

## Parents Adjustment for Caring of Cerebral Palsy Children

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**Abstract:** The diagnosis of child with cerebral palsy can trigger a range of emotional responses in the parents. Also, it will constitute a crisis that requires extraordinary psychological adjustment on a parent's part. **Aim** of this study was to evaluate nursing intervention of parent's adjustment for caring of C.P children. **Research Design** was Quasi experimental for this study. **Setting** the study was conducted in the neurology outpatient clinic of Ain Shams University Hospital. **Sample** Purposive sample of 120 children was used in this study.

**Tools** of data collection were an interviewing questionnaire that include four parts; Part I: Socio-demographic characteristics of the child and caregiver; Part II: Family Impact of Childhood Disability (FICD). Part III: was concerned with assessment of child dependency in the activities of daily life (ADL). Part IV: caregiver assessment about the healthcare needs of the child with cerebral palsy.

**Results** of the study revealed that more than half of studied children were boys; also, more than half of caregivers were mothers. Concerning family impact of child with cerebral palsy adjustment; three quarters of parents have disruption of normal family routines; all parents 100% for the care of child brought family closer to God and financial cost. After the intervention, the children were independent on their parents in most of daily activities, while, there were statistically differences in pre and post program.

**Conclusion:** from the results that there were improvement after program implementation and follow up in all aspects family impact of child with cerebral palsy, dependency in daily life activities and child health needs.

**Recommendations:** continuous health education programs are necessary to improve mothers 'adjustments toward care of their CP children.

**Keywords:** Parents adjustment, Cerebral palsy, Caregiver, Activity of daily life.

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### I. Introduction

Cerebral palsy is defined as difficulty in controlling the voluntary muscles due to damage to some portion of the brain furthermore the damage is fixed, and does not become progressively greater<sup>(1)</sup>. It is a group of disorders affecting the development of movement and posture that are believed to arise from non-progressive disturbances in the developing fetal or infant brain; it is related to a brain injury or to problems with brain growth. It causes reflex movements that a child cannot control and muscle tightness that may affect parts or all of the body. These problems can range from mild to severe depending on the location and extent of the damage. Mental retardation, seizures, and vision and hearing problems can occur in people with C P<sup>(2)</sup>.

The incidence of cerebral palsy is from 100 to 600 cases / 100,000 all over the world, there are almost 3 00.000 affected children in the United States<sup>(3)</sup>. Parents may be offered to families to help them gain more skills in the training of their son or daughter. The emphasis is placed on problems presented by families, and behavioral strategies may be introduced<sup>(4)</sup>. Family response to CP crisis varies in stages: initial crisis responses, continuing feeling responses, and adjustment or acceptance responses. Each stage can actually endure for a day, weeks, and a month, or even years. In other words, the length of time one spends in a stage is irrelevant. Meanwhile, movement from stage to stage is irrelevant, which is defined by a noted change in parental reaction<sup>(5)</sup>. The goals for a child with CP are to maintain mobility, improve range of motion, maximize muscle control and balance, provide the opportunity and ability to communicate, and perform activities of daily living<sup>(6)</sup>. The CP children have two sets of needs. First, their needs are those of the whole and healthy, that is, they need to be loved and cherished; they need a place in the sun and to achieve their full potential. Second, they have needs, which are special because they are handicapped such as special services, aids, equipment, and facilities for them and their parents and perhaps siblings need continuing care. They may need an education suited to and appropriate for their mental, physical, and psychological disabilities. Above all, they need society to ensure they can become as useful citizens as possible<sup>(7)</sup>.

The nurse has to involve the family in care, teach essential aspect of care; reinforce the physician's explanation of medical management; stress importance of ongoing outpatient care and follow up visits; refer to special support group and agencies for going support; and stress need for regular exercise program. The nurse has to teach range of motion (ROM) exercises to family and perform ROM exercises to all body joints every 2

to 4 hours. The nurse has to encourage independent activity as possible, be alert to limitation, and avoid over protection <sup>(8)</sup>.

