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Quality of Life in College Students with and without Social Phobia

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Abstract Prior studies demonstrating quality of life impairment in phobia and anxiety disorders have relied upon epidemiological samples or clinical data. Using the same quality of life scale, the Short Form 36-item Health Survey (SF-36), in Iranian college students allowed us to study the impact of social phobia (SP) on quality of life among the college students. This report summarizes findings from a cross sectional study on Iranian students with social phobia studying at Shahed University. Quality of life was measured using the Short Form 36-item Health Survey (SF-36) which is a widely used and valid questionnaire to measure quality of life in cross-sectional and longitudinal studies. Three standard instruments were used to measure social phobia severity, namely Social Phobia Inventory, Social Interaction Anxiety Scale, and Brief version of the Fear of Negative Evaluation Scale. The sample consisted of 202 college students, 72 with SP and 130

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without SP. The main finding of this study was that students with social phobia reported significantly lower quality of life, particularly in general health ($P = 0.02$), vitality ($P < 0.0001$), social functioning ($P < 0.0001$), role functioning—emotional ($P < 0.0001$), and Mental health ($P = 0.001$) dimensions. Standardized summed scores for mental health components of the SF-36 showed that 36.2% of all the s with SP were severely impaired while 16.0% of the students in control croup were severely impaired. Findings demonstrated that Iranian socially anxious college students reported extensive functional disability, and lower well-being compared to those without SP. These findings should encourage education officers to implement systematic efforts to prevent and treat social anxiety among students.

Keywords Social phobia · Quality of life · Short form 36-item health survey (SF-36)

1 Background

Social phobia is "a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (APA American Psychiatric Association 2000). Epidemiological studies have shown that the 1-year prevalence of social phobia ranges from 5 to 8%, making it the most common anxiety disorder and one of the most common psychiatric disorders (Magee et al. 1996; Offord et al. 1996; Wittchen et al. 1998). Individuals with social phobia are more likely than healthy individuals to be financially dependent, to exhibit suicidal ideation, and to have low income, education, and social support (Schneier et al. 1992; Kessler et al. 1994). Persons with social phobia are also at increased risk of other psychiatric conditions. It is demonstrated that persons with lifetime social phobia also have a lifetime history of major depression (Moscovitcha et al. 2005; Chavira et al. 2004). Persons with social phobia are also at high risk of substance abuse (Hugh and Kathleen 2003; Marshall 1994). In addition, social phobia has been shown to be linked with marital, parental, and family adjustment problems (Peleg-Popko and Dar 2001; Wittchen et al. 2000), and poorer mental health (Katzelnick et al. 2001; Beidel et al. 2007).

In order to obtain a complete picture of the health status of persons with social phobia, health related quality of life must be measured. Quality of life (QOL) has been defined in a number of ways, and many measures exist for assessing this construct (Gladis et al. 1999). Most definitions explicitly state that the assessment of quality of life should take into account patients' subjective views of their life circumstances (Mendlowicz and Stein 2000). This includes perceptions of social relationships, physical health, functioning in daily activities and work, economic status, and an overall sense of well-being (Patrick and Erickson 1988). Evidence is accumulating that anxiety and affective disorders are associated with substantial impairments in quality of life and functioning. Individuals with major depressive disorder (Pyne et al. 1997), obsessive–compulsive disorder (OCD) (Koran et al. 1996), and panic disorder (Rubin et al. 2000) have substantially poorer quality of life than community comparison cohorts.

Few studies have assessed quality of life in persons with social anxiety (Wittchen and Beloch 1996; Schneier et al. 1994), showing a marked impairment in the physical, social and psychosocial domains. In a study of patients with social phobia, these patients perceived their quality of life to be relatively poor. Moreover, quality of life in that study was inversely related to the severity of social phobia (Safren et al. 1997). In another study, Antony et al. (1998) found that 49 patients with social phobia reported considerable

interference with their daily functioning in several domains. In that study patients with social phobia reported a level of illness intrusiveness that was comparable to that experienced by patients with panic disorder or obsessive–compulsive disorder. When compared indirectly to patients with a variety of other chronic illnesses (e.g., multiple sclerosis and rheumatoid arthritis), patients with social phobia demonstrated comparable or more severely perceived impairment. Thus, from the perspective of patients with social phobia who seek treatment, the disability and low quality of life is considerably perceived.

