

Social anxiety disorder in Saudi adolescent boys: Prevalence, subtypes, and parenting style as a risk factor

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ABSTRACT

Background: Available information on social anxiety disorder (SAD) in adolescents in Saudi Arabia is limited. The objective of the study was to estimate the prevalence, severity, and subtypes of SAD, and parenting style risk factors associated with SAD in the adolescent. **Materials and Methods:** This cross-sectional study was conducted in two secondary schools for boys in Abha, Saudi Arabia during the Academic year 2013. To collect the data, a questionnaire eliciting information on background characteristics and parenting style as well as the Liebowitz Social Anxiety Scale Test (LSAS), for the evaluation of SAD, were used. **Results:** A total of 454 students participated in the study. The age of the participants ranged between 15 and 20 years with a mean of 17.4 years. The prevalence of SAD was 11.7%. Around 36% and 11.4% of the students respectively had severe and more severe forms of SAD. Parenting style such as parental anger, criticism particularly in front of others, exaggerated protection, maltreatment and family provocation emerged as a significant risk factor for SAD. The independent predictors of SAD were a parental provocation and physical or emotional maltreatment by the parent (odds ratio [OR] = 3.97, 95% confidence interval [CI]: 1.90–8.31 and OR = 2.67, 95% CI: 3.17–5.19, respectively). **Conclusion:** The prevalence of SAD in secondary school students at Abha is high. Parenting style risk factors for SAD are modifiable. In this context, a national program to improve mental health in this age group is crucial.

Key words: Adolescents, parenting style, social anxiety disorder, subtypes

INTRODUCTION

Social anxiety disorder (SAD), also known as social phobia, is a common disorder characterized by excessive fear of scrutiny, embarrassment and humiliation in social or performance situations, leading to significant distress or impairment of functioning.^[1-3] It is the most common anxiety disorder and the third most common psychiatric disorder after major depressive disorder and alcohol dependence.^[4] The lifetime prevalence of SAD is somewhere between 7% and 13% in Western countries.^[5] Adolescents seem to have higher rates of SAD, which is also more frequent in females and those with little

education and lower socioeconomic status.^[6] SAD is associated with lower educational achievement, unstable employment, higher frequency of absenteeism from work. The sufferers are less likely to marry, more likely to get divorced, and have reduced productivity that can lead to dependence on family, state, society, and country.^[7] Co-morbidity is another important issue related to SAD. Studies suggest that lifetime co-morbidities for SAD are between 69% and 81%. Disorders most frequently and strongly associated with SAD are bipolar disorder, eating disorders, personality disorders, and substance abuse disorders.^[8,9]

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SAD is a prevalent condition in Saudi Arabia, constituting approximately 13% of all neurotic disorders seen in the psychiatric clinic, especially in people who are in their adolescent years.^[10]

A study in Buraydha Mental Health Hospital, Al-Gassim, Saudi Arabia, reported that the monthly prevalence of social phobia is 5.6% among outpatient attendees. Depressive and personality disorders were higher among the SAD patients compared with the controls.^[11] Another study in Saudi Arabia also reported that depression is common in Saudi patients with SAD, particularly the severe subtype.^[12,13]

The age of onset for SAD is between early and late adolescence, although reports suggest that it can begin as early as 7 or 8 years of age.^[14] Saudi Arabia's population is characterized by rapid growth and a large cohort of youths. Fifty percent of Saudi Arabia's population is below the age of 25 years.^[15] Adolescence is a crucial stage of life a challenging dynamic period during which many biological, physiological, and psychological changes take place. Psychiatric disorders in this period are a major public health concern. Some studies^[16-20] have been conducted on this issue in Saudi Arabia. However, information is still scarce on the extent and severity of SAD and parenting style related factors, particularly in adolescents and young people in Saudi Arabia. The aim of this study was to determine the prevalence, severity and subtypes of SAD in secondary schoolboys in Abha City, in southwest Saudi Arabia and to assess related parenting style risk factors.

