RESEARCH PAPER

A STUDY TO ASSESS THE COPING INTERVENTION ON PSYCHOLOGICAL DISTRESS AMONG MOTHERS OF INTELLECTUALLY DISABLED CHILDREN WITH SELECTED SPECIAL SCHOOLS

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Back ground: Parents of children with special needs have greater challenges than parents of typical children, which has an influence on their psychological well-being. The birth of a kid with mental retardation can have a profound effect on families. [1,2]. Parenting children with mental impairment has frequently been hard due to the ongoing care requirements. Studies have shown that parents of mentally retarded children are typically more vulnerable to a range of emotional problems[3]. Keeping this in view the investigator aimed to assess the effectiveness of coping intervention on depression among mothers of intellectually disabled children**. Methods**: 248 mothers were selected randomly based on the inclusion exclusion criteria. Experimentation before intervention and after intervention with control group was adopted for this study. Structured coping intervention was administered for 45 minutes and advised to practice for 8th, 16th and 24th week. Group consisted of 8-10 members per session. Progressive Muscle Relaxation Exercise was demonstrated and requested the mothers of experimental group to redo the same. The experimental group respondents were issued booklets on coping interventions as reference to practice at home for a period of 8th week posttest was conducted .**Results:** The findings of the study shows that significant difference in the pre test mean score of 42.24 and post test mean score of 32.67with mean difference 9.57. It was highly significant at p<0.001level. **Conclusion:** Coping intervention is effective in improving psychological distress among mothers of intellectually disabled children.

Keywords: Coping intervention, Psychological distress, intellectually disabled children

Key messages

- Mothers of children with intellectual developmental disability are prone to get psychological illness.
- The nurses play an important role in improving the health of the mothers of children with intellectual developmental disability.
- Non pharmacological interventions are available to enhance well-being of the mothers with intellectual developmental disability.
- It is user friendly for the direct health care providers especially the nurses, considered frontliners of the health care facilities. Cost effective and proven to improve the psychological well-being of intellectually disabled children's mothers.

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Back ground

The birth of a child with a disability affects the dynamic and interaction among family members which could lead to crisis within the family. The problem of mental retardation in children is particularly a challenging disorder because families with these children often struggle with parenting, marriage, and sibling relationships. It also affects the child's external environment, including friends, family, neighbours, and school, adding to the pressure within the system. At this point, the child's emotional state and physiological thoughts become abnormal, which makes them more vulnerable in cognitive activities. Eventually, these behavioural issues will lead to depression and anxiety in parents, especially the mothers of the affected children[4, 5]. Regarding to this issues affiliates could internalize their stigma and affect their life, so they might face with contagious stigma which is complex phenomenon. The birth of a child with mental retardation could lead to deep impact on families, thus parents of children with special needs are facing more problems than parents of normal children which affect their psychological well-being[4, 5]. This kind of birth is one of the most stressful events among individual's life. Some factors such as advances in medicine and technology, effect mental retarded children to live longer and healthier. The continuing care of children with mental retardation is often stressful for parents[6].

The effects on family unit can be economic, social, and emotional in nature. Evidences have shown that parents of children with developmental disabilities are generally at risk of various emotional difficulties[7,8,9]. The cumulative effects of the daily struggles and difficulties of dealing with children with disabilities are significant stressors that can eventually affect parenting and family functioning. In particular, much evidence points to associations between the severity and frequency of behavioural problems in children with intellectual disabilities and parental stress and psychiatric problems such as depression and anxiety. Although it is a challenging task for mothers to nurture and raise intellectually disabled children, early coping skills are deemed necessary and unauthorised support from the society is priceless, particularly in countries with less resources [8, 9].

A coping intervention increases a person's ability to cope with a stressful situation and reduces the level of psychological distress. Moreover, a systematic review with meta-analysis highlights that coping interventions focusing behavioural changes through psychoeducation are much effective. Literatures have recommended for further rigorous research utilizing cognitive-behavioural intervention method which comprises elements such as stress awareness, relaxation training, identification of ineffective thoughts, cognitive restructuring, self-management and action planning[9,10].

Such interventions are necessary because the level of psychological well-being of parents is directly related to positive and effective communication between them[10]. Keeping this in view the investigator has taken up this study to assess the effectiveness of coping intervention on psychological distress among mothers of intellectually disabled children.