However, the impact of social phobia on the perception of health status in college students has not been established yet, to our knowledge. So the aim of the present study was to (a) assess the psychological impairments and handicaps caused by social phobia, as well as their impact on the Iranian patient's quality of life, and (b) compare the QOL scores of students with social phobia with those without social phobia.

2 Methods

2.1 Participants

To assess quality of life in students with social phobia and to compare it with that of the control group, we did a retrospective cross-sectional study in the year 2008. The samples were selected from among the students of the various faculties of Shahed University in Tehran, Iran. Two hundred and two participants were included in the study, with their ages ranging from 19 to 27 ($M = 22.2$, SD $= 2.1$).

The students were selected using cluster sampling. Three out of five faculties of Shahed University were randomly selected, and then in every faculty four classes were randomly selected and the measures were completed in those classes. Students with a prior diagnosis of bipolar disorder, psychotic disorder, or drug dependence were excluded.

3 Measures

3.1 The Short Form 36-item Health Survey (SF-36)

The Short Form 36-item Health Survey (SF-36) (Ware and Sherbourne 1992) was constructed to survey health status in the Medical Outcomes Study. The SF-36 was designed for use in clinical practice and research, health policy evaluations, and general population surveys. It is a generic 36-item instrument which assesses physical health and emotional status. Items are grouped into eight domains of perceived health: Physical Functioning, Role Physical, Body Pain, General Health Perceptions, Vitality, Social Functioning, Role Emotional, and Mental Health. Items are codified, Added and transformed into a scale that ranges from 0 (maximum impairment) to 100 (no impairment). Data From these eight subscales tap different aspects of HRQOL and can be combined into two SF-36 component scores, the Physical Component Summary (PCS) And the Mental Component Summary (MCS). A low Score on PCS shows limitations in self-care, physical, Social and role activities, severe bodily pain, frequent tiredness, and physical health rated as "poor." A low score on MCS shows frequent psychological distress and social and role disability due to emotional problems (Ware et al. 1995). The SF-36 has been widely used in cross-sectional and longitudinal studies due to its psychometric strength and its relative simplicity (Stewart et al. 1998). It has been adapted to Iranian Population (Montazeri et al.

2006), showing good psychometric properties. The coefficients of internal consistency of the Iranian version ranged from 0.77 to 0.90. Convergent validity showed satisfactory results. These results support the reliability and validity of this scale in Iranian population.

SF-36 standardized scale scores of 50–70 are usually regarded as indicating moderately reduced quality of life, whereas scores below 50 indicate a markedly reduced quality of life (Wittchen et al. 2000). Cronbach's alpha of this scale in the present sample was .89, indicating acceptable internal consistency.

3.2 Social Phobia Inventory

Connor et al. (2000) developed Social Phobia Inventory (SPIN) to measure social anxiety/distress, fear, physiological symptoms and avoidance of social situations. The SPIN contains 17 items and consists of three subscales: fear, avoidance and physiological symptoms. Each of the 17 items is rated on a scale from 0 to 4: not at all, a little bit, somewhat, very much, and extremely; with higher scores corresponding to greater distress. The full-scale scores thus range from 0 to 68. The authors reported internal consistencies ranging from 0.87 to 0.94 in people with social phobia and 0.82 to 0.90 in control groups, and a test–retest reliability of 0.89 in the social phobia group. The SPIN shows satisfactory divergent, convergent and construct validity (Connor et al. 2000). Preliminary results of a recent study confirmed the satisfactory reliability and validity of this scale in Iranian population (Abdi 2003). Cronbach's alpha of this scale in the present sample was .89, indicating acceptable internal consistency. Furthermore, the SPIN exhibited a positive and significant correlation with the social functioning subscale of SF36 ($r = .4$, $P < .001$), supporting the convergent validity of the SPIN.

