

# The Level of Services for Cerebral Palsy Centers from the Viewpoint of Parents During the COVID-19

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## Abstract

The study examined the level of services for cerebral palsy (CP) centers in Jordan from parents' viewpoint during the Corona pandemic. It also examined if there are any differences due to the sex and age of the child with CP. The study sample consisted of 50 parents of children with CP and used a scale for services level of CP centers to collect study data. The results indicated that the level of services during the Corona pandemic was generally moderate. In addition, there were statistically significant differences in the services level due to the sex favor to females, and there were no differences due to the age.

**Keywords:** Cerebral Palsy (CP), services of CP centers, COVID-19, Jordan

## 1. Introduction

CP is defined as a developmental neuromotor disorder which occurs in early time of human life caused by damage to the brain. It appears in the form of a motor disability often accompanied by cognitive, sensory, or emotional disorders (AlKhteeb, 2014). The term CP refers to any paralysis, weakness, or motor imbalance (AlKhteeb & Hadidi, 2013). The motor disorder in cerebral palsy is chronic and affects movement patterns and bodily positions. This disorder does not develop over time. Nevertheless, this does not mean that the child's condition will not deteriorate if health, medical rehabilitation services are not provided (AlKhteeb, 2014). Children with CP need various supportive services provided in centers for them. Supportive services are necessary to help individuals with disabilities benefit from special education programs. It is provided by specialists such as physical therapists; this disorder does not develop over time. Nevertheless, this does not mean that the child's condition will not deteriorate if health, medical and rehabilitation services are not provided (AlKhteeb, 2014) therapists, speech, and language therapists, etc. These services are not educational but are necessary for the development of individuals with disabilities (AlKufash, 2009). Providing supportive services for children with CP helps reduce the effects of their disability on developmental and personal aspects. These services help these children benefit from the special education programs. It allows families to deal with their children with disabilities and decrease social problems and psychological stresses caused by their children's disability (Alhindi, 2016).

Providing support services starts from the moment the child is diagnosed with cerebral palsy. The provision of services depends on several factors, including the quantity and quality of services that the child needs, the place where the service is provided, including Despite the importance of providing supportive services to children with CP on time, some circumstances prevent these children from obtaining services in CP centers, or they do not receive them sufficiently, as happened during the Corona pandemic, consequences of its lockdown of the country and many centers for children with disabilities, reducing the number of specialists whose do with them and adhering to the health protocol that requires leaving a safe distance between one person and another People with CP depend on formal support from specialists to live their lives. However, during the COVID-19, their abilities deteriorated and increased barriers to access health information and services. In addition, they were discriminated based on their disability as some countries prioritized providing treatment from Corona for people without disabilities (United Nation, 2020).

There is an indication that the most important effect of COVID-19 from the viewpoint of mothers of people with developmental disabilities, is that lockdown has a negative impact on the behavior of children, the process of their rehabilitation, and receiving various supportive services (Agwa & Elmasry, 2021).

According to a report by Human Rights Watch (2020), people with disabilities did not receive appropriate health care and formal support from specialists. Therefore, this study conducted, and its questions are as the following:

First: What is the level of services presented for children with CP during COVID-19 from the viewpoint of their parents?

Second: Are there any statistically significant differences in the level of services presented for children with CP due to the child's sex and age?

## 2. Method

This study is descriptive and analytical. Describes the level of services presented for children with CP from their parents' viewpoint. The study also aims to know if there are differences in the level of services according to the child's sex and age.

### 2.1 Study Participants

The study participants were (50) parents of fifty children with CP (25 boys, 25 girls). They were randomly selected from CP centers in Jordan. Table 1 shows demographic data for children.

Table 1. Demographic data for children with CP

Variable		Number	Percentage (%)
Sex of Child	Male	25	50%
	Female	25	50%
Age of Child	<5	22	44%
	≥5	28	56%

### 2.2 Study Instrument

The Scale of Services Level Providing for Children with CP:

The researcher developed a scale to assess the level of services presented for children with CP. The scale consists of 33 items distributed over three dimensions:

- 1) Equipment and Access.
- 2) Supportive services.
- 3) Quality of services and appointments.

The researcher ensured the content validity for the scale and calculated the reliability by using Cronbach's alpha. Table 2 shows that.

Table 2. The reliability of scale and it's dimensional by using Cronbach's alpha

Dimension	Number of items	Reliability by using Cronbach's alpha
First: Equipment and Access.	8	0.74
Second: Supportive services	10	0.91
Third: Quality of services and appointments.	15	0.91
Total	33	0.95

### 2.3 Data Collection and Analysis

The researcher collected data for this study electronically during April and May of 2021. Parents were asked to answer the scale by choosing one choice from the following: (highly applicable, moderately applicable, slightly applicable, or not applicable).

To correct the scale, the choices were given the following scores:

Highly applicable =4, Moderately applicable =3, Slightly applicable =2, or Not applicable =1). The scores on the scale were interpreted as follows:

(1-1.99) low level, (2-2.99) moderate level, (3-4) high level.

