

Short-Term Trajectories of Depressive Symptoms in Stroke Survivors and Their Family Caregivers

Rahul Malhotra, MBBS, MD, MPH,^{*†} Choy-Lye Chei, PhD,^{*}

Edward Menon, FAMS (Rehab Med),[‡] Wai Leng Chow, MBBS, GDFM,[§]

Stella Quah, PhD,^{*} Angelique Chan, PhD,^{*†} and David Bruce Matchar, MD^{*}

Goal: We utilize group-based trajectory modeling (GBTM) to delineate depressive symptom trajectories among stroke survivor–caregiver dyads, to identify predictors of the delineated trajectories, and to assess the influence of time-varying covariates (stroke survivor depressive symptoms and functional disability, caregiver depressive symptoms, and foreign domestic worker [FDW] assistance) on the level of the depressive symptom trajectories. **Methods:** Data on 172 stroke survivor–caregiver dyads in Singapore, for whom depressive symptoms were assessed thrice (baseline/3 months/6 months), were utilized. GBTM was applied to delineate depressive symptom trajectories, and to identify their predictors and time-varying covariates. **Findings:** Three stroke survivor depressive symptom trajectories (*low and decreasing* [47.6%], *low and increasing* [43.1%], and *high and increasing* [9.3%]) and 2 caregiver depressive symptom trajectories (*low and stable* [71.5%] and *high and decreasing* [28.5%]) were delineated. Caregivers with chronic diseases were more likely (odds ratio [95% confidence interval]: 8.09[2.04–32.07]) and those caring for older stroke survivors (0.94[0.90–0.98]) were less likely to follow the *high and decreasing* than the *low and stable* depressive symptom trajectory. An increase in stroke survivor functional disability and caregiver depressive symptoms led to a rise (~worsening) in stroke survivor depressive symptom trajectories. Whereas an increase in stroke survivor depressive symptoms led to a rise in caregiver depressive symptom trajectories, FDW assistance led to a decline (~improvement). **Conclusion:** Care professionals should be mindful of heterogeneity in depressive symptom patterns over time among stroke survivor–caregiver dyads. Reciprocal association of depressive symptoms in the stroke survivor–caregiver dyad suggests that addressing mood problems in 1 member may benefit the other member, and calls for dyadic mental health interventions. **Key Words:** Stroke—depression—caregivers—longitudinal studies—Singapore.

© 2015 National Stroke Association. Published by Elsevier Inc. All rights reserved.

From the ^{*}Health Services and Systems Research, Duke-NUS Graduate Medical School, Singapore; [†]Centre for Ageing Research and Education, Duke-NUS Graduate Medical School, Singapore; [‡]Saint Andrew's Community Hospital, Singapore; and [§]Health Services Research, Eastern Health Alliance, Singapore.

Received July 21, 2015; revision received September 4, 2015; accepted September 15, 2015.

Grant support: Supported by Singapore Ministry of Social and Family Development's Family Research Fund grant titled "Study of the Impact of Caring for Stroke Survivors on Family Structure and the Mental Health of Caregivers" (FRF-2008-5) and Singapore Ministry of Health's National Medical Research Council under its Singapore Translational Research Investigator Award (NMRC/STaR/0005/2009) as part of the project "Establishing a Practical and Theoretical Foundation for Comprehensive and Integrated Community, Policy and Academic Efforts to Improve Dementia Care in Singapore." The content including the methods, findings and results are solely the authors' responsibility and do not represent the endorsement and views of the grant administering organizations.

Department and institution where the work was performed: Health Services and Systems Research, Duke-NUS Graduate Medical School, Singapore.

Address correspondence to Rahul Malhotra, MBBS, MD, MPH, Health Services and Systems Research, Duke-NUS Graduate Medical School, 8 College Road, Singapore 169857. E-mail: rahul.malhotra@duke-nus.edu.sg.

1052-3057/\$ - see front matter

© 2015 National Stroke Association. Published by Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jstrokecerebrovasdis.2015.09.012>

Introduction

Depressive symptoms, well-documented among stroke survivors and their family caregivers,^{1,2} are associated with poorer stroke survivor functional outcomes^{3,4} and affect caregiver health and quality of life.^{5,6} Further, the mental health status of stroke survivors and their caregivers is mutually associated: stroke survivor distress influences caregiver emotional state,^{2,7,8} and caregiver depressive symptoms are in turn associated with poststroke depression.^{9,10}

Depressive symptoms among stroke survivors and their caregivers are not static but evolve over time. While incidence of depression among stroke survivors is highest in the first month poststroke,¹¹ emergent cases are reported thereafter.^{11,12} While 1 study observed depressive symptoms in caregivers to decrease in the first year following their care recipients' stroke,¹³ a longitudinal study of spousal caregivers reported both positive and negative psychological well-being changes poststroke.⁷ Given the dynamicity of depressive symptoms, it is important to describe their longitudinal pattern for the benefit of not only care professionals and researchers managing stroke survivors and their families but also stroke survivors themselves and their families.

