

Prevalence and possible risk factor of social phobia among male secondary and intermediate school students in Al-Madinah, 2016

Basem Musllam Aljohani, ¹Amani Mahrus

¹Family Medicine resident (R4), Ministry of Health, Postgraduate program of Family Medicine, Al-Madinah,

²Family Medicine consultant, Family Medicine department, Prince Mohammed Bin Abdul Aziz hospital, Al-Madinah, Saudi Arabia

Corresponding author: Basem Musllam Aljohani, Email: Dr.johanifm@gmail.com, mobile: 00966561040789

ABSTRACT

Background: When prevalence estimated was based on the examination of psychiatric clinic samples, social anxiety disorder was thought to be a relatively rare disorder. The opposite was instead true; social anxiety was common but may be were afraid to seek psychiatric help, leading to an underestimation of the problem.

Objectives: To determine the prevalence and possible risk factors of social phobia among intermediate and secondary school male students in Almadinah city.

Subjects and methods: A cross-sectional study was conducted included a random representative sample of male students enrolled in intermediate and secondary governmental schools in Al-Madinah city throughout the scholastic year 1436-1437 H (2014-2015). The social phobia Inventory (SPIN) scale was utilized to diagnose social phobia at a cut-off value of 19 whereas the Social Phobia Risk Factors Questionnaire (SPRFQ) was applied to assess risk factors for social phobia.

Results: The study included 425 students; 258 were recruited from intermediate schools (60.7%) and the remaining 167 (39.3%) from secondary schools. Their age ranged between 12 and 22 years with a mean of 15.75 and standard deviation of ± 1.94 years. Social phobia was identified among 29.5% of intermediate school students compared to 18.6% of secondary school students. The difference was statistically significant, $p=0.011$. Multivariate logistic regression analysis revealed that intermediate school students who had close friends with social phobia, those frequently experienced battering, bullying and humiliation, those experienced withdrawal and fear when facing new situation or people at least in the past 6 months. Students who have problems with their fathers and first born students were more significantly like to develop social phobia compared to their counterparts whereas secondary school students who frequently experienced battering, those experienced shyness when facing new situation or people at least in the past 6 months and first born students were more significantly like to develop social phobia compared to their counterparts.

Conclusion: The prevalence of social anxiety disorder among the intermediate and secondary school students in Al-Madinah city is high. Important significant risk factors for social phobia have been identified.

Keywords: Social phobia, male, school adolescents, prevalence, risk factors, Saudi Arabia

INTRODUCTION

The usual fear of "being stared at" is common to most of us. The ordinary normal social talks usually involve being under the gaze of strangers, friends, people whom we do not know, and colleagues. These interactions are usually navigated without our conscious thoughts⁽¹⁾. Most people express their social discomfort while being under public scrutiny⁽²⁾.

Social phobia (SP), however, is the excessive fear that a performance or social interaction of a certain person would be inadequate, embarrassing, or humiliating. People with SP avert their gaze from their audience and often avoid a feared social settings⁽³⁾.

According to diagnostic and statistical of mental disorders⁽⁴⁾, social phobia is a persistent fear of one or more situations in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be

humiliating or embarrassing. The DSM-IV⁽⁴⁾ gave SP alternative name "Social Anxiety Disorder"

Patients with social phobia tend to interpret neutral or ambiguous conversation with a negative outlook although still inconclusive. Some studies suggest that socially anxious individuals remember more negative memories than those less distressed. An example of an instance may be that of an employee presenting to this co-works. During the presentation, the person may stutter a word upon which he or she may worry that other people significantly noticed and think that he or she is a terrible presenter. This cognitive thought propels further anxiety which may lead to further stuttering, sweating and a possible panic attack⁽⁵⁾.

