Pakistan Journal of Life and Social Sciences
www.pjlss.edu.pk

https://doi.org/10.57239/PJLSS-2024-22.2.001478

RESEARCH ARTICLE

Exploring the Relationship between Mental Healthcare Practices and Caregiver Burden in Home-Based Bedridden Elderly Care

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ARTICLE INFO

Received: Oct 24, 2024

Accepted: Dec 11, 2024

Keywords

Emotional Health Care Practice

Bedridden Elderly

Caregiver Burden

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ABSTRACT

This study exploring the relationship between mental healthcare practices and caregiver burden in home-based bedridden elderly care. Caregiving, a challenging task, often leads to emotional and physical strain. The study focuses on understanding the levels of caregiving practices and burden, as well as the relationship between these two factors. A quantitative survey was conducted among 127 caregivers using validated questionnaires. The Zarit Burden Interview (ZBI) measured caregiver burden, while mental healthcare practices were assessed using a five-point Likert scale. The findings revealed that caregiving practices were predominantly moderate, with caregivers actively engaging in communication, mental support, and creating a safe environment. However, certain practices, such as identifying mental health issues and maintaining regular sleep schedules for the elderly, were less frequently performed. The majority of caregivers reported light to moderate burden, with only a small percentage experiencing severe strain. Notably, a significant positive correlation was identified between the quality of mental healthcare practices and reduced caregiver burden. The study concludes that enhancing mental healthcare practices can alleviate caregiver burden. Recommendations include improved caregiver training, integration of spiritual and emotional support, and policy reforms to address gaps in elderly care services. By fostering supportive environments and accessible resources, the well-being of both caregivers and the elderly can be improved, reducing overall caregiving challenges.

INTRODUCTION

Caregiving has been linked to negative impacts on the physical and mental well-being of caregivers (Chen, et al. 2015; Lacey, McMunn, and Webb, 2019). Numerous research findings indicate the prevalence of depressive symptoms among caregivers tending to the elderly, with the caregiver's burden notably escalating when the elderly become bedridden Chiao, Wu, and Hsiao, 2015; Mendes et al, 2019). According to Loh et al. (2017), 40.2% of caregivers of stroke patients suffer from depression. Additionally, in the Canadian context, caregivers facing the responsibility of caring for elderly stroke patients encounter a heightened burden, primarily attributed to the increased time commitment required for caregiving activities (Ganapathy et al, 2015).

Several studies have reported a significant association between bedridden elderly and cognitive disorders (Andrade et al., 2017). This is because mental health issues are inherently linked to the social, psychological, behavioural, and biological factors of individuals (Fone and Dunstan, 2006; Bowling, 2007; Edmans et al., 2013). It has been found that approximately 80% to 90% of the population residing in rural areas with mental disorders go undiagnosed and untreated (Poreddi et al., 2015; Högberg et al., 2012). This issue poses challenges for caregivers, patients, and also service providers (Chadda, 2014).

MATERIALS AND METHODS

This quantitative study employed a survey method to collect data. Quantitative research involves statistical analysis and typically requires a minimum of 10 samples to measure variables in a study (Krejcie & Morgan, 1970; Cohen, 1992). In this study, 127 participants in Terengganu, Malaysia were selected using G*power 3.1 software, following Krejcie & Morgan, 1970 recommended sampling technique. A five-point Likert scale, where 1 represents "never" and 5 represents "very often," was used to assess five types of frequencies in the questionnaires. The questionnaires, consisting of 20 items, focused on mental health care practices for bedridden elderly patients (Eljedi et al., 2015; Alhosis et al., 2012). Additionally, the Malay version of the Zarit Burden Interview scale (ZBI, 22 items) was used to measure the burden experienced by caregivers of bedridden elderly patients. The ZBI comprises 22 questions with responses ranging from "never" to "almost always." A pilot study involving 40 caregivers was conducted to validate the usability of the questionnaire. Table 1 show the reliability index for mental health care practices was 0.89 in the pilot study and 0.92 in the actual study, as measured by Cronbach's Alpha. Similarly, the Cronbach's Alpha for caregiver burden was 0.71 in the pilot study and 0.75 in the actual study.