MATERIALS AND METHODS

This cross-sectional study was conducted in two government secondary schools for boys in Abha during the Academic year 2013. Abha, the capital city of Aseer province in southwestern Saudi Arabia, is situated at 2200 m (7200 ft) above sea level in the fertile mountains of the south west. According to the 2004 census, it has a population of 201,912,^[21] with a total of 16 secondary schools for boys (13 Government and 3 private).

A validated self-administered questionnaire consisting of questions on background characteristics, parenting style and the Liebowitz Social Anxiety Scale Test (LSAS) was used. The LSAS is the most studied scale with psychometric proprieties, compared to other scales available for measuring SAD symptoms.^[22]

It includes 24 items to assess the avoidance or otherwise of specific situations by individuals. It basically measures two subscales: 11 items on the fear of social interaction such as meeting strangers and going to a party. The other 13 items are on the performance of various actions such as eating

in public and giving a report in front of a group of people. The fear of social interaction is rated on a four-point scale (0–3) on which, 0 = no fear, 1 = mild fear, 2 = moderate fear, and 3 = severe fear. The performance of several actions is also rated on a four-point scale (0–3) in which 0 = never avoided, 1 = occasionally avoided, 2 = often avoided, and 3 = usually avoided. To determine the severity of SAD of the respondent, the scores were totaled. The scores of ≤54 indicated no social phobia, 55–65 = moderate social phobia, 66–80 = marked social phobia, 81–95 = severe social phobia, ≥96 = very severe social phobia.

Validity and reliability of the questionnaire has been confirmed by a lot of research. It has been translated, adapted and validated in five languages besides the original English. These are French^[23] Spanish,^[24] Hebrew^[25] and Turkish^[26] and Brazilian Portuguese.^[27] All these versions had good results on the evaluation of the internal consistency parameter, with the alpha values varying between 0.61 and 0.98. In relation to the concurrent validity, the instruments used to perform this correlation varied according to the study. However, the results always presented an acceptable fit (Social Phobia Scale: $R = 0.44-0.80$; Social Interaction Anxiety Scale: $R = 0.33-0.80$). The findings of these studies confirmed the excellent psychometric properties of the self-reported LSAS, endorsing its status as the gold standard.^[27] The Arabic version questionnaire for this study has an overall Cronbach's Alpha value of 0.942 showing high internal consistency.

The questionnaire was distributed to a total of 480 students. The researcher briefly explained the aim of the study to the students, how to fill the questionnaire and supervised the data collection. To maintain confidentiality, data was collected anonymously, and approval was obtained from the school authorities and the Ethical Committee of the College of Medicine, King Khalid University.

Statistical analysis was conducted using the SPSS version 19.0 (Statistical Package for the Social Sciences (SPSS), version 19.0, Cary NC, editor. USA: SAS Institute; 2002). All tests were carried out at 5% level of significance. Chi-square test was used to test the association between categorical variable. Fisher exact test was applied whenever indicated. A Multivariate logistic regression analysis was used to identify potential risk factors for SAD. Odds ratio (OR) and concomitant 95% confidence intervals (CIs) were calculated.

RESULTS

Of 480 questionnaires distributed to secondary schoolboys in Abha, 454 students returned completed questionnaire, giving a response rate of 94.6%.

The mean age was 17.4 years with a standard deviation (SD) of 1.1 years. The majority of students were Saudi (95.6%) and single (95.8%). More than one-third (36.6%) were in grade three while 20.5% and 43% were in grades one and two, respectively. The majority (88.3%) had parents living together. Family size of 61.2% of the students ranged between 7 and 10. For almost two-thirds of students (68.3%), the birth order ranged between 2 and 6. Illiterate fathers made up 7.7%, and 25.8% of the mothers were illiterate. Almost one-third (32.8%) of the fathers worked in the military or were professionals (30%). The majority of mothers were housewives (89%) [Table 1].

