



## **STRESS BURDEN AND COPING AMONG CAREGIVERS OF CHILDREN WITH CEREBRAL PALSYP**

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### **Abstract**

The level of stress burden and coping abilities among caregivers of children with Cerebral Palsy has been assessed among the 30 primary caregivers of children with cerebral palsy aged 4-12 years in Pediatric Rehabilitation Department, 'King Abdullah Specialist Children's Hospital (KASCH), National Guard Health Affairs (NGHA), Riyadh. Modified Short form Zarit burden interview Questionnaire (ZBI-12) to assess the level of caregiver's stress burden and Brief Cope inventory modified to assess the coping strategies among the caregiver's coping ability has been used. Results reveals that, the comparison of Overall Stress burden among Caregivers of children with Cerebral palsy for Study and Control group reveals that  $t = 3.142$ ,  $p = 0.003$  (Significant at  $P < 0.01$  level). The Level of Overall Stress burden among Caregivers of children with Cerebral palsy for Study and Control group chi square 'p' value was  $\chi^2 = 12.381$ ,  $d.f = 2$ ,  $p = 0.002$  (Significant at  $P < 0.01$  Level). Hence, there was an association between Overall COPE and demographic variables among children with Cerebral palsy for Study group on the 'Types of cerebral palsy' and the 'Employment status of caregiver' whereas in the control group only 'Other people involved in the child care' was significant.

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## **1. Introduction and background of the study**

The physical dependence and mental disability of the individual receiving care and attention cause a disruption known as stress burden. It can also be viewed as a group of monetary, psychological, and physical problems that have an impact on the day-to-day activities, interpersonal relationships, and emotional stability of people who act as the primary caregivers for the unwell. The impact of a stressful situation on a person depends on their level of stress. In this study, the term "stress" refers to the mental and physical exhaustion caregivers experience when caring for children with cerebral palsy.

Stress among caregivers is brought on by the emotional and physical strain of providing care. People who do not provide care for others report significantly lower levels of stress than do those who do. Many caregivers provide support or are "on call" almost nonstop. The difficulty of caring for children with CP is an undervalued phenomenon, in addition to psychological problems including stress, social isolation, stigma, etc. <sup>(1)</sup>. Children with cerebral palsy (CP) are incredibly dependent on their caretakers, who are typically moms. Caregiver stress is especially heavy on hired or in-home carers. This term refers to the total physical, emotional, social, and financial impacts of providing care.

Spastic paralysis and other problems are common in children with cerebral palsy, a disorder usually brought on by injury to the brain before or at birth. Children with cerebral palsy also frequently have other disabilities. The children in the current study who were diagnosed with cerebral palsy and were between the ages of 4 and 12 years old attended the rehabilitation center of King Abdullah Specialist Children Hospital in Riyadh, Saudi Arabia, and were used as the study's sample. Parents of CP children must also deal with their child's limited mobility, social interaction, communication challenges, and stereotyped behaviors, as these traits increase the likelihood that the child would develop psychological issues like anxiety or despair <sup>(2)</sup>. As persons who are depressed are more likely to experience frustration, discord, and ultimately less effectiveness in their family participation, this might exacerbate existing issues. The required level of child functioning is not reached if parents are unable to handle the demands of caring for their children with CP because of an excessive stress burden <sup>(3)</sup>.

Caregivers frequently experience stress. The parents think they can't partake in social interactions like other folks. Additionally, they feel

physical stress, aches, and pains, as well as hypertension. They need supportive interaction strategies as a result in order to cope. According to Rasha Soliman et al. <sup>(4)</sup> several earlier studies reported that Saudi moms of disabled children had higher ratings for anxiety, depression, and a negative influence on their quality of life. As a result, it has been discovered that raising a kid with CP has a negative impact on parents' psychological, physical, and social well-being; this is especially true for mothers, who are more likely to experience stress and despair than moms of healthy children.

Despite the fact that many parents of children with cerebral palsy report higher levels of stress and decreased wellbeing, other studies find no differences in the negative impacts of parenting a kid with cerebral palsy compared to parenting a child with other developmental disorders <sup>(5)</sup>. When raising a child with cerebral palsy, stress levels are usually elevated and remain far longer than when raising a child without the disability. The expectation of many parents is that their child with cerebral palsy will live with them for the rest of their life and rely on them for all of their important emotional, social, physical, and financial needs. In fact, multiple studies reveal a link between caring for a child with cerebral palsy and increased parenting compared to parents of children without disabilities.

