

Carer Burden and Burnout in Relation to Behavioral and Emotional Problems in Children's Homes

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Abstract

Introduction: Carers in children's homes encounter challenges in dealing with the children's behavioural and emotional problems. This may lead to burden and burnout among carers. **Aim:** The objectives of this study were to determine the burden and burnout among carers in selected children's homes. The correlation between them and the children's behavioural and emotional problems were measured. **Method:** This was a comparative cross-sectional study among 3 governments' (40 carers) and 11 private children's homes (40 carers) in Kuala Lumpur, Selangor and Pahang. Assessments were carried out using the Maslach Burnout Inventory-General Survey (MBI-GS), Zarit Burden Interview (ZBI) for the carers and Strength and Difficulties Questionnaire (SDQ) for the children. **Result:** Carers at both types of homes showed high levels of burnout. Majority of the carers from both types of homes had a mild to moderate burden of 52.5% government and 47.5% for private homes. Carers at government children's homes showed moderate to severe burden at 15% compared to private children's homes at 5% ($p = 0.226$). Children at government homes had more behavioural problems. Carers at government homes showed significant association but a low correlation of cynicism with total difficulties, exhaustion and cynicism with conduct problems. Carers at private homes showed a significant association but a low correlation of decreased sense of personal efficacy with total difficulties, conduct problems and exhaustion with low prosocial behaviour. There was a significant association but a low correlation of burden with total difficulties and emotional problems in private homes. Simple logistic regression on association of children's behavioral and emotional problems with carer's burden and burnout did not reveal significant findings. **Conclusion:** Carer's burden and burnout levels are high in children's homes even though they were not significantly contrib-

uted by the children's behavioural and emotional problems.

Keywords

Burden, Burnout, Carers, Behavioural Problems, Emotional Problems, Children, Children's Home

Highlights:

- The study examined the burden and burnout among carers in relation to the children's behavioural and emotional problems raised in selected government and private children's homes in Peninsular Malaysia.
- Many carers experienced burdens and high levels of burnout.
- There were more behavioural and emotional problems in government children's homes.

Burden and burnout among carers were not significantly contributed by the children's behavioural and emotional problems.

1. Introduction

Residential care children are children whose care has been arranged by the Social Welfare Department to be provided in the setting of a children's home (Abd Rahman et al., 2013). Many children in children's homes are not orphans but usually come from poor families or single mothers and they came from backgrounds of abuse and neglect, family dysfunction, disability, parental illness and disability, low income, at risk of significant harm, absconding behaviour, challenging behaviour, placement breakdown, beyond parental control and criminal offences (Richardson et al., 2003).

Behavioral and emotional problems have been described in previous studies (Kaur et al., 2018; Abd Rahman et al., 2013; Khurshaid et al., 2018). There was a high rate of mental health problems, specifically those emotional in nature namely depression, anxiety (Fawzy & Fouad, 2010; Sahad et al., 2018) and behavioural problems (Khurshaid et al., 2018). Studies among adolescents living in orphanages found a high prevalence of stress (Mohammadzadeh et al., 2018) and a high burden of behavioral problems with the highest prevalence of conduct problems followed by emotional problems, peer problems, hyperactivity, and lack of prosocial behaviours (Khurshaid et al., 2018). Exposure to diverse psychological problems such as experiencing a lot of anxiety, feeling pain, fears, loneliness, emotional shock, discomfort in body or mind, and exposure to extremely distressing experiences produce long-lasting effects on behavior and emotional development of these children (Alem, 2020). Children residing in institutions that provided minimal caregiver-child interactions displayed delayed cognitive and social-emotional development (McCall et al., 2019). Emotional problems are associated with an increased risk of adult mental illness (Fawzy & Fouad, 2010) and are significant predictors of decision-making among orphan adolescents (Shafiq et al., 2020).

The caregiver role is associated with burden and burnout due to the demand of the job. Burnout is most likely to occur when there is an imbalance between one's internal resources and the expectations placed on them. When emotionally drained, the staffs are no longer able to give anything of themselves while feeling detached (depersonalization) and incompetent (reduced personal sense of accomplishment) (Maslach, 1986). A previous study among carers in children's homes found high levels of psychological distress and burnout (Siti Halimatul Saadiah, 2016; Sochos & Aljasas, 2021); however, (Allday et al., 2020) found contradicting findings of low depersonalisation and high professional efficacy.

Carer burden is originally referred to as the physical, emotional, social and financial hardship associated with caregiving for an ailing or an elderly family member (Zarit et al., 1980). Carers at orphanages reported high levels of caregiving burden. Feelings of stress, inadequacy concerning their care responsibilities and anger towards the child were common (Kidman & Thurman, 2014). Care for a dependent child like an orphan includes tending to their medical, financial and emotional needs and these special needs would amplify demands on the carer (Awad & Voruganti, 2008) and hence may lead to burden.

Inappropriate behavior of the child (Cadman et al., 2012) and the child's hyperactivity had the strongest association with burden (Javalkar et al., 2017). This is consistent with literature showing that behavioral problems may contribute to caregiver burden (Klassen et al., 2002). Child's low self-efficacy also served as a risk factor for carer burden (Javalkar et al., 2017).

This study aimed to determine the burden and burnout among carers in relation to behavioural and emotional problems in children raised in selected government and private children's homes. We hypothesize that more child behavioural and emotional problems are associated with higher carer burden and burnout levels.

2. Literature Review

There is limited research regarding mental health problems in children who were raised in an institution in developing countries. A study carried out in a conventional orphanage in Dhaka city, Bangladesh observed that in an orphanage setting children's emotional and behavioural status worsen and even in well-run institutes children develop a range of negative behaviour including aggression and indiscriminate affection towards adults (Rahman et al., 2012). A study done in children's homes in Kuala Lumpur showed that residential care children's age significantly correlated with DSM somatic problems and post-traumatic stress (Abd Rahman et al., 2013).

