

# Assessment Outcome on rehabilitation centers for children with cerebral palsy comparative study between Sudan and King Saudi Arabia

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**Abstract:** Introduction: Rehabilitation programs are opportunities for persons with cerebral palsy to reach their optimal level of independent functioning in society and to enhance patient outcomes.

**Aim:** To compare where outcomes of rehabilitation center for cerebral palsy patient deffier between Sudan and King Saudi Arabia

**Method:** Comparative descriptive study conducted in Sudan (4 rehabilitation center 64 employees) and Saudi Arabia (6 rehabilitation center 67 employees).

**Result:** Good outcomes of rehabilitation centers in King Saudi Arabia than in Sudan, in Sudan outcomes for rehabilitation center poor, minimum cases suffering from epilepsy were improved in both countries. But outcome for Nutritional and Sensation better in Sudan than Saudi.

**Concoction:** There is significant differences in outcome treatment patients in the rehabilitation centers in Sudan and in Saudi Arabia

**Recommendation:** Develop exchanges on expertise between countries in field of rehabilitation by the ministry of health and social affairs.

**Keywords:** Rehabilitation programs, rehabilitation center, cerebral palsy patient, health and social affairs.

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## 1. INTRODUCTION

Cerebral palsy (CP) is a term that has been released for group of children with motor dysfunction which required special service. In Ancient time Corpus Hippocraticum the first medical person describe cerebral palsy in his work <sup>(1)</sup>.

Rehabilitation is the operations of aiding an individual, family and community to accomplish the maximal level of function, independence, and finesse of life tolerable (outcome). Rehabilitation aid in recover the individual to ideal health, functionality, and well-being <sup>(2)</sup>. Is an necessary portion of global health blanketing along with upgrade of nice health, unprotected of disease, cure and palliatively care. Universally, an appraiser 2.4 billion folks at present living with a health

condition that may utility from rehabilitation.<sup>(3)</sup> The rehabilitation operations uses an interdisciplinary contingent of correctness aegis professionals to aid a person to arrived their optimal physical, psycho, sociable, vocational, and educational possibility constant with his or her aims and life.<sup>(4)</sup> in last 4 years a longitudinally study appraised the influence of illness and cure beliefs on the health outcomes of patients with temperament disturbance, anxious, fearing-related disturbance and strain linked disorders in neuron disease rehabilitation. they found that, even though we controlled for the elementary symptomatic encumbrance, illness and curing beliefs had a significant effect on rehabilitation outcomes in inpatient neurological disease rehabilitation in the investigated diagnosable<sup>(5)</sup>

According to universal study jointly advanced by the World Health Organization (WHO) and the academy for Health Metrics and assessment foreword in 2021, one third of the world's population were living with a health problems<sup>(6)</sup>. Globally, there was an augment of about 79.4% in the numeral of human living with disabilities between 1990 and 2021. The registered disability conditions were categorizes as musculoskeletal disruptions, neurological disruptions, sensory debilitation, mental disruptions, and others.<sup>(7)</sup> In the last time, massively research advertence has been reined towards android rehabilitation training advent, which have shown different benefits contrast to conventional manual rehabilitation cure<sup>(8)</sup> Notwithstanding recommendations, little have stated on qualitative improvement promptness to executet livelong of rehabilitation stay cairns, whereas active observation functional outcomes.<sup>(9)</sup> The European Frame of Rehabilitations ministrations incessantly upgrade according to fire-new and apparition service serviceable. Encompass the specifications of clinical appraisalment lists for each service sort and fettle studies delineation serving provision trans the spectrometry of rehabilitation service style, their enable the official reporting of passable outcomes ulterior according to national level and the continual enhancement of rehabilitation service adjudging<sup>(10)</sup>. While spire qualitatively methodical studies of rehabilitation costlier influences stems predominately from developed countries, studies from developing and least developing countries propose that the same is a right in these prepares.<sup>(11)</sup>

## 2. METHODS AND RESULT

Comparative descriptive study conducted in Sudan (Cheshire House, Ussratna, Sudan center and Sakena center) and Saudi Arabia rehabilitation centers (Shaqra, Almajmaa, Braidia and Riyadh). About 64 employees from Sudan rehabilitation centers while 67 from Saudi Arabia rehabilitation centers, participated in answering the questionnaire which contain information regarding outcomes of rehabilitation centers.

