

The strain among caregivers of children with disabilities at the community-based rehabilitation centres in Kudat division of Sabah, Malaysia

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ABSTRACT

Introduction: The prevalence of children with disabilities (CWD) is increasing. CWD requires exceptional long-term attention, which often falls on the caregivers. Caring for a CWD affects caregivers in multiple ways, such as physical, social, personal, and financial aspects. Most of the CWD will be cared in Community-Based Rehabilitation (CBR) centres where the caregivers have to play a crucial role as they become partners in the respective service delivery. However, there is still insufficient information on the impact (strain) of a disabled child on the caregivers in the CBR centre in the Kudat division of Sabah, Malaysia specifically. Hence, this study aims to explore the strains among caregivers of CWD at the CBR centre in the Kudat.

Materials and Methods: A cross-sectional study through a purposive sampling method was employed, involving 142 caregivers of CWD at the selected CBR centre. Four CBR centres were selected in this study, which were located in the Kudat division of Sabah. The Malay version of the Modified Caregiver Strain Index Questionnaire (M-CSI-M) was used in this study to obtain information about the caregiver's strain.

Results: Findings from this study revealed that most caregivers experienced moderate strain (72.5%). Some of the leading causes of their strain were upsetting CWD's behaviour (10.6%), financial strain (9.2%), and overwhelmed (9.2%). In addition, there were significant differences between caregiver strain and their level of education, income, and the types of their child's disabilities ($p \leq 0.05$).

Conclusion: The well-being of the caregivers may significantly impact the effectiveness of rehabilitation for CWD, as caregivers are vital interdisciplinary team members.

KEYWORDS:

Strain, caregiver, children with disabilities, community-based rehabilitation

INTRODUCTION

Currently, the exact number of children with disabilities (CWD) in Malaysia are unavailable.¹ However, in August 2015, the registered number of Malaysians with disabilities

registered with the Department of Social Welfare Malaysia was 351,114 which is 1.13% of the total population in Malaysia based on voluntary registration.² Within these numbers, CWD are registered under seven categories of disabilities in Community-Based Rehabilitation (CBR) centres throughout Malaysia. These are disabilities involving hearing, visual, physical, learning, mental, speech and multiple disabilities.

Over time, the caregiver of a CWD may often be affected by physical and psychological health problems due to strain overload. As defined, a caregiver is a person who has full responsibility for the care of the recipient which requires significant physical or mental support to manage the daily routine for those children in the CBR Centre.³ As a result, their day-to-day lives may face challenges, and they may need to make adjustments to be able to attend sessions at the local centre. In addition, the caregiver is responsible for fulfilling the physical and mental well-being of the individual under their care; at some point, they may need to coordinate formal and informal community support while keeping things in the family in check.⁴

The word strain is often used interchangeably by caregivers to constitute the dimension of their physical, mental, and financial well-being, which leads to compromising their role in family and society. In general, caregiver strain (also referred to as 'burden' in caregiving parlance) can be defined as the extent to which caregivers perceive that their emotional health, physical health, social life, and financial status have suffered as a result of providing care to the care recipient.⁵ Studies have shown a marked increase among caregivers regarding stress and feelings of isolation, financial difficulties, relationship breakdown, and physical complaints.

These negative consequences are thought to be attributable to the physical (e.g., lifting the person with a disability), financial (dual income versus single, unbearable medical cost), and emotional challenges that disability caregiving can experience.⁶

Current evidence suggests that caregivers may be at increased risk of experiencing musculoskeletal symptoms and injury due to repetitive strains. In a study of rural, informal

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caregivers, described physical symptoms such as fatigue, backache, and headache attributable to their activities as caregiving.⁷ CWD's medical and childcare costs are also higher than children without disabilities.⁸ Additionally, studies have indicated significant elevations in marital distress and divorce rates among couples with CWD compared to couples with normal developing children.⁹ Up to 84% of families raising CWD experienced stress due to the daily needs of their children, which may lead to parental caregiver burden.¹⁰ All the challenges above refer to the objective and subjective strain experienced by caregivers related to the difficulty they encounter because of care recipient status.

Caregiving activity demands are often referred to as "caregiver burdens" in the literature.¹¹ Thus, it is essential to increase recognition of the potential for caregiver strain to identify and, if possible, avert it. In context of Sabah state in East Malaysia, it faces variable challenges as urbanization is scattered, and exploring these challenges will add a new perspective to an occupational therapist.