According to Obembe et al. <sup>(6)</sup>, the term "coping" is a broad one that refers to any effort taken to lessen the discomfort brought on by negative life circumstances. Coping is the term for the cognitive and behavioral attempts made to control stress. There are two different kinds of coping strategies: problem-focused coping and emotion-focused coping. According to studies, parental psychological symptoms and poor adjustment are exclusively predicted by a child's behavior problems. Many parents of children with cerebral palsy endure mental health problems, however not all of them do. Studies have connected various parenting strategies to either positive or poor psychological consequences in parents of cerebral palsy children.

This study aims to provide parents and other caregivers the tools they need to be more involved in their children's lives, more aware of their rights, and better able to handle the challenging and demanding labor of raising children with CP. Thus, the researcher was inspired to perform the current study, which was intended to assess the stress burden and coping ability of the caregivers at a chosen rehabilitation center in Riyadh, Saudi Arabia, by her clinical work on children with cerebral palsy and their caretakers before giving the

intervention to both the groups. The objective of the study is to assess the level of stress burden and coping abilities of caregivers of children with Cerebral Palsy in study and control group.

## 2. Materials and methods

**Study area/Setting:** This study was conducted in Pediatric Rehabilitation Department, ‘King Abdullah Specialist Children’s Hospital (KASCH), National Guard Health Affairs (NGHA), Riyadh.

**Study subjects:** The study subjects were the caregivers of children with cerebral palsy aged 4-12 years.

**Inclusion criteria:** Caregivers

- Who accompanied the CP child aged between 4-12 years
- Both inpatients and outpatients attending KASCH Rehabilitation unit
- Who were willing to participate in the study

**Research design:** The researcher had chosen the observational/descriptive study design.

**Sample Size and Sampling Technique:** 30 primary caregivers who accompanied children with cerebral palsy were selected using purposive sampling technique.

**Data collection methods and instructions:** The instrument used for this study consists of five parts

attached in the appendix of which the details are given below.

Part 1: Demographic and health status data

Questionnaire

Part 2: Short form Zarit burden interview

Questionnaire (ZBI-12) modified to assess the level of caregiver’s stress burden.

Part 3: Brief Coping inventory modified to assess the coping strategies among the caregivers coping ability.

## 3. Results

Results indicate that the comparison of Overall Stress burden among Caregivers of children with Cerebral palsy as  $t = 3.142$ ,  $p = 0.003$  (Significant at  $P < 0.01$  level) for Study and Control group. Similarly, in the Level of Overall Stress burden among Caregivers of children with Cerebral palsy for Study and Control group chi square ‘p’ values are  $\chi^2 = 12.381$ ,  $d.f = 2$ ,  $p = 0.002$  (Significant at  $P < 0.01$  Level). Hence, there was an association between Overall COPE and demographic variables among children with Cerebral palsy for Study Group on the ‘Types of cerebral palsy’ and the ‘Employment status of caregiver’ whereas in the control group only ‘Other people involved in the child care’ was significant.

Table 1: Frequency and Percentage Distribution of Demographic Variables among children with Cerebral palsy for Study and Control group