Social anxiety disorder is a persistent fear of one or more situation in which the person is exposed to possible scrutiny by others and fear that he or she may do something or act in a way that will be humiliating or embarrassing. It exceeds normal "shyness" as it lead to excessive social avoidance and

substantial social or occupational impairment. Feared activities may include almost any type of social interaction, especially small groups, dating, parties, talking to strangers, restaurant, etc. physical symptoms include "mind going blank", fast heartbeat, blushing, stomach ache. Cognitive distortion is a hallmark, and learned about in CBT (cognitive-behavioral therapy). Thoughts are often self-defeating and inaccurate⁽⁶⁾.

Public speaking or performing, making "small talk", small group discussion, asking questions in groups, being introduced, meeting or talking with strangers, being assertive, being watched doing something (e.g., eating, writing), attending social gatherings, using the telephone, using public restrooms, interacting with "important" people, indirect evaluation (e.g., test taking)⁽⁷⁾.

Physiological effects, similar to those in other anxiety disorder, are present in social phobia. Patients are faced with uncomfortable situation, children with social anxiety may display tantrums, crying, clinging to parents, and shutting themselves out. Adults may weep, as well as experience excessive sweating, nausea, shaking, and palpitation as a result of the fight-or-flight response. Amygdala and fear circuitry as a whole, the most consistent brain imaging findings demonstrate hyperactivity of limbic and paralimbic fear circuitry in response to social threat stimuli in persons with SAD. Positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) studies have demonstrated that persons with SAD, as a group, show hyperactivation of the amygdala and insula when engaging in public speaking, or when viewing socially threatening images, such as emotional faces, but not when viewing non-social threatening images. Other studies have found decreased medial prefrontal cortex activation during social cognition, suggesting differences in processes involving thinking about the intentions of others^(8,9).

When prevalence estimated was based on the examination of psychiatric clinic samples, social anxiety disorder was thought to be a relatively rare disorder. The opposite was instead true; social anxiety was common but may be were afraid to seek psychiatric help, leading to an underestimation of the problem. Social phobia is one of the most common psychiatric disorders, with lifetime prevalence in the United States (US) estimated to be 5 to 12 percent, with one-year

prevalence in the US of 3 to 7 percent. Similar prevalence in other developed countries has been reported but tends to be lower in developing countries⁽¹⁰⁾.

Onset of social phobia typically occurs between 11 and 19 years of age. Onset after age 25 is rare. Slightly more females than males have social phobia⁽⁷⁾.

The most important point to emerge from studies of social anxiety disorder is the benefit of early diagnosis and treatment. Social anxiety disorder remains under-recognized in primary care practice, with patients often presenting for treatment only after the onset of complications such as major depression or substance use disorders. Improvement is lower for those with more severe social phobia and with comorbid disorders, such as avoidant personality disorder and depression. The patient who achieve full resolution are usually far fewer; these are still many who, after receiving treatment are unable to function in the long term without anxiety symptoms⁽¹¹⁾.

Research has provided evidence for the efficacy of two form of treatment available for social phobia certain medication and a specific form of short-term psychotherapy called cognitive-behavioral therapy (CPT), the central component being gradual exposure therapy⁽¹²⁾.

This study was carried out to determine the prevalence and possible risk factors of social phobia among male intermediate and secondary school students in Al-Medinah, 2016.

SUBJECTS AND METHODS

A cross-sectional study was conducted at male governmental intermediate (n=237) and secondary school (n=149) schools in Al-Medinah city which is one of the main cities in the Kingdom of Saudi Arabia located in the western region with a total population of 1,300,000. Male students enrolled in governmental intermediate and secondary schools throughout the scholastic year 1437-1438 H constituted the target population for the study. The total number was 39413intermediate school students and 25511 secondary school students. The study tools were the social phobia Inventory (SPIN) scale and the Social Phobia Risk Factors Questionnaire (SPRFQ). SPINconsists of 17 questions and evaluates fear (of people in authority, of parties and social event, of being criticized, of talking to strangers, of doing things when people are watching,