To date, the impact of a disabled child on the caregiver's sense of strain in the CBR centre in the Kudat division of Sabah, Malaysia remains a relatively unexplored. This may be due to the fact that the application of the medical model is still the predominant practice among professionals in Malaysia. Due to much focus only on the clients, the well-being of the caregivers is often side-lined. Presently, client-centred practice is advocated as an essential aspect of rehabilitation, and caregivers are a crucial part of the interdisciplinary team. Thus, the well-being of caregivers is important to explore to enhance their effective participation as a team player in rehabilitation for CWD. Therefore, this study aims to explore the strains among caregivers of CWD at the CBR centres in the Kudat division of Sabah.

MATERIALS AND METHODS

Design

This study is a cross-sectional design using a self-rated questionnaire to explore caregiver strains. A cross-sectional design is best suited to this study's aims.¹²

Samples

In all 142 caregivers participated in this study. Participants were sampled for selection using the purposive sampling method, which includes caregivers of CWD who participated in centre-based and centre-home-based programmes, caregivers who have children with any disability aged below 18 years old, and the caregivers living with the child. While the caregivers of CWD who have been identified to be enrolled in special education schools or mainstream schools were excluded. Exclusion was also extended caregivers who are participating in CBR's home-based programme only.

Informed consent was obtained from participant's who met the inclusion criteria during their sessions at the respective CBR centres. The CBR centres that were involved are PDK Kudat, PDK Matunggun, PDK Kota Marudu, and PDK Pitas.

Data Collection Procedure

This research was conducted after potential participants were approached either during their arrival at the CBR centre or during their child's end of the session that day. Participants were required to sign consent forms to acknowledge that they understood the procedures and agreed to participate in the study. The procedure of using the questionnaire was explained to each participant prior to the study. Once consent has been obtained, participants needed to fill in the necessary demographic data consisting of eight questions: caregivers' age, gender, number of children, level of education, working status, average income, children's age, and types of disabilities.

The Malay-Translated Version of the Modified Caregivers Strain Index Questionnaire (M-CSI-M) was used in this study with permission from the primary author. The M-CSI-M had been concluded to have the correct face and content material validity.¹² It also had accurate interior coherence reliability, as proven by using Cronbach's alpha (0.75). Therefore, with good internal consistency and reliability, M-CSI-M could be a better choice to assess the strain level experienced by informal care providers in the population of Malaysia. The tool has 13 questions that measure strain related to care provision. There is at least one item for each of the following major domains: financial, physical, psychological, social, and personal. Previous literature identified 13 potential stressors that became the basis for the questionnaire: sleep disturbance (Q1), inconvenience (Q2), physical strain (Q3), confinement (Q4), family adjustments (Q5), changes in personal plans (Q6), competing demands on time (Q7), emotional adjustments (Q8), upsetting behaviour (Q9), the parent or child seems to be a different person (Q10), work adjustments (Q11), financial strain (Q12), and feelings of being overwhelmed (Q13).

The response to 13 items of the M-CSI-M, where the statements receive a numeric score of "yes" on a regular basis, is 2; "yes" sometimes is 1; and "no" is 0. A total score where 0 indicates no caregiving strain, and 26 indicates the extreme tension of caregiving strain. However, the midpoint of the M-CSI-M was chosen as a cut point to define the levels of strain based on a previous study done where > 13 total score indicates a higher level of strain and < 13 indicates a moderate level of strain.¹⁴

Data Analysis

The Statistical Package for the Social Science (SPSS) version 21 was used to analyse the data collected from the self-report questionnaire by the parents. Using descriptive analysis, the sociodemographic data and M-SCI-M score were examined. The difference between caregiver strain and sociodemographic variable (level of education, income, and the types of their child's disabilities) was analysed using the ANOVA test.

RESULTS

The demographic information about the characteristics of the CWD caregiver is presented in Table I. There were more females (n = 87, 61.3%) than males (n = 55, 38.7%). Most participants were around 50–59 years old (n = 40, 28.2%),

followed by 40–49 years old ($n = 39$, 27.5%) and above 60 years old ($n = 11$, 7.7%). Most participants had lower secondary-level education ($n = 67$, 47.2%). This was followed by primary school level ($n = 34$, 23.9%), bachelor's or higher degree ($n = 7$, 4.9%), and higher secondary school education ($n = 6$, 4.2%). 28 (19.7%) of the participants had no formal education. With respect to their employment status, most participants were unemployed ($n = 64$, 45.1%), followed by self-employed ($n = 62$, 43.7%). There were only 16 (11.3%) participants who were public servants. However, none employed participants were from the corporate or private sector.