### 3. Results and Discussion

The first question answer: The researcher calculated the means and standard deviation of the scores on the scale of the level of services presented for children with CP. Tables 3 and 4 show that.

Table 3. The means and standard deviation of the scores on the scale of the level of services presented for children with CP

#	Rank	Dimension	Mean	St. D	Level
1	1	Equipment and Access.	2.99	0.54	Moderate
2	3	Supportive services	2.74	0.81	Moderate
3	2	Quality of services and appointments.	2.84	0.71	Moderate
		Total	2.85	0.65	Moderate

Table 4. The means and standard deviation of the scores on the scale of the level of services presented for children with CP

Item	Rank		Mean	St. D	Level
6	1	The center follows safety instructions related to the COVID-19	3.72	0.64	High
7	2	adequate lighting and ventilation	3.70	0.54	High
23	3	The specialists at the CP Center deal with children and parents appropriately	3.52	0.91	High
33	3	The center has a portfolio for each child that includes data about the child, the sessions he needs, and when.	3.52	0.89	High
13	4	The child is referred to other specialists as needed.	2.26	0.88	High
20	4	the appointment between each session is appropriate	3.26	0.92	High
8	5	The center includes various devices and aids that serve the child in different fields.	3.22	0.84	High
3	6	The center design is accessible.	3.20	0.99	High
12	7	The center provides medical and rehabilitation consultations for parents of children.	3.14	0.99	High
26	8	The quality of services provided in the centers for children is appropriate.	3.12	0.92	High
10	9	The specialists at the center help parents to modify the behavior of their children.	3.08	1.16	High
15	10	The center trains parents to use medical devices with their children.	3.06	1.06	High
27	10	The working hours of the medical clinics in the center are daily.	3.06	1.06	High
28	10	Services prices are reasonable.	3.06	1.13	High
5	11	There is sufficient medical equipment in the center for training and rehabilitation.	3.04	0.97	High
29	11	The services provided in the center are sufficient for the improvement of the child.	3.04	0.99	High
1	12	The location of the center is convenient.	3.02	0.85	High
19	13	The number of sessions is appropriate.	3	1	High
14	14	There are specialists of different specialties in the center.	2.98	1.04	Moderate
31	15	The center determines the child's needs for the devices that suit his condition.	2.96	1.1	Moderate
11	16	The center provides counseling services for parents.	2.92	1.19	Moderate
17	17	The center contributes to reduce the psychological stress of parents.	2.78	1.09	Moderate
21	18	Specialists communicate with parents electronically.	2.76	1.21	Moderate
22	18	Several multidisciplinary specialists are always available at the center.	2.74	1.08	Moderate
24	20	The center has an effective electronic platform to communicate with families.	2.52	1.28	Moderate
4	21	The center provides the necessary medical devices and splints for the child at an affordable cost.	2.50	1.27	Moderate
30	22	The center conducts meetings for parents to exchange experiences.	2.26	1.16	Moderate
18	23	The center conducts awareness sessions on the rights of children with CP.	2.20	1.18	Moderate
9	24	The center conducts courses for parents on how to deal with their children with CP.	2.04	1.18	Moderate
25	25	The center prepares illustrative training videos on how to deal with a child with cerebral palsy in various situations.	2.02	1.15	Moderate
16	26	The center conducts free periodic medical examinations for children.	1.94	1.20	Low
32	27	Follow-up for the child with CP by the specialists through home visits.	1.80	1.13	Low
2	28	The center provides transportation for the children.	1.50	0.99	Low

Table 3 shows that the level of services presented for children with CP during COVID-19, in general, was moderate. The level on the dimensions was also moderate. This result agrees with the results of studies (Al-Gleilat,

2008; Alhindi, 2016; Khalil et al., 2018). It differed from the results of studies (AlKufash, 2009; Al-Otaibi and Al-Sartawi, 2012; Jeglinsky et al., 2012; Wang et al., 2015; Khalil et al., 2018; Altarawneh et al., 2017; Palmer et al., 1988; Raza et al., 2018). The reason for the difference in the results of the current study from the findings from the previous studies might be related to the difference in the samples size, time, and tools to assess the level of services.

Answer question 2: The researcher calculated the means and standard deviations of the total scores and scores on the scale dimensions according to the sex variable. Table 5 shows that.

Table 5. The means and standard deviations of the scores on the scale according to sex

Scores	Sex	Num	Mean	Standard Deviations	Level
First: Equipment and Access.	Male	25	2.81	0.56	Moderate
	Female	25	3.17	0.45	High
Second: Supportive services	Male	25	2.34	0.70	Moderate
	Female	25	3.14	0.72	High
Third: Quality of services and appointments.	Male	25	2.54	0.58	Moderate
	Female	25	3.15	0.72	High
Total	Male	25	2.54	0.54	Moderate
	Female	25	3.15	0.61	High

To Know if the differences between males and females are statistically significant, the researcher conducted T-test. Table 6 shows that.

