Psychosocial aspects of caregiving to stroke patients

By Mina Singh and Jill Cameron

Abstract
A high percentage of individuals who have suffered a stroke will be cared for at home, primarily by aging spouses and/or relatives. Providing care to a family member with a chronic or life-threatening condition can be both emotionally rewarding and distressing for the care provider.

The objective of this research was to test the factors associated with caregiver experiences. The findings of a convenience sample of 48 caregivers indicate that the higher the amount of caregiver burden, the greater the lifestyle impact and emotional distress for the caregiver. Caregiver satisfaction was not found to be associated with emotional well-being. The amount of support, both instrumental and social, did not improve the emotional well-being of the caregiver. The caregiver’s sense of mastery was found to moderate the relationship between lifestyle impact and emotional well-being and also between caregiver satisfaction and emotional well-being.

A stroke is a “brain attack” where a clogged artery cuts off blood flow to the brain. It is largely a disease of older persons with survivors usually aged 65 or older (Biegel, Sales, & Schulz, 1991). A stroke frequently disturbs an individual’s ability to communicate and perform the activities of daily living such as bathing, dressing, feeding oneself, ambulating and interacting socially with family and friends. The restructuring of the health care system, a shifting of care from the hospital to the community, has resulted in more care being provided on an out-patient basis and a decrease in length of hospitalization for stroke patients. Thus, a high percentage of stroke survivors will be cared for at home, primarily by an aging spouse and/or other relatives. Often, the primary caregiver has very little, if any, experience at providing care to someone with physical and/or cognitive deficits. This results in an overly stressful or burdensome situation for the caregiver, affecting their physical and emotional well-being. Obtaining a clearer understanding of the factors that contribute to caregiving experiences could assist in the development of health care educational interventions to improve caregiving for both the patient and the caregiver.

Development of the framework for the study
Caregiver burden and emotional well-being
The central theme in the majority of caregiver studies is the concept of burden. It is frequently treated as the primary outcome measure or as a predictor of other outcomes, such as depression or institutionalization of the care recipient (Anderson et al., 1995). Lawton, Kleban, Moss and Rovine (1989) attempted to distinguish between objective and subjective aspects of burden. Objective burden is the task-oriented care that is provided, such as bathing and dressing the care recipient or doing the housework, while subjective burden refers to the caregiver’s perception of the situation and how it affects them and includes impact on lifestyle and the extent to which behaviour problems of the patient bothers the caregiver.

Numerous key studies in various illness populations have investigated the impact of caregiving and emotional well-being on the caregiver, including: the behaviour problems of the recipients (Williams, 1994; Brocklehurst et al., 1981), severity of stroke (Schulz et al., 1988), and the impact of providing care (Lawton et al., 1991; Robinson, 1983; Pearlin & Schooler, 1978). In addition, Carey, Oberst, McCubbin and Hughes (1991) examined the relationship between caregiver burden, subjective appraisal, family hardiness and mood. The results of the Carey et al. (1991) study indicated that caregivers who reported high family hardiness viewed the caregiving situation positively, while caregivers with poor physical health viewed their caregiving situation negatively, which was associated with greater mood disturbance. This supported their hypothesis that the subjective appraisal of caregiver burden was a better predictor of mood than the act of providing care or objective burden.

Bradburn (1969) and Deiner et al. (1984) concluded that emotional well-being was validated as two independent constructs, emotional distress and emotional well-being. Both constructs were perceived to have different predictors, that is, satisfaction derived from caregiving may be associated with emotional well-being, and lifestyle interference may be associated with emotional distress (Lawton, Moss, Kleban, Glicksman, & Rovine, 1991).