A study on the prevalence of psychiatric disorders among children was done at an orphanage in Kota Bharu. Self-rated and teacher-rated Strength and Difficulties Questionnaires reported 12% and 11% of the children had difficulties respectively (Zakaria et al., 2008). A study done on institutional homes in India found 49 (16.78%) out of 292 children and adolescents were found to have be-

havioural and emotional problems. Factors such as age, sex, the reason for being in the institute, age of admission, and years of stay in the home were all seen to be significantly associated with emotional and behavioural problems. Conduct problems (34.90%) were found to be most prevalent followed by peer problems (15.80%), emotional problems (14.70%), hyperactivity (8.60%), and low prosocial behaviour (3.40%) (Kaur et al., 2018).

Although most studies linking caregiving professions with high stress, emotional exhaustion, burnout, and depression come from the United States, similar phenomena have been reported worldwide (Raskin et al., 2015). Occupational stress factors, personality characteristics and relieving factors have an influence on the incidence of burnout (Liu et al., 2020a). Studies done in children's homes in Malaysia showed a high level of burnout and symptoms of psychological distress among carers. Attending early childhood training, perceived inadequate staff and not working in shifts was associated with exhaustion (Siti Halimatul Saadiyah, 2016). A study done in Lagos, Nigeria looking at the caregiver burden of children living with HIV showed only 9.4% of the respondents had a high caregiver burden while the majority 72.0% experienced no to mild burden (Oyeyimika et al., 2020). Previous studies done in assessing caregiver burden at an orphanage in rural South Africa showed approximately 40% of caregivers reported high levels of caregiving burden (Kidman & Thurman, 2014). Poor working conditions such as working under extreme and exhausting conditions of very high caregiver-child ratios and low salaries (Mkinga et al., 2022) may contribute to the development of burden.

There are not many studies done in Asia in regard to studies in children's homes despite their large numbers. Such a study can be used as a reference to begin effective intervention programmes relevant to local settings.

3. Methodology

STUDY SETTING, DESIGN AND SAMPLE

This is a comparative cross-sectional study involving carers and children in government and private children's homes situated in Kuala Lumpur, Selangor and Pahang. There are 15 government-run children's homes in Malaysia and 521 are private. The children in government children's homes are referred by the Social Welfare Department under court order while children can be sent to private children's homes without undergoing the Social Welfare Department's processes or court order.

The sample of carers was obtained through a universal sampling method from both government and private children's homes. The carer and child ratio taken is 1:1, which means with each carer, the child with the most behaviour and emotional problems under the care of the respective carer was assessed. The child was chosen based on the information of the carer to select one of the children under her care that made her feel the most burdened and burnt out. The respective carer was then assessed on burnout and burden levels. The list of govern-

ment children's homes was obtained from the official portal of the Department of Social Welfare under the Ministry of Women, Family and Community Development. The list of private children's homes was obtained from the website Hati.my which is an open directory listing non-profit movements supporting underprivileged communities.

In order to obtain an adequate sample size of carers and children, a total of 3 governments and 11 private children's homes were selected from Kuala Lumpur, Selangor and Pahang. The government's children's homes are Rumah Kanak-kanak Tengku Budriah, Rumah Kanak-kanak Tengku Ampuan Fatimah Kuantan and Rumah Kanak-kanak Sultanah Hajjah Kalsom Kuantan. Selection was based on the availability of children with the ages required. This study included 10 private children's homes from Muslim Organizations and 1 Church-affiliated centre. The duration of this study was from May 2020 to December 2020.

The inclusion criteria for carers were those aged 18 and above and who took care of the children for at least 3 months. Exclusion criteria were carers who were not able to read and write. The inclusion criteria for children were children aged 6 - 12 years old (as per those available in government homes) and not certified as OKU (disabled). The exclusion criteria were children with chronic medical illness requiring frequent hospitalization and multiple medications, children younger than 6 and older than 12 years old and children certified as OKU (disabled) in any way such as visual and/or auditory deficits, physical disability or learning problems and neurodevelopmental disorders.

DATA COLLECTION

A total of 63 carers from the government and 83 carers from private children's homes were identified and approached for interviews. The principals of the children's homes were contacted to obtain permission. Then the participants that fulfilled inclusion criteria were invited to take part in the study. Subjects were ensured confidentiality. The questionnaire forms consisted of sociodemographic data, Maslach Burnout Inventory General Survey and Zabit Burden Interview. The carers needed to select one child under her care that gave the most stress to the carer. Carer was then asked to fill in the Strength and Difficulties questionnaires regarding this child. Of 63 questionnaires given out, 3 did not respond, 20 did not meet inclusion criteria. The main reason was because the selected child that the carer named as most stressful to care for was not in the range of age required in this study. Only 40 carers who were eligible completed the forms.

For private children's homes, 83 carers were identified from 11 selected private children's homes. Data collection was discontinued after 40 carers completed the forms due to poor cooperation from carers and difficult physical access to the homes during the Covid-19 pandemic. A total of 23 carers declined to participate. The balance of 20 carers was not available at the time of research conducted as some were not on shift and some were on leave. The overall response rate for private homes was 48% while for government homes was 95%.

