Original Article

Coping with the stress of congenital visual impairment

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Objective: To explore the different coping strategies used by congenitally visually impaired young adults to cope with the burden of disability.

Methodology: An open-ended interview technique was used to gather item pool from 35 visually impaired individuals (20 men and 15 women) with age range 18 to 26 years (mean=21.29±2.65*)*. A list of 25 items were further validated by experts and piloted on 10 participants (5 men and 5 women). Lastly, a sample of 426 (62% men and 38% women) visually impaired young adults aged 16 -28 years were tested for psychometric properties of Coping Strategies Scale for Visually Impaired (CSS-VI) along with Depression Anxiety Stress Scale.

Results: Factor Analysis generated three factors of CSS-VI, emotion venting, active problem solving and support seeking strategies. The CSS-VI was found to have good internal consistency, and discriminant validity.

Conclusion: The results suggest that individuals with congenital VI use more positive coping to curtail the stress associated with their dysfunction. (Rawal Med J 202;45:898-901).

Keywords: Congenital visual impairment, coping strategies, scale development.

INTRODUCTION

Visual impairment (VI) is the third leading impairment that affect 1.34 billion persons worldwide, where developing countries share 90% burden of condition.[1] In Pakistan, the prevalence of VI is 0.97% (age group: 5 >50 years) to 2.9% with predominance of congenital blindness and more prevalence in females.[2,3] Visual impairment refers to a damage of vision that, even with correction, negatively affects an individual's psycho-social and academic functioning.[4,5]

Coping refers to various cognitive and behavioral response individuals employ to deal with stress and can be problem focused or emotion focused.[6] Certain coping strategies alleviate stress and promote positive psychological effects.[7-9] However, the efficacy of any of these may depend on perceived controllability of the stressor, availability of sufficient coping resources, and nature of the outcomes.[10] Vision loss leads to many serious psychosocial consequences such as exclusion and discrimination, unemployment and difficulties in educational field not only at the individual's level but for the family and society at large.[11] In Pakistan, there is a dearth of research on the assessment of coping strategies in congenitally visual impaired population. This study was carried out to develop a culturally acceptable, valid and reliable scale that determines the strategies students use to cope with visual impairment based on psychosocial problems.

METHODOLOGY

A purposive sample of 426 (men 62%; women 38%) students with congenital VI was recruited from 11 different special and integrated educational institutions from 3 large cities of Pakistan. Initially 13 special and integrated educational institutions were approached and they granted permission for data collection. After seeking informed consent the items from final protocol were read to the participants and their responses were noted. Average time to complete the protocol was about 30 minutes.

Phase 1: Item Generation. We used a mixed method research design and were approved from the Institutional Review Board. A phenomenological, open-ended interview technique was used to explore and collate the expression of coping strategies from a purposive sample of 35 young adults (20 men and 15 women) with congenital VI and age range 18 to 26 years. Participants were individually interviewed to report different ways they use to cope with the stress caused by VI. Written scripts of the recorded verbatim were screened for vague, dubious and overlapping items and a list of 28 items was finalized.

Phase II: Expert Validation. Ten clinical psychologists (experts) with minimum one year experience were asked to evaluate each item on a 3-point (1-3) rating scale. Items that gained 50% agreement were retained for initial scale. In this way, one item was discarded and 27 retained items were converted into a self-report measure Coping Strategies Scale for Visually Impaired (CSS-VI).

Phase III: Pilot Study. Thiswas aimed to determine the user friendliness of layout and comprehension of initial draft of CSS-IV. A sample of 10 participants participated and no difficulty was reported.

Coping Strategies Scale for Visually Impaired (CSS-VI)) comprising 27 items developed in phase I was used to assess coping strategies of the participants. It is a 4-point rating scale with scoring options "0 (never), 1(rarely), 2(sometimes) and 3(very often)". Possible scores ranged from 0 to 81 and high score indicates higher level of coping strategies.