Table 2 shows the prevalence and grade of social phobia among secondary school boys. The prevalence was 11.7%. According to the LSAS, 35.9% of the students had a severe form of SAD. The prevalence of moderate, marked and more severe form was 30.1%, 22.7%, and 11.3%, respectively. Association of potential socio-demographic risk factors and social phobia was analyzed. None of the potential socio-demographic factors (Grade of school, family size, parental status, family size, birth order of the subject, parental education, and occupation) except age of the students were found to be significantly associated with social phobia. Social phobia was reported in 18.4% of students aged 18 years compared to 6.9% in those aged 17 years or less, $p = 0.002$ (data not shown).

Responses of the students to the questions regarding their parents' behaviors towards them were analyzed. Nearly half (47.4%) of the students occasionally faced parental anger and 19% reported this as the usual behavior. Forty-one percent reported that their parents had criticized them occasionally while 14.1% were usually criticized by parents. In 9.9% of the students, this criticism was usually in front of other people. "Usual" exaggerated protection by parents was reported by 24.7% of students. Almost one-seventh of the students (16.3%) were "usually" provoked by family members. "Usual" parental maltreatment was reported by 9.9% of the secondary school boys. This maltreatment was mostly emotional (56.4%). However, it was physical or in the form of neglect in 14.1% and 2.7% of students, respectively. More than one kind of abuse was reported by 26.8% of the students [Table 3].

Parenting style as a risk factor for social phobia was also studied and presented in Table 4. Students whose parents were usually angry with them and criticized them were almost at a five-fold higher risk of social phobia compared to those whose parents never displayed anger toward them or occasionally criticized them (OR = 4.4, 95% confidence interval [CI]: 2.1–9.2, OR = 4.9, 95% CI: 2.3–10.7, respectively). Students whose parents occasionally or usually criticized them in front of other people were at

Table 1: Socio-demographic characteristics of the participants (n=454)

Demographic data	Frequency	Percentage
Age (Years)		
≤17	248	54.6
18	152	33.5
>18	54	11.9
Grade of school		
First	93	20.5
Second	195	43.0
Third	166	36.5
Parental status		
Living together	401	88.3
Living in a separated family	53	11.7
Family size		
≤6	78	17.2
7-10	278	61.2
>10	98	21.6
Birth order		
First	65	14.3
2-3	157	34.6
4-6	153	33.7
>6	79	17.4
Paternal education		
Illiterate	35	7.7
Primary school	81	17.8
Intermediate school	83	18.3
Secondary school	101	22.3
University	154	33.9
Maternal education		
Illiterate	117	25.8
Primary school	116	25.6
Intermediate school	71	15.6
Secondary school	94	20.7
University	56	12.3
Paternal occupation		
Not working	18	4.0
Professional	136	30.0
Manual	47	10.3
Military	149	32.8
Retired	104	22.9
Maternal occupation		
House wife	404	89.0
Working	50	11.0

Table 2: Severity of social anxiety disorder according to the Liebowitz Social Anxiety Scale

Severity of SAD	Frequency (n=53)	Percentage
Moderate	16	30.1
Marked	12	22.7
Severe	19	35.9
More severe	06	11.3

SAD: Social anxiety disorder

a higher risk for social phobia compared to those whose parents never criticized them in front of other people

Table 3: Responses of the students to the questions related to the parenting style toward them (n=454)

Questions	Frequency	Percentage
Do your parents (or one of them) show anger at you?		
Never	153	33.6
Occasionally	215	47.4
Usually	86	19.0
Do your parents or one of them criticize you?		
Never	204	44.9
Occasionally	186	41.0
Usually	64	14.1
Do your parents or one of them criticize you in front of others?		
Never	300	66.1
Occasionally	109	24.0
Usually	45	9.9
Do your parents or one of them overprotect you?		
Never	183	40.3
Occasionally	159	35.0
Usually	112	24.7
Does your parent provoke you?		
Never	253	55.7
Occasionally	127	28.0
Usually	74	16.3
Are you exposed to abuse from your parent?		
Never	305	67.2
Occasionally	104	22.9
Usually	45	9.9
If yes, what kind of abuse is it (n=149)		
Physical	21	14.1
Emotional	84	56.4
Neglect	4	2.7
More than one kind	40	26.8

(OR = 3.05, 95% CI: 1.62–5.73 and OR = 2.60, 95% CI: 1.09–6.24, respectively).