Parents' psychological adjustment can be defined as the adaptive task of managing upsetting feelings aroused by the illness of the child and preserving a reasonable emotional balance. On the one hand parents' psychological adjustment reflects the outcome of parents' ability to maintain a balance between the demands of stressful situations and the availability of personal (e.g. optimism) and social resources (e.g. partner support), whereas on the other hand, parents' psychological adjustment enhances the accomplishment of other general adaptive tasks, such as: preserving a satisfactory self-image, keeping the family together, and preparing for an uncertain future, as well as the accomplishment of illness-related tasks, for example: dealing with the symptoms of the illness, dealing with treatment related stressors, and establishing functional relationships with health caregivers <sup>(9)</sup>.

As part of a long-term coping process, parents of handicapped children do, in general, experience reactions typical of more than one stage. Following the initial stage of shock, there appears to be a stage characterized by a continuum of earlier reactions of denial or disbelief. Hence, there is a possibility of overlap or even reversal between stages <sup>(10)</sup>.

Most writers who have identified, described or postulated any of the reactions characteristic of the previous two stages have also identified a third stage characterized by emotional organization, adjustment, and acceptance, or reorganization <sup>(11)</sup>. It was identified by **Iwasa and Ponian** that, substrates of acceptance, reconstruction, and reorientation. Acceptance refers to parents accepting the child as well as others and themselves. Reconstruction and recording allow both the needs of the family and the child to be met. Reorientation or redirection of energies allows parents to refocus their attention from themselves to problems outside themselves; they become "mission-oriented." When parents reach this stage, often they do obtain programs and services needed for their children <sup>(12)</sup>. Parents often become involved in advocacy to help other handicapped children. There is channeling of their energies into solving the realistic problems of the child and the family <sup>(13)</sup>.

## **II. Significance Of The Study**

The family of a child with CP needs much emotional support. As with a chronic disease, the family must make adjustment to care for this special-needs child. The nurse needs to teach parents how to care for their child, including performing activities of daily living. Because safety is an important goal, the nurse must help parents adapt the home setting <sup>(14)</sup>.

## **III. Aim Of The Study**

Was to evaluate nursing intervention parent's adjustment for caring of their C.P children through,

1. Assessing child dependency in their daily activity of life.
2. Assessing the family adjustment of childhood disability to detect their caregiver needs.
3. Designing and implementing interventions according to their needs.
4. Evaluating of caregiver's improvements after implementation of nursing intervention.

## **IV. Research Hypothesis**

Intervention of the program of parent's adjustment will overcome the children and their caregiver needs and problems.

## **V. Subjects and Methods**

**5.1. Study design:** A quasi-experimental intervention design was used in carrying out the study.

**5.2. Setting:** This study was conducted in the neurology outpatient clinic of Ain Shams Hospital University.

**5.3. Sampling:** Purposive samples were used in this study, it consisted of 120 children from total 166 children who having cerebral palsy and attending the previously mentioned settings for follow up with their accompanying caregivers. Children were selected according to the following inclusion criteria: their ages between 6 - 12 years old, with moderate grade of cerebral palsy.

### **5.4. Tools of the study:**

An interview questionnaire was designed by the researcher for data collection, based on review of pertinent literature. It was validated through three experts' from the faculty of nursing. It consisted of the following parts:

**Part I:** Socio-demographic characteristics of the child as age, gender, order of birth and number of siblings, educational level and follow special education. It also involved caregiver's characteristics as age, relation to child, education, occupation, and family income.

## **Part II. Family Impact of Childhood Disability (FICD) Scale according to their adjustment**

It was originally developed by <sup>(15)</sup>, it aimed to assess subjective interpretation or primary appraisal of parent regarding to child with developmental disabilities into family systems and its impact on the family as an entity. It consisted of 12 items such as my child disability needs more time for caring, disruption of normal family routines, the experience of caring for child brought family closer to God, it has led to additional financial costs, etc.) .