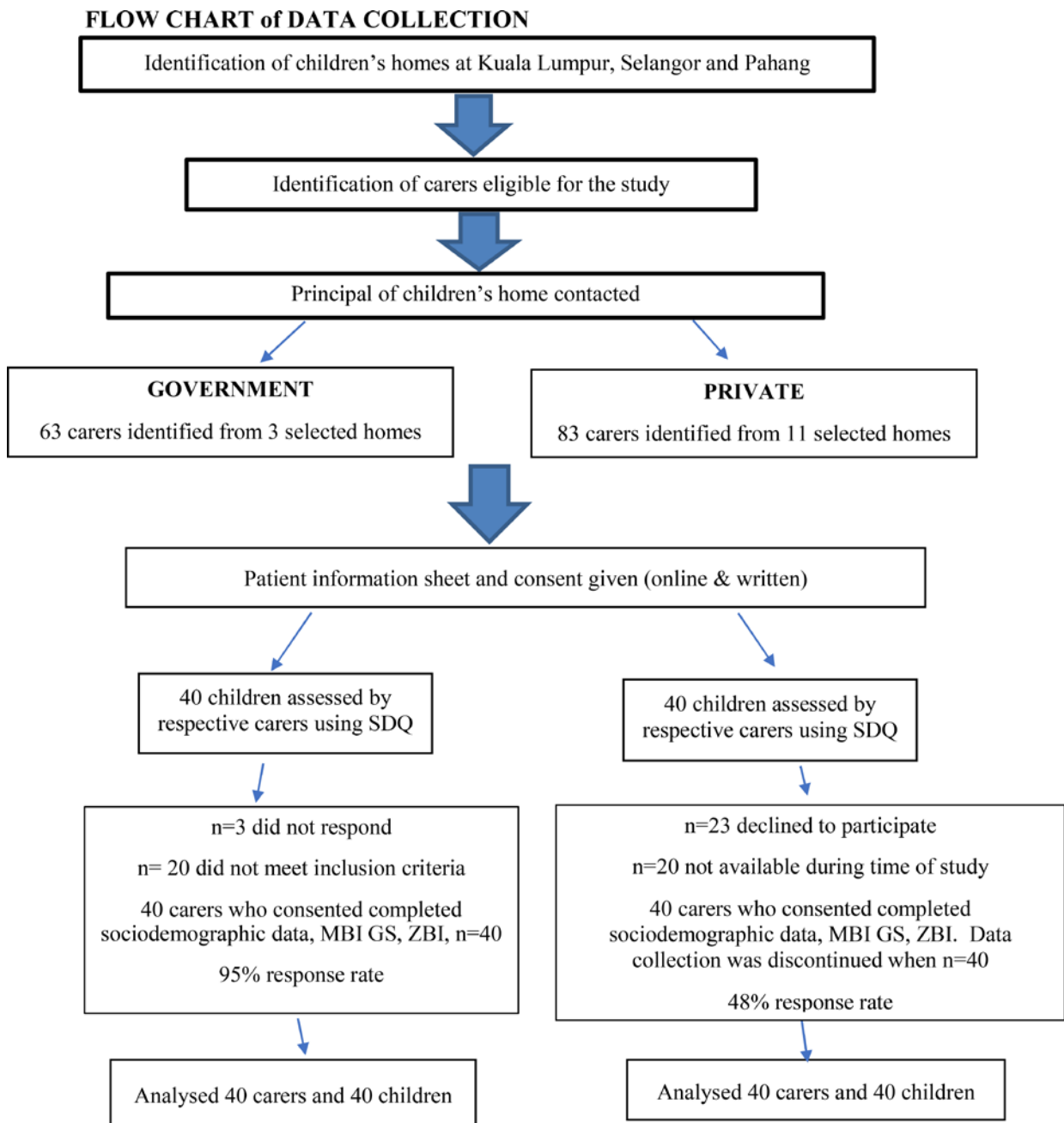
The subjects could ask clarification from the investigator if there was anything that they did not understand in regard to the questionnaire. The subjects were provided with pamphlets containing information about Klang Valley and Kuantan psychiatry services in case the carers were having mental health issues, or the child was having behavioural and emotional problems. All subjects who were having difficulties were advised to be referred for expert assessment and further management.

List of government's children homes participated in the study:

NAMES	NO.OF CHILDREN	AGES OF CHILDREN (years)	TYPE OF HOMES	NO. OF CARERS
Rumah Kanak-kanak Tengku Budriah, Cheras	110	1 month - 12	Muslim	15
Rumah Kanak-kanak Tengku Ampuan Fatimah Kuantan	48	7 - 14	Muslim	13
Rumah Kanak-kanak Sultanah Hajjah Kalsom Kuantan	170	3 - 12	Muslim	55

List of private children's homes that participated in the study:

NAMES	NO. OF CHILDREN	AGES OF CHILDREN (years)	TYPE OF HOMES	NO. OF CARERS
KUALA LUMPUR Titiwangsa				
1. Rumah Titian Kasih, Titiwangsa (female)	95	1 month - 22 years old	Muslim	10
2. Rumah Penyayang Nur Iman	75	6 - 15	Muslim	15
3. Rumah Anak Yatim Raudhatul Jannah	9	4 - 12	Muslim	2
CHERAS				
3. Yayasan Sunbeams Homes, Cheras	101	1 - 19	Church-Affiliated	10
4. Rumah Bakti Nur Syaheera, Taman Jaya Baru, Cheras	30	1 - 18	Muslim	6
5. Baitul Ehsan, Taman Maluri	40	9 - 20	Muslim	2
AMPANG				
6. Rumah Kasih Nurul Hasanah	25	6 - 18	Muslim	5
KERAMAT				
7. Pusat Jagaan Kasih Harmoni	24 (Male) 11 (Female)	4 - 14 4 - 10	Muslim Muslim	4 2
SELANGOR Gombak				
8. Rumah Anak yatim Nur Qaseh (Taman Melawati)	24	2 - 16	Muslim	2
9. Rumah Anak Yatim dan Asnaf Al-Barakh, Jalan Changkat Mulia	27	2 - 17	Muslim	3
10. Rumah Penyayang Darul Ilmi Gombak	55	6 - 12	Muslim	15
SUBANG JAYA				
11. RACTAR, USJ1, Subang Jaya	31	5 - 20	Muslim	7



ETHICAL APPROVAL

This research was approved by the UKM research ethics committee (JEP-2019-376) and the Social Welfare Department. It was also registered under the National Medical Research Register Malaysia (NMRR-19-910-47598).