Depression Anxiety Stress Scales-Short Form (DASS-SF) a 21 item psychometrically sound self-report measure, was used to assess the discriminant validity of the coping scale.[12] Responses to each item range from 0 to 3, and total scores are obtained by calculating sum of scores on each item of the scale and multiplying by a factor 2. Thus, total scores ranged from 0 to 126.

RESULTS

Exploratory Factor Analysis: It was used to identify likely factor structure by splitting the sample in two halves, Exploratory Factor Analysis (EFA) was carried out on the first half of the participants (*n*=213) using Principle Component Analysis (PCA) with Varimax rotation. Initial alpha for CSS-VI was found to be .80 indicating good internal consistency with Kaiser- KMO value .78 and significant Bartlett test of sphericity ($p < 0.001$) rendering the data satisfactory for factor analysis. The number of factors of CSS-VI was determined on the basis of Eigen value greater than and factor loading greater than 0.40.[13,14] The three factor solution was found best and out of 27 initial items, 22 items with factor loading 0.40 or above were retained (Table 1).

Table 1. Factor Loading of Coping Strategies Scale for Visually Impaired.

Items	F1	F2	F3	Items	F1	F2	F3
3	**.66**	-.05	.23	18	.21	**.61**	.10
22	**.65**	.21	.02	27	.10	**.53**	.23
15	**.62**	.10	-.13	19	.18	**.52**	-.25
24	**.55**	.25	.01	7	-.13	**.50**	.16
12	**.54**	-.15	.06	21	.01	**.48**	.33
10	**.51**	-.02	.28	23	.18	**.40**	.21
16	**.48**	.32	-.05	14	-.03	.08	**.59**
11	**.46**	.36	-.22	2	.01	.10	**.59**
13	**.45**	-.01	-.08	8	.39	.13	**.48**
17	-.01	**.70**	-.02	26	-.11	.13	**.47**
20	.01	**.65**	.11	9	.38	.01	**.44**
Eigen Value	4.17	2.27	1.69	% Variance	18.96	10.33	7.63

Note: Boldface items belonging to the factor.

Factors Description: ***F1: Emotional Venting*****.** The first factor of CSS-VI comprising 9 items refers to actions and behavior directed towards managing or release of emotions. Sample items include crying, complaining to God for the disability, complaining to people, getting lost in fantasy, blame oneself for the problems, looking for someone to give vent to emotions, sulking while excessively thinking over a problem.

F2: Active Problem Solving. The second factor comprised 8 items indicates actions directed towards managing the situation or problem. Sample items include, pondering a better solution of the problem, to remain determined in the face of situation, to search for alternative solutions in case of failure, reason with one to appraise the situation, map out a plan prior to tackling a problem.

F3: Support Seeking. The third factor comprised of 5 items indicating actions directed toward seeking help, advice or proximity. Sample items include, praying more than routine to get closer to Allah, consult with others and ask others to help.

Confirmatory Factor Analysis: Confirmatory Factor Analysis (CFA) was conducted on other half of the data (*n* = 213) by using Analysis of Moment Structure (AMOS) 24.0 version (Figure). The indices of, CMIN/df, Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Tucker-Lewis index (TLI) and Root Mean Square Error of

Approximation (RMSEA) were used to assess goodness of fit. In the initial analysis on the three-factor results showed an acceptable model fit with Chi-square (df 51, *N* 250) 87.77, p=0.001; RMSEA =0.05, CFI = 0.90, TLI =0.87, Incremental-Fit Indices (IFI) =0.90 and Normed-Fit Indices (NFI) = 0.79. After reviewing and deleting the items, the CFA results confirmed the good data fit of the questionnaire model with three factors. The model fit indices of the model were as follows: Chi-square (df = 41, N = 250) 62.23, p = 0.018, RMSEA = 0.04, CFI = 0.93, TLI = 0.91, IFI =0.93 and NFI = 0.82 with the internal consistency of α=0.63.

Figure. Confirmatory Analysis on the CSS-VI.