Table 1: Test of Cronbach's Alpha reliability

Variables	No. of Item	Pilot Study (n = 40)	Actual Study (n = 127)
Level of emotional health care practices	20	0.89	0.92
Level of caregivers' burden	22	0.75	0.71

In this study, descriptive statistical analysis, including mean scores and standard deviations, was employed to assess the level of emotional healthcare practices for bedridden elderly patients at home. The interpretation of mean scores followed Pallant's (2007) guidelines, where the values are divided into three categories, as shown in Table 2: low (1.00 to 2.33), medium (2.34 to 3.66), and high (3.67 to 5.00). According to Pallant's (2007), these classifications provide a clear and practical framework for distinguishing the different levels of mental healthcare practices.

Table 2: Interpretation mean score

Mean Score	Interpretation (level of practice)
1.00 - 2.33	Low
2.34 - 3.66	Medium
3.67 - 5.00	High

Source: Pallant (2007)

The caregiver's burden level was assessed in this study using the Zarit Burden Interview score (Zarit et al., 1980). The score is divided into four categories as outlined in Table 3: a score of 0 to 20 indicates little or no burden, 21 to 40 indicates mild to moderate burden, 41 to 60 indicates moderate to heavy burden, Finally, a score between 61 and 88 represents a severe burden, where caregiving responsibilities are overwhelming and may lead to substantial mental, emotional, and physical exhaustion. This classification provides a clear and structured approach to understanding the varying levels of caregiver strain and is critical for identifying those who may require additional support or interventions.

Table 3: Level of burden

Score	Interpretation (level of burden)
0 - 20	Little or no burden
21 - 40	Light to moderate
41 – 60	Moderate to heavy
61 - 88	Severe

Source: Zarit et al. (1980)

Next, the data analysis techniques employed in this study included Pearson correlation and multiple regression analyses to determine the relationship and influence between mental healthcare practices

and caregiver burden levels. Pearson correlation analysis was used to identify the strength and direction of the relationship between the independent variable (mental healthcare practices) and the dependent variable (caregiver burden), where the correlation value (r) was assessed at a significance level of $p<0.05$. Subsequently, multiple regression analysis was conducted to measure the extent to which mental healthcare practices could predict variations in caregiver burden levels. The R^2 coefficient was used to indicate the percentage of variance in caregiver burden explained by the model, while the unstandardized (B) and standardized beta (β) coefficients evaluated the impact of each independent variable on the dependent variable. Statistical significance tests were also performed to ensure the model's suitability and confirm that the identified relationships were statistically significant.

RESULTS

Caregiving practices by caregivers of bedridden elderly at home

As shown in Table 4, the highest percentage of caregivers frequently engaged in mental healthcare practices for bedridden elderly patients. Specifically, 32.3% of caregivers often educated themselves about mental health-related illnesses in the elderly. Among mental care practices, caregivers were highly involved in effective communication, with 52.8% frequently listening and speaking to bedridden patients, 59.8% using appropriate and clear tones, and 54.3% employing concise yet clear sentences. Additionally, 33.9% provided entertainment equipment for recreational, spiritual, or relaxation purposes, while 42.5% regularly monitored body language to detect signs of discomfort or pain.

Caregivers also frequently created a comfortable and safe environment (44.9%) and encouraged visits or contact from family members and friends (37.8%). A notable 42.4% promoted the involvement of other family members in caregiving, while 44.1% practiced privacy, comfort, and dignity care. Mental support was also prominent, with 52.8% treating elderly patients with respect and affection, 37% providing spiritual support, and 52% offering emotional presence when needed. Additionally, 54.3% avoided hazardous situations for the elderly, 45.7% prevented discomfort, 46.5% ensured emotional stability, and 36.2% engaged in sensory stimulation therapy to mitigate cognitive decline. On the other hand, the most neglected practice, reported by 30.7% of caregivers, was identifying mental health issues, while 55.1% never placed visible clocks or calendars. Rare practices included ensuring regular sleep, with 40.2% rarely addressing this need.

