

Original Research

Exploring Spousal Relationships Post-Stroke and the Association Between Relationship Congruence and Dysphagia-Related Caregiver Burden

Angela Horyacheva ¹, Samantha Shune ^{2, *}, Ashwini Namasivayam-MacDonald ^{1, 3}

1. School of Rehabilitation Science, McMaster University, 1280 Main Street West, Hamilton, Canada; E-Mails: horyacha@mcmaster.ca; namasia@mcmaster.ca
2. Communication Disorders and Sciences, University of Oregon, 1585 East 13th Avenue, Eugene, USA; E-Mail: sshune@uoregon.edu
3. Communication Sciences and Disorders, Adelphi University, 1 South Avenue, Garden City, USA

* **Correspondence:** Samantha Shune; E-Mail: sshune@uoregon.edu**Academic Editor:** David G Smithard**Special Issue:** [Stroke in Older Adults](#)*OBM Geriatrics*

2022, volume 6, issue 4

doi:10.21926/obm.geriatr.2204210

Received: August 11, 2022**Accepted:** October 26, 2022**Published:** November 07, 2022

Abstract

Stroke survivors often receive spousal support for post-stroke impairments. The quality of spousal caregiving and couples' wellbeing can suffer from post-stroke relationship changes and caregiver burden. Because swallowing impairment (dysphagia) is common post-stroke and spouses providing dysphagia care may experience burden, it is also important to explore whether relationship changes post-stroke are associated with dysphagia outcomes. The purpose of this study was to describe stroke survivor-spouse relationships post-stroke and explore whether relationship congruence is associated with dysphagia-related caregiver burden or swallowing-related quality of life (SWAL-QoL). Twenty-nine survivor-spouse couples completed a relationship questionnaire with 13 Likert scale questions (15 for spouses), analyzed for frequency of agreement and disagreement, and 2 open-ended questions regarding relationship strengths and possible improvements, analyzed thematically. Correlations were analyzed between relationship congruence (the absolute magnitude of



© 2022 by the author. This is an open access article distributed under the conditions of the [Creative Commons by Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium or format, provided the original work is correctly cited.

difference between total scores of corresponding couples) and dysphagia-related caregiver burden score and SWAL-QoL using Spearman's correlations. The majority ($\geq 70\%$) of survivors and spouses responded positively to questions regarding closeness, care/affection, and communication in their relationship. Similarly, affection (41% survivors, 31% spouses) and communication (14% survivors, 17% spouses) were the first and second most described relationship strengths; spouses also identified honesty as the third most common strength (14%). Many participants were unsure of how the relationship could be improved (34% survivors, 31% spouses). Relationship congruence was not significantly correlated with dysphagia-related caregiver burden ($r_s = -0.273$, $p = 0.076$) or SWAL-QoL ($r_s = -0.133$, $p = 0.246$). Future research should assess how dysphagia affects relationships. This could provide further nuance regarding the association between spousal relationships and dysphagia outcomes and potentially inform future interventions.

Keywords

Stroke; dysphagia; relationships; spouse; caregiver burden; swallowing-related quality of life

1. Introduction

Resilience is the ability to overcome adversity [1]. Families possessing this quality often have characteristics that make them better equipped to handle challenges [1]. These characteristics can include effective communication, spending time together, and having community support [1]. Health conditions present a possible challenge for families since family members often undertake an informal caregiving role [2], which could result in caregiver burden [3]. Caregiver burden can negatively impact the caregiver, and in turn the care-recipient, by worsening mental health, quality of life, and quality of care provided [3]. However, resilience appears to be protective against this burden [2]. Therefore, the interplay between relationships and caregiving burden within different medical conditions should be considered.

Stroke is a leading cause of death and disability [4, 5]. Stroke survivors may experience impairments in physical [4] or cognitive [6] functioning which can affect their ability to complete activities of daily living [4, 7] and necessitate spousal support (e.g., assistance with meal preparation or feeding) [8]. Post-stroke, the spousal relationship often changes as survivors' partners take on new roles, responsibilities, and identities [9-12]. These changes can cause fear and insecurity in couples [11] as they navigate the direct effects of the stroke [12], changing emotional [9,10], social, and sexual lives [9, 10, 12], and differing perceptions regarding the future and recovery [12, 13]. Relationship challenges can be a cause for concern if they negatively impact the care provided by the spouse. Some studies have identified that poor relationship consensus [14] and lower relationship satisfaction [15] are associated with higher caregiver burden in spouses of stroke survivors. Furthermore, perceiving the relationship as unbalanced is associated with increased feelings of burden in under-benefitting caregivers [16] and over-benefitting care-recipients [17]. This suggests that spousal care provision may suffer from relationship challenges, since increased caregiver burden is associated with worsened care [3].

