ORIGINAL ARTICLE

MATERNAL COPING STRATEGIES AND BEHAVIOURAL PROBLEMS OF CHILDREN WITH DOWN SYNDROME

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Background: Coping strategies are the behaviours, thoughts, and emotions that are used to adjust to the stressful situation and changes that occur in the life. Mothers' coping can affect the behavioural problems of children with Down syndrome. The present study examined the relationship between maternal coping strategies and behavioural problems of children with Down syndrome. **Method:** The sample comprised of 54 mothers with age range 25–52 years, and 54 children with age range 6–18 years. This was a correlational research study using purposive sampling strategy from different government and private special education institutes of Lahore. Mothers responded to two instruments, the Cope Inventory and Child Behavioural Checklist. Children responded to Colour Progressive Matrices, and it was used to assess their ability to recognize and think logically. **Results:** The results revealed significant negative association of emotion-focused coping and children's behavioural problem, while significant positive association of recently developed coping and children behavioural problem. Additionally, recently developed coping, family size, and mothers' education were the significant predictors of behavioural problems of the children. However, results showed non-significant gender differences of behavioural problems. **Conclusion:** Emotion-focused coping and recently developed coping are connected with behavioural problems of children. Recently developed coping, family size, and mothers' education are the significant predictors of children's behavioural problems. Behavioural problems are not affected by gender.

Keywords: Coping Strategies, Behavioural Problems, Internalizing and Externalizing Behavioural Problems, Down syndrome

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INTRODUCTION

Down syndrome is becoming a prevalent problem in under developed and developing countries. One out of 1,000 children is born with Down syndrome; annually, almost 3,000 to 5,000 children are born with Down syndrome.[1] Down syndrome was first introduced by Johan Langdon Down in 1866.[2] Down syndrome and mental retardation are related to each other.[3] Mental retardation prevails 1–3% in the population.[4] Almost 30% of mental retardation is the result of Down syndrome.[5] Most of the children with Down syndrome have IQ level around 50.[6] Down syndrome results in mental retardation, motor development problem, speech problem and memory or vocabulary problem.

Characteristics and diverse physical features of children with Down syndrome include single palmar, broad hand and short fingers, flat face, protruding tongue and almond shape eyes. Usually, infants with Down syndrome are born with poor hearing, cataracts, intestinal and heart defects. Children with Down syndrome have poor grammar comprehension along with speech problems.[7] Mothers have to face difficulties in bringing up their children diagnosed with Down syndrome as they have breathing and feeding related issues.[8]

Children with Down syndrome are at increased risk of having behavioural problems, and 65–77% of children are stubborn, disobedient, argumentative and inattentive.[9] Attention problems, hyperactivity, delinquent social problems, non-compliance, thought problems, and somatic problems are the most prominent features in children with this serious concern.[10] Children with behavioural problems associated with Down syndrome also experience symptoms of anxiety and depression. Internalizing and externalizing behavioural problems are common in children. Internalizing behavioural problems relate to the inner side of the person and externalizing link with the outer side of the person.[11] Almost 13–15% of behavioural problems are significant in children; these problems comprise disruptive behaviour, anxiety disorder, conduct disorder and depression.[12]

Environment in which the child is growing has been related to the child's behavioural problems and can negatively influence the child.[13] The insensitive mothers' children are more unresponsive than the sensitive mothers.[9]

Coping is a mechanism that deals with internal and external stress by using cognitive and behavioural effort.[7] Undesirable burden can be reduced with the help of coping and it is related to one's ability to deal with or manage stressful situations which enhances a person's well-being. Both types of coping (emotion-focused and problem-focused) can reduce pressure or load.[14] In problem-focused coping alternative solutions are find

out by doing planning to get some rewards or benefits[15] and emotion-focused coping is related to emotional regulation in different situations as well as individual-focused orientation.[7,16] In avoidance coping parents try to get rid of their problems and refuse to face problems by doing this, they try to distract their attention.[17] Coping is a process that is affected by cultural variations.[18] The constant pressure is faced by the parents of children with Down syndrome when they are bringing up their children.[11] Primary appraisal is related to the evaluation of the events and secondary appraisal is related to looking at those capacities which can minimize the problem.[17] Mothers use more emotional coping strategies and fathers use more cognitive coping styles.[19] In Pakistani culture, there is significant relationship between the behavioural problems of children with special needs and parenting stress and practices.[20]

Almost 94% of children with Down syndrome experience behavioural problems and mothers have to deal with the behavioural issues of the children with Down syndrome. Mothers' coping can affect the behavioural problems of children with Down syndrome. The objective of this study was to find out the association between maternal coping strategies and behavioural problems of children with Down syndrome.