Demographic variables of Children	Study group (n=30)	Control group (n=30)	Chi-square test and p value
	No. (%)	No. (%)	
1. Gender of the child			$\chi^2 = 0.268$ $d.f = 1$ $p = 0.605$ (N.S)
a. Male	17 (56.7)	15 (50.0)	
b. Female	13 (43.3)	15 (50.0)	
2. Age (year) of the child			$\chi^2 = 0.114$ $d.f = 2$ $p = 0.944$ (N.S)
a. 4 – 6	12 (40.0)	12 (40.0)	
b. 7 – 9	7 (23.3)	8 (26.7)	
c. 10 – 12	11 (36.7)	10 (33.3)	
3. GMFCS Level of the child			$\chi^2 = 7.032$ $d.f = 4$ $p = 0.134$ (N.S)
a. I	10 (33.3)	5 (16.7)	
b. II	4 (13.3)	12 (40.0)	
c. III	10 (33.3)	8 (26.7)	
d. IV	3 (10.0)	4 (13.3)	
e. V	3 (10.0)	1 (3.3)	
4. Type of cerebral Palsy			$\chi^2 = 4.406$ $d.f = 3$ $p = 0.221$ (N.S)
a. Bilateral Spastic	5 (16.7)	4 (13.3)	
b. Spastic hemiplegic	4 (13.3)	11 (36.7)	
c. Dyskinetic	9 (30.0)	6 (20.0)	
d. Ataxic / Diplegic	12 (40.0)	9 (30.0)	
5. Associate Impairment of the child			$\chi^2 = 3.000$ $d.f = 4$ $p = 0.558$ (N.S)
a. Epilepsy	0 (0.0)	2 (6.7)	
b. Eating and feeding impairment	8 (26.7)	8 (26.7)	
c. Communication impairment	7 (23.3)	7 (23.3)	

d. Cognitive impairment	12 (40.0)	12 (40.0)	
e. Visual/Hearing impairment	3 (10.0)	1 (3.3)	
6. School attendance to the child			$\chi^2 = 0.267$ d.f = 1 p=0.606 (N.S)
a. Yes	16 (53.3)	14 (46.7)	
b. No	14 (46.7)	16(53.3)	
7. Relationship to the child			$\chi^2 = 1.159$ d.f = 3 p=0.763 (N.S)
a. Father	8 (26.7)	9 (30.0)	
b. Mother	21 (70.0)	19 (63.3)	
c. Brother	1 (3.3)	1 (3.3)	
d. Sister	0 (0.0)	1 (3.3)	

Note: N.S – Not Significant

Table 2: Frequency and Percentage Distribution of Demographic Variables among Caregivers of children with Cerebral palsy for Study and Control group

Demographic variables of Caregiver	Study group (n=30)	Control group (n=30)	Chi-square test and p value
	No. (%)	No. (%)	
1. Education Level of caregiver			$\chi^2 = 0.067$ d.f = 1 p=0.795 (N.S)
a. Non-university studies/non-literate	16 (53.3)	17 (56.7)	
b. University studies	14 (46.7)	13 (43.3)	
2. Marital status of caregiver			$\chi^2 = 0.577$ d.f = 1 p=0.448 (N.S)
a. Single	3 (10.0)	5 (16.7)	
b. Married	27 (90.0)	25 (83.3)	
c. Separate	0	0	
d. Widow	0	0	
3. Employment status of caregiver			$\chi^2 = 0.067$ d.f = 1 p= 0.795 (N.S)
a. Working	13 (43.3)	14 (46.7)	
b. Non-working	17 (56.7)	16 (53.3)	
4. Other people involved in the child care			$\chi^2 = 0.082$ d.f = 1 p=0.774 (N.S)
a. Yes	21 (70.0)	22 (73.3)	
b. No	9 (30.0)	8 (26.7)	
5. Number of children in the family			$\chi^2 = 0.480$ d.f = 1 p=0.488 (N.S)
a. 1 – 4	24 (80.0)	26 (86.7)	
b. 5 – 10	6 (20.0)	4 (13.3)	
c. 10 and above.	0	0	
6. Care giving duration			$\chi^2 = 1.017$ d.f = 1 p=0.313 (N.S)
a. 3 months	0	0	
b. 6 months	1 (3.3)	0 (0.0)	
c. 9 months	0	0	
d. 12 months and more	29 (96.7)	30 (100.0)	
7. Income of the family (per month)			$\chi^2 = 4.303$ d.f = 2 p=0.116 (N.S)
a. < 5000 sr	4 (13.3)	5 (16.7)	
b. 5001 – 10000 sr	4 (13.3)	0 (0.0)	
c. > 10,001sr	22 (73.3)	25 (83.3)	
8. Family history of cerebral palsy			$\chi^2 = 0.00$ d.f = 1 p=1.00 (N.S)
a. Yes	3 (10.0)	3 (10.0)	
b. No	27 (90.0)	27 (90.0)	

Note: N.S – Not Significant

Table 3: Comparison of Overall Stress Burden among Caregivers of children with Cerebral palsy for Study and Control group

Overall Stress Burden	Study group (n=30)	Control group (n=30)
Mean	28.33	18.33
Standard Deviation	12.96	11.65
t - test p value	t = 3.142 p = 0.003	

	(Significant at P<0.01 level)
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The above table shows that the mean stress burden value of study group is 28.33 with standard deviation of 12.96 when compared with the control group value 18.33 with standard deviation of 11.65.

