ORIGINAL ARTICLE

Translation and Adaptation of the Spence Children's Anxiety Scale (SCAS)-Parent Version at a Tertiary Level Hospital

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Abstract

Introduction: *The study has examined the psycho-metric properties of the Nepali translation of SCAS-PV in terms of internal consistency and criterion validity*

Material And Method: *Non probability sampling method was used. Participants were selected purposively under two groups of samples called clinical group and non clinical group. Study population of the study was the patient visiting outdoor and inpatient services of Department of Psychiatry and Mental Health, TUTH.*

Results: *Among 200 (clinical= 98 and a non-clinical=102) sample of Nepalese children and adolescents. The specificity and sensitivity of the tool was assessed. Cronbach Alpha for the total scale (a =0.89), panic disorder (a =0.78), physical injury fear (a =0.72) and separation anxiety disorder (a =0.76) were of acceptable to good range. However, internal consistency of generalized anxiety disorder (a =0.67), obsessive compulsive disorder (a =0.59) and social anxiety disorder (a =0.68) were in questionable range. AUC statistic for total scale was in fair range, with optimum cut off score of 19.5 for the total scale with sensitivity of 65.3% and specificity of 64.7%.*

Conclusion: *The study supports the utility of the SCAS-PV as a measure of anxiety symptoms in children. It can be used to directly compare symptom reporting across children in clinical. Because of the psychometric properties of the SCAS-PV that have been demonstrated in community and clinical samples, it is recommended that the SCAS-PV can be used in clinical and research contexts.*

Keywords: Spence Children's Anxiety Disorder-Parent Version (SCAS_PV), Nepalese children, Anxiety, Adaptation

INTRODUCTION

It is well understood, that the psychopathology of children differs from adult. Children have difficulty in presenting their own pathological symptoms. Hence are brought either by parents or guardians for the treatment but not in their will. The self report of parents or guardians is one of the important sources which help to understand the underlying psychopathology. Kohrt et al.[1] stated that the validation of instruments in LAMIC is crucial for the advancement of research and intervention for children. Because the majority of the world's children are form these countries. Further the team mentioned that the adaptation and validation of instruments to assess MHPS for use in LAMIC is crucial. Such studies help to eliminate gap in child global mental health research and service provision.

Anxiety disorders are out of proportion to the demands of the situation that evokes it, cannot be rationalized, are involuntary, lead to avoidance of the situation, and interfere with daily functioning[2]. Hence, children with anxiety

disorder tend to avoid confrontation with the feared object or situation, or endure the situations with great anxiety. Children then experiences a broad range of somatic symptoms, commonly including cardiac and respiratory distress, trembling, flushing or chills, feeling faint, and sweating. Other symptoms, such as nausea, headaches, choking, and dizziness, are reported less frequently[3]. The childhood anxiety may cause to develop depression among young people. In addition, anxiety has been shown to precede the eating disorder[4]. There is an increasing risk of suicide as a consequence of anxiety[5].

Boys were found to be common in mental illness among child and adolescents. Anxiety was common among assessed diagnoses among child and adolescent[6]. The emotional and behavioral problem among the participants was 36 (28.57%) in boys and 21 (30.43%) in girls based on CBCL/6-18 years. Pediatric anxiety disorders affect approximately 20% of children and adolescents at some point in their lives. Self-report is essential to assessing the internal and subjective nature of anxiety; however, young children's ability to identify and effectively has been called into question[7].

The study done by Spence[8] identified factors relating to panic disorder and/or agoraphobia, specific phobia, social phobia, obsessive-compulsive disorder, generalized anxiety disorder and fears of physical injury. However, there was a good degree of inter-correlation between factors and a significant level of variance in scores could be explained by a single, higher level factor of anxiety in general. The findings were consistent with the DSM-IV classification of anxiety disorders in children that assumes a single, major category of anxiety disorder. Since its first publication it has been translated into 19 languages. The tool is available on free so as per corded in official website, the tool has been translated into 33 languages. Few adaptations are reported:

Nauta, M.H., et al[9] reported satisfactory to excellent reliability of the subscales of the parent version of the Spence Children's Anxiety Scale (SCAS-PV). Evidence was found for both convergent and divergent validity. The weaker correlation was understandable because SCAS-PV was reported by parents in a Hong Kong Chinese community sample[10]. SCAS-P had good internal consistency on the total scale and all subscales, with exception of the subscale for fear of physical injury. The results of confirmatory factor analyses for SCAS and SCAS-P were in favor of the original model with six correlated factors[11].