4. Instruments

1) THE MASLACH BURNOUT INVENTORY-GENERAL SURVEY (MBI-GS)

The MBI-GS is widely used in research for burnout. It is the gold standard assessment in assessing burnout and broadly acknowledged as a leading measure

of burnout for more than 2 decades. MBI-GS is self-rated. Its items are scored based on the frequency of symptoms that a person experiences. It has a seven-point Likert scale ranging from 0 (“never”) to 6 (“every day”). MBI-GS comprises three subscales emotional exhaustion (5 items), cynicism (5 items) and professional efficacy (6 items) (Maslach et al., 1996) with a total of 16 items.

EX—Emotional exhaustion is considered as the main component in the development of burnout response which measures feelings of psychological and emotional after a person becomes exhausted, overextended and fatigued by work thus unable to support others (Maslach et al., 2001).

CY—Depersonalization refers to when one becomes a cynical, detached attitude towards work, indifference and active disengagement from work (Maslach et al., 2001).

PE—Personal accomplishment is the self-evaluation aspect of burnout. Personal accomplishment measures a person’s competency and achievements at his/her work. This last subscale is a reduced sense of personal accomplishment that is inversely related to the other two dimensions. Decreased sense of personal accomplishment is described as a feeling of incompetence, ineffectiveness, a lack of achievement and accomplishment in one’s work (Maslach et al., 2001). There are feelings of reduced personal accomplishment or personal efficacy when burnout is developing. It has been translated and validated into multiple languages. A study was done in 2014 (Chen et al., 2014) to translate, cross-culturally adapt and validate specifically the Malay MBI-GS. The intra-class correlation coefficient presented in MBI-GS ranged from 0.797 to 0.876. The overall Cronbach’s alpha value of 0.801 justified the length of MBI-GS (Tavakol et al., 2011). High scores for EX, CY and low scores for PE indicate high burnout.

2) ZABIT BURDEN INTERVIEW (ZBI)

In this study, carers answered a modified version of the ZBI (Zarit et al., 1985). The ZBI is a self-administered 22-item questionnaire with a five-item response set ranging from “never” to “nearly always”. The points of 0 - 20 mean little or no burden, 21 - 40 points mean mild to moderate burden, 41 - 60 points mean moderate to severe burden, 61 - 88 points mean severe burden. The ZBI includes factors most frequently described by caregivers as problematic, such as their physical and psychological health, finances, social life, and relationship with the patient. The ZBI has been widely used in assessing carer burden of children with developmental disorders (Javalkar et al., 2017), psychiatry disorders (Dada et al., 2011) and chronic illness (Calderón et al., 2011). All questions are answered on a five-point Likert scale (ranging from “never” to “nearly always”). The adapted version refers to the patient as “the child for whom you’re caring” (Ankri et al., 2005). Higher total scores on this scale indicate a higher burden of the caregiver with regards to caregiving for their child.

The Malay ZBI (Shim et al., 2018) demonstrated good reliability with high internal consistency ($\alpha = 0.898$) and split-half correlation of 0.912, and significant

positive correlation with MCES-D ($r_s = 0.58, p < 0.01$) and English ZBI ($r_s = 0.84, p < 0.01$). A score of 22 was selected as the suitable cut-off score for the Malay ZBI scale in the local population based on the ROC curve with the area under the curve of 0.786 (CI 0.658 - 0.914, $p = 0.001$). At the score of 22, the sensitivity and specificity of the Malay ZBI were 70.8% and 69.2% respectively. High score of the ZBI indicates a high burden.

3) STRENGTH AND DIFFICULTIES QUESTIONNAIRE (SDQ)—parent report

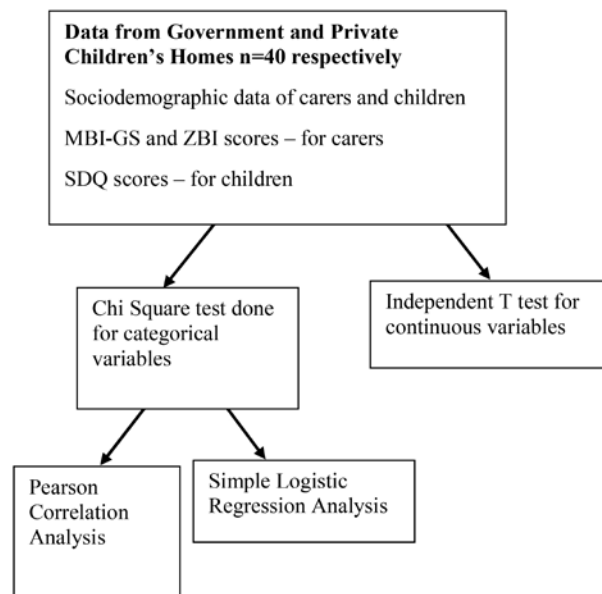
The Strengths and Difficulties Questionnaire (SDQ)—parent report is a brief behavioural screening questionnaire for 3-16 years old. SDQ asks about 25 attributes, some positive and others negative. These 25 items are divided into 5 scales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and prosocial behaviour. Carers were required to answer “Not True”, “Somewhat True” and “Certainly True” to 25 statements. Twenty items were scored on a three-point scale: 0. “Not true”, 1. “Somewhat true” and 2. “Certainly true”. The remaining five items were reverse-scored. A score for each subscale ranges from 0 to 10 and the sum of all four 20 subscales (except prosocial scale) generates the total difficulties score that ranges from 0 to 40.