For average income, most of the participants earned less than RM1000 per month ($n = 56$, 39.4%). There were 51 (35.9%) participants with no income. Only 5 (3.5%) of them earned RM3001 or more. The number of children among the participants was explored in this study. There are 21 (14.8%) participants who have 2 or fewer children, 70 (49.3%) participants have 3–4 children, and 51 (35.6%) participants have more than 4 children. The demographics of the participant's special needs children were also analyzed. The children's age range between 7 and 12 years old was found to be the highest ($n = 60$, 42.3%), followed by the age range from 13 to 18 years old ($n = 48$, 33.8%). The lowest range was from 1–6 years old ($n = 34$, 23.9%). The findings show that learning disabilities constitute the highest types of disabilities ($n = 106$, 74.6%), followed by physical disabilities ($n = 17$, 12.0%). There are 9 (6.3%) children with multiple disabilities, 5 (3.5%) children with speaking disabilities, 3 (2.1%) children with hearing disabilities, and 2 (1.4%) children with mental disabilities.

Table II shows the descriptive analysis of the results of the study measures. This study found that the majority of the participants showed moderate strain ($n = 103$, 72.5%), and 16 (11.3%) participants were experiencing high strain, while 23 (16.2%) of them had no strain

The descriptive analysis of statements in M-CSI-M is shown in Table III. Among the negative statements that have most affected the caregiver level of strain, which was denoted with the "yes, on a regular basis" column, were Q9 related to upsetting behaviour ($n = 15$, 10.6%). 13 (9.2%) agreed with Q12 statement that caring for CWD will cause them financial strain. Besides, 13 (9.2%) participants agreed they felt completely overwhelmed (Q13). However, the negative statements of M-CSI-M, which were frequently denoted by "no", were questions related to physical strain (Q3), with agreement of 106 (74.6%) of them. 103 (72.5%) participants disagreed that they were going through family adjustment (Q5). 103 (72.5%) of the participants did not agree with the statement that the child seemed to be a different person (Q10). On Q11, 102 (71.8%) of the participants did not agree with the statement that they have to go through work adjustments.

In order to understand the results of the M-SCI-M scores, it was imperative to identify factors that could have contributed to the levels of strain. Therefore, an independent t-test and one-way between-groups analysis

of variance is also being conducted to the significant differences between the mean score of M-CSI-M and demographic variables. The result shows a significant difference between caregiver strain and their level of education ($p < 0.05$, $F = 5.753$, $p = 0.000$), income ($p < 0.05$, $F = 3.726$, $p = 0.013$), and the types of their child's disabilities ($p < 0.05$, $F = 6.277$, $p = 0.000$), as shown in Table IV. However, the data shows there is no significant difference in the level of strain of caregivers with categorical caregiver age, gender, number of children, working status, and their children's categorical age since the p-value more than 0.05, which emphasized that they are not an influencing factor that may raise the level of strain.

DISCUSSION

As far as we know, this is the first study to investigate the impact of a disabled child on the sense of strain of caregivers in the CBR centres in the Kudat division of Sabah. The research investigated caregiver strain among 142 participants who care for children with disabilities (CWD) from 1 to 18 years old, with learning disabilities constituting the highest frequency, followed by physical disabilities. CIC supported the high prevalence of learning disabilities in CBR, indicating that learning disabilities are a category with the highest number of registered people with disabilities, followed by physical disabilities.^{2,15} The Social Welfare Department of Malaysia defines learning disabilities as intellectual capabilities that do not conform with biological age, such as late global development, Down syndrome, intellectual disabilities, autistic spectrum disorder, attention deficit hyperactivity disorder (ADHD), and specific learning difficulties (dyslexia, dyscalculia, and dysgraphia) hence contributing to the high number of registrations.¹

This study reflects similarities to a few articles that found women were more involved in childcare than men.^{16,17} Some studies have supported that female figures predominated in the caregiver's role among CWD as culturally childrearing is viewed as a female-defined role.^{18,19}