SUBJECTS AND METHODS

A correlational research design was used in this study. The information was collected through the mothers and the data was recruited through purposive sampling technique. The sample size was calculated through G Power analysis. The sample comprised of 54 mothers with the age range of 25–52 years (Mean±SD 43.17±5.955) and 54 children with Down syndrome (boys=31, girls=23) with the age range of 6–18 years (Mean±SD 12.89±3.18). The sample was recruited from two government and two private special educational institutes in Lahore. Mothers were approached when they came to school for parent-teacher meetings. Only those mothers were taken as participants whose children were already diagnosed with mild to moderate Down syndrome. Participants having co-morbidity with severe intellectual disability and autism spectrum disorder were excluded. Informed consent was taken from the participants. All ethical considerations were followed during the study. Prior to the commencement of the study, permission was taken from the head of the private and government institutes.

Demographic Questionnaire consisted of information regarding age of the mother and children, gender of children, mothers' education, family system, family size (number of children) and social economic status. The Raven's Colour Progressive Matrices (CPM) was administered to assess the children educative, reproductive, and intellectual abilities. Colour Progressive Matrices was used as a screening tool in the current study. It is a non-verbal test which assesses reasoning ability based on figural test stimuli. It comprises of three sets (A, Ab & B) contains 36 items of visual geometric design with a missing piece in which the test taker is given six choices to pick from and fill in the missing piece. The reliability of the scale is 0.88. However, this test was not very much effective with all children that was why psychologists' help was also taken to identify the severity level (mild, moderate and severe) of the children as they had already done children's assessment.[21] Most of the children's percentile score lies at or below 25. The reliability of the scale on current sample was 0.50.

The Cope Inventory was administered to assess the maternal coping strategies. It comprises 60 items with 4-point Likert scale (1= I usually don't do this at all, and 4= I usually do this a lot). It has 15 sub-sections (positive reinterpretation and growth, focus on and venting of emotions, mental disengagement, use of instrumental social support, humour, active coping, religious coping, behavioural disengagement, denial, restraint, use of emotional support, substance use, planning, acceptance, and suppression of competing activities), further divided into 4 factors (problem-focused coping, emotion-focused coping, useful coping and recently developed coping).[22] The reliability of the scale on current sample was 0.82.

Child Behaviour Checklist (CBCL) was administered to assess the children's behavioural problems. It is 3-point Likert scale (0= not true, 1= sometime true, and 2= very true), and comprises of 113 items. Child Behaviour Checklist has two broad dimensions 'internalizing' and 'externalizing' which are further divided into four sub domains. Withdrawn, anxious/depressed, somatic complaints, and thought problems are related to internalizing behavioural problems. Social problem, attention problems, aggressive behaviour, and delinquent behaviour are related to externalizing behavioural problems.[23] The reliability of the CBCL on the current sample was 0.95.

Data was analysed using SPSS-21. Pearson Product Moment Correlation analysis and Multiple Hierarchal Regression Analysis were used. Normality was checked through Skewness and data was normally distributed (z=1.63 for CBCL, and z=0.43 for Cope), z value lies between -3.29 and 3.29.

RESULTS

The mean age of mothers was 43.17±5.95 years (range: 25–52 years), and mean age of children was 12.89±3.18 years (range: 6–18 years). Most of the mothers (44%) were educated up to school level (Matric). Majority of the children (57%) were boys. A large number of the sample (48%) belonged to

medium family size and middle social economic status. Over half of the sample children (61%) belonged to nuclear family system. (Table-1).

All the scales and subscales had high reliability except less useful coping and the reliability of recently developed coping subscale was on an average. However, the total reliability of The Cope Inventory and Child Behaviour Checklist was very high, i.e., 0.82 and 0.95 respectively. (Table-2).

Table-3 shows correlation between maternal coping and children's behavioural problems. Emotion-focused coping was significantly negatively associated with children's behavioural problems which indicates an increase in emotion-focused coping, resulting in decrease in behavioural problems. Recently developed coping was significantly positively associated with children's behavioural problems which indicates an increase in recently developed coping resulting in increase in behavioural problems. However, problem-focused and less-useful coping had non-significant relationship with children behavioural problems.

Table-4 shows the predictors variables of criterion variables. In step 1, the R^2 value revealed that recently developed coping explained 37% variance in children's behavioural problems [$F(1,52)=30.84$, $p<0.001$]. In step 2, the R^2 value revealed that family size explained 49% variance in children's behavioural problems [$F(1,51)=11.51$, $p<0.001$]. In step 3, the R^2 value revealed that mothers' education explained 53% variance in children's behavioural problems [$F(1,50)=4.102$, $p<0.05$]. The findings showed that recently developed coping ($\beta=0.46$, $p<0.001$), and mother's education ($\beta=0.24$, $p<0.05$) positively predicted children's behavioural problem, while family size negatively predicted children's behavioural problems ($\beta=0.24$, $p<0.05$).

