Utilizing the Zarit Burden Interview (ZBI) in Early Recognition of Caregiver Burden: A Study to Facilitate Care Transition

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Rachel Marie Towle – *Speciality Nursing (SGH)*
Dr Low Lian Leng – *Department of Family Medicine and Continuing Care*
Dr Tan Siok Bee – *Speciality Nursing (SGH)*
Dr Cristina Hendrix - *Duke School of Nursing*

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INTRODUCTION

Background

With the rapidly changing healthcare landscape in Singapore – aging population, chronic disease and shrinking healthcare workforce, the reliance on family caregivers to continue the care of patients after hospital discharge is increasing. Although caregivers are the backbone and force multiplier of our healthcare system, the significance of their role and related strain are often overlooked by hospital staff. In Singapore Healthcare cluster, Patient Navigators (PN) is a centralized group of nurses who coordinate care to address the multidimensional needs of patients and their caregivers following discharge. However, PNs lack the necessary tools to properly assess caregiver well-being including the level of caregiver burden.

Objectives

The objective of this study therefore, is to utilize the ZBI in early recognition and intervention of caregiver burden in a tertiary hospital.

Specific aims:

1. More than 80% of caregivers will be assessed for caregiver burden using the ZBI tool during hospital admission.
2. More than 50% of caregivers with high burden (ZBI > 17) will be followed up by the community PN within 72 working hours (three days) of hospital discharge.
3. The overall ZBI mean score will show improvement from hospital admission (T0) to 30 days of post discharge follow up (T1).
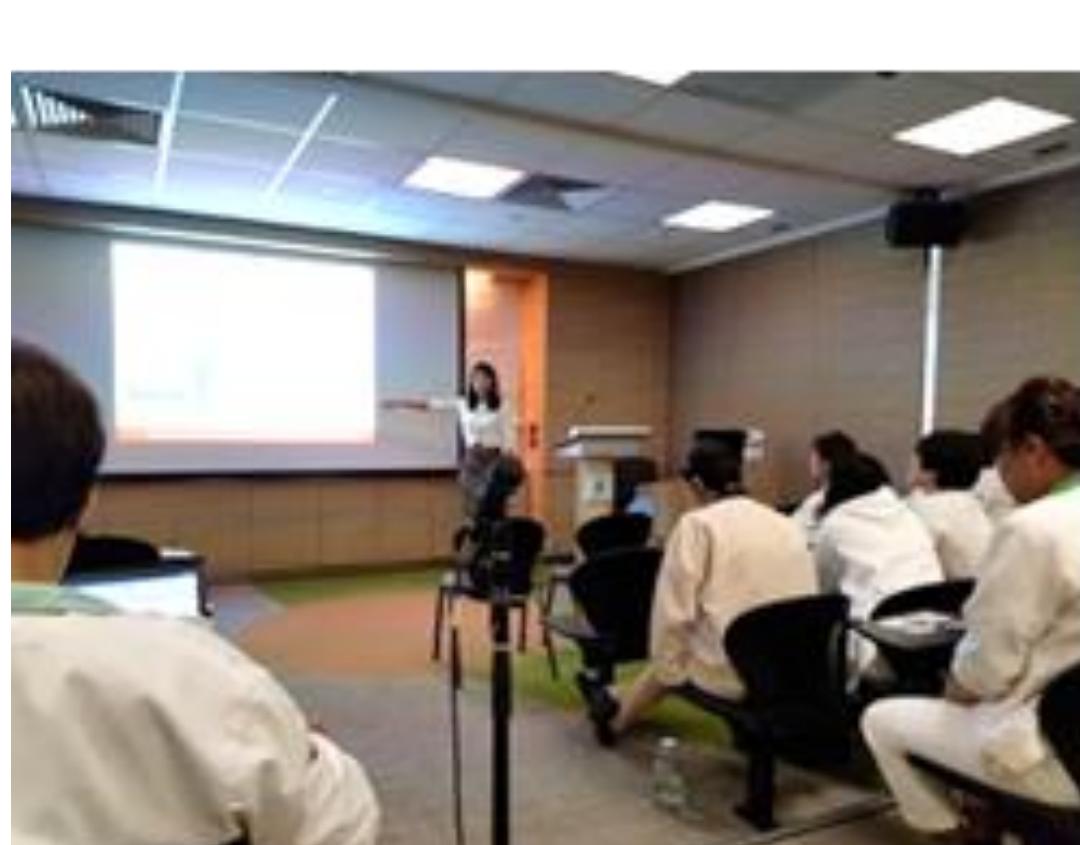
METHODOLOGY

This is a pre-post descriptive study done in Aug 2017 to Jan 2018. Caregiver of patient admitted to SGH who met the inclusion and exclusion criteria were assessed for caregiver burden using the ZBI (Table 1). PN followed through with targeted interventions (Table 2) including transitional care follow up post discharge .