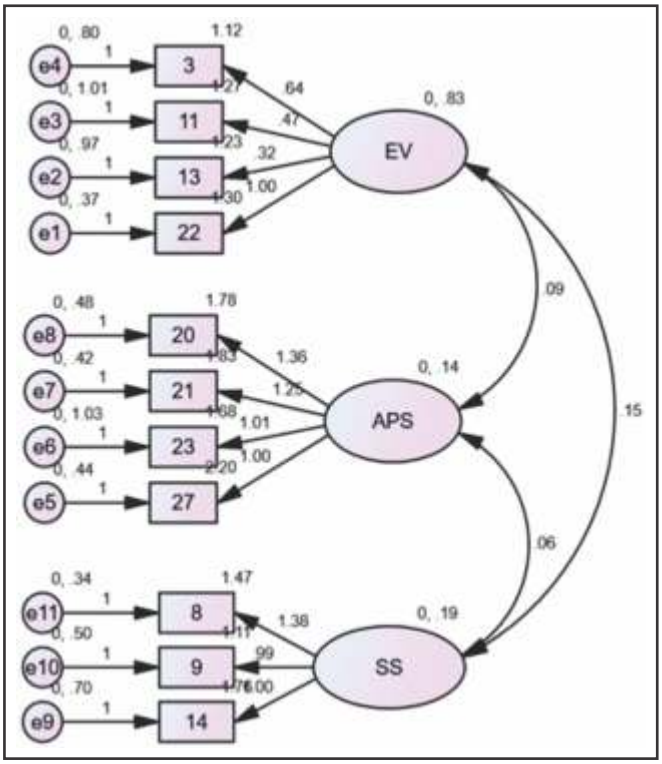

Table 2. Summary of Inter-Factor Correlations.

Factors	1	2	3	4
1Emotional Venting	---	.69***	.55**	.47***
2 Active Problem Solving	---	---	.29**	-.31**
3 Support Seeking	---	---	.20**	-.29**
DASS-Total			---	---
M	7.52	11.45	4.34	
SD	4.21	3.25	1.92	
α	.7/	.75	.71	

Note. ***p <0.001.

Validity: The Discriminant validity was also demonstrated by correlating three factors of CSS-VI with total DASS score (Table 2) showing high positive correlation with emotional venting and negative correlation with problem solving and support seeking.

Reliability: Test retest reliability of CSS-VI was found *r* = 0.69 and the split-half reliability of the CSSVI was calculated by dividing the scale into two halves, the correlation coefficient between two halves was found significant (*r* =0.71).

DISCUSSION

The demographic description reveals that there was a pre-dominance of men (62%) than women that is an indication of socio-cultural factors of Pakistani society where men tend to have more educational opportunities than women. Moreover, people in a traditional society are more protective for women and when it comes to VI fewer women get the opportunity to excel academically.

A three factorial model that emerged through EFA and confirmed by CFA comprising emotion venting, active problem solving and support seeking strategies. These findings are consistent with previous studies results.[7-9] The first factor denotes to the internalization of stress where instead of looking towards the solutions, individuals show more avoidant and emotional coping like crying, making complaints of unjust and living in fantasy to be visually functional again. This type of coping provides a temporary relief from stress but it is not durable and permanent.

The second factor denotes to active coping strategies to manage stressful situations VI is associated with numerous additional psychosocial issues and in order to handle the experience of disability, some of them tend to utilize all possible emotional and cognitive resources to solve their problems of daily living.[15,16]

The last factor denotes to active coping by asking others for help and support and thus with the support of others persons with VI try to deal with the life challenges.[17] This factor also includes some items that refer to spirituality and religiosity such as seeking help from God.

Despite several implications, the current research

has some limitations like, the sample was based on student population from highly urbanized cities. Future research should consider the inclusion of different age groups from rural areas as well.

CONCLUSION

Individuals with VI tend to use all those strategies to deal with stress which sighted persons from any segment of the society do. It is also important for society to realize that persons with VI are deficient in vision and not in cognitive abilities.

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Analysis and interpretation of the data: Sadia Saleem
Drafting of the article: Safia Sultana
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