MATERIAL AND METHOD

The study was conducted at inpatient and outpatient services of Department of Psychiatry and Mental Health, Tribhuvan University Teaching Hospital (TUTH), Maharajgunj, Kathmandu Nepal. Non probability sampling method was used. Participants were selected purposively under two groups of samples called clinical group and non clinical group. Study population of the study was the patient visiting outdoor and inpatient services of Department of Psychiatry and Mental Health, TUTH.

Permission was taken from the tool developer. Then the tool was translated into Nepali by a mental health expert. Further, the tool was back translated by bilingual expert who has no background in mental health. To study the discrepancies, the two English copies were compared. After which the final correction was made. The procedure used for the translation of the tool in the study is similar to other study in Nepal.

Ethical clearance was taken from the Institutional Review Board (IRB), Institute of Medicine (IOM), and Department of Psychiatry and Mental Health, TUTH before conducting the research.

The Spence Children's Anxiety Scale–Parent version (SCAS-PV) consists of 38 anxiety items and one open-ended, non-scored item. It provides an overall measure of anxiety together with scores on six sub-scales each tapping a specific aspect of child anxiety. The scale was completed by asking the parent to follow the instructions on the printed form. The parent was asked to rate. The responses are scored: Never-0; Sometimes-1; Often-2; Always-3. This yields a maximum possible score of 114.

Data was collected by the principal researcher and managed after consulting the supervisors. The collected data were analyzed using Statistical Package for the Social Sciences (SPSS) version 17 and AMOS 18.

RESULT

There was not much difference in total number of children and adolescence among clinical and non-clinical sample. There were more children from grade 1 to 5 in both the groups. Majority of children were Hindu. In caste distribution, Brahmin was in larger number in clinical group and Janajati was larger in non-clinical group. In clinical group most of the participants were diagnosed as having anxiety features (57.7%). It was followed by dissociative disorder (23.7%), general anxiety disorder (8.2%), separation anxiety disorder (4.1%) and behavioral problems (2.1%). There were one participant each diagnosed with specific phobia, psychogenic coughing, and adjustment problems.

Factor structure

The construct reliability (CR) shows (table 1.) the degree of confidence of the total scale for clinical group; separation anxiety disorder; panic disorder and physical injury fear are well measured by their related statements. According to Cronbach Alpha, total scale, panic disorder, physical injury fear, separation anxiety disorder and total are all consistent or reliable with the items. However, generalized anxiety disorder, obsessive compulsive disorder and social anxiety disorder were less likely to have a good reliability. For the non-clinical group, the Constructs Reliability on the other hand, suggests that the items of the separation anxiety represent its sub-scale. The total scale reliability and internal consistency are unacceptable according to the Cronbach alpha but except for sub-scale separation anxiety disorder.

For clinical group, GAD was more discriminant with OCD, SeAD, SoAD, FEAR and PD. For the non-clinical group, the construct physical injury – panic disorder shows the measures of different traits are unrelated. However, divergent validity seems better for clinical sample group than non-clinical group.

Mann-Whitney U tests (table 2.) were performed for six different sub-scales and one total scale to test whether the distribution of each scales are different between clinical and non-clinical groups. There are significant differences on distributions of GAD, SeAD, SocAD, PD, SCAS-PV at 5% level of significance and OCD at 10% level of significance. But FEAR was found to be insignificant on its distribution between those two groups.

Comparison of sensitivity and specificity between the clinical and non-clinical group

The AUC statistic (Fig. 1) for the total scale was .737 (95% CI .67-.805) and for generalized anxiety disorder was .810 (95% CI .749-.870); hence both were in fair range. Similarly, AUC statistic for the separation anxiety disorder was .628 (95% CI .550-.706), social anxiety disorder was .658 (95% CI .582-.735), and panic disorder was .693 (95% CI.619-.767) indicating poor range. But the AUC static for obsessive compulsive disorder was .568 (95% CI .488-.648) and physical injury fear was .558 (95% CI .478-.638) which indicated that they failed to discriminate clinical and non clinical groups.

Cut off points which balance optimal level of sensitivity and specificity issues for total score as well as sub scale scores have been reported. For the clinical group the separation anxiety disorder can classify 66.3 percent cases correctly whereas but 33.7% cases incorrectly as non-clinical group provided they were clinical.

The construct reliability (CR) showed the degree of confidence of the total scale (CR= 0.94), separation anxiety disorder (CR= 0.76), panic disorder (CR=0.74) and physical injury fear (CR= 0.72) were well measured by their related statements. Construct Reliability (CR) suggested that the all the subscale except separation anxiety disorder showed acceptable internal consistency. For the non-clinical, total scale reliability (α =0.69) indicates that the items of the subscales did not signify the interrelated sub-scales. Only separation anxiety disorder (0.71) was found to have marginally well reliability based on Cronbach alpha.