**Scoring** point each item was rated on a four Likert Scale:

Items were scored 4, 3, 2 and 1 for Substantial degree, Moderate degree, Mild degree and Not at all respectively.

**Part III:** This part was concerned with assessment of child dependency in the activities of daily life (ADL). It developed by the researchers to cover the activities of nutrition, mobilization, walking, clothing, bathing, elimination, and communication. The responses were on a three-point Likert scale: dependent, partially dependent, and independent. This tool was used pre, post and follow up.

**Scoring:** Items were scored 2, 1 and zero for fully independent, partially independent, and fully dependent respectively. For each area, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The child was considered independent if the percent score was 75% or more, partially dependent if less 50-<75%, and dependent if<50%.

**Part IV:** caregiver assessment about the healthcare needs of the child with cerebral palsy. This included dental care, respiratory exercise, frequent talking to child, and use of soft cushion for fits, avoid to stop convulsions during fit, keeping head in normal position and avoidance of sudden stretch of limbs. This tool was used pre, post and follow up.

**Scoring:** The responses agree, uncertain and disagree were respectively scored 3, 2 and 1. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score. These scores were converted into a percent score, and means and standard deviations were computed. The total awareness about needs was considered to be high if the percent score was 75% or more and low if less 50%

### **Pilot study**

After development of the tool, a pilot study was conducted on 15 subjects representing 10% of the sample size. This pilot study was conducted on month before collection of data. The purpose of the pilot study was to ascertain the feasibility of the tool, and to detect any problems peculiar to the statement as sequence and clarity. It also helped to estimate the time needed to complete the interview. After conducting the pilot study, it was found that the questions of the tool were clear and relevant, but few words were modified to increase clarity. Following the pilot study findings, the tool was finalized and made ready for use.

### **Fieldwork**

Preparation of data collection tools was carried out over a period of about four months from March to end of June, 2014 after being revised from experts giving their opinions, and test validated. Official permissions were obtained from the Deans of the Faculties, also administrators of Ain Shams University Hospital. A pilot study was carried out to test clarity and simplicity of questions. Data collection was carried out over a period four months, two days/week (Sundays and Tuesdays) from 11.00 a.m. to 1.00 p.m. for assessment 4-6 of children and their caregiver/day, each caregiver was interviewed individually by the researchers for about 60 minutes to fill in the tools. At the end of the day, the implementation of the program started with all caregivers, in the waiting area after examination of children done by physician. To cover all the content of the program for 4-6 caregivers/day, it was taken 32 days to cover all (120) participated mothers.

**Program construction:** it included 4 phases:

**Assessment phase:** The researcher was available in the study settings two days per week, Sundays and Tuesdays, in the morning. The researcher started by introducing herself to each parent accompanying the CP child, gave them a brief idea about the study and its purpose, and asked for their participation. Upon agreement, they were interviewed using the designed questionnaire form. Each caregiver interview depending upon readiness and level of education.

**Development phase:** A program for caregivers of CP children was designed by the researcher according to their needs regarding CP. It was constructed, revised and modified from the related literature.

**Intervention program objective:**

Improve the parent's adjustments according to child needs for caring for their children.

Program contents: It included:

-Dependence of daily life activity; Nutrition, mobilization, walking, clothing, bathing, elimination and communication.

-Children needs; Dental care, respiratory exercises, frequent talking to child, use of soft cushion for fits, avoid to stop convulsions during fit, keep head in normal position, avoid sudden stretch of limbs.

A handout was developed for the caregivers of CP children as a suggested plan to help them caring for their children. It covered the required needs and dependency related to CP children. The content of this handout was adapted from <sup>(16)</sup>, <sup>(17)</sup>, and <sup>(18)</sup>.