Table 4: Mental healthcare practices for bedridden elderly

Care practices	Never (n=127/%)	Rarely (n=127/%)	Sometimes (n=127/%)	Always (n=127/%)	Often (n=127/%)
Learning about mental health-related illnesses in the elderly.	28 (22.0)	37 (29.1)	16 (12.6)	41 (32.3)	5 (3.9)
Observing for signs of mental health issues in the elderly.	39 (30.7)	29 (22.8)	2 (15.7)	34 (26.8)	5 (3.9)
Listening and communicating effectively with the elderly.	0 (0.00)	18 (14.2)	30 (23.6)	67 (52.8)	12 (9.4)
Using appropriate and clear tones when speaking to the elderly.	1 (0.8)	15 (11.8)	24 (18.9)	76 (59.8)	11 (8.7)
Using concise but clear sentences when speaking to the elderly.	4 (3.1)	20 (15.7)	23 (18.1)	69 (54.3)	11 (8.7)
Providing radio/TV/VCD/CD for entertainment/rest/spiritual/ relaxation purposes for the elderly.	41 (32.3)	26 (20.5)	11 (8.7)	43 (33.9)	6 (4.7)
Regularly observing body language that indicates discomfort or pain in the elderly.	27 (21.3)	24 (18.9)	18 (14.2)	54 (42.5)	4 (3.1)
Ensuring the elderly have sufficient and regular sleep.	11 (8.7)	51 (40.2)	23 (18.1)	35 (27.6)	7 (5.5)
Creating a comfortable and safe room and environment.	6 (4.7)	35 (27.6)	19 (15.0)	57 (44.9)	10 (7.9)

Encouraging frequent visits or contact from family members, friends, and relatives for the elderly.	4 (3.1)	31 (24.4)	34 (26.8)	48 (37.8)	10 (7.9)
Encouraging other family members to be involved in caring for and managing the elderly.	19 (15.0)	18 (14.2)	24 (18.9)	54 (42.5)	12 (9.4)
Placing visible wall clocks/bells and calendars for the elderly.	70 (55.1)	6 (4.7)	6 (4.7)	34 (26.8)	11 (8.7)
Respecting the privacy, comfort, and dignity of the elderly.	8 (6.3)	28 (22.0)	17 (13.4)	56 (44.1)	18 (14.2)
Caring for/managing the elderly with full respect and affection.	1 (0.8)	17 (13.4)	17 (13.4)	67 (52.8)	25 (19.7)
Providing spiritual support.	31 (24.4)	24 (18.9)	16 (12.6)	47 (37.0)	9 (7.1)
Being present and offering emotional support when needed.	14 (11.0)	30 (23.6)	9 (7.1)	66 (52.0)	8 (6.3)
Avoiding the elderly from any hazardous situations.	4 (3.1)	30 (23.6)	11 (8.7)	69 (54.3)	13 (10.2)
Preventing the elderly from any uncomfortable situations.	10 (7.9)	23 (18.1)	26 (20.5)	58 (45.7)	10 (7.9)
Ensuring emotional and behavioural stability in the elderly.	11 (8.7)	26 (20.5)	24 (18.9)	59 (46.5)	7 (5.5)
Ensuring the elderly receive sensory stimulation therapy to prevent worsening cognitive decline.	29 (22.8)	40 (31.5)	7 (5.5)	46 (36.2)	5 (3.9)

Level of caregiving practices by caregivers of bedridden elderly at home

According to Table 5, 21 caregivers (16.5%) exhibited a low level of mental healthcare practices for bedridden elderly individuals. A majority of 72 caregivers (56.7%) demonstrated moderate practices, while eight caregivers (26.8%) reported a high level of practice in this area. Overall, the findings indicate that caregivers' practices in providing mental health care at home are generally moderate, with a mean (M) score of 2.60 and a standard deviation (SD) of 1.148. The moderate level of care can be attributed to the fact that most elderly individuals reside with their caregivers, allowing for continuous monitoring and support, which facilitates a more balanced approach to addressing emotional needs over time.