METHODS

Methods: Population was mothers who attended vidhya sudha special school for study group and Sathya lok for control group. 248 mothers were selected randomly based on the inclusion exclusion criteria for both the group. Experimentation before intervention and after intervention with control group was adopted for this study. Structured coping intervention was administered for 45 minutes and advised to practice for 8th, 16th and 24th week. Group consisted of 8-10 members per session. Progressive Muscle Relaxation Exercise was demonstrated and requested the mothers of experimental group to redo the same. The experimental group respondents were issued with booklets on coping interventions as reference to practice at home for a period of 8th week posttest was conducted at the end of 8th week. Institutional ethical permission was obtained duly.

Instruments

Part (I)

Background variables of the mothers of children with development delay like age, place of residence, no of children, monthly income of the family, previous history of child with development disorder, mode of transport facilities for children, whether they received any social fund.

Part (II)

A standardized Depression Anxiety Stress Scale 42 (DASS) Lovibond,S.H and Lovibond, P.F.(1995) used to measure the depression, anxiety and stress among mothers of intellectually disabled children in experimental group during pretest and posttest[11,12]. The tool consisted of 42 questions and the depression scale items are 3,5,10,13,16,17,21,24,26,31,34,37,38,42 (14 items). The anxiety scale items are 2,4,7,9,15,19,20,23,25,28,30,36,40,41 (14 items). The stress scale items are 1,6,8,11,12,14,18,22,27,29,32,33,35,39(14 items).

Score interpretation

The minimum score is 0 and the maximum score is 9 for depression. The minimum score is 0 and the maximum score is 7 for anxiety. The minimum score is 0 and the maximum score is 14 for stress. Total score of depression anxiety and stress is 42.

Depression subscale score and interpretation(0 - 9 no evidence of depression,10–13 mild depression,14-20 moderate depression,21–27 severe depression and >28 extremely severe depression) Anxiety subscale score and interpretation (0 - 7 No evidence of anxiety 8 - 9 mild anxiety ,10 - 14 moderate anxiety 15 - 19severe anxiety,>20 extremely severe anxiety) Stress subscale score and interpretation(- 14 No evidence of stress 15 - 18 mild stress and 19 - 25 moderate stress26–33 severe stress and >34 extremely severe stress and >34 extremely severe stress

Eligibility and recruitment

Mothers of mentally disabled children, aged between 20 – 45 years, regular to school and willing to participate in the study were included, while mothers who could not understand and follow Tamil or English, with severely disabled children and those receiving any other complimentary therapies were not included in the study.

Statistical analysis

Descriptive statistics such as mean, standard deviation frequency and percentage were used to describe the study data including background variables and obtained scores of psychological distress (depression, anxiety and stress) among mothers of intellectually disabled children. Inferential statistics such us ANOVA and ‘t’test (paired ‘t’ test and independent ‘t’ test) was used to find out the difference in the mean scores of depression, anxiety and stress.

Results:

Table 1: Frequency and percentage distribution of demographic variables among mothers in the study and control group(N=248)

Demographic variables		Group				Chi square test
		Study(n=124)		Control(n=124)		
		N	%	N	%	
Age	221 -25 years	26	21.0	20	16.1	$\chi2$=1.21 P=0.55(NS)
	26 -30 years	55	44.4	57	46.0	
	>30 years	43	34.6	47	37.9	
Education status	High school	41	33.1	42	33.9	$\chi2$=0.59 P=0.89(NS)
	Higher secondary	44	35.5	48	38.7	
	Graduate	22	17.7	21	16.9	
	Post graduate	17	13.7	13	10.5	
Residence	Urban	53	42.7	49	39.5	$\chi2$=0.21 P=0.90(NS)
	Semi urban	64	51.6	67	54.0	
	Rural	7	5.7	8	6.5	
Marital status	Married	120	96.8	122	98.4	$\chi2$=0.98 P=0.61(NS)
	Separated	3	2.4	1	0.8	
	Divorce	1	0.8	1	0.8	
No. of children	One	48	38.7	54	43.5	$\chi2$=0.71 P=0.70(NS)
	Two	59	47.6	57	46.0	
	Three	17	13.7	13	10.5	
Family income	Rs.10,000	18	14.5	23	18.5	$\chi2$=0.35 P=0.83(NS)
	Rs 10,001-15,000	43	34.7	42	33.9	
	> Rs.15,000	63	50.8	59	47.6	
Type of family	Nuclear family	86	69.4	79	63.7	$\chi2$=1.07 P=0.30(NS)
	Joint family	38	30.6	45	36.3	
Previous history of development delay children	Yes	22	17.7	19	15.3	$\chi2$=0.20 P=0.65(NS)
	No	102	82.3	105	84.7	
Mode of transport facilities for children	Government bus	97	78.2	89	71.8	$\chi2$=1.58 P=0.45(NS)
	School bus	18	14.5	24	19.4	
	Own vehicle	9	7.3	11	8.8	
Weather you receive any social fund	Yes	28	22.6	37	29.8	$\chi2$=1.20 P=0.27(NS)
	No	96	77.4	87	70.2	
Sex of the child	Male	60	48.4	62	50	$\chi2$=0.02 P=0.90(NS)
	Female	64	51.6	62	50	
Diagnosis of the child	Down syndrome	21	16.9	23	18.5	$\chi2$=0.30 P=0.96(NS)
	Autism	10	8.1	10	8.1	
	ADHD	31	25.0	32	25.8	
	Mental Retardation	62	50.0	59	47.6	