**Implementation phase:** The program was carried out at the study settings. The total number of sessions was 12 to cover the content of the program. Caregivers were divided according to their level of education into two main groups: educated and illiterate. Then, each group was subdivided into five groups, with 4-6 caregivers in each group according to their children’s condition and types of cerebral palsy .The duration of each session was 45 to 60 minutes including periods for discussions. The sessions started at 11 AM, which was a suitable time for caregivers because the time from 8:30 to 11:0 AM they were busy with doctors, physiotherapists, and making investigations for their children. The researcher started each session with a summary for the previous one. The methods of teaching were lectures, group discussion, demonstration and re-demonstration. Proper audiovisual materials were used such as handouts, colored posters, transparencies, video tapes, and cassettes.

**Evaluation phase:** After completion of the program contents, the post-test was done using the same form of the pretest to assess the change in caregivers’ knowledge, awareness of needs, and practice regarding care of their children. This was repeated after a period of three months for follow up.

**VI. Results**

**Figure (1) Distribution of children regarding to their age**      **Figure (2) Distribution of children regarding to their gender.**

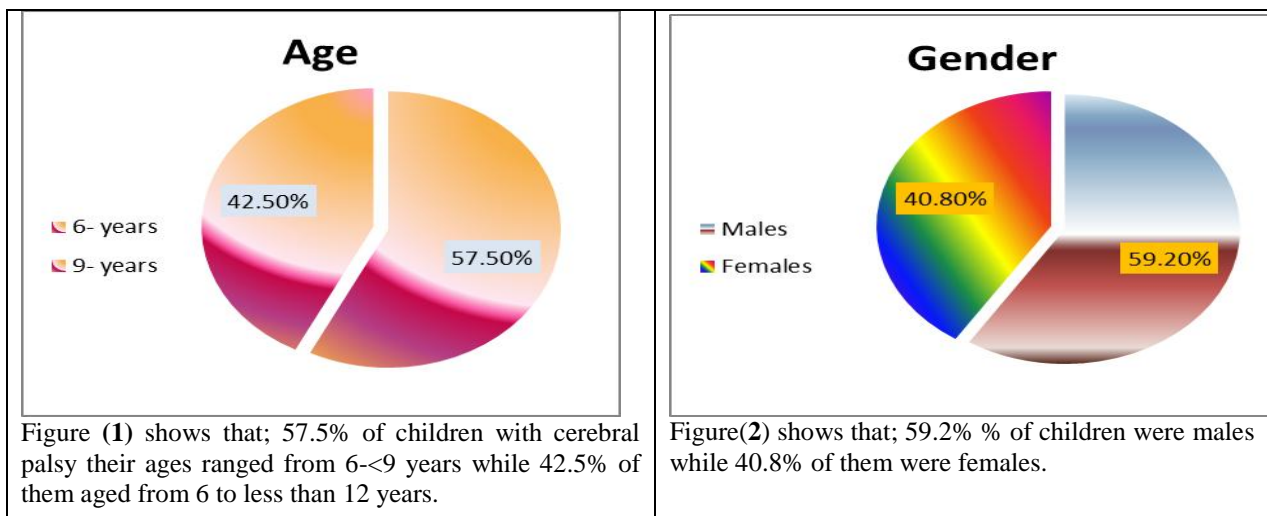


Figure (1) shows that; 57.5% of children with cerebral palsy their ages ranged from 6-<9 years while 42.5% of them aged from 6 to less than 12 years.

Figure(2) shows that; 59.2% % of children were males while 40.8% of them were females.

**Table (1) Socio-demographic characteristics of cerebral palsy children in the study sample (No= 120)**

Items	No	%
<b>Order of birth</b>		
First	56	46.7
Middle	24	20
Last	40	23.3
<b>Educational level</b>		
Primary	79	65.8
Preparatory / secondary	21	17.5
None	20	16.7
<b>Follow special education:</b>		
Yes	85	70.8
No	35	29.2

**Table (1)** shows that 46.7% of them were ranked as a first child. As revealed from the same table 65.8% their educational level were primary class, and 70.8 % of children follow special education.

