**Original Article**

# Social Phobia Symptoms: Prevalence and Sociodemographic Correlates

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**Abstract**

**Background:** Social phobia is a highly prevalent disorder in western countries, but is rather rare in eastern societies. Prevalence rates range from 0.5% in eastern studies and up to 16% in western studies. The present study examined the prevalence of social phobia in the Iranian general population and demographic characteristics associated with this anxiety disorder.

**Methods:** Participants included 701 subjects from Golestan Province. Measures included the Social Phobia Inventory and a socio-demographic questionnaire. Demographic correlates of social phobia were also examined.

**Results:** Probable social phobia was present in 10.1% of the total sample (8.6% male and 11.6% female). Sex, social support, residence, education, and job correlated with social phobia.

**Conclusions:** Our findings corroborate those from other studies in western countries, both regarding the high prevalence of SP symptoms and its demographic correlates.

**Keywords:** epidemiology, phobic disorders, prevalence, social phobia

## Introduction

Social anxiety disorder [also known as social phobia (SP)] is characterized by the fear of being observed or evaluated by others.[1] In social situations, persons with social anxiety disorder fear that they will do or say something to draw negative attention to themselves. This fear often results in avoidance of situations in which such scrutiny might take place.[2]

SP is a chronic anxiety disorder characterized by fear of embarrassment in a social context, with secondary attempts of avoidance. It may lead to a restriction in lifestyle, significantly affects important life decisions and often prevents making the most of available opportunities.[3] Individuals with SP are more likely to show disabilities in school, work, and social life.[4]

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Up until the mid-1980s, SP was thought to be a relatively rare disorder. This belief stemmed from reliance on clinical psychiatric samples to judge the prevalence of psychiatric disorders. Surveys on phobia showed that social anxiety disorder was highly prevalent in the general population.[2]

The Epidemiologic Catchment Area study guided a 2.7% lifetime prevalence of narrowly defined DSM-III SP, with a slight predilection for females (2.9%) compared with males (2.5%).[5] This study also highlighted the typical early onset (approximately 50% reported onset in childhood), chronicity of SP and the likelihood that additional comorbid psychiatric disorders (e.g., major depression, alcohol/substance abuse) would accrue over time.[2]

More recent studies, using DSM-III-R or DSM-IV criteria, have indicated even higher rates of social anxiety disorder. According to a study conducted in the USA, the National Comorbidity Survey (2008), SP is a common, under-treated disorder that leads to significant functional impairment. Social anxiety disorder has both lifetime and 12 month prevalence rates of 12.1% and 7.1%, respectively.[6]

The prevalence of SP in eastern societies, although

less studied, has been reported to be much lower, namely, 0.4% in a rural Taiwanese village.[7] A significantly higher rate of SP in the Basle Epidemiological Study (16%) compared with Southeast Asia surveys (0.4 – 0.6%) is truly intriguing.[8,9]

It is unclear whether the difference between prevalence rates for studies conducted in western and eastern countries reflects the situation or is associated with constructs and mental representations of this condition in Asia.[10,11] In early studies, in western countries, the rate of SP has been reported at 1% to 4%.[5,12] Other studies have reported rates of 10% to 13%.[9,13]

Golestan Province in northern Iran has a unique social and cultural diversity. In this province there are people from different races. For example, the Turkaman race has special culture and religious beliefs. They have no interracial marriage in couples that may affect interactions and social support. The results of previous studies have shown that social anxiety disorder is associated with social isolation[14] and social support.[15] It is hypothesized that SP symptoms should be more frequent in this race than other races. Recently, a study finding showed the lifetime prevalence of SP was 0.82%, with a predilection for females (1.3%) compared to males (0.4%) in the general Iranian population.[16] Ghafarinejad reported that the prevalence of SP among adolescents in the Kerman region was 14.6%, with the rate for females twice that of males (1.8:1).[17] Given the unique social and cultural diversity of Golestan, it is unclear what the rate of social phobia is. Therefore research into this field would be of great significance for scholars. As a result, this study had two objectives which were: 1) to assess the rate of SP symptoms in an Iranian sample in order to characterize the sociodemographic characteristics of those with social anxiety symptoms and 2) to examine possible risk factors for the development of SP.