Caregiving impact
The impact of caregiving has been studied using stress theory (Lazarus et al., 1984). This view suggests that an environmental situation such as providing care could be potentially harmful and a threat to the self or a detriment to emotional well-being. The person’s self-appraisal of how caregiving impacts on their own lifestyle and the extent to which the patient’s behaviour bothers the caregiver are seen as the mediating variables between the demand of caregiving and the state of emotional well-being. Robinson (1983) developed a brief measure of caregiver strain. He found caregiver strain positively related to increased emotional distress, poorer physical health and increased lifestyle interference. Anderson et al. (1995) investigated the impact or health and social consequences of caregiving and burden. Their results indicated that activities of daily living such as dressing, bathing, and
feeding were the areas requiring most assistance by the care recipient and most affected the caregiver’s emotional health, disruption of social activities and leisure time. Barusch et al. (1989) noted that the impact of stroke on the family and other non-professional caregivers is also influenced by the caregiver’s age, gender, education, caregiver experience and the severity of the patient’s disability, cognitive deficits and behavioural difficulties.

Gender and being a spouse or child also had an impact on the caregiver, with female caregivers receiving more support from people providing counselling and being involved in social activities, while male caregivers received formal support with homecare and the preparation of meals (Stoller et al., 1989; Barusch et al., 1989). Pound et al. (1993) found that community assistance was inadequate for caregivers.

Based on the literature and consultation with experts in caregiving research and measurement and evaluation, a theoretical model for this study was developed and depicted in Figure One. The objective of this research was to validate this proposed model in a sample of informal caregivers to stroke survivors.

**Research methodology**

**Participant selection**

The caregivers for this study were identified from The Toronto Hospital Stroke Registry database and a community support stroke group. The minimum criterion for being selected to the study as a caregiver was to have provided care in the home for at least one month after the care recipient was discharged from the hospital following treatment for the stroke. Once caregivers were identified, they were contacted by telephone, informed of the study and their role and consent to participate in the study was obtained with a choice of either a telephone or face-to-face interview. The study protocol was approved by the institutional research ethics board.

**Measurement instruments**

The strategy used for data collection was a psychosocial survey interview. The measures consisted of 12 separate data collection instruments, within the seven constructs: caregiver characteristics, caregiver burden, caregiver self-efficacy, support, caregiver impact, caregiver mastery and caregiver emotional well-being (see Figure One).

**Caregiver characteristics.** Caregiver characteristics included: personal demographics, length of time providing care and previous caregiving experience. The items used to collect demographic data were developed using a literature review and a panel of experts. The existing Charlson Comorbidity Index was used to measure the physical health of the caregiver (Charlson et al., 1987).

**Caregiver burden.** The amount of care provided during the past month with instrumental activities (e.g., finances) and activities of daily living (e.g., bathing) and medical care (e.g., medications) was assessed by the 17-item Caregiver Assistance Scale (CAS) (Cameron, Franche, Chueng, & Stewart, 2002). Level of assistance for each item was rated on a scale from zero (0) “no assistance” to six (6) “a lot”. The items were summed to provide a total score ranging from zero to 102 with higher scores indicating more assistance was provided. This instrument, when used with cancer patients, had a high internal consistency (Cameron et al., 2002).

To measure behaviour and psychosocial symptoms, a modified Behaviour Scale (Williams, 1994) was used. The original instrument was developed by Williams (1994)
through a literature review in the areas of stroke, traumatic brain injury and dementia, clinical experience and consultation with stroke informal caregivers (Williams, 1994). Williams’s preliminary research, with a sample of 26 informal caregivers to stroke survivors, suggested that some items were very infrequently endorsed and some items contained two questions within one item (Williams, 1994). As a result, a modified Behaviour Scale was developed which included 19 original and six revised items from the Williams instrument, eight new items from the stroke and dementia literature (Braithewaite, 1996; Schofield, Murphy, Herman, Block, & Singh, 1977; Williams, 1994) and four from clinical experience. All revised and new items were developed in consultation with a panel of experts. Some of the new items included “becomes uncooperative”, “becomes suspicious or accusing”, “becomes fearful and afraid”, and “gets depressed”. Individuals who have frequent contact with the stroke survivor and, therefore, have ample opportunities to observe changes in behaviour (i.e., informal care providers) were asked to rate “How often during the past two weeks did you observe the care receiver behaving this way?” for each item ranging from one “never” to five “all the time”. A Likert scale was used where a rating of one (1) indicated that the care recipient never exhibited that behaviour while a rating of five (5) indicated that the care recipient exhibited that behaviour all the time.