NS= not significant

Table 1 Shows that more than 50% of the study participants were young adults of age group ranging from 26 - 30 years old, while majority have completed high school and higher secondary as educational status. Out of 124 mothers, 64 %

were living in semi-urban, and all were married while 96% of mothers lived with their complete family. With regards to social support, 69% of them lack social support and social fund, respectively. With regards to gender of the baby both the gender are equally affected with any one of the intellectual disability during birth, out of which more than 60% of mothers had mentally retarded children.

Table 2- Comparison of Pretest, Posttest I, Posttest II and Posttest III Mean and standard deviation of Depression among mothers in the Study and control Group (N=248)

Group	Pretest	Posttest I	Posttest II	Posttest III	**Repeated measures ANOVA F-test**
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	
Study	13.54±2.74	12.28±2.20	11.53±2.36	10.19±2.24	**F=152.48 P<0.001 *****
Control	13.28±3.18	13.21±3.19	13.03±3.04	12.99±2.98	F=0.46 P>0.50

Non significant p> 0.05 ***significant at p≤0.001

Table 2 Shows the study group mean reduction of Depression score among mothers of intellectually disabled children difference is statistically significant between visits of Pretest, Posttest I, Posttest II, Posttest III (*F=152.48*, *P* <0.001).

In control group, repeated measures ANOVA shows, mean reduction of Depression score among mothers of intellectually disabled children difference is not statistically significant between visits of Pretest, 8th week, 16th week & 24th week (*F* =0.46, *P* >0.05).

Table 3- Comparison of Pretest, Posttest I, Posttest II and Posttest III Mean and standard deviation of Overall Anxiety among mothers in the Study and control Group (N=248)

Group	Pretest	Posttest I	Posttest II	Posttest III	**Repeated measures ANOVA F-test**
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	
Study	12.5±2.3	11.7±2.4	10.3±2.0	9.7±2.2	**59.31 0.001*** **
Control	12.3±2.2	12.2±2.1	12.1±2.1	12.0±2.2	0.63 0.41

P <0.001***

Table 3 : In study group, repeated measures ANOVA shows, mean reduction of Anxiety score among mothers of intellectually disabled children difference is statistically significant between Pretest, PosttestI, PosttestII and PosttestIIII at *F=59.31 P* <0.001.

In control group, repeated measures ANOVA shows, mean reduction of Anxiety score among mothers of intellectually disabled children difference is not statistically significant between visits of Pretest, PosttestI, PosttestII and PosttestIIII (*F* =0.63, *P* >0.05).

Table 4: Comparison of Pretest, Posttest I, Posttest II and Posttest III Mean Score of Stress among mothers in theStudy and Control Group (N=248)

Group	Pretest	PosttestI	PosttestII	Posttest III	**Repeated measures ANOVA F-test**
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	
Study	16.3±3.5	15.3±2.6	14.0±3.0	12.8±2.7	**F=46.13P=0.001**
Control	16.1±3.0	16.0±3.1	15.9±3.2	15.8±3.2	F=2.56 P=0.09

Table 4 shows the repeated measures ANOVA shows, mean reduction of Stress score among mothers of intellectually disabled children difference is statistically significant between visits of Pretest, PosttestI, Post test II& Posttest III (*F=46.13 P* <0.001).