Students whose parents were usually overprotective were more than 2 times at risk of social phobia compared to those whose parents were never overprotective (OR = 3.97, 95% CI: 1.11–3.99). Students whose parents occasionally or usually provoked them were at higher risk of social phobia compared to those whose family members never provoked them. Students whose parents occasionally or usually abused them both physically or emotionally were at higher risk of social phobia compared to those whose parents never abused them. The independent predictors of SAD as revealed by logistic regression analysis is presented in Table 5. Parental provocation and physical or emotional abuse by the parent were identified as greater parenting style risk factors for SAD (OR = 3.97, 95% CI: 1.90–8.31 and OR = 2.67, 95% CI: 3.17–5.19, respectively).

Table 4: Association between parenting style risk factors and social anxiety disorder

Parenting style	SAD absent	SAD present	OR	95% CI
Parental anger				
Never	140 (91.5)	13 (8.5)	Reference	
Occasionally	200 (93.0)	15 (7.0)	0.81	0.37-1.8
Usually	61 (70.9)	25 (29.1)	4.4	2.1-9.2
Parental criticism				
Never	190 (93.1)	14 (6.9)	Reference	
Occasionally	164 (88.2)	22 (11.8)	1.8	0.90-3.6
Usually	47 (73.4)	17 (26.6)	4.9	2.3-10.7
Parental criticism in front of others				
Never	277 (92.3)	23 (7.7)	Reference	
Occasionally	87 (79.8)	22 (20.2)	3.1	1.6-5.7
Usually	37 (82.2)	8 (17.8)	2.6	1.1-6.2
Parental overprotection				
Never	162 (88.5)	21 (11.5)	Reference	
Occasionally	151 (95.0)	8 (5.0)	0.41	0.17-0.95
Usually	88 (78.6)	24 (21.4)	2.1	1.1-3.9
Parental provocation				
Never	241 (95.3)	12 (4.7)	Reference	
Occasionally	109 (85.8)	18 (14.2)	3.32	1.5-7.1
Usually	51 (68.9)	23 (31.1)	9.06	4.2-19.3
Parental abuse (physical or emotional)				
Never	284 (93.1)	21 (6.9)	Reference	
Occasionally	86 (82.7)	18 (17.3)	2.8	1.4-5.5
Usually	31 (68.9)	14 (31.1)	6.1	2.8-13.2

SAD: Social anxiety disorder; OR: Odds ratio; CI: Confidence interval

Table 5: Logistic regression analysis - independent predictors of social anxiety disorder among secondary school students

Predictor	β	p-value	OR (95% CI)
Parent provocation	1.38	<0.001	3.97 (1.90-8.31)
Physical or emotional abuse	0.98	0.004	2.67 (1.37-5.19)
Constant	3.34	<0.001	

OR: Odds ratio; CI: Confidence interval

DISCUSSION

This cross-sectional study with data on the prevalence, subtypes and parenting style as a risk factor of SAD in 454 respondents aged 15–20 years is confirmation that social phobia is quite prevalent in this age group in Saudi Arabia. This may be one of the few studies which have addressed parenting style as a significant risk factor for SAD in Saudi Arabia.