The independent t-test proved that statistical significance difference between study and control group of stress burden score at p<0.01 level.

Table 4: Level of Overall Stress Burden among Caregivers of children with Cerebral palsy for Study and Control group

Level of Stress burden	Study Group (n=30)	Control Group (n=30)
	No. (%)	No. (%)
Never	3 (10.0)	6 (20.00)
Rarely	10 (33.3)	20 (66.7)
Sometimes	17 (56.7)	4 (13.3)
Quite frequently	0	0
Nearly Always	0	0
<b>Chi-square test p value</b>	$\chi^2 = 12.381, d.f = 2, p=0.002$ (Significant at P<0.01 Level)	

In the level of stress burden, in study group 56.7 % were Sometimes burden, when compared with the control group only 13.3 %, whereas in the Never

burden was 10.0% but in the control group were 20.0% which is statistically significant at p<0.01 level.

Table 5: Comparison of Overall COPE among Caregivers of children with Cerebral palsy for Study and Control group

Overall COPE	Study group (n=30)	Control group (n=30)
Mean	60.12	46.88
Standard Deviation	11.49	11.85
<b>t - test p value</b>	$t = 4.306 p = 0.000$ (Significant at P<0.001 Level)	

The above table shows that the mean COPE value of study group is 60.12 with standard deviation of 11.49 when compared with the control group value 46.88 with standard deviation of 11.85. The

independent t-test proved that statistical significance difference between study and control group of stress burden score at p<0.01 level.

Table 6: Level of Overall COPE among Caregivers of children with Cerebral palsy for Study and Control group

Level of Overall COPE	Study Group (n=30)	Control Group (n=30)
	No. (%)	No. (%)
Not all	0(0.0)	1(3.3)
Little bit	5(16.7)	18(60.0)
Medium amount	23(76.7)	11(36.7)
Lot	2(6.7)	0(0.0)
<b>Chi-square test p value</b>	$\chi^2 = 13.021, d.f = 3, p=0.005$ (Significant at P<0.001 Level)	

In the level of COPE, in study group 6.7 % were Lot COPE, when compared with the control group its 0.0%, whereas in the study group Not at all

COPE was 0.0% and in the control group were 3.3% which is statistically significant at p<0.01 level.

Table 7: Association between Overall Stress Burden and Demographic variables among children with Cerebral palsy for Study Group (n = 30)

Demographic variables of Children	Stress Burden
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	Number	Mean	S.D.	t-test and ANOVA (F), p - value
1. Gender of the child				
a. Male	17	27.94	12.10	t = 0.186 p = 0.854 (N.S)
b. Female	13	28.85	14.50	
2. Age (year) of the child				
a. 4 – 6	12	26.04	14.53	F = 0.785 p = 0.466 (N.S)
b. 7 – 9	7	33.63	11.93	
c. 10 – 12	11	27.46	11.96	
3. GMFCS Level of the child				
a. I	10	28.13	12.28	F = 0.338 p = 0.850 (N.S)
b. II	4	22.92	18.71	
c. III	10	27.92	14.40	
d. IV	3	32.64	12.03	
e. V	3	33.33	5.51	
4. Type of cerebral Palsy				
a. Bilateral Spastic	5	24.58	9.70	F = 0.405 p = 0.750 (N.S)
b. Spastic hemiplegic	4	25.00	17.76	
c. Dyskinetic	9	31.71	15.02	
d. Ataxic / Diplegic	12	28.47	11.79	
5. Associate Impairment of the child				
a. Epilepsy	8	31.51	11.70	F = 0.884 p = 0.462 (N.S)
b. Eating and feeding impairment	7	32.44	9.54	
c. Communication impairment	12	25.69	14.33	
d. Cognitive impairment	3	20.83	18.16	
e. Visual / Hearing impairment	3	20.83	18.16	
6. School attendance to the child				
a. Yes	16	28.26	16.19	t = 0.035 p = 0.973 (N.S)
b. No	14	28.42	8.52	
7. Relationship to the child				
a. Father	8	33.59	15.33	t = 1.360 p = 0.185 (N.S)
b. Mother, Brother & sister	22	26.42	11.80	