Zarit Burden Interview (ZBI) detected most caregivers in this study were experiencing moderate levels of strain, which concurs with findings from Barros and fellow researchers.²⁰ The vast majority of participants were above 40 years old. The age similarities of these primary caregivers in both studies could influence this agreement. This age range is known as middle adulthood. The awareness of ageing-related physical changes, chronic illnesses, and health issues that come with middle adulthood could make caregiving more difficult. This stage of life also brings time restrictions and health concerns, particularly when caring for CWD.^{21,22} However, the results of this study contradict a study's finding that most of their caregivers had no strain.²³ The later study reveals that most CWD in this respective study was within the mild and moderate severity levels, indicating the child is considered independent with or without assistance. Since an essential aspect of the caregiver's strain is the demands of caring, the decrease in child severity level will reduce the caregiving demand in daily routine management. Thus, indirectly lowers strain among these caregivers.²⁴ On saying this, our study could not argue further on the severity aspects

Table I: Descriptive analysis of the characteristics of the CWD caregiver

Variables	N	%
Carer's age		
20-34 years old	20	14.4
35-39 years old	32	22.5
40-49 years old	39	27.5
50-59 years old	40	28.2
Above 60 years old	11	7.7
Carer's gender		
Male	55	38.7
Female	87	61.3
Number of children		
Less than 2 children	21	14.8
2-4 children	70	49.3
More than 4 children	51	35.6
Education level		
Not schooling	28	19.7
Ujian Pencapaian Sekolah Rendah (UPSR)	34	23.9
Sijil Rendah Pelajaran (SRP)/ Penilaian Menengah Rendah (PMR)	20	14.1
Sijil Pelajaran Malaysia (SPM)	47	33.1
Sijil Tinggi Pelajaran Malaysia (STPM)/ Matrikulasi/ Diploma	6	4.2
Bachelor's degree or higher	7	4.9
Working status		
Unemployed	64	45.1
Self-employed	62	43.7
Public servant	16	11.3
Corporate/ private sector	0	0
Average income		
No income	51	35.9
Under RM1,000	56	39.4
RM1,001 - RM3,000	30	21.1
Exceeds RM3,001	5	3.5
Child age		
1-6 years old	34	23.9
7-12 years old	60	42.3
13-18 years old	48	33.8
Disabilities categories		
Hearing disabilities	3	2.1
Speaking disabilities	5	3.5
Physical disabilities	17	12.0
Learning disabilities	106	74.6
Mental disabilities	2	1.4
Multiple disabilities	9	6.3

Table II: Descriptive analysis of the study measure scores of CWD caregiver

Variables	Mean	Std. Deviation
Total score of M-CSI-M	5.41	5.290
Level of strain/ cut score	n	%
No strain (0)	23	16.2
Modetate strain (<13)	103	72.5
High strain (>13)	16	11.3

of CWD as the data available for us was not able to specify this feature.

Thirteen potential stressors became the basis for the questionnaire based on their major domains.¹³ The negative statements that most affected the caregiver's high strain level were related to upsetting behaviour. Upset feelings are one of the highest sources of caregiver strain. Such findings could be due to the coping strategies of caregivers related to the numerous difficulties associated with their disabled child.²⁵ This includes significant challenges in communication and

learning, the need to be vigilant about and manage behaviour continually, the extra caregiving needs due to the lack of self-care skills of the children and ongoing dependency needs, the ongoing need to advocate on behalf of the child, particularly with schools and mental health and social agencies, ongoing concerns about their children's uneven developmental progress, worry about their children's future for independent living, and stigmatization from society. The right coping strategies might buffer the impact of caregiver strain.²⁶

Table III: Descriptive analysis of distribution of responses from caregiver to statements in M-CSI-M test