Using a standardized instrument, the prevalence of SAD was found to be 11.7%. This matches the results of a study done in an international general population that

showed lifetime estimates for SAD as 8–12%.^[28,29] A study from India shows that 10.3% of students in the 14–18 age group had SAD, a result which is also quite close to those of this study.^[30] The burden of lifetime prevalence of social phobias in a Brazilian community is also similar to that found in our study (11.8%).^[31] The prevalence of SAD in Abha, KSA, is comparable to SAD estimates in other countries such as New Zealand (9.4%)^[32] and USA (12.1%).^[33] A previous study at Abha documents a little higher prevalence (16.4%)^[11] of social phobia than this study. The reason could be that the participants in the study referred to here were only females and it has been very frequently documented that females are more likely to suffer from this disorder.^[28,34,35] However, our result is significantly higher than what has been reported from European countries (6.65%),^[35] China (0.5%),^[36] and Korea (0.2%).^[37] This variation could be related to the use of different measuring tools and variations in the methods used to aggregate information from different sources.

The finding of higher SAD prevalence for younger age groups which seems to be universal, was replicated in our study in Abha.^[28,33,35,38,39] However, no significant association was revealed for: Country of origin, family size, birth order, parental financial status and education. The relationship of socio-demographic factors with SAD is similar to those found in a few other studies from Middle East,^[11,40] though it shows a positive relation with parental social status as documented in a review from Canada.^[28] In contrast to our results, few studies suggest an association of anxiety disorders with financial status in general,^[39] though they may suggest that these associations may not emerge through a risk factor-disorder association but through other more complex relationships.^[39,41] Also, it is unclear whether financial factor is antecedent to or a consequence of social phobia.^[35]

Our study revealed that 35.9% of the students had severe form of SAD while the prevalence of moderate, marked and more severe forms were 30.1%, 22.7%, and 11.3%, respectively. This implies that students in our study suffer from greater and more generalized fear rather than a phobia of specific subtype. This finding is in agreement with previous studies^[42,43] that indicated that the generalized subtype was common while the specific subtype was rare.

Our study confirmed findings of some previous studies on parenting style risk factors.^[44-47] There is a clear association of SAD and its severity with parental maltreatment (both physical and emotional), anger, criticism, especially in public, greater parental overprotection, and lower emotional warmth.

The various factors believed to be antecedents of social phobia are negative parenting practices. A variety of mechanisms may work to promote anxiety through these constructs. For instance, parental over-control diminishes a child's ability to explore and learn new skills independently, thereby possibly promoting anxiety in situations of perceived fear. Similarly, parental rejection fosters an insecurity, potentially leading to psychopathology in general and SAD in particular. This shows that rejection and excessive control by parents might be positively associated with later anxiety disorders. It also underlines the fact that early loving relationship between a child and a parent is important for a child's appropriate emotional development.^[48]

Study limitations and strengths

The study participants were from one city in the Kingdom of Saudi Arabia, and were only males and secondary school students. All these limit the ability to generalize our findings to all Saudi adolescents and young population. In our study, the source of maltreatment, anger, and criticism were self-reported by the study participants and could not be confirmed by other family members. This may be a source of bias since abused children usually carry negative emotions toward their parents. The causal inferences cannot be drawn from our observational data as a more extensive study is required.

Despite these limitations, our study provides a picture of the prevailing situation in this setting. The data are sufficient to throw light on the size of the problem of parenting styles and their relation with SAD and focus attention on the priorities for action in national programs for this Saudi population and similar settings in this region.

CONCLUSION

The prevalence of SAD among secondary school students at Abha is high and parenting style has emerged as a significant risk factor for SAD. Important significant risk factors for SAD identified include young age, parental anger, criticism particularly in front of other people, overprotection, parental abuse (physical and emotional) and family provocation. People with SAD are some of the least likely individuals to seek treatment. Parenting style risk factors for SAD are modifiable. This pervasive impairment should encourage public health policy makers to include social phobia among other serious mental disorders and make sustained efforts to treat and/or prevent it and its co-morbid disorders. A national study with a representative sample is required to address the issue of SAD in secondary school students in Saudi Arabia. There is an urgent need to create an awareness in parents and the community about

different aspects SAD by developing a national program for the mental health for this age group.

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Conflicts of interest

There are no conflicts of interest.

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