Frequency of depression among students of Ardebil University of Medical Sciences]. *Research & scientific journal of Ardebil University of Medical Sciences & health services* 2004; 3: 7-11.
39. Hashemi MohammadAbad N, ZadehBagheri G, Ghafarian Shirazi H. [Survey on factors affected depression in students of Yasouj Universities]. *Journal of medical research* 2003; 2: 19-27.
40. Dyrbye LN, Thomas MR, Eacker A, Harper W, Massie FS, Jr., Power DV, et al. Race, ethnicity, and medical student well-being in the United States. *Arch Intern Med* 2007; 167: 2103-2109.
41. Haack MR. Stress and impairment among nursing students. *Res Nurs Health* 1988; 11: 125-134.
42. Faravelli C, Guerrini Degl'Innocenti B, Aiazzi L, Incerpi G, Pallanti S. Epidemiology of mood disorders: a community survey in Florence. *J Affect Disord* 1990; 20: 135-141.
43. Sharifi K, Souki Z, Khademi Z, Hoseinian M, Tagharobi Z. [Frequency of depression and the associated factors in students of Kashan University of Medical Sciences]. *Feyz Win* 2001; 4: 54-58.
44. Silvers SA. Perceived social support, coping strategies, and depression during transition to college. doctor of philosophy dissertation. Dekalb: Northern Illinois University; 2006.
45. Bandura A, Barbaranelli C, Caprara GV, Pastorelli C. Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Dev* 1996; 67: 1206-1222.
46. Denny S, Clark TC, Fleming T, Wall M. Emotional resilience: risk and protective factors for depression among alternative education students in New Zealand. *Am J Orthopsychiatry* 2004; 74: 137-149.
47. Patten SB, Stuart HL, Russell ML, Maxwell CJ, Arboleda-Florez J. Epidemiology of major depression in a predominantly rural health region. *Soc Psychiatry Psychiatr Epidemiol* 2003; 38: 360-365.
48. Adamiak G, Swiatnicka E, Wolodzko-Makarska L, Switalska MJ. [Assessment of quality of life of medical students relative to the number and intensity of depressive symptoms]. *Psychiatr Pol* 2004; 38: 631-638.
49. Faragher EB, Cass M, Cooper CL. The relationship between job satisfaction and health: a meta-analysis. *Occup Environ Med* 2005; 62: 105-112.
50. Broman CL, Hamilton VL, Hoffman WS, Mavaddat R. Race, gender, and the response to stress: autoworkers' vulnerability to long-term unemployment. *Am J Community Psychol* 1995; 23: 813-842.
51. Fayyazi Bordbar MR, Darabi MR, Shakeri MT, Saeidi M, Saeidpour M, Azizi SM, et al. [Frequency of depression among students of Ferdowsi University of Mashhad]. *Mashhad University of Medical Sciences*; 2007.
52. Blom M, Georgiades A, Laszlo KD, Alinaghizadeh H, Janszky I, Ahnve S. Work and marital status in relation to depressive symptoms and social support among women with coronary artery disease. *J Womens Health (Larchmt)* 2007; 16: 1305-1316.
53. Booth A, Johnson DR, Granger DA. Testosterone and men's depression: the role of social behavior. *J Health Soc Behav* 1999; 40: 130-140.
54. Ross CE, Mirowsky J. Explaining the social patterns of depression: control and problem solving--or support and talking? *J Health Soc Behav* 1989; 30: 206-219.
55. Holt-Lunstad J, Birmingham W, Jones BQ. Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Ann Behav Med* 2008; 35: 239-244.
56. Brown GW, Bifulco A. Motherhood, employment and the development of depression. A replication of a finding? *Br J Psychiatry* 1990; 156: 169-179.
57. Earle JR, Smith MH, Harris CT, Longino CF. Women, marital status, and symptoms of depression in a midlife national sample. *J Women Aging* 1997; 10: 41-57.
58. Edwards AC, Nazroo JY, Brown GW. Gender differences in marital support following a shared life event. *Soc Sci Med* 1998; 46: 1077-1085.
59. Lee YS, Kim KH, Cho YC. [Relationships between mental health and psychosocial factors with single-child high school students in an urban city of Korea]. *J Prev Med Public Health* 2006; 39: 419-426.
60. Kernan WD, Wheat ME, Lerner BA. Linking learning and health: a pilot study of medical students' perceptions of the academic impact of various health issues. *Acad Psychiatry* 2008; 32: 61-64.
61. Omokhodion FO, Gureje O. Psychosocial problems of clinical students in the University of Ibadan Medical School. *Afr J Med Med Sci* 2003; 32: 55-58