3.3 Social Interaction Anxiety Scale

The Social Interaction Anxiety Scale (SIAS) (Mattick and Clarke 1998) is an easy and quick instrument to use. It consists of 20 five-point Likert-type items. SIAS and SPIN are used simultaneously to measure complementary aspects of social phobia. Developers of SIAS reported high internal consistency ($\alpha = 0.93$) and a test–retest correlation coefficient above 0.90. The Iranian version of the SIAS prepared by Sahragard (unpublished) showed adequate psychometric properties. Cronbach's alpha of this scale in the present sample was .90, indicating acceptable internal consistency. Furthermore, the SIAS exhibited a positive and significant correlation with SPIN ($r = .7$, $P < .001$), supporting the convergent validity of the SIAS.

3.4 Brief Version of the Fear of Negative Evaluation Scale

Brief version of the Fear of Negative Evaluation Scale (BFNE) measures anxiety associated with perceived negative evaluation. This scale is composed of 12 items describing fearful or worrying cognitions. Eight of the twelve items describe the presence of fear or worrying, while the remaining four items describe the absence of fear or worrying. The factor structure is uncertain, with some studies suggesting a unitary factor structure (Leary 1983), while others, using a clinical sample, suggesting a two-factor structure with positive and negative items loading on two separate factors (Rodebaugh et al. 2004; Collins et al. 2005). Cronbach's alpha of this scale in the present sample was .78, indicating acceptable

internal consistency. Furthermore, the BFNE exhibited a positive and significant correlation with SPIN ($r = .42$, $P < .001$), supporting the convergent validity of the BFNE.

3.5 Procedure

All participants completed Social Phobia Inventory, SPIN (Connor et al. 2000). Students with social phobia were the students who scored 23 or higher on SPIN. Then participants completed a brief demographic questionnaire (e.g., age, gender and marriage status), the SF-36 (Ware and Sherbourne 1992), the SIAS (Mattick and Clarke 1998), and the BFNE (Leary 1983). Verbal consents obtained from all participants prior to assessment. The Ethics Committee of the Shahed University approved the study.

3.6 Statistical Analyses

Proportions, means and standard deviations were calculated for the present data. A comparison of the demographic data (including age, gender, marital status) of the students for the two groups was also calculated using the chi-square test and independent sample *t* test. Subsequent to summing the Likert-scaled items in the SF-36 survey, each scale was then standardized so that responses ranged from 0 (lowest level of functioning) to 100 (highest level). The independent sample *t* test was used to examine the differences in each SF-36 subscales for the two groups. A *P* value less than 0.05 was considered as statistically significant. Among students with social phobia, Pearson's correlation was calculated to explore the relationship between age and quality of life. Biserial correlation was also calculated to explore the relationship between gender and quality of life. A *P* value less than 0.05 was regarded to be statistically significant.

4 Results

4.1 Patients' Characteristics

A total of 72 students with social phobia and 130 students without social phobia participated in the study. Participants in the two groups were similar in their demographics characteristics such as age, gender and marital status. The detailed demographic and clinical data are summarized in Table 1.

4.2 Quality of Life

Health-Related Quality of Life scores for students with and without social phobia are presented in Table 2. Comparison of quality of life scores for the two groups indicated that persons with social phobia scored significantly lower on several SF-36 scales indicating a reduced quality of life. Significant ($P < 0.05$) reductions in self-rated quality of life were evident for the following scales: general health ($P = 0.02$), Vitality ($P < 0.0001$), Social functioning ($P < 0.0001$), Role functioning—emotional ($P < 0.0001$), and Mental health ($P = 0.001$).