**Caregiver impact.** The 14-item Care-giving Impact Scale (CIS) assessed current level of lifestyle interference due to providing care (Cameron, Franche, Cheung, & Stewart, 2002). Interference on each lifestyle domain (e.g., work, family relations, active recreation, etc.) was rated from zero (0) “not at all” to six (6) “very much”. Items were summed to provide a total score ranging from zero to 84 and higher scores indicate more lifestyle interference.

The Bother Scale was a modification of the Behaviour Scale (Williams, 1994) with different anchors added to each item, following a literature review and consultation with a focus group of experts. A Likert scale was used with one (1) rating indicating that the behaviour did not bother the caregiver, while a rating of five (5) indicated that the behaviour bothered the caregiver a lot.

The Caregiver Satisfaction Scale is an existing scale to measure the positive impact of providing care (Lawton et al., 1989). The caregivers rated satisfaction with their role where one (1) indicated “not at all” to five (5) “very much”.

**Caregiver self-efficacy.** The Caregiver Self-efficacy Scale was developed to measure the confidence of caregivers in providing care. The items on this scale were the same as the items on the Caregiving Assistance Scale, but with different anchors. A rating of one (1) indicated a low level of confidence while a rating of seven (7) indicated a high level of confidence.

**Caregiver mastery.** The psychosocial resource mastery, an individual’s sense of control over her/his life, was assessed by Pearlin’s seven-item measure (Pearlin & Schooler, 1978). Each item was rated from one (1) “strongly disagree” to four (4) “strongly agree”. Five items were reverse scored and the items were summed to provide a total score ranging from seven to 28 with higher scores indicating more mastery.

**Support.** The Saranson Social Support Index was an established instrument to count the number of individuals in the caregiver’s support network and to rate the level of satisfaction with support received from each individual (Saranson et al., 1983). The Instrumental Support Checklist was newly developed to determine the amount of homecare provided. This checklist was developed in consultation with the local homecare agency and included items regarding nursing care, nutrition counselling, physiotherapy, occupational therapy, social work, speech-language therapy, personal care, light housekeeping, medical equipment and supplies, laboratory work, medications, transportation and meals.

**Caregiver emotional well-being.** The Profile of Mood States Scale was modified by Shacham (1983) and used to measure emotional well-being with six subscales, namely:

<table>
<thead>
<tr>
<th>Table One: Description of Demographic Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Age of Caregiver</td>
</tr>
<tr>
<td>Age of Patient</td>
</tr>
<tr>
<td>Gender of Caregiver</td>
</tr>
<tr>
<td>Gender of Patient</td>
</tr>
<tr>
<td>Relationship to Patient</td>
</tr>
<tr>
<td>Education status</td>
</tr>
<tr>
<td>Employment status</td>
</tr>
<tr>
<td>Family Total Income</td>
</tr>
<tr>
<td>Number of caregivers with children</td>
</tr>
<tr>
<td>Previous caregiving experience</td>
</tr>
</tbody>
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anger, tension-anxiety, depression-dejection, fatigue-inertia, vigour-activity and confusion-bewilderment. A Likert scale was used with a rating of zero (0) indicating that the caregiver did not have that feeling and four (4) indicating the caregiver felt extremely toward the scale item.

