Screening for Social Phobia: Psychometric Evaluation of Chinese Social Phobia Inventory (SPIN)

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In the past, social phobia and other anxiety and depressive disorders were grouped together under the term neurotic disorders in DSM-II and ICD-9. It was recognized as a single diagnostic category in DSM-III and ICD-10 after 1980. Social phobia, also known as social anxiety disorder, is a chronic mental disorder characterized by intensive and persistent fear of being humiliated in social situations, anticipatory anxiety toward performance in public or communication with others, as well as intent to avoid social contact.[1] In the August 2009 issue of the *Journal of the Chinese Medical Association*, Tsai et al[2] reported that making speeches, fear of embarrassment, and fear of criticism are the 3 most prominent social fears detected by the Chinese Social Phobia Inventory (SPIN) in early adolescents. Social phobia may differ in the degree of severity, and DSM-IV categorizes social phobia as generalized and nongeneralized or performance type.[1,3] Generalized social phobia usually involves multiple social situations, more comorbid mental disorders, and more severe impairment, while the fear situation of nongeneralized social phobia is restricted to 1 or 2 situations, and with less impairment.[1,3] However, there is some overlap of fears between these 2 subtypes. A dose-response relationship between the number of social fears and the extent of functional impairments has been demonstrated.[4]

Social phobia has been reported to be associated with significant impairments in multiple domains, in particular education, career and interpersonal relationships.[3,5,6] Patients frequently underachieve in comparison with the average, and this may include poor performance in school, leaving school prematurely, having poor peer relations, being unmarried, being unemployed, frequently changing jobs, having a low salary, and financial disability. The index for work loss days for patients with social phobia was double that of patients with medical conditions such as diabetes and heart disease.[6] In addition to the presence of social fear, the severity of functional impairment resulting from the social fear is an essential element in diagnosing social phobia.[1] This concept is also crucial in the establishment of good psychometric qualities of a screening social phobia scale with clinically significant levels. In Tsai et al's study,[2] they processed this procedure with face-to-face psychiatric interviews of 144 subjects using the MINI-Kid (Mini-International-Neuropsychiatric-Interview-Kid) to establish the diagnosis in validating the Chinese SPIN used for social phobia.

Social phobia is generally regarded as a chronic wax-and-wane condition with a duration of years or even decades.[3–6] Though some patients will grow out of it, most patients frequently have various comorbid psychiatric disorders such as major depressive disorder, substance use disorder, or other anxiety disorders.[3–6] The risk for subsequent depression, suicidal ideation, and suicide attempt in individuals with social phobia is increased.[7] The increasing suicidal tendency was found even in females with social phobia without comorbid depression. Half of the subjects with social anxiety disorder were reported to have associated depressive disorder, and the severity and persistence of social phobia, higher number of social anxiety situations, higher anxiety cognition, behavioral inhibition and parental anxiety were significant predictors for comorbid depression.[7] Social phobia with comorbid depression is strongly associated with a more malignant course, more suicidal ideation, more suicide attempts, more frequent depressive episodes, and poorer outcome.[3] Such results highlight the clinical and public health implications of the importance of

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early identification and intervention of social phobia to prevent further complications. Since the onset of social phobia peaks at adolescence, it would be of great use to develop tools to screen for and to identify the adolescents with early signs of social phobia.

Epidemiological studies across different countries revealed lifetime prevalence rates ranging from 4% to 16% (median, 6.65%).[4] The prevalence rates were considerably higher among studies conducted after 1990 than among those conducted in the early 1980s. The changes in prevalence estimates has been recognized to be due partly to the different diagnostic instruments used and the different operational criteria (DSM-III *vs.* DSM-III-R and DSM-IV) applied over time.[4] It is also noteworthy that a report has revealed a considerably lower prevalence estimate based on ICD-10 compared to DSM-III-R despite using the same sample and instrument. Reports of lifetime prevalence of social phobia in adolescence were quite similar to those in adults, ranging from 0.9% to 16.3%.[6]

In Taiwan, the lifetime prevalence rates have been reported to range only from 0.4% to 0.6% among adults of different communities in early years, which was similar to a report from Korea (0.5–0.7%). Both studies demonstrated that social phobia was less prevalent in Asian than in Western countries (1.7–4.1%).[4] In addition to the differences in sampling and age composition of the samples, these findings suggest a different mental representation of disorders, and under-recognition of social phobia in Asian people.