Table-1: Demographic characteristics of the total sample

Mother (n=54)	
Variable	***f* (%)**
Education of mothers	
Illiterate	8 (14.8)
School education	24 (44.4)
College education	17 (31.5)
University education	5 (9.3)
Family Size (No. of Children)	
Small (1–3)	21 (38.9)
Medium (4–5)	26 (48.1)
Large (6 and above)	7 (13)
Socioeconomic status (Monthly income) in Rupees	
Low (12,000–25,000)	17 (31.5)
Middle (26,000–70,000)	26 (48.1)
High (71,000 and above)	11 (20.4)
Family system	
Nuclear	33 (61.1)
Joint	21 (38.9)

School education=Matric, College education=BA, University education=MA

Table-2: Psychometric properties for CBCL and the Cope Inventory with their subscales

Scales	Mean±SD	Range	Cronbach α
Cope	155.1±17.3	60–240	0.82
Problem Focused Coping	56.00±10.7	20–80	0.85
Emotion Focused Coping	54.83± 9.65	20–80	0.75
Less Useful Coping	29.13±3.57	12–48	0.30
Recently Developed Coping	12.87±4.01	8–32	0.60
CBCL	117.7±48.8	0–226	0.95
Internalizing	22.2±13.7	0–78	0.91
Externalizing	37.2±14.3	0–148	0.83

Table-3: Correlation for the study variables

Variable	1	2	3	4	5	6	7	8
Cope	-	0.90*	0.91*	0.38*	-0.41*	-0.15	-0.14	-0.15
PFC		-	0.82*	0.07	-0.62*	-0.24	-0.24	-0.22
EFC			-	0.19	-0.58*	-0.32*	-0.32*	-0.30*
LUC				-	0.10	0.07	0.13	0.01
RDC					-	0.061*	0.61*	0.57*
CBCL						-	0.96*	0.97*
INT							-	0.89*
EXT								-

*$p<0.05$, PFC=problem-focused coping, EFC=emotion-focused coping, LUS=less useful coping, RDC=recently developed coping, CBCL=children behaviour checklist, INT=internalizing, EXT=externalizing

Table-4: Hierarchical regression results for children' behavioural problems

		95% CI					
Variables	**B**	**LL**	**UL**	**SE B**	**β**	**R^2**	**ΔR^2**
Step 1						0.37	0.37*
Constant	7.66	-17.87	33.19	12.73			
Recently Developed Coping	5.25*	3.35	7.14	0.95	0.61*		
Step 2						0.49	0.12*
Constant	49.09*	15.27	82.93	16.85			
Recently Developed Coping	4.45*	2.66	6.24	0.89	0.52*		
Family Size	-17.9*	-28.57	-7.32	5.29	-0.35*		
Step 3						0.53	0.03*
Constant	22.87	-19.05	64.78	20.87			
Recently Developed Coping	3.93*	2.11	5.75	0.90	0.46*		
Family Size	-12.28*	-24.03	-0.57	5.85	-0.24*		
Mothers' Education	9.83*	0.08	19.57	4.85	0.24*		

*$p<0.001$, B=un-standardized coefficient, CI=confidence interval, LL=lower limit, UL=upper limit, SE=standard error, β=standardized coefficient, R^2=variance, ΔR^2=change in variance

DISCUSSION

This study was designed to explore the relationship of coping strategies with behavioural problems. The results of the current study explained a significant negative association between emotions focused coping and children's behavioural problems. The findings of the current study are also in accord with the hypothesis and previous literature. Adaptive maternal coping strategies are significantly linked with fewer behavioural problems for children.[24] Results of the present study also revealed a significant positive association of recently developed coping and children's behavioural problems. The current study result is in line with another research which investigated that maternal mental health is co-related to characteristics of children with Down syndrome.[25] However, the results of the present study depicted a

non-significant relationship of problem focused coping and less useful coping with children's behavioural problems. The possible explanation of these findings can be the lack of awareness of mothers about children's behavioural problems and the lack of interest in solving different problems by using coping strategies.

It was further investigated that recently developed coping, family size (total number of children) and mothers' education were significantly predicting behavioural problems in children with Down syndrome. Whereas, the mother's age, emotion focused coping, problem focused coping and less useful coping were not contributing predictors of behavioural problems. This finding was similar to the finding of another study, which examined that family size is related to behavioural problems of children, i.e., aggression.[26] Another study found that family size predicts behavioural problems and children living in the large families have more behavioural problems.[27] Furthermore, maternal education in early childhood was linked with children's behavioural problems.[28] However, the mother's age, emotion focused coping, problem focused coping and less useful didn't contribute to the behavioural problems. It may be due to cultural variations which take place within different societies and this fact adds differences within societies.

CONCLUSIONS

Concluding the results, it might be said that two types of coping (emotion focused coping and recently developed coping) can affect the behavioural problems of children with Down syndrome. Furthermore, recently developed coping, family size and mothers' education are the significant predictors of children's behavioural problems.

LIMITATIONS AND SUGGESTIONS

Limited sample size due to the time limitation, the unwillingness of the mothers and data collection difficulties was the major issues. So, the sample cannot be considered as representative which can be a limitation to the generalizability of the findings. Inclusion of teachers, other family members such as fathers and siblings could give more elaborated picture of the behavioural problems of children with Down syndrome. Further, researches can be done on a comparative study of teachers' coping strategies and mothers' coping strategies.

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