Testing the model. Preliminary analyses of the independent variables were conducted to conclude if the variables were mediators or moderators. A variable is considered to mediate the relationship between two other variables when without its presence, the relationship does not exist; while a moderator can be a qualitative or quantitative variable that affects the direction and/or strength of the relation between an independent variable and a dependent variable (Baron & Kenny, 1986). In addition, multicollinearity, the linear intercorrelations among independent variables, was tested. For a regression model to be statistically robust, correlation among independent variables must be minimal.

Results

Participant information
The demographics of the research participants are provided in Table One.

One hundred and six caregivers were contacted to participate and 48 (45% participation rate) agreed to assist with the research. Reasons for not participating in this study included: no interest, the patient was re-hospitalized or the patient was deceased. The majority of participants were women (75%) with 64.6% being spouses. The average length of caregiving in the home was 83.5 weeks, with a standard deviation of 164 weeks. These values were skewed as one caregiver was in this role for 17 years, while the majority of the caregivers were providing care for less than one year. Only 15% of the caregivers had past experience in caregiving. Caregivers ranged in age from 25 to 88 years with the mean age being 54.6 with a standard deviation of 16.6. Forty-two per cent of the caregivers had less than secondary school education. Fifty-two per cent of the participants were still working for pay while undertaking their caregiving responsibilities. Thirty-five per cent of the families had a total income of less than $20,000. Twenty-seven per cent of the caregivers had no children. The patients they were caring for ranged in age from 37 to 86 years with the mean age being 68.4, and a standard deviation of 11.9. Sixty-five per cent of the care recipients were male.

Confounding variables
Analyses were conducted for potential confounding effects on the dependent variable, caregiver emotional well-being, using t-tests, correlations, and analysis of covariance (ANOVA). These variables included age of patient, age of caregiver, length of past care, duration of present caregiving, number of children, Charlson Comorbidity Index, relation to caregiver, past care by caregiver, gender of patient, education, employment and income of caregiver. There were no statistically significant findings.

Testing for moderation
Mastery and support were tested for moderation (see Table Two). Mastery was found to be a moderator between impact and emotional well-being and also between caregiver satisfaction and emotional well-being. Multicollinearity was found to be low between impact and emotional well-being and between caregiver satisfaction and emotional well-being. The only moderating effect for support was found to be between behaviour and bother. The other relationships tested were not found to be moderating.

<table>
<thead>
<tr>
<th>Table Two: Testing for Moderators</th>
<th>df</th>
<th>F</th>
<th>sig</th>
<th>B</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Efficacy moderating assistance and impact.</td>
<td>47</td>
<td>5.27</td>
<td>0.003</td>
<td>-1.91</td>
<td>-1.38</td>
<td>0.175</td>
</tr>
<tr>
<td>2. Efficacy moderating behaviour and impact.</td>
<td>47</td>
<td>3.73</td>
<td>0.018</td>
<td>2.03</td>
<td>1.76</td>
<td>0.086</td>
</tr>
<tr>
<td>3. Efficacy moderating behaviour and bother.</td>
<td>47</td>
<td>27.09</td>
<td>0.000</td>
<td>-2.23</td>
<td>-3.31</td>
<td>0.760</td>
</tr>
<tr>
<td>4. Efficacy moderating impact and emotional well-being.</td>
<td>47</td>
<td>5.76</td>
<td>0.002</td>
<td>1.17</td>
<td>15</td>
<td>0.882</td>
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<tr>
<td>5. Efficacy moderating bother and emotional well-being.</td>
<td>47</td>
<td>23.53</td>
<td>0.000</td>
<td>2.33</td>
<td>2.67</td>
<td>0.012*</td>
</tr>
<tr>
<td>6. Mastery moderating impact and emotional well-being.</td>
<td>47</td>
<td>226.95</td>
<td>0.000</td>
<td>2.10</td>
<td>21.84</td>
<td>0.000*</td>
</tr>
<tr>
<td>7. Mastery moderating bother and emotional well-being.</td>
<td>47</td>
<td>20.29</td>
<td>0.000</td>
<td>-1.10</td>
<td>-1.75</td>
<td>0.088</td>
</tr>
<tr>
<td>8. Mastery moderating satisfaction and emotional well-being.</td>
<td>47</td>
<td>602.14</td>
<td>0.000</td>
<td>1.00</td>
<td>42.33</td>
<td>0.000*</td>
</tr>
<tr>
<td>9. Support moderating assistance and impact.</td>
<td>47</td>
<td>5.37</td>
<td>0.003</td>
<td>-0.87</td>
<td>-1.50</td>
<td>0.141</td>
</tr>
<tr>
<td>10. Support moderating assistance and bother.</td>
<td>47</td>
<td>2.63</td>
<td>0.062</td>
<td>-0.21</td>
<td>-0.34</td>
<td>0.735</td>
</tr>
<tr>
<td>11. Support moderating behaviour and impact.</td>
<td>47</td>
<td>3.71</td>
<td>0.018</td>
<td>-1.08</td>
<td>-1.75</td>
<td>0.088</td>
</tr>
<tr>
<td>12. Support moderating behaviour and bother.</td>
<td>47</td>
<td>37.88</td>
<td>0.000</td>
<td>-1.01</td>
<td>-2.76</td>
<td>0.008*</td>
</tr>
</tbody>
</table>