Respondents were categorized according to their standardized summed score for the five scales measuring the emotional health component (GH, VIT, SF, RE, and MH, see Table 3). 36.1% of all students with social phobia were categorized as severely impaired

Table 1 Demographic and clinical characteristics of college students with and without social phobia

	All ($n = 202$) No (%).	With social phobia ($n = 72$) No. (%)	Without social phobia ($n = 130$) No. (%)	P value
Age				
Mean (SD)	22.2 (2.1)	22 (1.9)	22.3 (2.2)	0.29
Range	19–27	19–27	19–27	
Gender				
Male	98 (48.5)	28 (39)	70 (54)	0.056
Female	104 (51.5)	44 (61)	60 (46)	
Marital status				
Single	153 (77)	55 (76)	98 (75)	0.4
Married	49 (23)	17 (24)	32 (25)	
Symptom severity [Social Phobia Inventory (SPIN)]				
Mean (SD)	18.8 (11.2)	30.9 (7.4)	12.1 (6.1)	<0.001
Range	0–68	0–68	0–68	
Symptom severity [Social Interaction Anxiety Scale (SIAS)]				
Mean (SD)	23.8 (12.6)	34.3 (9.8)	18 (9.9)	<0.001
Range	0–53	12–53	0–44	
Symptom severity [Fear of Negative Evaluation Scale (BFNE)]				
Mean (SD)	33.9 (7.6)	38.3 (6.7)	31.5 (7)	<0.001
Range	15–53	28–53	15–48	

Table 2 Quality of life scores as measured by the SF-36 in college students with and without social phobia

SF-36 subscales[a]	With social phobia ($n = 72$) Mean (SD)	Without social phobia ($n = 130$) Mean (SD)	t value	P value
Physical functioning	80.5 (21.9)	85.9 (18.5)	1.8	0.06
Role functioning—physical	60.4 (74.6)	75 (52.4)	0.98	0.10
Bodily pain	74.5 (17.2)	76.5 (18.8)	0.74	0.45
General health	65 (16.8)	71.9 (19.2)	2.24	0.01
Vitality	54.1 (17.2)	63.1 (16.9)	3.5	<0.0001
Social functioning	66.3 (18.9)	76.8 (17.5)	3.9	<0.0001
Role functioning—emotional	41.6 (42.8)	66.6 (37.8)	4.2	0.0001
Mental health	59 (14.5)	66.9 (16.7)	3.3	0.001

[a] The higher values indicated a higher level of functioning and quality of life, min.: 0, max.: 100

(scored below 50), and 31.9% were categorized as markedly impaired. In the control group, by contrast, 16.9% were severely impaired and 28.5% were categorized as markedly impaired.

The physical health component of the SF-36 includes the Physical Functioning, Role functioning—Physical and Body Pain subscales. No statistically significant difference was found between the physical health scores of the two groups.

Table 3 SF-36 scores in college students with and without social phobia

SF-36 scores degree of impairment[a]	With social phobia ($n = 72$) N (%)	Without social phobia ($n = 130$) N (%)
Severely impaired (lower 50)	26 (36.2)	22 (16.9)
Markedly impaired (50–70)	23 (31.9)	37 (28.5)
No or slight impairment (70 and above)	23 (31.9)	71 (54.6)
Total	72 (100)	130 (100)

[a] Subgrouping according to the degree of impairment based on SF-36 total scores for social functioning, vitality, general health, mental health, and role functioning—emotional

Table 4 Relationship between age, gender and SF-36 subscales ($n = 72$)

SF-36 subscales	Physical functioning	Role functioning—physical	Bodily pain	General health	Vitality	Social functioning	Role functioning—emotional	Mental health
Gender	−0.16*	−0.04	−0.02	0.02	0.003	0.13	0.16*	−0.05
Age	−0.01	−0.05	−0.04	0.07	0.03	−0.05	0.04	0.05

* $P < 0.05$; ** $P < 0.01$

The relations between Health-Related Quality of Life, age and gender for students with social phobia are presented in Table 4. As can be seen in the table, the quality of life scores did not correlate significantly with gender and age.