Questions	Yes, On a Regular Basis n (%)	Yes, Sometime n (%)	No n(%)	%
My sleep is disturbed (For example: the person I care for is in and out of bed or wanders around at night)	11 (7.7)	48 (33.8)	83 (58.5)	58.5
Caregiving is inconvenient (For example: helping takes so much time or it's a long drive over to help)	11 (7.7)	41 (28.9)	90 (63.4)	63.4
Caregiving is a physical strain (For example: lifting in or out of a chair; effort or concentration is required)	9 (6.3)	27 (19.0)	106 (74.6)	74.6
Caregiving is confining (For example: helping restricts free time or I cannot go visiting)	8 (5.6)	42 (29.6)	92 (64.8)	64.8
There have been family adjustments (For example: helping has disrupted my routine; there is no privacy)	4 (2.8)	35 (24.6)	103 (72.5)	72.5
There have been changes in personal plans (For example: I had to turn down a job; I could not go on vacation)	11 (7.7)	32 (22.5)	99 (69.7)	69.7
There have been other demands on my time (For example: other family members need me)	8 (5.6)	42 (29.6)	92 (64.8)	64.8
There have been emotional adjustments (For example: severe arguments about caregiving))	4 (2.8)	48 (33.8)	90 (63.4)	63.4
Some behaviour is upsetting (For example: incontinence; the person cared for has trouble remembering things; or the person I care for accuses people of taking things))	15 (10.6)	36 (25.4)	91 (64.1)	64.1
It is upsetting to find the person I care for has changed so much from his/her former self (For example: he/she is a different person than he/she used to be)	7 (4.9)	32 (22.5)	103 (72.5)	72.5
There have been work adjustments (For example: I have to take time off for caregiving duties)	11 (7.7)	29 (20.4)	102 (71.8)	71.8
Caregiving is a financial strain	13 (9.2)	48 (33.8)	81 (57.0)	
I feel completely overwhelmed (For example: I worry about the person I care for; I have concerns about how I will manage)	13 (9.2)	58 (40.8)	71 (50.0)	

The second negative statement perceived by caregivers was that it would cause them financial strain, which reflects similarity to previous findings indicating that families caring for disabled children are likely to experience more financial burden than families who have non-disabled children.⁸ This hinders access to the CBR centre since children may impose direct costs on families for medical care, transportation, and parental labour market activity. The distance between their home and the CBR centre with no systematic transportation requires exceptional care from the parent. Parents might consider reducing working hours or leaving the job to meet the needs of their children. The burden on rural residents might rise due to poverty and less access to formal and informal support.²⁷ The lack of rehabilitation facilities in rural areas and a public transport system that does not cater to the needs of disabled people pose an additional burden for these caregivers as they have to travel frequently and spend more on transportation fares for routine therapy sessions. The interior areas of Sabah were known to be one of the areas with greater challenges accessing CBR services due to logistical and financial constraints.

Thirdly, participants agreed they felt completely overwhelmed. One explanation for this could be that they had too little time to complete daily tasks and were worried that they were not meeting the needs of their other family members. The caregivers may be ill-prepared for their role and provide care with little or no support, which could also lead to burnout. Overwhelming can be defined as burnout experienced by caregivers.²⁸ They stated that many caregivers needed more control over their daily activities to meet the recipient's demands. Furthermore, the findings of this study indicate a significant difference in the mean score of M-CSI-

M about participants' educational levels. These results are consistent with findings, who found that their participants with a higher educational level were more likely to experience high strain.²⁹ Since educated caregivers have higher expectations for their families, they experience greater distress when their child's developmental concerns disrupt work, finances, and relationships. A common viewpoint will expect that a high salary often accompanies higher education, so spending more hours at work and fewer at home makes economic sense.³⁰ It is expensive to replace working time with childcare time, which may increase the strain on their caregiving role.

This study also shows a significant difference in the mean score of M-CSI-M about the participant's average income. These findings are per previous studies where in caregiving, the carers' abilities to provide for their own emotional, personal, physical, social, and financial needs by using their savings or income are seriously compromised.³¹ Exceptional levels of care for CWD force income to be spent on the child's needs rather than caregivers, for example, medical care, transportation, adaptive equipment, and others that may influence dissatisfaction feelings. This negative feeling or parenting stress due to overinvestment of time and money in the child's care, coupled with the low contribution to the household's finances, reduces the families' budgetary resources and impairs the caregivers' social and personal needs.³²

Lastly, this study also indicates a significant difference in the mean score of M-CSI-M concerning the child types of disabilities. The mean M-SCI-M scores about their child's types of disabilities are as follows: the highest mean score

Table IV: The significant difference between CWD caregiver strain and their demographic variable.