* p<.05
Testing for mediation
Impact, bother, efficacy and support were tested for mediation (see Table Three). Impact was found to mediate on both assistance and emotional well-being and behaviour and emotional well-being. Bother mediated on assistance and emotional well-being, and behaviour and emotional well-being. Efficacy and support were not found to be mediators. From this sample, caregiver satisfaction was found not to be associated with emotional well-being.

Regression analyses
Regression analyses were conducted to examine the relationship of assistance impact, behaviour and bother on caregiver emotional well-being. When considering the independent variables of interest, assistance and behaviour and the two mediators, impact and bother, it was found that bother was the best predictor of emotional well-being. The results of the regression analyses are noted in Table Four.

Discussion
The objective of this study was to validate a proposed framework to study the impact of caregiving of stroke survivors. The framework comprised 12 separate data collection instruments within seven constructs. Six of these instruments were existing tools, six were modified and four new instruments were developed.

Sample
Most of the caregivers were spouses and women. This supports the work of Stoller and Pugliesi (1989) who found that it was usually a female family member (wife or daughter) who assumed the role of caregiver. The mean age of the caregiver was 55 years old, while the mean age of the care recipient was 68 years old. The majority of the caregivers had no past caregiving experience and many were still working for pay while undertaking their caregiving responsibilities.

The covariates, age of the patient, age of the caregiver, gender of the patient, gender of the caregiver, duration of present caregiving, number of children, relation of the caregiver, level of the caregiver’s education, employment status of the caregiver, income level of the family and the present health status of the caregiver did not have any influence on the emotional well-being of the caregiver.

Reliability
The reliability of the scales was checked with resulting Cronbach alphas ranging from .79 to .93, except for the Charlson Comorbidity Index that was .53. The values of the test-retest ranged from .72 to .90. This indicated that all scales are reliable. Item analyses on each scale indicated that deleting an item would not change the reliability of the scale significantly.

Validity
Consensus validity of the new and modified scales was conducted by having two medical experts and a caregiver researcher review the scales before administration. Correlating the existing scales with the new and modified scales tested the construct validity of the scales. It was found that the Caregiving Satisfaction Scale moderately correlated with the vigour-activity subscale of the Profile of Mood States. Upon examination of the two measures, it was noted that the items were very similar and were not representing distinct constructs. Thus, the Caregiver Satisfaction Scale was removed in the revised model.