The "Cheshire " House for Rehabilitation of Children with Disabilities is one of the largest rehabilitation centers for disabled children in the state of Khartoum, one of the «250» international houses founded by Rolando Cheshire. The House receives at least 300 children each year from the state of Khartoum alone, as well as the rest of the various states of Sudan. The number of arrivals reaches 10 thousand children annually, located beside Abaid Khatem Street, east Kenana Company

Ussratna for childhood cerebral palsy rehabilitation center in Omdurman province at Al-Arda street east Alahfad University they receive all cases except Autism cases.

Sakena center locate North Abdelgaium gate at the entrance of Omdurman city near Koran Karem University established year 1985 receives all cases of Down Syndrome and those with mild to moderate disabilities. All services are available including transportation. Receive down syndrome and mild other cases for disabilities.

Sudan center for Down syndrome in east Nile locality (Algeraf sharg), they receive all cases for down syndrome and other mild cases for disabilities.

Shaqra (Saudi Arabia) rehabilitation center, which conceder the largest place in Alwasham province, center have six wings, receive all the disability persons from severe to mild.

Almajmaa province (Saudi Arabia) rehabilitation center, located in about 180 Km north Riyadh receive all the disability persons from severe to mild

Beraida (Saudi Arabia) rehabilitation center, is located in the middle eastern part of Al-Qassim area on the edge of Rumah valley about 200 Km west Almajmaa receive all the disability persons from severe to mild.

**Table: 1. Compare of outcomes according to types of disability**

Variable	Sudan 67					King Saudi Arabia 64				
	Variable %	V.Good	Good	Week	Non	Variable %	V.Good	Good	Week	Non
Hearing %	1.4%	0	0	1.4	0	26.1%	2.9	8.7	2.9	11.6
Visual	7.1%	0	2.9	1.4	2.9	29%	5.8	11.6	5.8	5.8
Speech	38.6%	0	2.7	18.5	17.4	79.6%	18.8	33.3	13	14.5
Sensory	20.1%	4.3	4.3	8.6	2.9	26.1%	2.9	8.7	2.9	11.6
Behavior	28.5%	1.4	7.1	8.6	11.4	55.1%	14.5	22.2	14.5	2.9
swallowing	30%	2.9	4.3	11.4	11.4	40.4%	14.4	13	7.2	5.8
Teething and gum	22.8%	1.4	7.1	11.4	2.9	63.7%	21.7	30.4	5.8	5.8
Constipation	25.5%	2.7	4.3	11.4	7.1	53.4%	18.8	17.4	10.1	7.1
Growth	37.1%	4.3	11.4	17.1	4.3	44.2%	4.3	11.4	17.1	11.4
Drooling	22.9%	1.4	8.6	8.6	4.3	47.8%	11.6	17.4	13.0	5.8
Chest infection	24.2%	5.7	5.7	7.1	5.7	51.0%	16.3	20.3	10.1	4.3
Otitis media	2.8%	1.4	0.0	0.0	1.4	3.4	1.8	0.8	0.0	0.8
Epilepsy	8.5%	1.4	5.7	1.4	0.0	77.3%	10.1	10.1	4.3	52.8
Learning	57.1	2.9	11.4	25.7	17.1	74.5%	8.7	30.6	17.8	17.4
Intellectual I	58.6%	0.0	8.6	22.9	27.1	68.1%	17.4	7.2	26.1	17.4
All disability	100%	15.8	17.1	60	7.1	100%	17.4	39.1	29.0	14.5

**Result:**

Disability outcomes in Sudan weekly, while in King Saudi Arabia outcomes is good.

**Table: 2. Mobility and body image outcome**

Variables	Sudan		Saudi Arabia		t-test	T-test p≤ 0.01(two tailed)
	Improved %	No improve %	Improved %	No improve %		
Movement	84.6	14.4	82.1	17.9	-.194	.847
Epilepsy	100	00	100	00	.000	1.000
Growth	70.5	29.5	75	25	-.767	.455

The table explained all cases suffering from epilepsy were improved in both countries, also the physical outcome better in Sudan than Saudi. There are no significant differences in mobility outcome.