## Materials and Methods

### Sample

Totally, 701 people (male 48.4% and female 51.6%) from Golestan Province participated in this study. The cluster sampling method was used to recruit participants. First, the cities of Gorgan, Gonbad, Aliabad, Kurdkoy, Nodeh, Khanbebin, Siminshahr, and Anbaroloom were randomly selected. Then, within each city two regions were randomly selected. In ev-

ery region, two resident blocks, and in every resident block, households were also randomly selected. In every household, its members were selected by the last birthday method. In Golestan Province there are four distinct races: Persian, Sistani, Turkaman, and Turk. Participants included 86.9% Persian, 2.6% Sistani, 7.3% Turkaman, and 3.3% Turk.

### Instruments

Participants completed the Social Phobia Inventory (SPIN) and a demographic questionnaire. Instruments were administered in the homes of the respondents by trained persons. Participants, who were eligible but not available in the first stage, were recruited during the second or third stages.

SPIN is a brief 17 item measure of generalized SP that assesses a range of avoidance behaviors (e.g., avoidance of talking to strangers), physical symptoms (e.g., distress as evidenced by sweating) and social fears (e.g., fear of people in authority positions).[19] The scale has good ability to distinguish adults with and without social phobia. Items assessing fear, avoidance, and physiological distress make up the three subscales of the SPIN.[18] Abdi (2004) reported Cronbach's alpha coefficient 0.86 for the total score of the Farsi version of this scale [avoidance behaviors (0.67), physical symptoms (0.66), and social fears (0.70)].[19] A total score of 33 was used as the cut-off point that produced 96% and 83% specificity and sensitivity coefficients, respectively. Participants responded to demographic questions such as sex, race (Sistani, Turkaman, Turk, or Persian), illness history (yes/no), marital status (yes/no), job, residence, social support (yes/no), age, and education.

### Data analysis

Statistical analysis was performed with the Statistical Package for the Social Sciences, Version 11.0.1. (SPSS, Inc., Chicago, IL, USA). Probable SP was estimated when the SPIN score was 33 or greater.

The rate of SP (cutoff score=33) was calculated for the whole sample, then *t*-test analyses were carried out and compared with the demographic variables that had a yes/no format, which included social support, sex, illness history, and marital status. ANOVA was used to test relations between the inventory scores and other variables (residence, job, and education). The analyses were mainly exploratory. Linear regression analysis, using dummy variables for cat-

egorical variables, was performed to determine relative predictors of SP symptoms.

## Results

The sample consisted predominantly of the Persian (86.9%) race whose subgroup had an illness history accounting for 10.4% of the sample. Those who with a few years of elementary grade studies or who completed elementary school accounted for 26.7% of the sample. Additional sample characteristics are indicated in Table 1.

When using the cutoff score of 33 as a criterion for probable SP, 10.1% of the total sample had scores above the cutoff value (Table 2) and 4% (3 persons) of the total sample reported an onset age below 15 years. There were significant relations between illness history and case-noncase SP (Chi square=5.28, $P$=0.02). In those who had an illness history, the prevalence of probable SP was 17.8%, which was higher than those who had no illness history (9.2%). There were no significant relations between case-noncase SP with other variables such as sex, race, social support, and marital status.

There were significant differences in the mean scores on SP between groups with respect to sex (women had a higher score than men), social support (those who had no social support had higher scores than those who had social support), and residence, education, and job (Table 3).

There were no significant differences in the mean scores on SP between groups with respect to race ($F_{3,697}$=2.13, $P$=0.00), marital status ($t_{688}$=0.84, $P$=0.40) and illness history ($t_{84}$=0.62, $P$=0.60)*.

*Equal variances not assumed in two groups.