and of being embarrassed), avoidance (of talking to strangers, of speaking to people for fear of embarrassment, of going to parties, of being the center of attention, of making speeches, of being criticized, of speaking to authority), and physiological discomfort (blushing, sweating, palpitation, or shaking and trembling in front of other people). Each of the 17 items is rated on a scale from 0 to 4: not all, a little bit, somewhat, very much and extremely; with higher scores corresponding to greater distress. The full-scale score thus ranges from 0 to 68. A cut-off value of 19 distinguishes between subjects with and without SP⁽¹³⁾. Translation of this questionnaire into Arabic has been performed by the researcher and validated by two consultants in family medicine and psychiatry. The total SPIN score is generally recommended as the most useful, but the three subscales provide further information concerning the dimensions of fear, avoidance and physical symptoms. The items corresponding to these scales are as follows: Fear - 1, 3, 5, 10, 14, 15 (Range 0-24); Avoidance - 4, 6, 8, 9, 11, 12, 16 (Range 0-28); Physical symptoms: 2, 7, 13, 17 (Range 0-16). A total score of 0-10 broadly corresponds to absence of symptoms. A score between 11 and 20 suggests borderline or very mild social anxiety. Scores between 21 and 30 correspond to mild social anxiety. Scores between 31 and 40 correspond to moderate social anxiety. Scores of 41-50 suggest severe social anxiety, and scores of 51 and above indicate very severe social anxiety⁽¹³⁾.

SPRFQ was designed by *Azab et al.*⁽¹⁴⁾ In addition, student's age and grade were collected by using the following formula⁽¹⁵⁾:

$$n = \frac{Z^2 P(P-1)}{d^2}$$

Where:

n = sample size,

Z = Z statistic for a level of confidence = 1.96,

P = expected prevalence or proportion

(In proportion of one) = 50%, and

d = precision (in proportion of one) = 5%, d = 0.05.

The calculated sample size was 384 participants. To compensate for drop out, the sample was increased to be 425 students. Proportional to the total number of students, 258 students were recruited from intermediate schools and 167 from secondary schools.

Multi-stage sampling technique was done to select the required sample size as follows:

Stage 1:

Two intermediate and two secondary schools were selected following a simple random sample technique, two from the north (one intermediate and one secondary) and the other two from the south (one intermediate and one secondary).

Stage 2:

Through a simple random sampling technique 2 classes were selected from each school. Thus, a total of eight classes were recruited.

Stage 3:

Cluster sampling technique was adopted to select all students enrolled in the eight selected classes till the required sample size was achieved.

The entry of data was done by the researcher using SPSS version 22 software program. Descriptive statistics was performed in the form of percentage and frequency for categorical variables and arithmetic mean and standard deviation for continuous variables. Chi-square was used to test for the association between two categorical variables. Since the scores of SP and its domains was abnormally distributed, non-parametric statistical tests were utilized. Mann-Whitney test was used to compare between two groups and Kruskal-Wallis test to compare between more than two groups. P-value less than 0.05 was utilized as cut off for statistical significance.

All necessary official permissions were obtained. Letters from the hospital administration, ethical comity and director of Ministry of Education were secured before data collection. Permission to utilize the study tool was obtained from the author through an e-mail communication.

RESULTS

The study included 425 students; 258 were recruited from intermediate schools (60.7%) and the remaining 167 (39.3%) from secondary schools. Their age ranged between 12 and 22 years with a mean of 15.75 and standard deviation of ±1.94 years.

Secondary school students were almost equally distributed between the three grades whereas 35.7% of intermediate school students were recruited from either first or third grades whereas the remaining 28.6% were recruited from the second grade.

As demonstrated in figure 1, social phobia was identified among 29.5% of intermediate school students compared to 18.6% of secondary school students. The difference was statistically significant, p=0.011.