**Table: 3. Nutritional balance outcome**

Variables	Sudan		Saudi Arabia		t-test	T-test p≤ 0.01(two tailed)
	Improved %	No improve %	Improved %	No improve %		
Gum & teething problems	100	--	95.5	4.5	-0.155	.877
Difficult to Swallowing	58.5	41.5	58.2	41.8	.707	.485
Nutritional problem	56.1	43.9	89.1	10.9	-14.488	.000

All children were improved their teething and gums problems in Sudan. There is significant deference regard nutritional outcome.

**Table: 4. Sensation outcome**

Variables	Sudan		Saudi Arabia		t-test	T-test p≤ 0.01(two tailed)
	Improved %	No improve %	Improved %	No improve %		
Visual problems	87.5	12.5	62.1	27.9	-3.730	.004
Speech problems	69.4	30.6	85.2	14.8	5.849	<b>.000</b>
Hearing problems	66.7	33.3	64.3	35.7	-.225	.823
Suffering from otitis media	66.7	33.3	33.3	66.7	12.771	.000

There are highly significant differences outcome regard visual, speech and otitis media. Preference towards Sudan.

**Table: 5. Elimination outcome**

Phrases	Sudan		Saudi Arabia		T test	
	Improved %	No improve %	Improved %	No improve %		
Constipation	68	32	91.2	8.8	1.378	.000
lack of urine control	48.6	51.4	75	25	8.533	.000

There are highly significant differences in outcome with regard constipation and lack of urine. Preference towards Sudan.

**Table 6: Pair samples: overall outcome**

		t	Sig. (2-tailed)
Pair 1	Sudan Saudi	0.3123	0.45

There are no significant differences regard outcome in Sudan and King Saudi Arabia

### 3. DISCUSSION

In this study I found there is improved outcome in King Saudi Arabia more than Sudan retain to the presence of the children in health centers with professional worker from different countries beside all services were available, but in Sudan the child remain with their families and peers has led to improved mental status that reflected on the matter, hearing and speech. The study presented the outcome of mobility in Sudan better than in King Saudi Arabia, there are many cases of children suffering from difficult to movement now better than before retain to Sudanese women demonstrate the same procedure done by the physiotherapist in rehabilitation center.<sup>(12)</sup> Feeding problems are frequent in children with cerebral palsy at all stages of their lives, especially in the first year of life, which leads to lack of child growth (height and weight). Most kids residents to Rehabilitation Center in King Saudi Arabia under the experts supervision and there is a large number of baby setters who brought children to dining halls and give them meals according to deadlines and types of diet which leads to improvement in diet and improve their growth.<sup>(13)</sup> The study presented there is improving nutritional and growth outcome in King Saudi Arabia, despite there is improving outcome in gum and teething problems in Sudan more than in King Saudi Arabia, this may be due to the fact that children in King Saudi Arabia eat large amounts of chocolate and less clean their teeth Sudanese mothers often missed information in the field of nutrition and treatment. The problems experienced by people with cerebral palsy and liquefied inability to control urine beside the other problems which are produced in many types of cerebral palsy severe or mild; I found there is improving outcome in elimination children in King Saudi Arabia better than Sudan. The study appeared problems in controlling saliva start at the beginning of their lives, which has lead to a recurrence of chest infection, which often have a companion for children who have continue trouble in swallowing. Also the intellectual disability and lack of education in the level of their mental abilities affecting their responses to various stimuli, they found the children in King Saudi Arabia well improving than children in Sudan.<sup>(14)</sup> last The outcome of rehabilitation center in King Saudi Arabia better than in Sudan.

### 4. CONCLUSION

- Disability outcomes in Sudan weekly, while in King Saudi Arabia outcomes is good. There is significant differences in outcome treatment patients in the rehabilitation centers in Sudan and in King Saudi Arabia.
- In Sudan the children improved totally from epileptic disease, gum and teething problems while in Saudi Arabia still having gums and teeth problems.

### 5. RECOMMENDATION

- Must establishing multidisciplinary rehabilitation centers and distributes them to cover all the countries in Sudan by ministry of health and social affairs.
- Develop exchanges on expertise between countries in field of rehabilitation by the ministry of health and social affairs.
- Conduct further studies in the field of rehabilitation and how to prevent children from cerebral palsy by ministry of post graduation study.
- Strengthen the weaken area of rehabilitation services (language and speech therapy) by more staff and regulation policies in both countries by ministry of health.
- Training staff, recruitment and skills development by ministry of health.

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