The results suggest that while caregivers are able to offer regular mental care, the level of engagement is neither minimal nor exceedingly intensive. The moderate practices reflect the caregivers' ability to maintain a stable mental environment for the bedridden elderly, likely due to their proximity and ongoing presence. However, these findings also highlight opportunities for improvement in ensuring a higher level of mental health care, which could further enhance the well-being of bedridden elderly individuals.

Table 5: Level of caregivers' emotional health care practices for the bedridden elderly

Level of Practice	Frequency	Percentage (%)	Mean	Standard Deviation
Low	21	16.5	2.60	1.148
Moderate	72	56.7		
High	34	26.8		
Total	**127**	**100.0**	**Moderate**	

Burden levels among caregivers of bedridden elderly at home

Table 6 indicates that among the 127 participants in the study, a significant majority (64.6%) reported experiencing a light to moderate level of burden while caring for bedridden elderly individuals at home. In contrast, 33.9% of caregivers noted little to no burden, while only a small fraction (1.6%) indicated a moderate to heavy burden. These results imply that most caregivers manage their responsibilities without overwhelming stress, as reflected by the overall mean burden score of 23.49 and a standard deviation of 9.12. This data suggests that while caregiving presents its

challenges, the burden experienced by caregivers generally remains within a light to moderate range, allowing them to cope effectively with their caregiving duties.

Table 6: Level of burden

Level of Burden	Frequency	Percentage (%)	Mean	Standard Deviation
Little or no burden	43	33.9	23.49	9.12
Light to moderate burden	82	64.6		
Moderate to heavy burden	2	1.6		
Total	**127**	**100.0**	**Light to moderate**	

Correlation between the mental healthcare practices level and the caregivers' burden

The findings from the Pearson Correlation statistical analysis, as shown in Table 7, reveal a significant correlation between mental healthcare practices and the level of burden experienced by caregivers of bedridden elderly patients. The calculated correlation coefficient (r = .643) indicates a strong positive relationship between these two variables. This suggests that caregivers who engage more frequently in effective mental healthcare practices such as providing mental support, fostering communication, and creating a nurturing environment tend to experience lower levels of burden.

The significance level of .000 further emphasizes the robustness of this correlation, indicating that the relationship is statistically significant and unlikely to have occurred by chance. These results highlight the critical role that mental healthcare practices play in mitigating caregiver stress and strain.

Table 7: Correlation between the level of mental healthcare practices and the level of caregivers' burden

Variables		Mental Healthcare Practices
Level of Burden	Pearson Correlation	.643**
	Sig. (2-tailed)	.000
	N	127

**. Correlation is significant at the level p< 0.01 (2-tailed).

*. Correlation is significant at the level p< 0.05 (2-tailed).

The influence of mental healthcare practices for the level of caregiver burden

Table 8 demonstrates that the multiple regression analysis yields an R^2 value of .647, suggesting that caregiving practices account for 64.7% of the variance in caregiver burden levels. This implies that the remaining 35.3% of the variance is attributed to other factors not included in the model. The model fit statistics indicate that the independent variables significantly influence the dependent variable ($F (4, 122) = 55.905$, $p < .000^b$), confirming the model's suitability for this analysis. Notably, the coefficients table reveals that mental healthcare practices (B = .446, t = 7.1, p = .000) play a significant role in impacting caregiver burden.