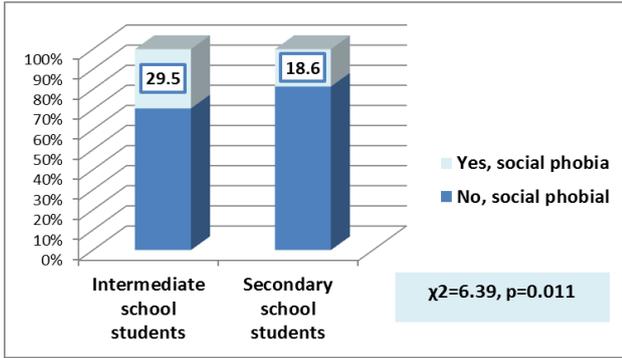


Figure (1): Prevalence of social phobia among participants according to school stage.

For intermediate school students, social phobia was reported among 35.9% of first grade students and 23.9% of third grade students. However, the difference was not statistically significant as shown in figure 2.

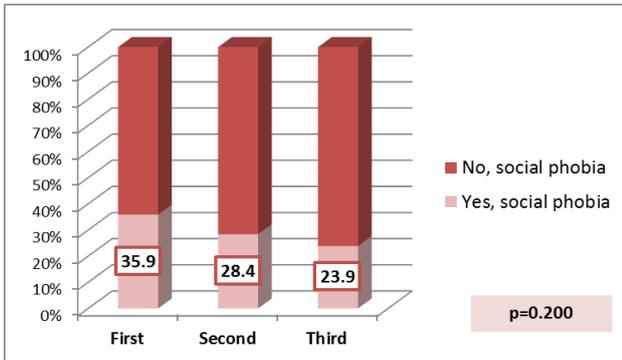


Figure (2): Prevalence of social phobia among intermediate school students according to scholastic grade.

For secondary school students, social phobia was reported among 29.1% of second grade students and 17.3% of first grade students. However, the difference was not statistically significant as displayed in figure 3.

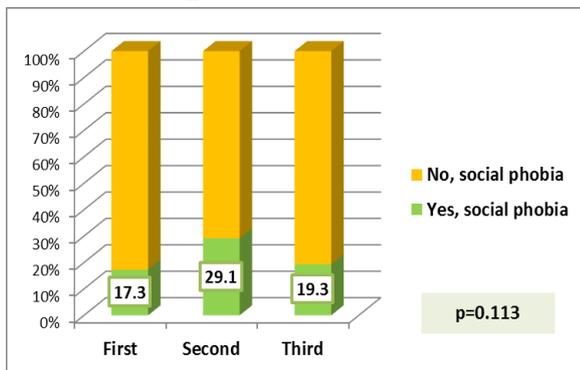


Figure (3): Prevalence of social phobia among secondary school students according to scholastic grade.

Figure 4 shows that the prevalence of social phobia among students aged between 12 and

15 years was 29.5% whereas it was 21.4% among those aged 18 years or above. However, the difference was not statistically significant, $p=0.200$

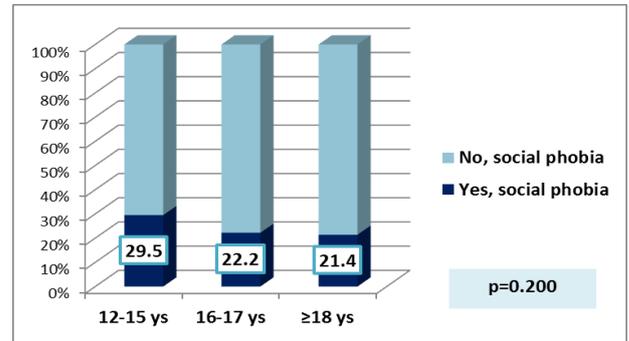


Figure (4): Prevalence of social phobia among participants according to age

Severity of social phobia

As displayed in figure 5, there was a statistically significant difference between intermediate and secondary school students regarding severity of social phobia ($p=0.001$) as moderate social phobia was reported among 12.8% of intermediate school students compared to 3.6% of secondary school students. Also, sever social phobia was reported among 6.2% of intermediated school students compared to 4.2% of secondary school students.