Table Three:
Testing for Mediators

<table>
<thead>
<tr>
<th>Test</th>
<th>df</th>
<th>F</th>
<th>sig</th>
<th>B</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Impact mediating assistance and emotional well-being.</td>
<td>47</td>
<td>9.50</td>
<td>0.000</td>
<td>.45</td>
<td>3.20</td>
<td>0.003</td>
</tr>
<tr>
<td>2. Impact mediating behaviour and emotional well-being.</td>
<td>47</td>
<td>14.66</td>
<td>0.000</td>
<td>.39</td>
<td>3.07</td>
<td>0.004</td>
</tr>
<tr>
<td>3. Bother mediating assistance and emotional well-being.</td>
<td>47</td>
<td>28.20</td>
<td>0.000</td>
<td>.69</td>
<td>6.51</td>
<td>0.000</td>
</tr>
<tr>
<td>4. Bother mediating behaviour and emotional well-being.</td>
<td>47</td>
<td>28.77</td>
<td>0.000</td>
<td>.91</td>
<td>5.49</td>
<td>0.000</td>
</tr>
<tr>
<td>5. Efficacy mediating assistance and impact.</td>
<td>47</td>
<td>6.81</td>
<td>0.003</td>
<td>.05</td>
<td>.34</td>
<td>0.734</td>
</tr>
<tr>
<td>6. Efficacy mediating behaviour and impact.</td>
<td>47</td>
<td>3.87</td>
<td>0.028</td>
<td>.05</td>
<td>.14</td>
<td>.893</td>
</tr>
<tr>
<td>7. Efficacy mediating behaviour and bother.</td>
<td>47</td>
<td>41.43</td>
<td>0.000</td>
<td>-.05</td>
<td>-.57</td>
<td>.574</td>
</tr>
<tr>
<td>8. Efficacy mediating impact and emotional well-being.</td>
<td>47</td>
<td>8.82</td>
<td>0.001</td>
<td>-.06</td>
<td>-.48</td>
<td>.632</td>
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<tr>
<td>9. Efficacy mediating bother and emotional well-being.</td>
<td>47</td>
<td>27.93</td>
<td>0.000</td>
<td>.10</td>
<td>.95</td>
<td>.348</td>
</tr>
<tr>
<td>10. Support mediating assistance and impact.</td>
<td>47</td>
<td>6.74</td>
<td>0.003</td>
<td>.00</td>
<td>.02</td>
<td>.981</td>
</tr>
<tr>
<td>11. Support mediating assistance and bother.</td>
<td>47</td>
<td>3.97</td>
<td>0.026</td>
<td>-.12</td>
<td>-.84</td>
<td>.405</td>
</tr>
<tr>
<td>12. Support mediating behaviour and impact.</td>
<td>47</td>
<td>3.87</td>
<td>0.028</td>
<td>-.02</td>
<td>-.12</td>
<td>.906</td>
</tr>
<tr>
<td>13. Support mediating behaviour and bother.</td>
<td>47</td>
<td>46.23</td>
<td>0.000</td>
<td>-.17</td>
<td>-.19</td>
<td>.060</td>
</tr>
</tbody>
</table>

* p<.05
Moderators

The variables, caregiver self-efficacy, mastery and support were tested using regression analyses for moderating the relationship between caregiver burden and caregiving impact. Caregiver self-efficacy was not found to be a moderator, between caregiver burden and lifestyle impact. The only moderating effect for support was found to be between behaviour and bother. This indicated that the degree to which a care recipient’s behaviour bothered the caregiver can be tempered by how much support, both instrumental and social, was received by the caregiver. This result contradicted Lawton et al. (1991) who found that social support was irrelevant to either the satisfactions or the burden of the caregiver. Before confirming support as a mediator or as a moderator, it will be necessary in future research to examine the impact of different forms of support in greater depth.

Mastery measures whether the caregiver has control over their life and emotional well-being. The results indicated an inverse relationship between the amount of assistance required in caregiving and the caregiver’s sense of mastery. Mastery was found to be a moderator between: 1) caregiving impact and the emotional well-being of the caregiver; 2) the amount of caregiver satisfaction and emotional well-being.