**Table (2) Socio-demographic characteristics of caregivers of cerebral palsy children in the study sample (No= 120)**

Items	No	%
<b>Caregiver age:</b>		
25-	31	25.8
35-	35	29.2
50-	54	45
<b>Relation to child:</b>		
Mother	65	54.1
Father	29	24.2
Grand parents	11	9.2
Siblings/ uncles	15	12.5
<b>Education:</b>		
Illiterate	15	12.5
Read/write	35	29.2
Basic secondary	47	39.2
University	23	19.1
<b>Occupation</b>		
Working	78	65
Not working	42	35
<b>Family income (LE /month):</b>		
<200	22	18.4
200-	65	54.1
300+	33	27.5

Table (2) denotes that, 45% of caregiver’s age were 50 and more. While 54.1 % of caregivers were there mothers, 39.2% had basic secondary education and 65% were working and 54.1% their family income was 200 LE /month.

**Table (3): Family impact of child with cerebral palsy adjustment (No= 120)**

Items	Not at all	To mild degree	To moderate degree	To a substantial degree	X <sup>2</sup>	P
	%	%	%	%		
My child disability needs more time for caring	-	16.1	21.7	62.2	57.61	.000***
Disruption of normal family routines	-	12.5	12.5	75	37.50	.000***
The experience of caring for child brought family closer to God	-	-	-	100	25	.000***
It has led to additional financial costs	-	-	-	100	25	.000***
Having a child with cerebral palsy has led to an improved relationship with spouse	9.2	11.7	29.1	50	23.16	.000***
Having a child with cerebral palsy has led to limitation in social contact outside the home	7.5	15	20.8	58.4	33.10	.000***
The experience of caring for a child has made us to terms with what should be valued in life	-	12.5	20	67.5	60.81	.000***
We have to postpone or cancel major holidays	10.8	12.5	22.5	54.2	17.08	.000***
It has led to reduction in time parents could spend with their friends	8.3	10	73.4	8.3	19.34	.000***
The situation led to stress with spouse	14.2	12.5	40	33.4	41.13	.000***
Because of the circumstances of child disability there has been postponement of major purchases	5.8	10.8	33.4	50	29.56	.000***
Raising a child with cerebral palsy made life more meaningful for family member.	6.7	5.8	8.3	79.2	17.48	.000***

Table (3) indicates that the caregivers were prone to moderate and substantial degree of impact. All parents have a substantial degree of impact. Care of child brought family closer to God and additional financial cost, representing 100% for each of the items. While disruption of normal family routines and raising a child with cerebral palsy made life more meaningful for family member were 75% and 79.2% respectively.

**Table (4) Dependence in daily life activities among cerebral palsy children as reported by caregivers throughout program phases (No=120)**

Items	Time						X2 P Pre-post	X2 P Pre-FU
	Pre		Post		FU			
	No.	%	No.	%	No.	%		
<b>Nutrition:</b>							150.17 (<0.001*)	263.44 (<0.001*)
Dependent	90	75	65	54.2	60	50		
Partial dependent	18	15	30	25	35	29.2		
Independent	12	10	25	20.8	25	20.8		
<b>Mobilization:</b>							160.32	280.77
Dependent	100	83.4	80	66.7	70	58.3		
Partial dependent	10	8.3	25	20.8	30	25		
Independent	10	8.3	15	12.5	20	16.7		
<b>Walking</b>							151.39 (<0.001*)	280.68 (<0.001*)
Dependent	105	87.5	95	79.2	91	75.8		
Partial dependent	7	5.8	13	10.8	15	12.5		
Independent	8	6.7	12	10	14	11.7		
<b>Clothing:</b>							149.58	280.93
Dependent	97	80.8	81	67.5	83	69.2		
Partial dependent	11	9.2	14	11.7	12	10		
Independent	12	10	15	12.5	15	12.5		
<b>Bathing:</b>							129.18 (<0.001*)	256.65 (<0.001*)
Dependent	98	81.7	88	73.3	88	73.3		
Partial dependent	15	12.5	20	16.7	20	16.7		
Independent	7	5.8	12	10	12	10		
<b>Elimination:</b>							121.14 (<0.001*)	292.15 (<0.001*)
Dependent	100	84.3	97	80.8	95	79.2		
Partial dependent	13	10.8	14	11.7	15	12.5		
Independent	7	5.8	9	7.5	10	8.3		
<b>Communication:</b>							19.49 (<0.001*)	225.10 (<0.001*)
Dependent	110	91.7	100	83.4	97	80.8		
Partial dependent	4	3.3	9	7.5	13	10.8		
Independent	6	5	11	9.1	10	8.4		