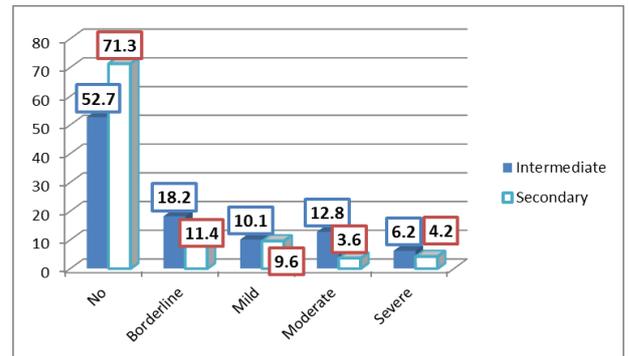


Figure (5): Severity of social phobia according to school level.

Risk factors for social phobia

Intermediate school students

Multivariate logistic regression analysis revealed that students who had close friends with social phobia, those frequently experienced battering, bullying and humiliation, those experienced withdrawal and fear when facing new situation or people at least in the past 6 months, students with problems with their fathers and first born students were more significantly like to develop social phobia compared to their counterparts (Table 1).

Table (1): Determinants of social phobia among intermediate school students: Multivariate logistic regression analysis

	AOR	95% CI	p-value
Family history of social phobia			
Noa	1.0	---	---
Yes	72.02	5.51-940.64	0.001
Frequently experiencedbattering			
Noa	1.0	---	---
Yes	5.83	1.14-29.98	0.035
Frequently experienced bullying			
Noa	1.0	---	---
Yes	34.29	10.33-113.81	<0.001
Frequently experienced Humiliation			
Noa	1.0	---	---
Yes	63.66	11.53-351.82	<0.001
When facing new situation or people, you experienced withdrawal at least in the past 6 months:			
Noa	1.0	---	---
Yes	14.96	2.62-85.49	0.002
When facing new situation or people, you experienced fear at least in the past 6 months:			
Noa	1.0	---	---
Yes	15.33	2.06-113.87	0.008
Problem with father			
Noa	1.0	---	---
Yes	4.54	1.38-14.93	0.013
First born child			
Noa	1.0	---	---
Yes	2.82	1.14-6.99	0.025

aReference category

AOR: Adjusted odds ratio

CI: confidence interval

Secondary school students

Multivariate logistic regression analysis revealed that students who frequently experienced battering, those experienced shyness when facing new situation or people at least in the past 6 months and first born students were more significantly like to develop social phobia compared to their counterparts (Table 2).

Table (2): Determinants of social phobia among secondary school students: Multivariate logistic regression analysis.

	AOR	95% CI	p-value
Frequently experienced battering			
Noa	1.0	---	---
Yes	3.99	1.19-13.35	0.025
When facing new situation or people, you experienced shyness at least in the past 6 months:			
Noa	1.0	---	---
Yes	23.07	6.49-81.95	<0.001
First born child			
Noa	1.0	---	---
Yes	2.44	1.02-7.14	0.049

aReference category

AOR: Adjusted odds ratio

CI: confidence interval

DISCUSSION

In Saudi Arabia, some important studies have been carried out on social phobia in young people, although less is known about the prevalence of social phobia in these populations. Therefore, this study was carried out mainly to estimate the prevalence and identify determinants of social phobia among intermediate and secondary school students in Al-Madinah city, Saudi Arabia.