Reliability was generally satisfactory, with internal consistency (mean Cronbach’s α : 0.73), cross-informant correlation (mean: 0.34), or retest stability after 4 to 6 months (mean: 0.62) (Goodman, 2001). Gomez et al. (2020) examined the reliability and validity of the Malay parent-report of the SDQ and found its psychometric properties were similar to other parent-report in other languages, although cross-cultural differences may still exist. High scores of SDQ domains of total difficulties, emotional problems, conduct problems, hyperactivity, peer problems and low prosocial scores indicate high behavioral and emotional problems.

5. Statistical Analysis

Statistical software, IBM-SPSS 26.0 (IBM SPSS, 2019) licensed to UKM was used to complete the data analysis to answer all the research questions of this research. The descriptive analysis was conducted for all socio-demographic characteristics. Frequency and a valid percentage were used to demonstrate categorical data. Mean and standard deviation was used to demonstrate normally distributed continuous variables. Descriptive analysis was also done for the 3 dimensions of the MBI (emotional exhaustion, cynicism and decreased sense of personal efficacy), the sum of the ZBI scores and the 5 dimensions of the SDQ. Relationship between burnout and burden with behavioural and emotional problems in children was analysed with correlation analysis. Missing values were replaced by imputed values to proceed with further analysis. Simple logistic regression analysis was done to find a significant association of behavioral and emotional problems in children and levels of burnout and burden in carers in government and private children’s homes.

FLOW CHART of DATA ANALYSIS



6. Result

1) Descriptive analysis

Table 1 presents the socio-demographic variables of the carers and the children in the government and private children's homes.

There were significant differences in terms of gender ($p = 0.005$), ethnicity ($p = 0.043$), educational background ($p = 0.004$), household income ($p < 0.001$), number of working hours ($p < 0.001$), number of children per carer ($p = 0.039$), number of children at the centre ($p < 0.001$) and number of carers per centre ($p < 0.001$) between the government and the private children's homes.

Table 1 presents MBI-GS scores. Carers at the government children's homes showed that the majority had high levels of emotional exhaustion (EX), high levels of cynicism (CY) and low personal efficacy (PE). For the private children's homes, all the participants had high levels of emotional exhaustion (EX), high levels of cynicism (CY) and low personal efficacy (PE). There were no significant differences between EX, CY, PE scores between carers in the government and the private children's homes.

Table 1 presents (ZBI) scores for the government and private children's homes' carers. At the government children's homes, the majority had a mild to moderate burden, followed by little or no burden and moderate to severe burden. At the private children's homes, the majority had mild to moderate burden and little or no burden. However, there was no significant difference in the ZBI scores between carers of government and private children's homes.

Table 1 presents the SDQ scores of children in both government and private children's homes. At the government children's home, the majority had abnormal conduct problems scores, followed by abnormal total difficulties scores, abnormal peer problems scores, abnormal hyperactivity scores, abnormal prosocial scores and abnormal emotional problems scores. At the private children's homes,

Table 1. Sociodemographic variables, carers (MBI-GS) scores, ZBI scores and SDQ scores of children in government and private children's homes.

Sociodemographic variables of carers	Government (N = 40)	Private (N = 40)	p-value
	Mean (SD)/Frequency (%)		
Age of the carers ^a	33.92 (7.119)	38.23 (14.423)	0.096
Gender ^b			
Male	16 (40.0%)	5 (12.5%)	0.005*
Female	24 (60.0%)	35 (87.5%)	
Ethnicity ^c			
Malay	38 (95.0%)	32 (80.0%)	0.043*
Chinese	1 (2.5%)	5 (12.5%)	
Kadazan	1 (2.5%)	0 (0.0%)	
Myanmar	0 (0.0%)	3 (7.5%)	
Marital Status ^c			
Single	7 (17.5%)	13 (32.5%)	0.094
Married	33 (82.5%)	25 (62.5%)	
Divorce	0 (0.0%)	1 (2.5%)	
Widow	0 (0.0%)	1 (2.5%)	
Citizenship ^c			
Malaysia	40 (100.0%)	37 (92.5%)	0.241
Myanmar	0 (0.0%)	3 (7.5%)	
Number of carer's own children ^a	2.00 (1.695)	2.05 (2.275)	0.912
Educational background ^c			
SPM	20 (50.0%)	21 (52.5%)	0.004*
STPM	4 (10.0%)	1 (2.5%)	
Diploma	7 (17.5%)	3 (7.5%)	
Bachelor's degree	6 (15.0%)	2 (5.0%)	
Others	3 (7.5%)	4 (10.0%)	
No educational background	0 (0.0%)	9 (22.5%)	
Household income (RM) ^a	3813.432 (1718.1538)	1554.286 (702.2021)	<0.001*
Number of working hours daily ^a	8.0 (0.226)	13.3 (7.405)	<0.001*
Number of children per carer ^a	37.28 (27.185)	26.92 (15.031)	0.039*
Number of children at the centre ^a	121.33 (57.76)	41.78 (33.738)	<0.001*
Number of carers per centre ^a	26.086 (17.1335)	6.2 (3.9582)	<0.001*
Marital problems ^c			