(\*) Statistically significant at p<0.05

**Table (4)** reveals that the children were dependent on their parents in daily activities for all aspects as nutrition, mobilization, walking, clothing, bathing, and elimination and communication skills. Regarding to nutrition and mobilization before the program they had representing 10% and 8.3% were independent, while after the program they improved for 20.8% and 12.5%.Were followed by walking and clothing (pre 6.7% and 10% vs post 10% and 12.5 respectively). Also there were statistically differences in pre and post program. In addition to pre and follow up.

**Table (5): Needs of cerebral palsy children as reported by caregivers throughout program phases (No 120)**

Needs for	Time						X <sup>2</sup> (p-value) Pre Post	X <sup>2</sup> (P-value) Pre- FU
	Pre (N=120)		Post (n=120)		FU (n=120)			
	No	%	No	%	No	%		
<b>Dental care:</b>								
Disagree	60	50	40	33.3	32	26.7	240.85 <0.001	258.30 <0.001
Uncertain	50	41.7	30	25	25	20.8		
Agree	10	8.3	50	41.7	63	52.5		
<b>Respiratory Exercises</b>								
Disagree	75	62.5	55	45.8	28	23.3	220.12 <0.001*	227.45 <0.001*
Uncertain	42	35	23	19.2	17	14.2		
Agree	3	2.5	42	35	75	62.5		
<b>Frequent talking to child:</b>								
Disagree	54	45	5	4.2	5	4.2	235.45 <0.001*	237.79 <0.001*
Uncertain	43	35.8	15	12.5	15	12.5		
Agree	23	19.2	100	83.3	100	83.3		
<b>Use of soft cushion for fits:</b>								
Disagree	62	51.6	43	35.8	40	33.3	211.52 <0.001*	208.06 <0.001*
Uncertain	35	29.2	20	16.7	15	12.5		
Agree	23	19.2	57	47.5	65	54.2		
<b>Avoid to stop convulsions during fit:</b>								
Disagree	80	66.7	65	54.2	52	43.3	235.71 <0.001*	241.14 <0.001*
Uncertain	17	14.1	12	10	8	6.7		
Agree	23	19.2	43	35.8	60	50		
<b>Keep head in normal position:</b>								
Disagree	73	60.8	57	47.5	60	50	240.83 <0.001*	252.15 <0.001*
Uncertain	42	35	32	26.2	24	20		
Agree	5	4.2	31	25.8	36	30		
<b>Avoid sudden stretch of limbs:</b>								
Disagree	62	51.6	43	35.8	40	33.3	237.26 <0.001*	242.77 <0.001*
Uncertain	35	29.2	20	16.7	15	12.5		
Agree	23	19.2	57	47.5	65	54.2		

**Table (5)** reveals that there were improvements after the program implementation for all aspects of children needs as dental care, respiratory exercises, frequent talking to child, use of soft cushion for fits, avoid to stop convulsions during fit, keep head in normal position and avoid sudden stretch of limbs. Regarding to dental care and respiratory exercises before the program they had representing 8.3% and 2.5% were agree, while after the program they improved for 41% and 35% agree to meet their children needs. Were followed by keep head in normal position and avoid sudden stretch of limbs. (Pre 4.2% and 19.2% vs post 25.8% and 47.5 respectively). In addition, there were statistically differences in pre and post program versus pre and follow up.