The present study revealed that the prevalence of social phobia among intermediate and secondary school students were 29.5% and 18.6%, respectively. Mahfouz et al reported that SP is the most frequent mental-health-related problem among Saudi adolescents, with a rate of around 17.3%⁽¹⁶⁾. Another study reported a prevalence rate of 16.4% among female students⁽¹⁷⁾. Prevalence of SP was 14.1% among male secondary school students in Aseer Region⁽¹⁸⁾. In another Saudi study, it was reported as a prevalent condition constituting approximately 13% of all neurotic disorder seen in psychiatric clinic⁽¹⁹⁾, especially among young people. In India, social phobia was found in 19.5% of the participants⁽²⁰⁾.

In USA, it has been estimated that the lifetime prevalence of social phobia is at 12% and about half of these cases of social anxiety disorder is concerned about avoidance or fear to be in various social situations⁽²¹⁾. In Germany (Munich), Beesdo, et al conducted a study to estimate the cumulative incidence of SP among adolescents and young adults (14-24 years). The incidence for SP was 8.0% among males⁽²²⁾.

The comparison between the figures reported in the present study and others reported in the aforementioned studies is difficult as the used tools to diagnose social phobia is different from those used in these studies. However, in spite of the high prevalence of social phobia reported in the current study, it has also been recognized that such social condition is an area which is often under-studied and poorly recognized, often not diagnosed, in the case of people who are suffering from such disorder⁽²³⁾.

Sibling position might have an influence on social phobia because some studies have reported increased rates of social anxiety among firstborn children⁽²³⁾. Social phobia may occur because of an increased pressure placed on firstborn children to succeed or because these children lack the benefits of having older siblings as social role models⁽²³⁾. Some

others reported social phobia more among those born later⁽²⁴⁾. They reported that first born children show less social phobia than later-born siblings and that increasing adult fearfulness correlates positively with increasing birth order⁽²⁴⁾. Therefore, to date, reports on birth-order are inconclusive. In the present study, rate of SP was significantly associated with first birth disorder both in intermediated and secondary groups of students even after controlling for confounding in multivariate logistic regression analysis.

Parents are hypothesized to affect the potentiality of SP in their young by either (a) a genetic predisposition or (b) familial environments that are rejecting, emotionally distant, or overprotective and possessive^(25,26). In agreement with that, the current study demonstrated significant association between SP from one side and family history of social phobia and having a problem with fathers from the other side, particularly among intermediated school students.

In the current study, social phobia was significantly associated with frequent exposure to battering, bullying and humiliation. Also, SP was significantly associated with experiencing withdrawal, fear and shyness when facing new situation or people. The findings by Hambrick showed that social phobia has an adverse effect on life satisfaction and affects the quality of life of a person severely and thus makes him or her unstable both physically and psychologically.⁽²⁷⁾ Also *Alkhatami et al.*⁽²⁸⁾ and *Wittchen's et al.*⁽²⁹⁾ findings approved association between SP and quality of life, physical and role functioning. Because of the cross-sectional design of the study we could not confirm if SP leads to these psychological behaviours or vice versa. Longitudinal study is recommended in this regards.

Findings of the present study must be viewed in light of some limitations. First, females were not included in the current study for comparison. Second, no causal inferences can be drawn from our observational data because of its cross-sectional design. Finally, we recruited population from one city, which might limit the generalization of our findings to Saudi population.

In conclusion, the prevalence of social anxiety disorder among the intermediate and secondary school students in Al-Madinah city is high. It was more significantly higher among intermediated school students. In addition, important significant risk factors for social phobia have been identified included; family history of social phobia, problems with fathers, first birth order,

frequently experienced to battering, bullying, humiliation and behavioural defects when facing new situation or people. Periodic assessment of intermediate and secondary school students should be part of initial and ongoing evaluation to discover early enough cases with social phobia. Health education for parents and teachers regarding social phobia particularly risk factors and early symptoms and signs to increase their awareness regarding the bad effects of maltreatment to their siblings in early ages, particularly fathers and its sequels on students' psychological health. Primary health care physicians as well as parents require basic training in identification and management of social phobia in early stages.

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