### SPIN mean scores

The mean total scores for the entire sample was 18.3 (SD=10.4), and for the categories of: fear, avoidance, and physiological distress were 7.1 (SD=4.7), 6.1 (SD=3.9), and 5.2 (SD=3.3), respectively. The Cronbach's alpha was 0.86 for the total scale and for the fear, avoidance, and physiological distress subscales were 0.71, 0.67 and 0.66, respectively. There was a significant inter-correlation between the three subscales (range $r_s$=0.52 to 0.67, $P \leq 0.001$).

The SPIN scores as a function of various demographic variables are displayed in Table 3. (Bonferroni correction was made for multiple comparisons, thus significance was noted when $P$<0.007). Variables associated with significantly higher SPIN scores were noted for women ($t_{699}$=3.43, $P$=0.001).

Based on a one-way analysis of variance and follow-up Tukey HSD post *hoc* tests; residence, education and job were compared. For residence ($F_{3,697}$=5.38, $P$<0.001), Gonbad residents had a higher mean score than those of Gorgan and Kurdkoy. Siminshahr residents had a higher mean than Gorgan and Kurdkoy. Overall, education ($F_{5,694}$=4.66, $P$<0.001) was significant. Elementary graduates had a higher mean score than those with a bachelor's degree or above. For occupation ($F_{7,681}$=2.55, $P$=0.01), generally, a subsequent analysis showed that the groups of housewives scored higher than those who were in private sectors and employees.

A stepwise regression analysis was carried out to examine the relative variance in the total score inventory as a function of the statistically significant variables in the previous analysis. The total $R^2$ was 0.08 ($F_{1,686}$=36.00, $P$=0.001). The final model included: Gonbad ($R^2$change=0.024, $P$<0.001), sex ($R^2$change=0.017, $P$=0.001), Siminshahr ($R^2$change=0.014, $P$=0.001), elementary graduates ($R^2$change=0.013, $P$=0.002), bachelor's degree or higher ($R^2$change=0.007, $P$=0.02), private job ($R^2$change=0.006, $P$=0.03), and social support ($R^2$change=0.006, $P$=0.03). However, these factors accounted for only 9% of the variance in the inventory scores.

## Discussion

The main findings of this study are as follows: the point-prevalence of probable SP is 10.1%, with the rate for females greater than males (1.3:1) which is similar to a number of studies in Western countries[13, 20–22] and higher than rates reported in Eastern countries.

We found that illness history had a significant relation with SP in that the rate for those who had a history of illness was twice the rate for those who had no illness history (1.9:1). This result was consistent with reports which indicated an association between medical treatment (as an indicator of illness history) and SP.[5]

Also, as expected, women scored higher than men; higher means were also attributed to reports of no social support and only elementary school compared

to bachelor degree or above. These results were consistent with reports, which concluded that sex, social support, and low educational achievements were related to social phobia.[5,13,17,21–23] Although Schneier et al. and Davidson et al.[23] concluded that unstable job, low socioeconomic status and low income were related to SP, it has not been specified which types of jobs were associated with SP. This study showed that groups of housewives had a higher SP mean than those with other occupations which might be explained by the tendency of anxious persons to avoid anxiety-provoking environments.

Gonbad had a higher mean score than the cities of Gorgan and Kurdkoy. Siminshahr residents also had a higher mean score than those in Gorgan and Kurdkoy. A possible explanation for these results can be derived from cultural differences. In small towns such as Gonbad or Siminshahr that consist of diverse races and low interracial cohesion, it is probable that SP is higher than in urban areas (e.g., Gorgan). This is consistent with the results of a study by Ofleson et al.[24] who have reported higher SP in small towns or rural areas; however, it is inconsistent with the results of study by Magee et al.[9] who did not find increased SP in the city.

Although it was hypothesized that social support symptoms would be more frequent in those who were Turkaman, the prevalence of probable social support was 17.6%, which was higher than rates for other races; however, it was not significant. It should be noted that this finding was based purely on reports from participants and therefore may be biased. A possible explanation for this finding was derived from the study sample. A larger sample size may reveal a significant difference statistically.

