IMPACT OF COMMUNITY-BASED REHABILITATION PROGRAM (CENTRE-BASED CARE VS. HOME-BASED CARE) ON HEALTH OUTCOMES AMONG CHILDREN WITH DISABILITIES IN EAST COAST REGION ON PENINSULAR MALAYSIA

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Introduction

Community-based rehabilitation (CBR) is an implementable and necessary program to improve health outcomes of vast numbers of people with disabilities, including children.

In Malaysia, CBR was established since 1984 in Malaysia with two approaches: centre-based and home-based care (Department of Social Welfare Malaysia, 2023). The goals of therapy program frequently involved identification, maintaining and reducing the disorder, improving functioning ability and independence, assisting in overcoming barriers to play a full and appropriate social role, ameliorating the emotional and reduce physical burden (Olaogun et al., 2010).

However, measuring the impact of CBR on health outcomes are still questionable and lacking due to limited assessment tools available to assess the outcomes among children with disabilities.

Methodology

- Cross-sectional study design
- Compared health outcomes between centre-based vs. home-based care
- East Coast region: Pahang, Terengganu & Kelantan
- Barthel Index, DD-CGAS, HRQoL (EQ5D-3L)
- 297 children with disability
- Multi-stage sampling & universal sampling
- SPSS 23.0
  Median (IQR), Chi-square
  Mann-whitney

Discussion & Conclusion

All health outcomes measured showed improvement in centre-based care group as compared to home-based care group. The median EQ-5D-3L index score for centre-based care was higher compared to home-based care programme (0.83 vs. 0.53)

The health outcomes measured influenced by the duration of conducting activities, age, knowledge and skills of the caregivers and types of disability (Enderby et al., 2000; Jolly et al., 2015; Brown et al., 2014; Robertson et al. 2012).

Improvement in quality of life of child participated in centre-based care than home-based care in performing daily activity such as eating, talking and dressing.

Centre-based care had better impact on health outcomes compared to the home-based care.

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Results

Table 1: Socio-demographic characteristics of children with disability

Variables	Centre-based care (N= 160) Mean±SD or Frequency (%)	Home-based care (N= 137) Mean±SD or Frequency (%)	*t*-test or *Chi-square* test	P - value
Type of CBR	160(53.9)	137(46.1)		
Gender			$\chi^2 = 1.834$, df = 1	0.176
Female	60 (37.5)	62 (45.3)		
Male	100 (62.5)	75 (54.7)		
Age, years	8.64±3.75	11.85±4.37	$t = -6.723$	< 0.001*
0-12 years	131 (82)	72 (52.6)		
13-18 years	29 (18.2)	65 (47.4)		
Type of disability			$\chi^2 = 8.170$, df = 4	0.086
	1 (0.6)	1 (0.7)		
Hearing	3 (1.9)	2 (1.5)		
Visual	26 (16.3)	47 (34.3)		
Physical	35 (21.9)	20 (14.6)		
Learning	95 (59.4)	67 (48.9)		
Multiple				

*significant value at $p \leq 0.05$, df = degree of freedom

Table 2: Socio-demographic characteristics of parents and caregivers' of children with disability