Note: N.S. – Not Significant

Table8: Association between Overall Stress Burden and demographic variables among Caregivers of children with Cerebral palsy for Study group (n=30)

Demographic variables of Caregiver	Overall Stress burden			
	Number	Mean	S.D.	t-test and ANOVA (F), p - value
1. Education Level of caregiver				
a. Non-university studies/non-literate	16	25.26	13.37	t = 1.411 p = 0.169 (N.S)
b. University studies	14	31.85	11.99	
2. Marital status of caregiver				
a. Single	3	29.86	10.49	t = 0.212 p = 0.834 (N.S)
b. Married	27	28.16	13.37	
3. Employment status of caregiver				
a. Working	13	30.60	15.59	t = 0.836 p = 0.410 (N.S)
b. Non-working	17	26.59	10.71	
4. Other people involved in the child care				
a. Yes	21	25.59	13.55	t = 1.838 p = 0.077 (N.S)
b. No	9	34.72	9.19	
5. Number of children in the family				
a. 1 – 4	24	28.99	13.93	t = 0.551 p = 0.586 (N.S)
b. 5 – 10	6	25.69	8.50	
6. Care giving duration				
a. 6 months	1	18.75	-	Not applicable
b. 12 months and more	29	28.66	13.07	

7. Income of the family (per month)				
a. < 5000 sr	4	21.35	6.67	F = 2.958 p = 0.069 (N.S)
b. 5001 – 10000 sr	4	41.15	8.39	
c. > 10,001 sr	22	27.27	13.19	
8. Family history of cerebral palsy				
a. Yes	3	26.39	22.85	t = 0.269 p = 0.790 (N.S)
b. No	27	28.55	12.12	

Note: N.S. – Not Significant

Table 9: Association between Overall Stress Burden and Demographic variables among children with Cerebral palsy for Control Group (n = 30)

Demographic variables of Children	Overall Stress Burden			
	Number	Mean	S.D.	t-test and ANOVA (F), p - value
1. Gender of the child				
a. Male	15	18.89	13.63	t = 0.257 p = 0.799 (N.S)
b. Female	15	17.78	9.74	
2. Age (year) of the child				
a. 4 – 6	12	25.87	8.54	F = 6.292 p = 0.006 **
b. 7 – 9	8	16.15	10.60	
c. 10 – 12	10	11.04	11.03	
3. GMFCS Level of the child				
a. I	5	10.00	13.69	F = 2.483 p = 0.070 (N.S)
b. II	12	19.44	10.37	
c. III	8	15.10	8.09	
d. IV	4	27.08	11.90	
e. V	1	37.50	-	
4. Type of cerebral Palsy				
a. Bilateral Spastic	4	23.44	9.97	F = 2.007 p = 0.138 (N.S)
b. Spastic hemiplegic	11	19.69	12.34	
c. Dyskinetic	6	8.68	10.40	
d. Ataxic / Diplegic	9	20.83	10.20	
5. Associate Impairment of the child				
a. Epilepsy	-	-	-	F = 0.318 p = 0.730 (N.S)
b. Eating and feeding impairment	10	19.79	15.47	
c. Communication impairment	7	19.94	5.08	
d. Cognitive impairment	13	16.35	11.31	
e. Visual / Hearing impairment	-	-	-	
6. School attendance to the child				
a. Yes	14	11.90	12.19	t = 3.264 p = 0.003 **
b. No	16	23.96	7.83	
7. Relationship to the child				
a. Father	9	21.76	8.28	t = 1.057 p = 0.300 (N.S)
b. Mother, Brother & sister (1)	21	16.87	12.72	

Note: \*\* - p<0.01 Level of Significant, N.S. – Not Significant

Table 10: Association between Overall Stress Burden and demographic variables among Caregivers of children with Cerebral palsy for Control group (n=30)