The first limitation of the study, as previously noted is the sample size. A second limitation of the current study is the reliance on the use of self-reported measures to gather data. A number of inherent problems such as measurement error and participant bias are unavoidable in utilizing such measures. Persons with SP may have a history of other anxiety disorders, such as substance-related disorders and bulimia nervosa. In addition, avoidant personality disorder frequently occurs in persons with generalized SP. Such disorders were not controllable in this study. In addition, since this study was only conducted in Golestan Province; conceivably, findings may not be generalized to other regions of Iran.

**Table 1.** Demographic characteristics of samples (*n*=701)

| | *n* | *P* |
|---|---|---|
| **Sex** | | |
| Men | 339 | 48.40 |
| Women | 362 | 51.60 |
| **Education*** | | |
| Elementary school | 64 | 9.10 |
| Secondary school | 123 | 17.60 |
| High school (diploma) | 328 | 46.90 |
| Two year after diploma | 48 | 6.90 |
| Bachelor or above | 85 | 12.10 |
| University student | 52 | 7.40 |
| **Residence** | | |
| Gorgan | 355 | 50.60 |
| Gonbad | 150 | 21.40 |
| Aliabad | 76 | 10.80 |
| Kurdkoy | 63 | 9.00 |
| Nodeh | 8 | 1.10 |
| Khanbabin | 18 | 2.60 |
| Siminshahr | 21 | 3.00 |
| Anbaroloom | 10 | 1.40 |
| **Marital status*** | | |
| Married | 462 | 67.0 |
| Single | 228 | 33.0 |
| **Social Support*** | | |
| Yes | 644 | 93.60 |
| No | 44 | 6.40 |
| * Valid percent was reported | | |

**Table 2.** Prevalence of social phobia for cutoff equal to or greater than 33 (*n*=701)

| | SP% | Non-SP% |
|---|---|---|
| **Sex** | | |
| Men | 8.6 | 91.4 |
| Women | 11.6 | 88.4 |
| Total | 10.1 | 89.9 |
| **Illness history** | | |
| Yes | 17.8 | 82.2 |
| No | 9.2 | 90.8 |
| **Race** | | |
| Sistani | 5.6 | 94.4 |
| Turkaman | 17.6 | 82.4 |
| Turk | 4.3 | 95.7 |
| Persian | 9.9 | 90.1 |
| **Social support** | | |
| Yes | 9.6 | 90.4 |
| No | 15.9 | 84.1 |
| **Marital** | | |
| Married | 0.10 | 0.90 |
| Single | 0.11 | 0.89 |

**Table 3.** SPIN scores between various subgroups

| Variable | M(SD) | $P^a$ |
|---|---|---|
| Sex | | |
| Men | 16.9(9.9) | 0.001 |
| Women | 19.6(10.6) | |
| Social support | | |
| Yes | 18.1(10.3) | 0.049 |
| No | 21.2(10.6) | |
| Residence[b] | | |
| Gorgan | 17.2(10.3) | 0.000[c] |
| Gonbad | 21.4(10.9) | |
| Aliabad | 17.3(9.8) | |
| Kurdkoy | 15.3(8.7) | |
| Nodeh | 22.5(6.9) | |
| Khanbabin | 19.1(6.5) | |
| Siminshahr | 25.5(11.1) | |
| Anbaroloom | 21.6(6.4) | |
| Education | | |
| Elementary | 22.6(10.9) | 0.000[d] |
| Secondary | 19.2(10.2) | |
| High school diploma | 17.9(10.1) | |
| 2 year after diploma | 17.3(10.4) | |
| Bachelor or above | 15(9.7) | |
| University student | 19.9(10.8) | |
| Job | | |
| Private | 16.6(10.2) | 0.013[e] |
| Instructor | 17.2(10.2) | |
| Employee | 15.8(10.3) | |
| Housewife | 20.5(10.6) | |
| Student (school) | 18.7(8.8) | |
| Unemployed | 18.2(11.1) | |
| Student (University) | 19.9(10.8) | |
| Other | 17.6(10.5) | |

a=two tailed t-test; b=analysis of variance; c=category 2 (n=150) had higher score than categories 1 and 4; category 7 (n=21) had higher score than categories 1 and 4; d=category 1 (n=64) had higher score than categories 5; e=category 4 (n=176) had higher score than categories 1 and 3

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