The clinical group had greater mean in comparison to non clinical group for total score as well as for all sub scale scores. Likewise, the median of the scale scores for clinical group like total score and all five-sub scales were higher than the non clinical group. Mann Whitney test showed that the difference was statistically significant. However, only subscale which did not differ in both groups for median was

Table 1. Convergent Validity and Reliability of the clinical and non-clinical groups

Scales	Clinical Group		Non-Clinical Group		
	CR	Cronbach Alpha	CR	Cronbach Alpha	No. of items
GAD	0.65	0.67	0.57	0.55	6
SeAD	0.76	0.76	0.73	0.71	6
SoAD	0.69	0.68	0.69	0.69	6
PD	0.74	0.78	0.68	0.63	9
OCD	0.65	0.59	0.59	0.59	6
FEAR	0.72	0.72	0.56	0.59	5
Total	0.94	0.89	0.68	0.69	38

Table 2. Comparison of Clinical and Non Clinical group

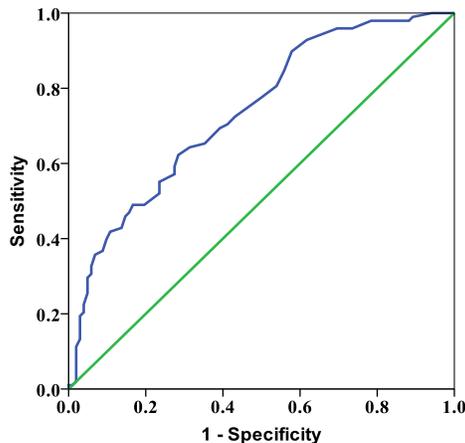| Scales	Clinical		Non-clinical		Z	Asymp. Sig. (2-tailed)
	Mean±SD	Median	Mean±SD	Median		
GAD	6.49±3.970	6	2.39±2.351	2	-7.602	0.000
SeAD	6.18±4.689	6	4.14±3.815	3	-3.147	0.002
SocAD	4.38±3.693	4	2.45±2.954	2	-3.914	0.000
PD	4.65±4.463	3.5	1.79±2.463	1	-4.792	0.000
OCD	4.16±3.33	4	3.34±2.903	3	-3.914	0.094
FEAR	4.08±3.668	3	3.21±3.074	3	-1.428	0.153
SCAS-PV	29.95±16.679	27	17.32±13.475	14.5	-5.800	0.000

Fig. 1. Receiver Operator characteristic (ROC) curve for the ability of the Spence Children Anxiety Disorder-Parent Version (SCAS-PV) to discriminate clinical and non clinical group.

physical injury fear. The AUC statistic for total score was in fair range, with optimum cut off score of 19.5 for the total scale with sensitivity of 65.3% and specificity of 64.7%. The norm provided by Spence for total scores are separate for sex and age. The elevated total score ranged from 24 to 27 for different age and sex groups according to original English version.

DISCUSSION:

The study supported the psycho-metric properties of the Nepali translation of SCAS-PV in terms of internal consistency and criterion validity. The children in both groups ranged from the age of 6 to 18 years. There is significance association of the tool with age and sex. Cronbach Alpha for the total scale, panic disorder, physical injury fear and separation anxiety disorder were between acceptable to good range. However, internal consistency of generalized anxiety disorder, obsessive compulsive disorder and social anxiety disorder were in questionable range. The clinical group had greater mean or median in comparison to non clinical group for total scale as well as sub-scales and this difference was statistically significant, except for physical injury fear. AUC statistic for total scale was in fair range, with optimum cut off score of 19.5 for the total scale with sensitivity of 65.3% and specificity of 64.7%. The study supports the utility of the SCAS-PV as a measure of anxiety symptoms in children. It can be used to directly compare symptom reporting across children in clinical Because of the psychometric properties of the SCAS-PV that have been demonstrated in community and clinical samples, it is recommended that the SCAS-PV can be used in clinical and research contexts. The number of subjects recruited in the study is rather small, limiting the power for statistical analysis of the results and also cannot be generalized to the entire population. Test–retest reliability was not examined in this study. Research has shown that the anxiety or depression level of parents can influence their judgment of the level of their child's anxiety (e.g. Najman et al., 2001). The parent variables (sex, psychological well being) which might have affected their perception of child's problems have not been reported.

CONCLUSION:

The parent version of SCAS can be used to screen anxiety. The sub-scales panic disorder and physical injury fear fails to identify. But rest of the subscales, generalized anxiety disorder has good chances of measuring by its statements, separation anxiety disorder, social anxiety disorder and obsessive compulsive has acceptable chances to be measured by its statements. SCAS-PV can be used in clinical and research contexts.

CONFLICT OF INTEREST: None

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