Mediators

The variables, impact, bother, efficacy and support were tested for mediation between caregiver burden and caregiver emotional well-being. Impact and bother were found to be mediated on both: assistance and emotional well-being, and behaviour and emotional well-being. Efficacy and support were not found to be mediators.

Impact was found to mediate the relationship between assistance and emotional well-being while bother was found to mediate the relationship between behaviour and emotional well-being. When the independent variables, assistance and behaviour were considered with the two mediators, impact and bother, it was found that bother was the best predictor of emotional well-being. The variables caregiver satisfaction and self-efficacy were removed from the model as they did not contribute toward explaining caregiver emotional well-being. These results must be viewed with caution due to limited generalizability from non-probability sampling.

Bivariate correlations

The results of bivariate correlations analyses revealed that the level of caregiving satisfaction did not affect the emotional well-being of the caregiver. This finding is in contradiction with Lawton et al. (1991) results that caregiving satisfaction was strongly correlated with the positive aspects of emotional well-being. This study also indicated that the greater the amount of caregiving required, the greater the impact on the lifestyle of the caregiver and caregiver satisfaction. These results partially support the findings of Lawton et al. (1991) as they found that the amount of caregiving effort increased for the caregiver and that caregiving satisfaction was related to burden.

Given the results of this study, the model was revised and presented in Figure Two.

Table Four:
Hierarchical Regression Analysis

<table>
<thead>
<tr>
<th>Test</th>
<th>B</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regressing assistance</td>
<td>.08</td>
<td>.72</td>
<td>0.479</td>
</tr>
<tr>
<td>on emotional well-being.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Regressing impact</td>
<td>.17</td>
<td>1.43</td>
<td>0.159</td>
</tr>
<tr>
<td>on emotional well-being.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regressing behaviour</td>
<td>-.23</td>
<td>-1.37</td>
<td>0.176</td>
</tr>
<tr>
<td>on emotional well-being.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Regressing bother</td>
<td>.81</td>
<td>4.64</td>
<td>0.000*</td>
</tr>
<tr>
<td>on emotional well-being.</td>
<td></td>
<td></td>
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</tr>
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</table>

* p < .05

Figure Two:
Revised Impact of Caregiving Model

Caregiver Mastery
- Pearlin’s Mastery Scale

Caregiver Burden
- Caregiver Assistance Scale
- Behaviour Scale

Caregiver Impact
- Caregiving Impact Scale
- Bother Scale

Emotional well-being
- Profile of Mood States Scale

Caregiver Characteristics
- Demographic data
- Charlson Comorbidity Index
- Instrumental Support
- Saranson Social Support Index
A drawback to our sample was that it was not representative of the global population of stroke caregivers. Due to financial constraints, the sample obtained was only representative of English-speaking caregivers living in a large urban centre who volunteered to participate in the study.

Implications for nursing practice
This study examined some of the variables of caregiving for stroke patients and their effects on the emotional well-being of the caregiver. These results need to be considered in developing health care interventions to enhance well-being and decrease distress for caregivers. These interventions may include educating caregivers on how to provide emotional support or manage behavioural problems, and linking caregivers with community resources to increase their mastery and improve their emotional health. Most importantly, paying attention to the amount that the behaviours bother the caregivers and the lifestyle changes can lessen caregiver burn-out.

About the authors
Dr. Mina Singh is an Assistant Professor at York University in Toronto, Ontario, and Dr. Jill I. Cameron is a Post-Doctoral Fellow at the Toronto Rehabilitation Institute. If you have any questions or comments about the paper, please contact Mina Singh, School of Nursing, Atkinson Faculty of Liberal & Professional Studies, York University, 4700 Keele Street, Toronto, Ontario M3J 1P3. Tel: (416) 736-2100 ext. 66439, Fax: (416) 736-5714, e-mail: mingsingh@yorku.ca.

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