Continued

Yes	0 (0.0%)	3 (7.5%)	0.241
No	40 (100.0%)	37 (92.5%)	
Personal things that make the carer feels burnout ^c			0.241
Yes	0 (0.0%)	3 (7.5%)	
No	40 (100.0%)	37 (92.5%)	
Support from home ^c			1.000
Yes	35 (87.5%)	36 (90.0%)	
No	5 (12.5%)	4 (10.0%)	
Support from other carers ^c			0.154
Yes	38 (95.0%)	33 (82.5%)	
No	2 (5.0%)	7 (17.5%)	
Support from superior ^c			1.000
Yes	36 (90.0%)	37 (92.5%)	
No	4 (10.0%)	3 (7.5%)	
Distress more at home ^b			0.152
Yes	16 (40.0%)	10 (25.0%)	
No	24 (60.0%)	30 (75.0%)	
Sociodemographic variables of the children			
Ages of the children ^a	8.73 (2.375)	9.70 (2.399)	0.072
Gender of the children ^b			0.022*
Male	29 (72.5%)	18 (45.0%)	
Female	11 (27.5%)	22 (55.0%)	
Carer's MBI-GS scores	Government (N = 40)	Private (N = 40)	p-value
	Frequency (%)		
Exhaustion (EX) ^c			
Low	1 (2.5%)	1 (2.5%)	0.744
Moderate	0 (0.0%)	2 (5.0%)	
High	39 (97.5%)	37 (92.5%)	
Cynicism (CY) ^c			1.000
Low	0 (0.0%)	0 (0.0%)	
Moderate	1 (2.5%)	1 (2.5%)	
High	39 (97.5%)	39 (97.5%)	
Personal Efficacy (PE) ^c			0.494
Low	38 (95.0%)	40 (100.0%)	
Moderate	1 (2.5%)	0 (0.0%)	

Continued

High	1 (2.5%)	0 (0.0%)	
ZBI ^c for carers			
Little or no burden	13 (32.5%)	19 (47.5%)	0.226
Mild to moderate burden	21 (52.5%)	19 (47.5%)	
Moderate to severe burden	6 (15.0%)	2 (5.0%)	
SDQ scores			
Total difficulties ^c			
Normal	7 (17.5%)	18 (45.0%)	0.001*
Borderline	2 (5.0%)	7 (17.5%)	
Abnormal	31 (77.5%)	15 (37.5%)	
Emotional ^b			
Normal	22 (55.0%)	28 (70.0%)	0.430
Borderline	8 (20.0%)	5 (12.5%)	
Abnormal	10 (25.0%)	7 (17.5%)	
Conduct ^c			
Normal	4 (10.0%)	11 (27.5%)	0.078
Borderline	2 (5.0%)	4 (10.0%)	
Abnormal	34 (85.0%)	25 (62.5%)	
Hyperactive ^b			
Normal	9 (22.5%)	24 (60.0%)	0.003*
Borderline	8 (20.0%)	4 (10.0%)	
Abnormal	23 (57.5%)	12 (30.0%)	
Peer ^b			
Normal	6 (15.0%)	11 (27.5%)	0.315
Borderline	8 (20.0%)	9 (22.5%)	
Abnormal	26 (65.0%)	20 (50.0%)	
Prosocial ^b			
Normal	10 (25.0%)	22 (55.0%)	0.023*
Borderline	11 (27.5%)	7 (17.5%)	
Abnormal	19 (47.5%)	11 (27.5%)	

*Significant at 5% level, ^aIndependent t-test, ^bChi-square test, ^cFisher's exact test.

the majority had abnormal conduct problems scores, followed by abnormal peer problems scores, abnormal total difficulties scores, abnormal hyperactive scores, abnormal emotional problems scores and abnormal prosocial scores.

Children in government children's homes had higher total difficulties scores

($p = 0.001$), higher hyperactive scores ($p = 0.003$) and lower prosocial scores ($p = 0.023$) compared to private children’s homes.

2) Correlation analysis

a) Correlation analysis between MBI-GS domains and SDQ domains’ score for both government and private children’s homes.

Pearson’s correlation analysis was conducted to fulfil the aim of the study, which was to determine the relationship between the level of burnout experienced by carers and the children’s behavioural and emotional problems.

Table 2 presents the correlation between SDQ domains (total difficulties, emotional problems, conduct problems, hyperactivity, peer problems and prosocial problems) with domains of MBI (emotional exhaustion (EX), cynicism (CY) and personal efficacy (PE)) for government and private children’s homes. At the government children’s homes, the results indicated significant correlation between CY with total difficulties and conduct problems and a significant correlation between EX and conduct problems. CY showed a significant but low correlation with conduct problems ($r = 0.445, p < 0.01$) and total difficulties ($r = 0.349, p < 0.05$). On the other hand, EX showed a significant but low correlation with conduct problems ($r = 0.347, p < 0.05$). This indicated child behavioural and emotional problems (total difficulties and conduct problems) were associated with carers burnout level (cynicism (CY) and emotional exhaustion (EX)) with low correlation.

At the private children’s homes, the results indicated significant correlation between the PE with total difficulties and conduct problems and a significant

Table 2. Correlation analysis between MBI-GS domains and SDQ domains’ score for both government and private children’s homes.

SDQ Domain	Government			Private		
	MBI GS					
	EX	CY	PE	EX	CY	PE
	r (p value)					
Total difficulties score	0.212 (0.188)	0.349* (0.028)	0.095 (0.558)	-0.116 (0.476)	0.066 (0.686)	0.373* (0.018)
Emotional problems	0.071 (0.663)	0.082 (0.616)	-0.001 (0.996)	-0.093 (0.569)	-0.015 (0.925)	0.276 (0.084)
Conduct problems	0.347* (0.028)	0.445* (0.004)	0.248 (0.122)	-0.193 (0.232)	-0.015 (0.927)	0.362* (0.022)
Hyperactivity	0.116 (0.476)	0.164 (0.311)	-0.086 (0.600)	-0.065 (0.688)	0.086 (0.599)	0.203 (0.209)
Peer problems	-0.032 (0.845)	0.199 (0.219)	0.074 (0.652)	0.049 (0.763)	0.193 (0.2333)	0.304 (0.057)
Prosocial problems	0.021 (0.900)	-0.107 (0.512)	-0.041 (0.802)	0.333* (0.036)	0.219 (0.175)	-0.056 (0.732)

**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

correlation between prosocial problems with EX. PE showed a significant but low correlation with conduct problems ($r = 0.362, p < 0.05$) and total difficulties ($r = 0.373, p < 0.05$). This indicated child behavioural and emotional problems (total difficulties and conduct problems) were associated with carers burnout levels (personal efficacy (PE)) with low correlation. Meanwhile, EX showed a significant low correlation with prosocial problems ($r = 0.333, p < 0.05$). This indicated child behavioural and emotional problems (lack of prosocial behavior) were associated with carers burnout level (emotional exhaustion (EX)) with low correlation.

b) Correlation analysis between total ZBI score and SDQ domains' score in government and private children's homes.

