

# Health Status of Children with Cerebral Palsy: A Cross Sectional Study in Karachi

Syed Faizan Ali Shah,<sup>\*</sup> Wajia Sahre,<sup>\*</sup> Jam Feroz,<sup>\*\*</sup> Muhammad Asif Shaikh,<sup>\*\*\*</sup> Abbas Memon<sup>\*\*\*\*</sup>

## ABSTRACT

**Objective:** To describe the health status of children with cerebral palsy (CP) of all type of severities in different rehabilitation centers, Karachi.

**Study Design:** Cross-sectional study.

**Place & Duration:** Liaquat University of Medical & Health Sciences, Jamshoro, Sindh, Pakistan from 1<sup>st</sup> January 2013 to 30<sup>th</sup> June 2013.

**Material & Methods:** A sample of 100 CP children was selected through convenience sampling according to well delineated inclusion and exclusion criteria. Children having progressive neurologic disorder were excluded from the study. A validated Child Health Questionnaire (CHQ PF-50) was used and all the questions were answered by the child's parents, care taker or special educators, prior to verbal consent. The study was approved by ethical review committee of the institute. Data was analyzed by the Statistical Packages of Social Sciences (SPSS) version 20, using descriptive statistics with a p value of <0.05 taken significant.

**Results:** Out of 100 children, the age between 8 to 10 years was about 62%, other 38% of the children were aged between 11 to 13 years. Moreover, 65% parents rate their child's behavior as unsatisfactory, 32% parents satisfy and 3% parents were rating good behavior of their child.

**Conclusion:** Children with cerebral palsy were found with poor quality of life and health status. It is suggested that the health status of CP children should be promoted to include behavioral and stress management, daily functional activities and self-efficacy techniques.

**Key Words:** Health Status, Cerebral Palsy, Children, Physical Therapy.

## INTRODUCTION:

Cerebral Palsy (CP), is the most up growing neurological abnormality found among children with ratio of 2-3 out of every 1000 child births, affecting muscular co-ordination and body movements.<sup>1</sup> Acquired causes of cerebral palsy include pathological or accidental damage to brain.<sup>2</sup>

Diagnosis is mostly made during the first 2 years of life.<sup>3</sup> Conditions associated with CP are intellectual disability, seizures, delayed milestones, deformities, impaired special senses, speech and language disorders, drooling and incontinence.<sup>4</sup> Up till now, there is no cure for cerebral palsy but proper management and physical therapy helps in improving the child's abilities and minimize the disabilities.<sup>5</sup>

Studies show that care givers of CP children were highly affected by child behavior and care demands, as their psychological and physical health was strongly affected.<sup>6</sup> Youth and adults with CP requires health care support throughout their lives.<sup>7</sup> Parents and care givers had lower satisfaction with health status of CP child and higher levels of anxious and depressed mood.<sup>8-10</sup> Although the challenges of care of disabled child is very high but many families manage these challenges quite well.<sup>11</sup>

- \* *Physiotherapist, Institute of Physical Therapy & Rehabilitation Sciences, LUMHS, Jamshoro.*
- \*\* *Lecturer, Institute of Physiotherapy & Rehabilitation Sciences, PUMHS, Nawabshah.*
- \*\*\* *Principal, ISRA Institute of Rehabilitation Sciences ISRA University, Karachi Campus.*
- \*\*\*\* *Incharge, Institute of Physical Therapy & Rehabilitation Sciences, LUMHS, Jamshoro.*

### Correspondence to:

**Dr. Syed Faizan Ali Shah**

Physiotherapist

Institute of Physical Therapy & Rehabilitation Sciences.

LUMHS, Jamshoro, Sindh, Pakistan

Email: fzi\_aan@hotmail.com



Vargus-Adams J showed in study that parents reported reduced Health-Related Quality of Life for their children with cerebral palsy.<sup>12</sup> The present study was conducted to evaluate the health status of children with cerebral palsy in different rehabilitation centers of Karachi.

### MATERIAL & METHODS:

In this cross-sectional study, convenience non probability sampling technique was used to select a total of 100 cerebral palsy children randomly selected regardless of gender from Karachi. This type of study design had been chosen because it is easy, convenient, less expensive and time saving. The duration of the study was from 1<sup>st</sup> January 2013 to 30<sup>th</sup> June 2013. Data was collected from different rehabilitation centers located in a Karachi. Children with cerebral palsy who fall in age group between 8 to 13 years were included. Progressive neurologic disorder children were excluded from the study.

A validated Child Health Questionnaire (CHQ PF-50)<sup>1</sup> was used; each option was replaced by boxes to tick the appropriate box while filling the questionnaire. An informed consent form was also attached and aim of the study was fully explained to the respondents. All the participants were free to refuse or withdraw this research at any time of the study. The consent form was properly read and signed by the respondents prior to filling the questionnaire.

Questions were completed and answered by the child's parent or care taker. Plain white paper was used for the questionnaire and distributed along with the introductory letter for participants' convenience and understanding. All the responses were collected in person by the researcher and the data was analyzed by using the software Statistical Packages of Social Sciences (SPSS) version 20. Descriptive statistical methods were used for analysis and outcome measures were compared via the chi-square test.