5 Discussion

Results of this study provide several important insights for understanding the impact of social phobia on college students' quality of life and functioning. Social phobia has received considerable notoriety during the recent years and it can no longer be termed "a neglected anxiety disorder" (Liebowitz et al. 1985). Studies on general population have suggested convergently that the lifetime presence of social phobia is associated with reduced work performance, reduced social interaction, and possibly more school problems during adolescence (Davidson et al. 1994; Wittchen 1994).

Studies on clinical, treatment-seeking groups suggest that social phobia can be a debilitating disorder (Schneier et al. 1994; Davidson et al. 1993). Despite the availability of these findings, to our knowledge, there have been very few data demonstrating that college students with social phobia are impaired by this disorder.

The results of this study showed that social phobia has deleterious effects on students' quality of life. On many scales of functioning and quality of life, students with social phobia demonstrated that they experience a significant reduction of quality of life as measured by the Short Form 36-item Health Survey (SF-36). In this study, students with social phobia had significantly lower Role functioning—emotional, general health, Vitality, Social functioning, and mental health scores than those without social phobia.

Consistent with Wittchen's et al. (2000) findings, this study showed that individuals with and without social phobia were not significantly different on some dimensions of

quality of life, including Physical functioning, Role functioning—Physical and Bodily pain. This finding that people with and without social phobia do not differ significantly on physical aspects of social phobia is interpretable in light of the fact that social phobia is a mental disorder and thus is expected to influence social and emotional health more than somatic health. In addition, there is no evidence indicating that individuals with social phobia go to the physician for somatic signs more frequently than those without social phobia. Optimal levels of role functioning—physical and physical functioning can, therefore, be viewed as potential factors helping to increase the effectiveness of various clinical interventions.

Results of the current study conducted in Iran is consistent with prior studies conducted in other countries where socially anxious patients reported significantly higher levels of perceived impairment and reduced quality of life than did healthy people (Wittchen and Beloch 1996; Safren et al. 1997). In a study of 44 American people with social phobia who sought treatment at the Center of stress and Anxiety Disorders, Safren et al. (1997) found that persons with social phobia judged their quality of life to be significantly poorer. In that study quality of life was associated with various measures of social phobia severity, and functional impairment. In addition, quality of life scores improved significantly after completion of cognitive-behavioral group therapy for social phobia. Consistent with Safren's study, quality of life did not correlate significantly with gender and age. In a controlled study, Wittchen et al. (2000) found that social phobia seems to be a persisting illness, producing a considerable decrease in the quality of life and producing numerous and considerable social role impairments and disabilities.

Several limitations of the present study must be noted. First, as mentioned earlier, we excluded students with prior diagnoses of bipolar disorder, psychotic disorders, or drug dependence. Since we did not control for the possible presence of such comorbid disorders as depression, panic disorder, and generalized anxiety disorder, these comorbidities are likely to have influenced our findings. Second, it should be noted that the measures used in this study are relatively generic and do not evaluate specific disabilities and dissatisfaction common in mental disorders. In general, further research is necessary to replicate the present findings and investigate the relationship between quality of life and various symptom profiles to examine which symptoms have the largest influence on quality of life, especially with regard to demographic variables. Conducting such studies is an essential next step in examining and improving quality of life of the students with mental disorders.

6 Conclusion

The findings demonstrated that Iranian socially anxious college students reported extensive functional disability, and a lower well-being compared to those without social phobia. These associations are explained little or not at all by group differences in age, gender, or marital status. Taken together with findings from prior studies, about the association between social phobia and greater likelihood of leaving school early and educational achievement (Stein and Kean 2000; Kessler et al. 1998), this demonstration of extensive impairment and reduced quality of life in socially anxious students should encourage education officers to implement systematic efforts to prevent and treat this disorder among students.

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Competing Interests The authors declare that they have no competing interests.

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