Table 8: Summary results of regression model influence factors to mental healthcare practices and the level of caregiver burden

Model	Unstandardized Coefficients		Standardized	t	*p*
	B	Std. Error	Beta (B)		
Constant	1.100	.191		5.762	.000
Mental healthcare Practices	.327	.046	.446	7.118	.000

Note: Dependent Variable = Burden; $R = .804^a$; $R^2 = .647$; Model fits = $F (4, 122) = 55.905$, $p < .000^b$; Mental healthcare Practices = B = .446, t = 7.1, p = .000

DISCUSSION

One of the most pressing challenges faced by bedridden elderly individuals is social isolation, which further intensifies cognitive and emotional deterioration. Churproong et al. (2016), argue that the

lack of social interaction and physical confinement often leads to feelings of alienation, which can compound their mental health issues. This isolation, coupled with the physical limitations of bedridden patients, creates an environment in which cognitive functions rapidly deteriorate.

Emotional distress experienced by the elderly can be reduced if family members and the surrounding community provide support and motivation (Dhara and Jogsan, 2013; Kloppers, 2011). It is the caregiver's responsibility to provide mental support and comfort to the elderly under their care (Given et al., 2008). This study uses indicators such as identifying mental health issues, communication, and social support for the elderly. Overall, the level of caregiver practices in mental healthcare for bedridden elderly is moderate. However, findings from Dixon et al. (2018) Zhangn et al. (2017) and Gabra, et al. (2020) show that caregiver practices in mental health care for the elderly are still low. Moreover Poreddi et al. (2015) and Högberg et al. (2012) report that 80%-90% of elderly individuals with mental health issues in rural areas are undiagnosed and untreated, indicating a lack of attention to the mental care of the elderly.

In terms of support, caregivers provide moderate levels of social, emotional, and spiritual support to the elderly. Some caregivers communicate well with the elderly, using appropriate tone and simple language. They also encourage family members and friends to visit or stay in touch with the elderly and involve other family members in caregiving. Phillips et al. (2008) state that family members play a more significant role in promoting elderly well-being than friends and neighbours. Lack of social support is linked to negative impacts on the health and well-being of the elderly. Support from others can reduce stress, improve physical health, and prevent psychological problems such as depression and anxiety. Mental support from caregivers has a significant impact on the psychosocial health and quality of life of the elderly (Given et al., 2008; Friedland et al., 1996).

Spirituality is considered a fundamental need for many, motivating and guiding individuals to live a more meaningful life (McDonnell-Naughton et al, 2020). Studies by Koenig et al. (2004) and Helm et al. (2000) show a strong relationship between religiosity and adaptation to the challenges of aging. Religion and spirituality have been proven to be effective tools for providing mental support and have positive effects on the physical and mental health of the elderly Best et al., 2015; Zenevicz et al., 2013; Mackenzie et al., 2000). However, this study shows that caregivers still have moderate practices in providing spiritual support to bedridden elderly. Research by Erichsen and Büssing (2013) and Shaw et al. (2016) indicates that caregivers often neglect the spiritual needs of the elderly. It is a challenge for caregivers to meet the spiritual needs of bedridden patients who are entirely dependent on them. In conclusion, while the level of mental healthcare practices for bedridden elderly is moderate (56.6%), only 26.8% of caregivers demonstrate a high level of practice. As caregivers often have familial ties with the elderly, they may be able to provide better care and attention (Phannarus et al., 2017).

To maintain mental health, caregivers play a crucial role in managing their own emotional and mental stress (Herath et al., 2019). According to a study by Indu et al. (2018), elderly caregivers believe that better communication with the elderly helps them understand their emotional needs. However, elderly individuals with prolonged mental health issues are at risk of functional decline, requiring continuous monitoring and care (Lodha, and De Sousa, 2018). This can cause caregivers to experience heightened stress when faced with the responsibility of caring for elderly individuals with poor mental health (Shankar and Rao, 2004).