Items	Mean	Standard Deviation	F	Sig.
Level of education				
Not schooling	4.29	4.108	5.753	0.000*
Ujian Pencapaian Sekolah Rendah (UPSR)	6.35	5.559		
Sijil Rendah Pelajaran (SRP)/ Penilaian Menengah Rendah (PMR)	2.80	2,668		
Sijil Pelajaran Malaysia (SPM)	5.19	5.265		
Sijil Tinggi Pelajaran Malaysia (STPM)/ Matrikulasi/ Diploma	6.00	3.578		
Bachelor's degree or higher	13.71	7.158		
Income				
No income	3.92	3.799	3.726	0.013*
Under RM1000	5.96	5.336		
RM1000 – RM3000	5.97	5.887		
Exceed RM3000	11.00	9.460		
Types of disabilities				
Hearing disabilities	2.50	1.732	6.277	0.000*
Speaking disabilities	2.00	3.082		
Physical disabilities	6.08	4.551		
Learning disabilities	5.45	5.116		
Mental disabilities	9.33	1.528		
Multiple disabilities	10.65	4.931		
Caregivers age				
20 – 34 years old	4.95	4.383	0.434	0.957
35 – 39 years old	4.47	5.249		
40 – 49 years old	6.41	6.095		
50 – 59 years old	5.85	5.284		
Above 60 years old	3.82	3.459		
Number of children				
Less than 2 children	5.33	6.011	0.372	0.996
2-4 children	4.84	4.554		
More than 4 children	6.22	5.893		
Working status				
Unemployed	5.03	5.249	0.051	3.041
Self-employed	5.02	4.363		
Public servant	8.44	7.677		
Child's age				
0 - 6 years old	5.20	4.732	0.183	1.712
7 – 12 years old	6.85	5.084		
13 – 18 years old	5.76	5.821		
Caregivers genders				
Male	5.42	5.043	0.341	0.986
Female	5.40	5.470		

Difference; (p<0.05) statistical test;ANOVA

represented multiple disabilities, and the lowest score was for speaking disabilities. These results agree with other studies that underlined that the mean score of total caregiver burden was highest in children with multiple disabilities, followed by mental and physical disabilities.³³ On the contrary, previous study results showed that the type of child's disability did not affect the caregiver's level of burden.¹⁸ They concluded that dyslexia and cerebral palsy tend to have the highest burdens. This could be because dealing with both physical and behavioural problems encountered by CWD presents more challenges than when the caregiver has to deal with only one pathological condition. Children with multiple disabilities may have impairments in cognition, motor, and sensory functions in combination with each other.³⁴ Many of these young children struggle to communicate their wants and needs, to freely move their bodies to access and engage their world, and to learn abstract concepts and ideas. The intensity of their needs means that delays are likely to have a pervasive impact on the child's development and continue impacting the family and the child well beyond the early

childhood years. Strains significantly exist for caregivers who assist with each type of disability. Besides, caregivers of children with speaking disabilities tend to have fewer burdens, which might be because most of these children don't have other comorbidities. Furthermore, the application and use of sign language can restore their ability to participate and communicate effectively in their daily school and community routines.

There was some limitation to this study. Thoughtful consideration should be given in viewing our findings. Our Sample size was restricted to the Kudat division, limiting the real representation of targeted populations. In the bigger picture, this may constitute skewed data at the national level in response to CBR enrolment or healthcare services. Some important variable moderators could not be gathered, such as functional status and severity of CWD; thus, the child aspects leading to the strain among caregivers remain ambiguous.

CONCLUSION

The study utilized the M-CSI-M to identify strain differences based on caregiver demographics, including education, income, and type of disability, with targeted samples of caregivers of children with disabilities (CWD) in the Kudat division of Sabah. It is found that they have a moderate strain with three main causes: upsetting behaviour, financial strain, and feeling overwhelmed. As caregivers are part of a multidisciplinary team, extending healthcare consideration to CWDs and their caregivers is important. The authors suggest implementing life skills training programs involving healthcare professionals such as occupational therapists. A life skill training programme generally contains assertiveness training, interpersonal skills, social participation skills, communication skills, and so on. In addition, it typically will help in developing coping skills. Such support could enhance these caregiver's quality of life. Educating rehabilitation workers and managers of CBR resources is also an important aspect. They must be aware of factors that might positively or negatively affect caregivers' participation in CBR. Overall, this study provides an initial exploration of strains among caregivers of CWD at the CBR centres of East Malaysia. It serves as a starting point for future research that explores the caregiver strain among caregivers of disabled children. Future research should examine CWD's caregivers and specify conditions (autism, cerebral palsy and etc) for better generalization.

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ETHICS APPROVAL AND INFORMED CONSENT

Ethical approval was granted by the University Technology Mara (UiTM) Research Ethics Committee (Ref. Number: 600-IRMI (5/1/6)). Permission from the Social Welfare Department to conduct this study at a selected CBR centre was obtained. (Reference letter: JKMM 100/12/5/2: 2019/152).

CONFLICT OF INTEREST

The authors declare that they have no competing interests

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