In control group, repeated measures ANOVA shows, mean reduction of Stress score among mothers of intellectually disabled children difference is not statistically significant between visits of Pretest, , Posttest I, Posttest II& Posttest III (*F* =2.56, *P* >0.05).

Table 5: Effectiveness of coping intervention on overall psychological distress score(N=248)

Overall DASS score		Maximum score	Mean ±SD	Pretest- 24th week=Reduction score with95%CI	% reduction score from pretest score with95%CI
Study	Pretest	42	42.2±5.2	9.6(8.6 -10.5)	**22.6% (20.4- 24.9)**
	Posttest I	42	39.3±4.3		
	Posttest II	42	35.7±4.2		
	Posttest III	42	32.7±4.1		
Control	Pretest	42	41.7±5.3	0.9(-0.08 -1.7)	**2.2% (-0.2% - 4.0%)**
	Posttest I	42	41.5±5.3		
	Posttest II	42	41.0±5.1		
	Posttest III	42	40.8±4.8		

Table no 5 shows the effectiveness of coping intervention on reduction of psychological distress score between Pretest and 24th week. On an average, among study group, mothers are reduced 22.0% of overall DASS score whereas in control group, mothers are reduced 2.2% of DASS score with routine care. Pretest and Posttest DASS score was calculated using mean with 95% confidence interval and percentage with 95% confidence interval.

Table 6: Correlation between Depression , Anxiety and Stress reduction score among Study group(N=248)

Correlation between	Mean difference Score Mean±SD	Correlation coefficient for mean Difference score	Interpretation of correlation coefficient
Depression reduction score Vs Anxiety reduction score	**4.02±2.61 Vs 3.86±3.03**	**r=0.37 P=0.001*** **	Significant, Fair, positive correlation
Depression reduction score Vs Stress reduction score	**4.02±2.61 Vs 4.82±3.64**	**r=0.33 P=0.001*** **	Significant, Fair, positive correlation
Anxiety reduction score Vs Stress reduction score	**3.86±3.03 Vs 4.82±3.64**	**r=0.27 P=0.001*** **	Significant, Fair, positive, correlation

Highly significant ***p≤0.001

Table -6: Depression/Anxiety/Stress/DASS reduction score =Pretest score- 24th week score

Considering correlation between Depression reduction score and Anxiety reduction score, there is a statistically significant Fair positive correlation between them. It means Depression score decreases their Anxiety also decreases. Considering correlation between Depression reduction score and Stress reduction score, there is a statistically significant Fair positive correlation between them. It means Depression score decreases their Stress score also decreases. Considering correlation between Anxiety reduction score and Stress reduction score, there is a statistically significant fair positive correlation between them. It means Anxiety score decreases their depression score also decreases.

Discussion

A family who has a child with a mentally disabled, experiences many challenges such as repeated physical and emotional crises, interactive family issues, ruined schedules, and additional expenses, which can create financial burden and emotional distress for a family. Having a child with mentally disabled often requires a reorientation and re-evaluation of family goals, responsibilities and relationships. [11,12,13] There was a statistically significant mean difference between the study and the control groups at and post III at p< .05 level of significance. The mean depression score was reduced from 13.5to 10.2, anxiety score was 12.5 to 9.7, stress score was 16.3 to 12.8 which was significant at p<0.001. The above results are supported by evidences that show the difference between the groups is significant with 99 percent confidence, i.e., relaxation exercises to reduce the psychological distress of mothers are effective (F = 79.75, df = 1,61; P < 0.001).[13,14,15]

Conclusions

There was a high rate of stress among parents of children with mentally disabled in this study. Mental health providers need to be aware of these issues, so appropriate mental health screening can be utilized among the care givers of children with mentally disabled.[15,16,17,18]

Educational activities for parents on parenting a disabled child, the availability of services, and how to utilize them. All these services should start once the mentally disabled child is born to help the parents in coping, and should be extensively provided for mothers at more risk to develop psychiatric morbidity, such as mothers of children with multiple disabilities and chronically ill, as well as mothers of more than one disabled children and those with preschool age disabled children.[19, 20,21,22,23, 24]

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