Most longitudinal studies on depressive symptoms or depression among stroke survivors and their caregivers determine the incidence or baseline predictors of depressive symptoms or depression.^{11,12,14-20} Others, somewhat simplistically, report average depressive symptoms or changes in average depressive symptoms or proportion with (or without) depression or depressive symptoms above some threshold at various time points poststroke.^{7,11,13,15,18,19,21,22} Relatively few studies detail the longitudinal pattern of depressive symptoms.^{8,14} A 2010 review of studies on stroke caregiving highlighted that only 2 of the 63 included longitudinal studies described the pattern of caregiver depressive symptoms.¹⁴ Further, the review commented on infrequent application of complex longitudinal data analysis approaches, which take full advantage of longitudinal data, as a key limitation of the extant literature.¹⁴

When used, the most common longitudinal data analysis approach in studies of depressive symptoms among stroke survivors or their caregivers is growth curve modeling,^{8,14} which assumes the presence of a single "average" depressive symptom trajectory. However, this may be inaccurate when there is theoretical or empirical support for the presence of population subgroups that vary with respect to the variable of interest over time.²³ An alternate approach, group-based trajectory modeling (GBTM), assumes the presence of and identifies latent groups of individuals sharing distinct developmental trajectories of the variable of interest, thereby allowing a better understanding of its longitudinal pattern.²⁴⁻²⁶ In the context of the course of depressive symptoms, several studies use GBTM and support the presence of discrete

depressive symptom trajectories in various population and patient groups. For example, distinct depressive symptom trajectories are reported among the elderly,²⁷ new mothers,²⁸ and women with acute cardiac events.²⁹ Among caregivers, distinct depressive symptom trajectories are described in mothers of children with epilepsy,³⁰ spousal dementia caregivers,³¹ and caregivers of mechanically ventilated adults.³² In fact, a study comparing growth curve modeling and GBTM for charting depressive symptoms over time favored GBTM.³⁰

Using GBTM to delineate distinct depressive symptom trajectories among stroke survivors and their caregivers is beneficial for identifying at-risk individuals. This will help channel limited resources toward those most likely to follow trajectories indicating increasing depressive symptoms. To our knowledge, no study has utilized GBTM for describing stroke caregiver outcomes and only a few recent studies have applied it among stroke survivors to describe trajectories of disability status,³³ apathy,³⁴ and psychological symptoms.³⁵ The latter 2 studies do focus on mental health constructs but not exclusively on depressive symptoms. Further, they do not provide concurrent trajectories of the outcome among stroke caregivers. A dyadic focus, concurrently considering both stroke survivors and their caregivers, has been called for to expand the horizon of poststroke depression research.³⁶

We addresses the limitations of the extant literature, outlined above, by applying GBTM to longitudinal data from 172 stroke survivors and their family caregivers in Singapore, in whom depressive symptoms were assessed at 3 time points. Singapore is a multiethnic Southeast Asian island state, where stroke was the fourth most common cause of death in 2013 and the third most common cause of overall disease burden in 2010.³⁷ The study's objectives were to (1) delineate short-term depressive symptom trajectories among stroke survivors and their caregivers, (2) identify stroke survivor and caregiver characteristics predictive of trajectory group membership, and (3) assess the influence of time-varying covariates (stroke survivor functional disability level, stroke survivor depressive symptoms, caregiver depressive symptoms, and foreign domestic worker [FDW] assistance) on the level of the delineated depressive symptom trajectories. Given the heterogeneity in depressive symptom trajectories in other populations,²⁷⁻³² we hypothesized the presence of at least 2 distinct depressive symptom trajectories among stroke survivors and among their caregivers. Further, given the reciprocity of mental health among stroke survivors and their caregivers,^{2,7-10} the association between stroke survivor functional disability and psychological outcomes among stroke survivors and their caregivers,^{2,4,38-40} and the beneficial impact of FDW assistance on family caregivers in Singapore,⁴¹ we hypothesized that FDW assistance leads to a downward shift (~improvement of depressive symptoms) and the rest of the time-varying covariates lead to

Download English Version:

<https://daneshyari.com/en/article/2702336>

Download Persian Version:

<https://daneshyari.com/article/2702336>

[Daneshyari.com](https://daneshyari.com)