Demographic variables of Caregiver	Overall Stress burden			
	Number	Mean	S.D.	t-test and ANOVA (F), p - value
1. Education Level of caregiver				
a. Non-university studies/non-literate	17	19.24	12.64	t = 0.481 p = 0.634 (N.S)
b. University studies	13	17.15	10.59	
2. Marital status of caregiver				t = 0.259



a. Single b. Married	5 25	17.08 18.58	10.35 12.07	p = 0.798 (N.S)
3. Employment status of caregiver a. Working b. Non-working	14 16	12.03 21.22	11.96 10.92	t = 1.483 p = 0.149 (N.S)
4. Other people involved in the child care a. Yes b. No	22 8	18.37 18.23	11.97 11.50	t = 0.029 p = 0.977 (N.S)
5. Number of children in the family a. 1 – 4 b. 5 – 10	26 4	18.10 19.79	11.33 15.45	t = 0.256 p = 0.793 (N.S)
6. Care giving duration a. 6 months b. 12 months and more	0 30	- 18.33	- 11.65	Not applicable
7. Income of the family (per month) a. < 5000 sr c. > 10,001 sr	5 25	15.00 19.00	8.76 12.18	t = 0.695 p = 0.493 (N.S)
8. Family history of cerebral palsy a. Yes b. No	3 27	21.53 17.98	12.56 11.74	t = 0.494 p = 0.625 (N.S)

Note: N.S. – Not Significant

Table 11: Association between Overall COPE and demographic variables among children with Cerebral palsy for Study Group (n = 30)

Demographic variables of Children	COPE		
	Number	Mean (SD)	t-test and ANOVA (F), p - value
1. Gender of the child a. Male b. Female	17 13	59.45 (13.04) 60.99 (9.53)	t = 0.357 p = 0.724 (N.S)
2. Age (year) of the child a. 4 – 6 b. 7 – 9 c. 10 – 12	12 7 11	58.55 (11.73) 58.04 (8.63) 63.15 (13.08)	F = 0.591 p = 0.561 (N.S)
3. GMFCS Level of the child a. I b. II c. III d. IV e. V	10 4 10 3 3	64.37 (7.83) 50.89 (10.54) 60.18 (13.83) 64.88 (4.58) 53.27 (15.01)	F = 1.472 p = 0.240 (N.S)
4. Type of cerebral Palsy a. Bilateral Spastic b. Spastic hemiplegic c. Dyskinetic d. Ataxic / Diplegic	5 4 9 12	48.75 (6.67) 57.36 (5.22) 66.77 (11.95) 60.78 (11.07)	F = 3.402 p = 0.033 *
5. Associate Impairment of the child a. 1 & 2. b. 3. c. 4 & 5.	8 7 15	55.25 (10.03) 62.37 (10.25) 6.67 (12.63)	F = 0.989 p = 0.385 (N.S)
6. School attendance to the child a. Yes b. No	16 14	62.72 (12.91) 57.14 (9.18)	t = 1.345 p = 0.189 (N.S)
7. Relationship to the child a. Father b. Mother, Brother & sister	8 22	56.58 (10.98) 61.40 (11.65)	t = 1.016 p = 0.318 (N.S)

Note: \* - p<0.05, Level of Significance, N.S. – Not Significant



Table 12: Association between Overall COPE and demographic variables among Caregivers of children with Cerebral palsy for Study group (n=30)

Demographic variables of Caregiver	COPE		
	Number	Mean (SD)	t-test and ANOVA (F), p - value
1. Education Level of caregiver			
a. Non-university studies/non-literate	16	56.31 (8.57)	t = 2.047 p = 0.05 *
b. University studies	14	64.47 (13.01)	
2. Marital status of caregiver			
a. Single	3	65.77 (5.94)	t = 0.895 p = 0.378 (N.S)
b. Married	27	59.49 (11.85)	
3. Employment status of caregiver			
a. Working	13	64.90 (13.83)	t = 2.109 p = 0.044 *
b. Non-working	17	56.46 (7.95)	
4. Other people involved in the child care			
a. Yes	21	58.58 (10.06)	t = 1.119 p = 0.273 (N.S)
b. No	9	63.69 (14.31)	
5. Number of children in the family			
a. 1 – 4	24	60.75 (12.13)	t = 0.596 p = 0.556 (N.S)
b. 5 – 10	6	57.58 (8.92)	
6. Care giving duration			
a. 6 months	1	68.75 (0.0)	t = 0.758 p = 0.455 (N.S)
b. 12 months and more	29	59.82 (11.58)	
7. Income of the family (per month)			
a. < 5000 sr	4	58.70 (12.12)	F = 1.571 p = 0.226 (N.S)
b. 5001 – 10000 sr	4	69.42 (17.74)	
c. > 10,001 sr	22	58.69 (9.87)	
8. Family history of cerebral palsy			
a. Yes	3	50.59 (15.18)	t = 1.549 p = 0.133 (N.S)
b. No	27	61.17 (10.86)	