### RESULTS:

A total of 100 questionnaires were sent among the participants and they give almost the response of all the sections present in that questionnaire

survey. Out of these 100 participants, 50 were male while other 50 female participants. Most of the participants of the study (62%) fall in age of 8-10 year, Table-1. Summary of the scores in Table-2 shows the health status of (CP) children is limited functionally in activities of daily livings.

**Table-1: Demographic Information of the Study Participants**

Demographic Variable		Frequency (%)
Age	8-10 year	62 (62)
	11-13 year	38 (38)
Gender	Male	50 (50)
	Female	50 (50)

### DISCUSSION:

The purpose of our study was to describe and highlight the health status of children with cerebral palsy in Karachi. With the help of Child Health Questionnaire (CHQ PF-50) it was possible to describe health status of children in a manner that adds further to our understanding of the functional profiles within the cerebral palsy.

Previously, White-Koning M in his study resulted that 57% parent's rated lower quality of life for their child's, suffering from cerebral palsy.<sup>13</sup> In our study 47% parents reported less healthy and low quality of life for their CP Childs while 29% parents were satisfied with health status of their children. Our study also includes that out of 100, most of the children had limitations in bending, lifting/stooping, 35% children were incapable of taking care of him/herself, 25% of children were imperfect in walking or climbing up the steps of stairs, 21% Childs were incapable to move around the neighborhood, playground, or school.

In another study Majnemer A found the families of CP children more distressed as he resulted that 45% parents were highly stressed and 11% defensive.<sup>14</sup> Our study shows the related index with 36% parents interrupted various everyday family activities, 23% parents cancelled their plans in the last moments, while 19% of the parents found themselves in tension or conflict. 68% Parents were unsatisfied with family's ability to get



**Table-2: Responses Related to Health Status of Children with Cerebral Palsy**

Question	Response	Frequency (%)
Compared to other children your child's age, in general how would you rate his/her behavior	Good	3 (3)
	Satisfactory	32 (32)
	Unsatisfactory	65 (65)
Has your child been limited in any of the following activities	Doing things that take a lot of energy, such as playing soccer or running.	8 (8)
	Doing things that take some energy such as riding a bike or skating.	11 (11)
	Ability (Physically) to get around the neighborhood, playground or school.	21 (21)
	Walking one block or climbing one flight of stairs.	25 (25)
	Bending, lifting/stooping; taking care of him/herself	35 (35)
Has your child's school work or activities with friends been limited in any of the following ways due to problems with his/her physical health.	Limited in the kind of school work or activities with friends he/she could do	33 (33)
	Limited in the amount of time he/she could spend on schoolwork or activities with friends.	67 (67)
How much bodily pain or discomfort has your child had	Mild	17 (17)
	Moderate	57 (57)
	Severe	26 (26)
How often has your child had bodily pain or discomfort	Always	61 (61)
	Often	29 (29)
	Never	10 (10)
How often did each of the following statements describe your child	Argued a lot	33 (33)
	Had difficulty concentrating /paying attention	34 (34)
	Lied/Cheated	12 (12)
	Stole thing	5 (5)
	Had Tantrum	16 (16)

Question	Response	Frequency (%)
How satisfied do you think your child has felt about: his/her school ability; athletic ability; friendship; looks/appearance family relationship; life overall	My child seems to be less healthy	47 (47)
	My child has never been seriously ill; when there is something going around my child usually catches it;	24 (24)
	I expect my child will have a very healthy life; I worry more about my child's health than other people	29 (29)
Compared to one year ago, how would you rate your child's health now	Good	23 (23)
	Satisfactory	22 (22)
	Unsatisfactory	55 (55)
Were you limited in the amount of time you had for your own needs because of your child's - Physical Health; emotional well-being or behavior; attention or learning abilities	Yes	61 (61)
	No	39 (39)
How often has your child's health or behavior - limited the types of Activities you could do as a family	Interrupted various everyday family activities	36 (36)
	Limited your ability as a family to "pick up and go"	22 (22)
	Casued Tension or Conflict	19 (19)
	Casued you to cancel or change plans (personal or work) at the last minute	23 (23)
In general how would you rate your family's ability to get along with one another	Good	10 (10)
	Satisfactory	22 (22)
	Unsatisfactory	68 (68)

along with one another, 22% satisfied while 10% parents rated well with their family's ability. Hauser-Cram and Warfield also concluded that the behavior problems, motivation and mother-child interaction were the main cause of change in child's outcomes and parent good health.<sup>15</sup>

### CONCLUSION:

The study concludes that most of the CP children are limited functionally in activities of daily livings and especially highly energetic activities or sports, such as running and playing

soccer. The child's functional limitations create immense impact on his/her family. The parents have no enough time to fulfill their needs and most of the parents were unsatisfied with their ability to maintain a smooth relationship with each other. Furthermore, our suggestions to promote the health status of cerebral palsy children includes behavioral and stress management, daily functional activities and self-efficacy techniques. More researches can be helpful to cop up the health related challenges for children suffering from cerebral palsy.



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