Table 1: ZBI

Score: 0=Never, 1=Rarely, 2=Sometimes, 3=Quite Frequently, 4=Nearly Always

Question
1. Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?
2. Do you feel stressed between caring for your relative and trying to meet other responsibilities for your family or work?
3. Do you feel angry when you are around your relative?
4. Do you feel your relative currently affects your relationship with other family members or friends in a negative way?
5. Do you feel strained when you are around your relative?
6. Do you feel your health has suffered because of your involvement with your relative?
7. Do you feel that you don't have as much privacy as your like because of your relative?
8. Do you feel that your social life has suffered because you are caring for your relative?
9. Do you feel you have lost control of your life since your relative's illness?
10. Do you feel uncertain about what to do about your relative?
11. Do you feel you should be doing more for your relative?
12. Do you feel you could do a better job in caring for your relative?
Total Score

Table 2: Targeted PN Interventions

Main aspects	Targeted Interventions
Reducing the amount of caregiving	• Referral to community services (day care/day rehabilitation/respite/interim caregiver support, etc.). • Encourage caregiver to engage in physical activity, health screening/checks, go for a short vacation. • Referral and engagement with caregiver support groups
Improving caregiving skills	• Multicomponent psychosocial/ psychoemotional counseling by trained healthcare staff (medical social worker, psychologist, nurse counsellor) (individualized/ family) • Provide an individualized bedside/ institutional level caregiver training of home/nursing care skills. • Financial assistance/financial counseling. • Application and purchase/rental of medical devices to aid caregiving. • Chronic disease and medication education/ empowerment

The implementation and dissemination strategies included holding regular communication meetings, gathering feedback from staff, educational trainings and incorporating the ZBI into the PN workflow. Descriptive statistics detailed the patient and caregiver demographics and Non-parametric Wilcoxon signed-rank test was used to examine the overall ZBI mean score at baseline during hospital admission and at 30 days post discharge. Statistical analysis was computed using STATA 14.0.

RESULTS

Aim 1: Eighty six patients and caregivers met the inclusion criteria and <u>all (100%)</u> were assessed for caregiver burden during admission. Patient and caregiver demographic in Table 3 and 4 respectively.

Table 3: Caregiver demographic

Caregiver demographics
Most caregivers were aged between 40 to 80 years old (92%), with almost equal number of female and male caregivers. Most were of Chinese ethnicity (87%) and more than half were married (65%). Most caregivers only had secondary school education or lower (98%) and half were holding full time job (51%). Due to the working commitment of caregivers, almost half received additional help from a FDW (47%). Most caregivers were spouses or children (90%), living together with the patient (71%) and cared for their loved one for more than two years (83%).

Table 4: Patient demographic

Patient demographics
The patients were mostly the elderly, aged 80 years and above (57%), females more than males and of Chinese ethnicity. The patients physical state ranged from mildly frail to severely disabled (69%), as measured using the Modified Barthel Index (MBI) and CFS. Majority have two or more comorbities (92%) and taking five or more different types of medications (89%). Almost half of patients scored moderate to severe cognitive impairment on the AMT assessment (39%).

Aim 2: Eighty caregivers completed the ZBI at 30 days post discharge follow up. Twenty four (30%) caregivers had high burden (ZBI ≥17) , of which <u>58.3%</u> were followed up by PN within three days of discharge.

Aim 3: Seventy three <u>(91%) caregivers showed significant improvement </u>in caregiver burden at day 30 (positive ranks, p<0.001) (Table 5).

Table 5: Positive ranks for 73 caregivers - Wilcoxon Signed Rank Test

	Mean (SD) at T0	Mean (SD) at T1	P value
ZBI score (n = 80)	11.08 (7.64)	2.48 (3.36)	<0.001

Limitations:

Limitations include the sampling methodology where only caregivers who met the criteria were selected. Future studies can include other variables such as family dynamics, coping styles, underlying comorbidities of the caregiver and patient outcomes such as readmission rate.

Nursing implication:

Analysis of each items in the ZBI taken at baseline showed that the highest area of burden identified by most caregivers were Q1: <u>not enough time for self</u> (mean=1.37, SE=0.14, 95% CI [1.09, 1.65]); Q2: <u>stress between caregiving and with other responsibilities </u>(mean=1.56, SE=0.12, 95% CI [1.32, 1.80]) and Q10: <u>uncertain about what to do</u> (mean=1.31, SE=0.12, 95% CI [1.07,1.56]). By utilizing the ZBI, PNs were able to identify specific aspects of burden early and focused their interventions to facilitate effective care transition and hence better allocation of resources.

CONCLUSION

This study identified the importance and feasibility of utilizing a well-structured caregiver burden assessment in early identification of caregiver burden in a tertiary hospital. The ZBI is effective in helping identify problems and to quantify caregiver burden at the initial diagnostic assessment.

Targeted PN interventions during hospital admission and transitional care post discharge had significantly improved caregiver burden. Caregivers who are well supported from hospital to home are more confident in their caregiving role , had better coping strategies and better patient outcome.