Pearson's correlation analysis was conducted to fulfil the aim of the study, which was to determine the relationship between the level of burden experienced by carers and the children's behavioural and emotional problems.

Table 3 presents the correlation between SDQ domains (total difficulties, emotional problems, conduct problems, hyperactivity, peer problems and prosocial problems) with total ZBI scores for government and private children's homes. At the government children's homes, their results indicated insignificant correlation between the total ZBI score with all SDQ domains (total difficulties, emotional problems, conduct problems, hyperactivity, peer problems and prosocial problems) with ($r < 0.25, p > 0.05$). This indicated that child behavioural and emotional problems were not associated with carers' burden level.

At the private children's homes, the results indicated significant correlation between the total ZBI score with total difficulties and emotional problems. The total ZBI score showed a significantly low correlation with emotional problems ($r = 0.391, p < 0.05$) and total difficulties ($r = 0.327, p < 0.05$). This indicated child behavioural and emotional problems (total difficulties and emotional problems) were associated with carer burden level with low correlation.

3) Simple logistic regression analysis

Simple logistic regression analysis was done for association of behavioural and

Table 3. Correlation analysis between total ZBI Score and SDQ domains' score in government and private children's homes.

	Government	Private
SDQ	Total ZBI Score <i>r (P value)</i>	
Total Difficulties	0.040 (0.805)	0.327* (0.040)
Emotional Problems	0.130 (0.425)	0.391* (0.013)
Conduct Problems	0.037 (0.821)	0.198 (0.220)
Hyperactivity	-0.018 (0.911)	0.265 (0.099)
Peer Problems	-0.080 (0.626)	0.111 (0.495)
Prosocial Problems	-0.089 (0.587)	-0.075 (0.646)

emotional problems of children with carers burden and burnout. However, no significant association was found due to inadequate numbers of carers that represented each category of dependent variables.

7. Discussion

This study aimed to examine the association of carer's burden and burnout with behavioral and emotional problems in children in selected government and private children's homes in Kuala Lumpur, Selangor and Pahang. Sociodemographic data showed that there were more female carers compared to males from both homes. A study done by (Allday et al., 2020) at an orphanage in Ukraine also showed similar findings. Approximately only 3% of caregivers in early childhood care are male in countries all over the world, and child care is a highly feminized profession (van Polanen et al., 2017). Female caregivers experience more stress and have poorer health than male caregivers (Amankwaa, 2017) however both have equally positive interactions and are able to provide a secure base for boys and girls (van Polanen et al., 2017).

The mean age of the carers was almost similar with an overall mean of 35 years. This is consistent with a study done by (Allday et al., 2020) that had a caregiver's age range of 30 - 39. A study done by (Sochos & Aljasas, 2021) also found caregiver burnout among older age carers which is consistent with the findings in this study. Most of the carers were Malay. Non Malay children's homes and carers were not adequately sampled in this study. In terms of educational background, government children's homes have carers with higher education levels compared to private children's homes. The education level of carers is frequently included in studies of the quality of child care. The higher educational background of carers is correlated with higher levels of quality (Vandell, 2004).

Carer qualification is one aspect to ensure staff quality that has a large impact on children's well being and development (OECD, 2015). Even so, a study by (Lakin et al., 2008) showed that the level of education did not predict burnout in carers. This is consistent with the findings in this study where carers in government homes have similar burnout and burden with carers in private homes despite coming from higher education backgrounds. Carers in government homes have other factors that might have exposed them to burnout such as more children to care for and a higher number of children with behavioral and emotional problems. Being exposed to long hours of interactions with challenging child behavior (Eastwood & Ecklund, 2008; Savicki, 2002) and work overload (Mkinga et al., 2022) contributes to the residential care workers' risk for burnout.

Findings from this study showed there were high levels of burnout among carers in both homes. Other studies showed child care professionals may be vulnerable to psychological burnout (Seti, 2008). Research data revealed that kindergarten teachers experience slightly more feelings of emotional exhaustion, whereas children workers experience more feelings of depersonalization (Rentzou, 2015). The causes reported by the carers in this study were lack of staff, unpredictable

shifts and the carer's own illness. Observations conducted at children's homes have revealed low caregiver-to-child ratio, lack of training and frequent changes in carers lead to high levels of burnout in carers (Çatay & Koloğlugil, 2017). A study done at private children's residential homes in Malaysia showed similar findings of high levels of burnout and symptoms of psychological distress among carers based on each domain (Siti Halimatul Saadiah, 2016) due to the same reasons as well as attending early childhood training. It is worthwhile for future studies to investigate this.

The majority of the carers experienced mild to moderate burden. In terms of financial resources, the household income of carers in private was lower than carers in government homes. However, both experienced similar burdens. This is consistent with other studies reporting an association between economic vulnerability and carer's struggling with their illness that could contribute to carer burden (Littrell et al., 2011; Awad & Voruganti, 2008; Liu et al., 2020b). Male children were selected more in government homes compared to more female children selected in private homes. More male children with behavioral and emotional problems are consistent with a study done in Kota Baru regarding psychiatric morbidity among children and adolescents in orphanages, being male is a risk factor associated significantly with the high difficulty group (Zakaria et al., 2008).