## VII. Discussion

Care giving is a normal part of being the parent of a young child, this role takes an on entirely different significance when a child experiences function limitations and possible long-term dependence on everyday living<sup>(19)</sup>. In this results, the findings of the present study concerning cerebral palsy children in figure (1) there were mostly six years age or older, and in figure (2) more than half of boys than girls and first order birth in table (1) more than two thirds of them were following education, mostly primary and special. This is expected given the young age of the children in the group, and the effect of CP on mental abilities. which goes in line with previous reports in the United States where the overall prevalence of CP had boy/girl ratio: 1.4:1<sup>(20)</sup>, and this also, in agreement with **Abd Allah et al.**, in their study of coping parents toward their child with cerebral palsy, there high percent for boys than girls<sup>(21)</sup>, also in the same table. However, this contradicts with **Russinan** who stated that CP occurs in both sexes equally<sup>(22)</sup>.

Concerning the findings of table (2) showed that the caregiver of CP children in the present study were less than half of them in age 50 years, mostly with a majority being mothers, which is the situation usually reported in family caregiving of any chronic diseases, especially when the patient is a child this is agreement with **Brehaut et al.**, They also represent the prevalent characteristics of the community where the study was done, with high prevalence of illiteracy and read and write, employment who have no time for caring of their child and low income. These characteristics would certainly have a negative impact on the levels of their

adjustment about care of their children, which turned to be deficient and inadequate before implementation of the study intervention <sup>(23)</sup>. In addition to **Neville** who mentioned that the parents should be in suitable age to be able to assume responsible appropriately toward children because young parents are usually unprepared psychologically for parenthood. When the mother is educated, this means higher income. Also, better education means better job and income and more health awareness and ability to help throughout child life <sup>(24)</sup>.

The findings of table (3) provide evidence of the usefulness of using (FICD) scale in assessing primary parental appraisal of impact of childhood disability. Highest percent of parents in many items have a substantial degree of impact this means that they have negative impact as additional financial cost, disruption of normal family routines. All parents for item of care of child brought family closer to God, meaningful for family member, experience of caring for a child has made us to terms with what should be valued in life have positive impact. This study in agreement with **Truete and Hiebert-Murphy** who reported in their study no average change was found in parent cognitive appraisal of the impact that childhood disability had on family life over 7 year longitudinal study<sup>(25)</sup>. And contradicted with **Goldberg et al.**, who reported that all mothers held high positive beliefs about their children (i.e., more tolerance, extraordinary time spent, belief that children are unique and special) <sup>(26)</sup>. Furthermore, in relation to all parents have substantial degree of impact from financial cost and more than have limitation in social contact **Jinming and Jianjun** who stated that more than two thirds of parents complain from financial cost and unwilling to talk about their children with others and less than half of mothers of CP children are reluctant to take their child to the public <sup>(27)</sup>. In addition to **Moustafa et al.**, mentioned that suffering of parents with CP children is more pronounced at the age of adolescence than living the phase of childhood. The impact of this pain of mothers seems more intense than of fathers <sup>(28)</sup>. It mentioned by **United Cerebral Palsy** who reported that when an infant or young child is a diagnosed with disability, the families live are changed forever. Parents and family have to adjust to a life different than they imagined. The ability of the family to meet these challenges is determined by support from their family members, grandparents, relatives and friends <sup>(29)</sup>. It could be equally support from services that receive from educational and social services, intervention is vital during this very early time.