Variables	Centre-based care (N = 160) Mean±SD or Frequency (%)	Home-based care (N = 137) Mean±SD or Frequency (%)	t-test or Chi-square test	P- value
Type of guidance			$\chi^2 = 3.037$, df = 1	0.081
Parents	159 (99.4)	131 (95.6)		
Caregivers	1 (0.6)	6 (4.4)		
States			$\chi^2 = 9.542$, df = 2	0.008*
Pahang	51 (31.9)	23 (16.8)		
Terengganu	50 (31.3)	58 (42.3)		
Kelantan	59 (36.9)	56 (40.9)		
Age, years	41.08±8.91	43.11±9.89	$t = -1.864$	0.063
20 – 30 years	23 (14.4)	11 (8.1)		
31 – 40 years	50 (31.4)	48 (35.0)		
41 – 50 years	64 (40.2)	49 (35.6)		
51 – 60 years	22 (13.7)	17 (12.4)		
> 60 years	1 (0.6)	12 (8.7)		
Ethics			Fisher's Exact test = 1.397	0.378
Malay	156 (97.5)	136 (99.3)		
Others	4 (2.5)	1 (0.7)		
Education levels			$\chi^2 = 17.775$, df = 2	0.002*
Not attend school	0	7 (5.1)		
Primary school	20 (12.5)	17 (12.4)		
Secondary school	121 (75.6)	83 (60.6)		
College or university	19 (11.9)	30 (21.9)		
Occupation fields			$\chi^2 = 28.471$, df = 6	< 0.001*
Professional	16 (10.0)	16 (11.7)		
Managerial	4 (2.5)	3 (2.2)		
Support	16 (10.0)	33 (24.1)		
Own business	23 (14.4)	11 (8.0)		
Unemployed	6 (3.8)	13 (9.5)		
Housewife	95 (59.4)	56 (40.9)		
Pension	0	5 (3.6)		
Monthly household income, RM			$\chi^2 = 82.04$, df = 47	0.001*
< 5,000	152 (95.0)	131 (95.5)		
5,001 – 10,000	6 (4.0)	5 (3.6)		
> 10,0001	2 (1.0)	1 (0.7)		
Source of income			$\chi^2 = 20.973$, df = 5	0.001*
Salary	128 (80.0)	106 (77.4)		
Pension	3 (1.9)	8 (5.8)		
Children	6 (3.8)	3 (2.2)		
Social welfare services	2 (1.3)	10 (7.3)		
NGO/religious bodies	0	3 (2.2)		
Others	21 (13.1)	7 (5.1)		

*Significant level at p – value < 0.05, df = degree of freedom.

Table 3: Comparison of Barthel Index Score categories between groups

Barthel Index	Categories	Centre-based (N = 160) Frequency (%)	Home-based (N = 137) Frequency (%)	χ^2 value	P value
Pre- score	Very severe	26 (16.3)	57 (41.6)	31.108, df = 4	< 0.001*
	Severe	26 (16.3)	29 (21.2)		
	Moderate	55 (34.4)	29 (21.2)		
	Mild	29 (18.0)	13 (10.0)		
	Independent	24 (15.0)	9 (6.6)		
Post- score	Very severe	23 (14.4)	56 (40.9)	34.630, df = 4	< 0.001*
	Severe	27 (16.9)	30 (21.9)		
	Moderate	56 (35.0)	29 (21.1)		
	Mild	26 (16.2)	12 (8.8)		
	Independent	28 (17.5)	10 (7.3)		

*Significant at $p \leq 0.05$

Table 4: Comparison of total pre-score and post-score of Barthel Index assessment between groups

Table 4.13 Comparison of total pre-score and post-score of Barthel Index assessment between groups

Barthel Index assessment	CBR programme: Centre-based Median (IQR)	CBR programme: Home-based Median (IQR)	*Z*-value	*P*-value
Pre-score	12.00 (9)	7.00 (12)	-5.527	<0.001*
Post-score	12.00 (10)	8.00 (12)	-5.606	< 0.001*

*Significant value at $p \leq 0.05$

Table 5: Comparison of total Developmental Disability–Children Global Assessment Scale (DD-CGAS) scores between CBR groups

Variables	Centre-based care (N = 160) Median(IQR)	Home-based care (N = 137) Median(IQR)	Mann Whitney, Z	P-value
DD-CGAS Functioning Score	6..00 (3)[a]	8.00 (1)[b]	-6.071	< 0.001*
DD-CGAS level of impairment score	3.00 (1)[c]	4.00 (0)[d]	-5.246	< 0.001*

a =moderate impairment score, b = severe impairment score.

c = moderate level of impairment, d = severe level of impairment

Table 6: Health Related Quality of Life (EQ-5D) scores between centre-based and home-based

Variables	Median (IQR) Centre-based care	Median (IQR) Home-based care	Mann Whitney Test, Z	P-value
EQ-5D utility score	0.83 (0.32)	0.53 (0.39)	-7.894	< 0.001*
EQ-5D VAS	80.00 (20)	70.00 (20)	-4.454	< 0.001*
QALY	60.52 (21.39)	38.78 (31.20)	-7.623	< 0.001*

*Significant level at $p \leq 0.05$

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