Note: \* - p<0.05 Level of Significant, N.S. – Not Significant

Table 13: Association between Overall COPE and Demographic variables among children with Cerebral palsy for Control Group (n = 30)

Demographic variables of Children	Overall COPE		
	Number	Mean (SD)	t-test and ANOVA (F), p - value
1. Gender of the child			
a. Male	15	44.52 (10.76)	t = 1.090 p = 0.285 (N.S)
b. Female	15	49.22 (12.78)	
2. Age (year) of the child			
a. 4 – 6	12	52.16 (10.18)	F = 2.872 p = 0.074 (N.S)
b. 7 – 9	8	46.65 (13.29)	
c. 10 – 12	10	40.71 (3.30)	
3. GMFCS Level of the child			
a. I	5	35.53 (11.75)	F = 2.074 p = 0.114 (N.S)
b. II	12	50.82 (14.16)	
c. III	8	47.54 (4.93)	
d. IV	4	50.67 (6.61)	
e. V	1	35.71 (0.0)	
4. Type of cerebral Palsy			
a. Bilateral Spastic	4	44.19 (5.90)	F = 0.073 p = 0.974 (N.S)
b. Spastic hemiplegic	11	47.48 (14.41)	

c. Dyskinetic	6	47.17 (13.18)	
d. Ataxic / Diplegic	9	47.12 (11.13)	
5. Associate Impairment of the child			F = 2.006 p = 0.154 (N.S)
a. 1 &2.	10	43.57 (13.62)	
b. 3.	7	54.34 (9.34)	
c. 4 &5.	13	45.39 (10.63)	
6. School attendance to the child			t = 1.431 p = 0.163 (N.S)
a. Yes	14	43.62 (13.82)	
b. No	16	49.72 (9.36)	
7. Relationship to the child			t = 1.226 p = 0.230 (N.S)
a. Father	9	50.89 (13.11)	
b. Mother, Brother & sister (1)	21	45.15 (11.16)	

Note: \* - p<0.05 level of Significant, N.S. – Not Significant

Table 14: Association between Overall COPE and demographic variables among Caregiver Cerebral palsy children for Control group (n=30)

Demographic variables for Caregiver	Overall COPE		
	Number	Mean (SD)	t-test and ANOVA (F), p - value
1. Education Level of caregiver			t = 0.534 p = 0.597 (N.S)
a. Non-university studies/non-literate	17	45.85 (10.17)	
b. University studies	13	48.21 (14.08)	
2. Marital status of caregiver			t = 2.363 p = 0.025 (N.S)
a. Single	5	36.25 (7.97)	
b. Married	25	49.00 (11.44)	
3. Employment status of caregiver			t = 0.298 p = 0.768 (N.S)
a. Working	14	47.57 (15.17)	
b. Non-working	16	46.26 (8.43)	
4. Other people involved in the child care			t = 1.289 p = 0.208 *
a. Yes	22	48.54 (11.83)	
b. No	8	42.29 (11.38)	
5. Number of children in the family			t = 1.759 p = 0.089 (N.S)
a. 1 – 4	26	48.31 (11.63)	
b. 5 – 10	4	37.50 (9.78)	
6. Care giving duration			Not applicable
a. 6 months	0	0.0 (0.0)	
b. 12 months and more	30	46.87 (11.85)	
7. Income of the family (per month)			t = 0.236 p = 0.815 (N.S)
a. < 5000 sr & 5000 – 10000 sr (1)	5	48.03 (4.48)	
c. > 10,001 sr	25	46.64 (12.88)	
8. Family history of cerebral palsy			t = 0.023 p = 0.982 (N.S)
a. Yes	3	47.02 (5.23)	
b. No	27	46.85 (12.43)	