The mean age of onset is reportedly between 12 and 16.6 years.[5] The onset of social phobia after the age of 25 is rare, although it might occur later in life. A large 10-year prospective longitudinal follow-up study of adolescents and young adults showed that the incidence was highest in those aged 10–19 years (0.72%), and was low before the age of 10 (0.2%) as well as after the age of 20 (0.19%).[6,7] These findings indicate that the most vulnerable period for onset of social phobia is the adolescent years. Tsai et al[2] found a significant effect of grade on SPIN total score, with a higher mean score among students in the 7th grade compared to students in the 8th and 9th grades, which suggested that the young adolescents had significantly higher social fear around the age of 13–14 years. There are cultural differences in the peak age of social anxiety: it occurs during mid-adolescence in Finland and Germany, and during early adolescence in American youth. These differences can probably be partly explained by the different age sampling and instruments used in the different studies. The prevalence rate was found to decrease as age group increased because an increasing number of partial remissions and

the effect of other comorbid diagnoses might lead to under-reporting of social phobia symptoms in older age groups.

These epidemiological studies have demonstrated that social phobia is a common mental disorder, and its prevalence is only exceeded by those of major depression, alcohol abuse and specific phobia. Furthermore, social phobia is the second most prevalent mental disorder and only exceeded by attention-deficit hyperactivity disorder in pediatric and adolescent populations. In the clinical setting, the prevalence rate was reported to be 4.9% in a French 1-month prevalence study[8] and in a Hungarian 12-month study of primary care practice.[9] Compared to their lifetime prevalence rates (14.4% in France and 9.0% in Hungary), the prevalence rate of 4.9% in these 2 clinical studies strongly indicates that social phobia patients are significantly under-recognized and undertreated. Social phobia patients usually show relatively low rates of help-seeking, and only contact the health care system once the comorbid disorders become significantly disturbing.[8]

To achieve early identification, economical, reliable, and valid instruments for screening social phobia are urgently needed. Several screening scales for social phobia have been developed in adults, including the Fear of Negative Evaluation Scale, Social Avoidance and Distress Scale, Social Phobia Scale, Social Phobia and Anxiety Inventory, Liebowitz Social Anxiety Scale, and the Social Interaction Anxiety Scale.[9,10] Among them, SPIN, a brief 17-item self-rating measure, carries important practical advantages due to its economical size and ease of scoring with solid psychometric properties.[11] Among American adults in the general population, SPIN was found to have good test–retest reliability, strong internal consistence, and significant convergent validity and divergent validity by the original author. A score of 19 was found to have good discriminative validity among subjects with social phobia, psychiatric patients, and controls.[9] Furthermore, the scale has been adopted for use in adolescent samples and in different languages; results from various studies in adolescents also showed high sensitivity (68–81%) and high specificity (81–85%), with different cut-off scores from 21 to 24.[12]

In Taiwan, there is no social phobia screening instrument with published psychometric qualities to date. Tsai et al[2] reported a cut-off score of 25 with acceptable psychometric properties, 80% sensitivity and 77% specificity for a Chinese version of the SPIN in a sample of 3,393 young adolescents aged 13–15 years. Though they report a slightly higher cut-off score and a slightly lower specificity compared to the other studies, Tsai et al's study provides the psychometric

properties and normative data of SPIN, which demonstrate that the Chinese SPIN is a valid and reliable social phobia screening tool suitable for use with adolescents in Taiwan. The strengths of their study are its use of a relatively large community sample gathered from schools, as well as the social phobia diagnosis being based on DSM-IV criteria derived from structured interviews using MINI-kid. Subjects with other anxiety/depressive disorders with comorbid social phobia reported significantly higher SPIN total scores compared to those without comorbid social phobia, establishing the discriminative validity of the SPIN. These findings support the use of SPIN as a screening device for comorbid social phobia among psychiatric patients with anxiety and depressive disorders in clinical settings. However, the clinical implications still need further validation among psychiatric patients.

Sex differences have been demonstrated consistently in several epidemiological studies, with women being more frequently affected by social phobia than men (odds ratio, 1.5 to 2.2).[7] Epidemiological studies found that girls reported higher scores of social anxiety scales among Americans,[12] as well as on SPIN full scales and subscales in Finland.[13] In Tsai et al's report,[2] SPIN total score and fear scale scores among girls were significantly higher compared to the boys' scores in the community sample. The sex difference in SPIN total score will probably affect the cut-off scores of girls and boys, which was not discussed in their report.

In conclusion, consistent with other studies from other countries, Tsai et al's study demonstrates the good psychometric properties of the Chinese SPIN, and a cut-off score of 25 points provides a quick, inexpensive and easy-to-use self-rating screening tool for social phobia. It can aid clinicians or researchers in identifying adolescents at risk for social phobia earlier and provide the basis for early intervention, either psychological or pharmacological, to prevent further impairment or subsequent comorbid psychiatric disorders.

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