Table 6. T. test results according to sex

	Mean differences	Df	T. value	Sig
First: Equipment and Access.	-0.37	48	-2.523	*0.015
Second: Supportive services.	-0.80	48	-3.997	*0.000
Third: Quality of services and appointments.	-0.61	48	-3.311	*0.002
Total	-0.61	48	-3.753	*0.000

Table 6 shows that there are statistically significant differences in the level of services presented for children with CP, and for all dimensions due to the sex to favors females. The result of this study differed from the result of the Al-Gleilat study (2008) conducted in Jordan, which indicated that there were no differences in the evaluation of educational health services presented for children with CP due to sex. This difference may be due to the different times, the samples size, and the tools to assess the services presented for children with CP. This result may be positive; the level of services presented for children with CP from female parent's viewpoint was high, and this reflects the major interest in females with disabilities, it means a commitment to the provisions of the International Convention on the Rights of Persons with Disabilities, which singled out an article for women with disabilities, which reflects a commitment to implement the Convention to provide services to females.

The researcher calculated the means and standard deviations to know if there are differences in the level of services according to age. Table 7 shows that.

Table 7. The means and standard deviations of the scores on the scale according to Age

Scores	Age	Num	Mean	Standard Deviations	Level
First: Equipment and Access.	<5	22	3.04	0.59	High
	≥5	28	2.94	0.50	Moderate
Second: Supportive services	<5	22	2.66	0.86	Moderate
	≥5	28	2.80	0.77	Moderate
Third: Quality of services and appointments.	<5	22	2.98	0.69	Moderate
	≥5	28	2.73	0.73	Moderate
Total	<5	22	2.89	0.69	Moderate
	≥5	28	2.81	0.62	Moderate

To know if the differences between children with CP according to the Age are statistically significant, the researcher conducted T-test. Table 8 shows that.

Table 8. T. test results according to age

	Mean differences	Df	T. value	Sig
First: Equipment and Access.	0.103	48	0.670	0.51
Second: Supportive services.	-0.144	48	0.623	0.54
Third: Quality of services and appointments.	0.25	48	1.22	0.228
Total	0.094	48	0.51	0.614

Table 8 shows, that there are no statistically significant differences in the level of services presented for children with CP and for all dimensions due to age. The researcher did not find studies that studied the effect of the age for the child with CP on the level of supportive services presented for children with CP. This is a positive point in this study, which is unique in studying this variable.

#### 4. Recommendations

- 1) CP centers' commitment to the health protocol without compromising the quality of support services provided to children with CP.
- 2) CP centers' commitment to the health protocol without prejudice to the number of specialists or sessions for children.
- 3) Provide free medical days for children with CP.
- 4) Conduct sessions for children with CP at home for reasonable fees. And provide transportation for specialists.
- 5) Support CP centers from the government and include them in the general budget of the Kingdom.
- 6) Establishing centers specialized for children with CP in all governorates of the Kingdom.
- 7) Ensure continuous communication with parents of children with CP within special electronic platforms.

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## Appendix

### Items of the Scale of Services Level Providing for Children with CP

Item	
1	The location of the center is convenient.
2	The center provides transportation for the children.
3	The center design is accessible.
4	The center provides the necessary medical devices and splints for the child at an affordable cost.
5	There is sufficient medical equipment in the center for training and rehabilitation.
6	The center follows safety instructions related to the COVID-19
7	Adequate lighting and ventilation.
8	The center includes various devices and aids that serve the child in different fields.
9	The center conducts courses for parents on how to deal with their children with CP.
10	The specialists at the center help parents to modify the behavior of their children.
11	The center provides counseling services for parents.
12	The center provides medical and rehabilitation consultations for parents of children.
13	The child is referred to other specialists as needed.
14	There are specialists of different specialties in the center.
15	The center trains parents to use medical devices with their children.
16	The center conducts free periodic medical examinations for children.
17	The center contributes to reduce the psychological stress of parents.
18	The center conducts awareness sessions on the rights of children with CP.
19	The number of sessions is appropriate.
20	the appointment between each session is appropriate.
21	Specialists communicate with parents electronically.
22	Several multidisciplinary specialists are always available at the center.
23	The specialists at the CP Center deal with children and parents appropriately
24	The center has an effective electronic platform to communicate with families.
25	The center prepares illustrative training videos on how to deal with a child with cerebral palsy in various situations.
26	The quality of services provided in the centers for children is appropriate.
27	The working hours of the medical clinics in the center are daily.
28	Services prices are reasonable.
29	The services provided in the center are sufficient for the improvement of the child.
30	The center conducts meetings for parents to exchange experiences.
31	The center determines the child's needs for the devices that suit his condition.
32	Follow-up for the child with CP by the specialists through home visits.
33	The center has a portfolio for each child that includes data about the child, the sessions he needs, and when.

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