Research showed females are usually associated with internalizing behaviour compared to males and this might have progressed as they grew older (El-Slamoni et al., 2019). The children also showed high total difficulties scores in both homes. The behavior domains involved were conduct problems, hyperactivity, peer problems and lack of prosocial behavior. This was consistent with developmental studies that showed children and adolescents reared in institutional care settings exhibited higher than expected externalizing behavioural problems such as hyperactivity, aggression, anti-social behaviour (Kaur et al., 2018).

Children at the government children's homes showed more behavioural problems compared to private homes. A study in a children's home in Kuala Lumpur also showed the duration of care was significantly positively correlated with rule-breaking, DSM conduct problems and externalizing scores. Abuse and neglect cases had higher scores for anxious/depressed subscale compared to non-abuse-and-neglect cases (Abd Rahman et al., 2013). A possible explanation behind more burnout and burden at the government children's homes may be due to complex and more severe cases with more behavioural and emotional problems were sent to the government children's homes by court order, while the children in private homes may have been voluntarily given up by their parents out of poverty without obvious behavioural and emotional problems.

Some children suffer significant trauma before they enter residential care. They are unable to properly regulate the self and tend to respond to others with suspicion, defiance, and often overt aggression. Residential workers can become the targets of such behaviours (Berridge et al., 2011). Child behavioural problems

are correlated and predictively associated with staff burnout (Sochos & Aljasas, 2021). Primary caregivers of children with a disruptive behavior disorders may be at particular risk for distress (Oruche et al., 2012) and conduct problems in particular were significant predictors of stress among carers of young people with autism spectrum disorders (Lecavalier et al., 2006). This is consistent with the findings in this study where conduct problems among children are associated with high levels of burnout.

This study could not conclusively demonstrate that behavioural and emotional problems in children contributed to high levels of burnout and burden in carers as the association could not be shown in simple regression. Carers of children with Attention Deficit Hyperactive Disorder (ADHD) were found to have significantly higher burnout scores in the three dimensions of burnout when compared to carers of apparently healthy children (Arafa & Lamloom, 2020). Still, it is important to identify carer burden as carers who perceive a higher burden are at risk for declining physical and mental health, as are those under their care (Etters et al., 2008). Poor carer well-being in turn may have a negative impact on the child and the quality of care provided (Lou et al., 2015).

Low personal efficacy, high cynicism and emotional exhaustion may impair caregiving ability. Lack of a carer-child attachment relationship would affect children's stimulation and experiences that would likely contribute to typical development (Van IJzendoorn et al., 2011) and minimize their opportunities to develop self-regulation of their emotions and behaviour (Bakermans-Kranenburg et al., 2011). A study was done in Ukraine looking at the stressful conditions in which carers' practice has the potential to impact the compassion-ability of the carer as well as the quality of care for the individuals they serve (Allday et al., 2020). Nevertheless, the difficulties experienced by caregivers are often considered only after the signs of burnout are apparent (Zarit et al., 1980). The finding of an increased degree of burden was reflected in an increased feeling of burnout (Salama & El-Soud, 2012) could not be demonstrated in our study.

Unrecognized burnout and burden in carers may give rise to more serious mental health problems among carers. Carer depression and job-related stress are critical issues in the early care profession, as they have been shown to impair interactions with the children and result in poor job performance and high turnover (Raskin et al., 2015). Future studies could explore to what extent inadequate staff, unpredictable shifts and carers' own illness contribute to carer burden and burnout.

8. Limitations and Strengths

This study had limitations that should be taken into consideration when evaluating the results. This was a cross-sectional study, thus the results reflected what was seen during the time the study was carried out. This study also had a small sample size. Other than that, the study was conducted in both private and government centres, which were located in the urban areas. Therefore, the findings

cannot be generalized to the rest of Malaysia. The universal sampling method for this study highlighted another potential limitation giving rise to sampling bias. The ethnicity of the carers did not truly represent the Malaysian population. There is a possibility of over-analysis in a small sample requiring Bonferroni correction. This study has its strengths. This study compared government and private settings. The questionnaires used in this study were validated in the Malay language.

9. Conclusion

This study found that there was a high burnout and moderate burden among carers in both types of homes. There were more behavioral and emotional problems among children in government homes. Behavioural and emotional problems in children were only weakly correlated with higher burnout and burden in carers. Hence, screening and detection of burden and burnout among carers as well as behavioural and emotional problems in children are recommended. This study can be used as a reference to begin effective interventions that are relevant in the local setting to ensure better mental health of the carers and the children.

10. Recommendations

There are several recommendations for this study. A larger sample size and a better study design such as a longitudinal cohort study could be used to obtain clearer information, stronger findings and associations between socio-demographic factors, burden and burnout amongst carers and behavioural and emotional problems in children in children's homes. Perhaps future studies could explore to what extent inadequate staff, unpredictable shifts and carers' own illness contribute to carer burden and burnout.

11. Clinical Implication

Children in children's homes come from disruptive family backgrounds. These children are vulnerable, and many arrive at residential homes with emotional and psychological difficulties. Carers are the main caregiver in children's homes. Childcare is one of the most difficult and emotionally exhausting careers in the human service industry. Given these difficult circumstances, a lot of support is needed to ensure that both carers and children can flourish in a children's home.

Failure to recognize burden, burnout and behavioural and emotional problems in children may lead to tremendous effects on both carers and children's mental health. It may also impair care towards the children. Screening is recommended for burden and burnout and symptoms and also behavioural and emotional problems in children. Early detection of potential individuals will help in early interventions. The intervention should be aimed at not only the child but also the staff and the carers.

Therefore, mental health workers and trained health care providers have a role to ensure that these children receive appropriate care, by healthy carers.

Results of this study show that our carers and children are having difficulties. The information obtained from this study can be used to design effective interventions to help improve the caregiving ability of carers towards children in children's homes. Targeted interventions may be more beneficial in improving outcomes. This study helps identify areas where targeted and specific interventions can be carried out.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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