Supporting this trend, research by Bekdemir and Ilhan (2019) and Unver et al. (2016) found that caregivers of bedridden elderly experience a moderate level of burden. However, the literature shows varying findings. Ma et al. (2014) reported that caregivers of elderly individuals with severe health issues experience moderate to heavy burdens. Conversely, Rodakowski et al. (2012) found that some caregivers reported little to no burden, possibly due to having different support systems or utilizing formal care services. These differences suggest that the level of burden can be influenced by various factors, such as the health status of the individual being cared for, the availability of support, and the frequency of caregiving.

Caregivers often experience significant stress due to the emotional impact of managing their patients' feelings and the subsequent effects on the patients' overall well-being. This stress is particularly pronounced when caregivers are required to exhibit high levels of tolerance and patience while

attending to elderly individuals who are grappling with sadness and frustration related to their illnesses (Croog et al., 2006). The role of a caregiver involves not only physical support but also the challenging task of helping patients navigate their emotional responses to their health conditions and providing consistent mental support. This responsibility can be overwhelming, as noted by Rha et al. (2015), who described it as one of the most demanding aspects of caregiving.

Cultural differences further complicate this role. In China, for instance, it is customary not to disclose the full extent of an illness to elderly patients, in order to protect their emotional well-being. This approach is intended to shield the elderly from emotional distress, contrasting sharply with Western practices where transparency and truth-telling about health conditions are emphasized to promote informed decision-making (Hu et al., 2018). A study by Deshields et al. (2012) highlights that 81% of caregivers support their loved ones in managing emotions related to their illness, yet 36% of these caregiver's report that addressing emotional needs is the most challenging part of their role.

The provision of mental support, although crucial, can restrict caregivers' social participation and increase their sense of isolation. Research by Tseng and Hsu (2019) and Tamdee et al. (2018) reveals that caregivers who are deeply involved in providing physical and emotional care to elderly family members often face limitations in engaging in social activities. This isolation can exacerbate caregiver stress, leading to both physical and mental exhaustion (Gok Metin et al., 2019). Furthermore, elderly patients exhibiting behavioural issues, such as aggression or emotional sensitivity, significantly contribute to caregiver burden. According to studies by Hashimoto et al. (2017) and Allen et al. (2020), managing these behaviours requires considerable patience and resilience, placing additional strain on caregivers.

The challenges of caregiving are further illustrated by Hazlan et al (2019), who documented various difficult behaviours exhibited by elderly individuals, such as becoming easily irritated when requests are not immediately fulfilled, throwing objects, and using abusive language. These behaviour's demand that caregivers possess not only patience but also effective coping strategies. Thus, it is imperative that caregivers receive adequate training and early exposure to the complexities of caring for elderly individuals, especially those with chronic illnesses. Such preparation can equip them with the necessary skills and mental resilience to handle the physical and emotional demands of caregiving, ultimately enhancing their well-being and the quality of care they provide.

CONCLUSIONS

To ensure the successful implementation of this intervention strategy in Malaysia, researchers suggest that all components of the care model, including the government, policymakers, relevant institutions, community, and families, must be involved in the planning process. The involvement of all parties will increase the likelihood of successfully executing all proposed programs, allowing the target groups to receive maximum benefits. Caregiving burdens have a negative impact on the emotional and psychological well-being of both caregivers and the elderly. To address this issue, responsible parties such as families, social workers, healthcare professionals, social service providers, policymakers, the community, and agencies working with the elderly need to develop and implement appropriate intervention programs that can improve and resolve the challenges of caring for bedridden elderly at home. To ensure the success of the proposed care model in the future, the structures within the National Senior Citizens Policy, the National Health Policy for Senior Citizens, the National Nutrition Policy of Malaysia, and the National Mental Health Policy related to elderly care need to be reviewed and improved. This will enable all levels of implementing groups to better execute policy recommendations. The proposed intervention strategies are expected to reduce the caregiving burden for the elderly at home and enhance the well-being of both the elderly and their caregivers.

Authors' contribution

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Acknowledgments: This project was supported by Universiti Sultan Zainal Abidin (UniSZA) under Dana Penyelidikan Universiti 1.0 (UniSZA/2022/DPU1.0/44).

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