In the current study, the experience of that caring for a child with CP brought the family closer to God; to a substantial degree as reported by all family caregivers. This finding was in accordance with **Gupta and Singhal** who investigated cultural beliefs of a community towards disability <sup>(30)</sup>. Their results revealed that one such instance is the belief in the theory of karatma, which is often invoked to explain major life events, including the occurrence of disability. It has been shown that people tend to accept their own disability as something which has resulted from their past karatma or due to God's will, some parents see the child illness as having a positive impact. This reflects the spiritual domain in individual life; God is the most support among all systems. The whole family tends to accept their own disabilities as fate due to God's will <sup>(31)</sup>.

A higher dependence of children with regard to their daily tasks of activities undoubtedly places a greater burden on their caregivers. The findings of table (4) showed highly statistically significant difference between pre-post intervention and pre-follow up in relation to dependency in daily living activities where three quarter and more percent in pre intervention for nutrition, walking, bathing, elimination and communication improved in post and follow up. This is in agreement with **Tork**, who reported that more than half of the disabled children ranged from being completely dependent to being care dependent to a great extent regarding the items of eating and drinking, bathing, communication and daily activities. Different studies show that the care dependency is one of the prominent features of disability and many physical, cognitive and mental disabilities of children resulted in those children being dependent on their caregivers <sup>(32)</sup>. However, this contradicted with **Msall and Tremont**, who examined children with disabilities regarding their care dependency. They established that 41% of the children with disabilities showed low scores in self-care skills and 35% had communication limitations <sup>(33)</sup>.

Furthermore, the findings of the table (5) revealed that health needs of child with CP, the intervention led to significant improvements in parents' agreement that had a positive impact on their practice and care of their children. This is in agreement with **Abd Allah et al.**, who reported in their study that the intervention program succeeded to almost doubling the number of caregivers who showed oral health and respiratory care to avoid aspiration from feeding problems <sup>(21)</sup>. The importance of this lies in its serious consequences on the safety and the life of the child, since the oral health is critical in CP children since they suffer more gingival problems, tooth wear, oral mucosal disorders, and malocclusion. **DU et al.**, Therefore, **Oredugba and Akindayomi** stressed the importance of improving caregivers' about the dental care of disabled children. The success of the intervention program in improving health needs might be attributed to the fact that the training took into consideration the real educational needs of the parents. Highly statistically significant difference through items of health needs in dental care and respiratory exercises from pre to post intervention. Awareness of caregivers about these needs are considered as important factors to adopt healthy practice for their CP children <sup>(34)</sup> and <sup>(35)</sup>.



## VIII. Conclusion

Based on the results of this study and research hypothesis, it concluded that,

More than half of the children their ages ranged between 6 years to less than 9 years and the most of them were male, while the caregiver for them were mothers.

Concerning family impact of child with cerebral palsy adjustment all parents for items were statistical significant improvement post program about the care of child brought family closer to God and additional financial cost. After the intervention, the children were independent on their parents in most of daily activities, while, there were statistical differences in pre and post program.

In addition, to pre and follow up for all aspects as nutrition, mobilization, walking, clothing, bathing, and elimination and communication skills, there were improvements after the program implementation for all aspects of children needs as dental care, respiratory exercises, frequent talking to child, use of soft cushion for fits, avoid to stop convulsions during fit, keep head in normal position and avoid sudden stretch of limbs. There were statistical differences in pre and post program versus pre and follow up.

## IX. Recommendations

**Based on the results of the present study, it was recommended that:**

- Continuous health education programs are necessary to improve mothers' adjustments toward care of their CP children through:
  - Discussing child needs.
  - Applying guidance brochure or handouts including information about community resources, and comprehensive care needs as physical, social, emotional, motor, and communication skills to be provided for children with CP in order to meet their needs and prevent further complications.
  - Reassuring the importance of follow up care.
- Continuous follow up for these children through activities, school health social services, and skills in collaboration with school and related centers.
- More researches are needed to identify most common family problems in the community, and available resources that meet family needs.

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