Note: \* - p < 0.05 Level of Significant, N.S. – Not Significant

#### 4. Discussion

Sung Hyun Kim, In Young Sung, Eun Jae Ko, Jieun Park and Nayoung Heo (2020) undertook a study to assess the stress levels of caregivers and children receiving rehabilitation for developmental problems. Relationships between stress levels and elements like early rehabilitation and at-home rehabilitation have been measured. This study focused on children with developmental impairments between the ages of 1.5 and 18 who were receiving therapy. The Korean version of the Child Behavior Checklist and the Adult Self-

Report were used to evaluate level of stress in the children and caregivers respectively. Result reveals that, Questionnaires were administered to the 150 caregivers. But, only 76 copies of the Korean version of the Child Behavior Checklist and 75 copies of the Adult Self-Report were collected. The mean scores were in the normal range. The Korean version of the Child Behavior Checklist score correlated positively with the Adult Self-Report score with the p value < 0.5. The Korean version of the Child Behavior Checklist externalizing problems score were correlated positively with the age at the start of rehabilitation, and the Korean

version of the Child Behavior Checklist and Adult Self-Report score externalizing problems scores has been correlated negatively with home treatment delivered by caregivers. Hence, the Stress levels of children and caregivers has been closely related. Home rehabilitation provided by caregivers reduced stress in both caregivers and children. Early rehabilitation did not impart the additional psychological burden on caregivers or children. Mayara Barbosa Sindeaux Lima (2021) conducted research on 132 parents of children with cerebral palsy to look into signs of parental stress. The Sociodemographic Inventory, Gross Motor Function Classification System, and Parental Stress Index were completed by study participants. Data analysis was done using descriptive statistics. The majority of the children (61%) in the sample were classed as having the most severe levels of motor disability, and the group consisted of 97% mothers. Nearly half of the samples (46.2%) had high levels of parental stress, according to the Parental Stress Index. According to the Parental Stress Index domain, a significant portion of carers (60.6%) experience high levels of stress and parental distress. 90% of the time, caregivers put the needs of the children with cerebral palsy ahead of their own needs. Intervention for reducing parental stress was therefore deemed required. In the current descriptive study, the level of stress burden and coping skills among caregivers of children with cerebral palsy in the study and control groups were evaluated among the 30 primary caregivers of children with cerebral palsy aged 4 to 12 years in the Pediatric Rehabilitation Department, King Abdullah Specialist Children's Hospital (KASCH), National Guard Health Affairs (NGHA), Riyadh. Modified Short form Zarit burden interview Questionnaire (ZBI-12) to assess the level of caregiver's stress burden and Brief Cope inventory modified to assess the coping strategies among the caregiver's coping ability has been used. Results show that there was a significant difference between the study and control groups in the overall stress burden experienced by caregivers of children with cerebral palsy, with  $t = 3.142$ ,  $p = 0.003$  (Significant at  $P < 0.01$  level). The Level of Overall Stress burden among Caregivers of Children with Cerebral Palsy for Study and Control Group Chi Square 'p' Value was  $\chi^2 = 12.381$ ,  $d.f = 2$ ,  $p = 0.002$  (Significant at  $P < 0.01$  Level). While only "other individuals involved in the child care" made a substantial contribution to the control group, there is a strong correlation between overall COPE and demographic factors among children with cerebral palsy in the study group on the forms of cerebral palsy.

### **Nursing Implications**

Nurses are essential in ensuring that children with cerebral palsy receive treatment and counseling that is age-appropriate. It is necessary to prepare various community and family support systems in order to relieve parental caregivers' burden and exhaustion.

- Physical and psychological challenges faced by parents supporting a child with a disability vary with the child's life stage, meaning that families' care burden depends in part on the age of the person with disabilities.
- Interventions focused on parents with higher time pressure than parents with high care giving time.
- Compared to caregivers of adolescents without disabilities, caregivers of children with cerebral palsy are much more likely to experience depression and stress.

### **5. Conclusion**

To conclude, it was significant to compare the overall stress load among caregivers of children with cerebral palsy for the study group and the control group, and it was also significant to compare the overall stress burden among caregivers of children with cerebral palsy for the study group and control group.

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