While the association between relationship and caregiver burden has been explored to some extent for stroke, comparable work does not yet exist for swallowing impairments (dysphagia). This indicates a notable gap in the literature considering that the incidence of dysphagia in stroke patients ranges from 37% to 78% [18]. Dysphagia literature has identified increased diet restrictiveness, decreased swallowing-related quality of life (QoL), and greater perceived impact of the dysphagia on mealtimes as contributing factors to dysphagia-related caregiver burden [19]. It has also been reported that spousal caregivers of older adults with dysphagia are likely to experience moderate to severe emotional burden [20]. Higher emotional stress in caregivers may increase likelihood of depressive symptoms in care recipients [21]. Considering that stroke survivors experience better dysphagia-related quality of life when their mental health is better [22], it is of interest to explore whether relationship changes post-stroke are associated with dysphagia-specific outcomes such as dysphagia-related caregiver burden and QoL. By identifying whether the survivor-spouse relationship may affect caregiver burden in couples where the stroke survivor has dysphagia, it can be determined whether interventions to reduce dysphagia-related caregiver burden should be considered. Therefore, to improve care and outcomes for stroke survivors with dysphagia, it is important to explore how the survivor-spouse relationship may be associated with dysphagia-related caregiver burden. As such, the aims of this study were to:

- a) describe how the survivor-spouse relationship is affected by the presence of stroke; and
- b) explore how the agreement between survivors and their spouses regarding their relationship (relationship congruence) is associated with:
 - i. dysphagia-related caregiver burden; and
 - ii. swallowing-related QoL.

Based on previous stroke literature, this study sought to identify whether similar associations between relationship agreement and burden may be present in couples experiencing post-stroke dysphagia, from the perspective of the spouse (dysphagia-related caregiver burden) and survivor (swallowing-related QoL). It was hypothesized that greater agreement between survivors and spouses regarding the relationship would be associated with lesser amounts of dysphagia-related caregiver burden and better QoL.

2. Materials and Methods

The current study is a secondary data analysis from a study by Davis et al. [19], described elsewhere.

2.1 Participants

Participants included medically stable stroke survivors who experienced their latest stroke ≥ 3 months before study participation and were living with and receiving care from a spouse. Spouses of qualifying survivors were also included as participants. Both survivors and spouses needed to be at least 18 years old. To allow for the participation of a wider range of couples, all participants also had to self-report an “eating, swallowing, or chewing difficulty” since the stroke, broadly defined (e.g., dysphagia; motor impairment contributing to difficulty self-feeding). As such, stroke survivors without swallowing difficulties were also included to help capture individuals who may not have formal diagnoses of dysphagia.

Possible participants were informed of the study through stroke survivor and speech-language pathologist (SLP) spaces including rehabilitation facilities and outpatient clinics via flyers, online message boards, and electronic mailing lists. Because study participation involved completing a questionnaire, participants were provided with an information statement at the onset of the questionnaire and completion was taken to signify consent. Questionnaires were available in both paper and digital format. Financial compensation was provided. Study procedures were approved by the participating universities' institutional review boards (see Ethics Statement for additional information). Ethics approval was received from Adelphi University (approval number 061618) and University of Oregon (approval number 05162016.031).

2.2 Data Collection and Outcome Measures

The survey completed by stroke survivors and their spousal partners included collection of demographic information and a relationship questionnaire (see Appendix A for the spousal relationship questionnaire). The relationship questionnaire contained 13 questions (with 2 additional questions for spouses) asking respondents to rate statements about how their relationship has been impacted by the stroke using a 6-point Likert scale. Participants also had the opportunity to provide written responses to the following questions: "What are the current strengths of your relationship with your partner?" and "In what ways could your relationship be made stronger?" The relationship questionnaire was developed for this study by two SLPs who evaluated its face and content validity with three survivor-spouse couples, utilizing the feedback to create the final version of the questionnaire.

Survivors also completed the SWAL-QoL [23], a validated and reliable self-report measure used to assess how swallowing problems affect quality of life. SWAL-QoL scores range from 0 (worst) to 100 (best). Spouses also completed a measure of dysphagia-related caregiver burden, as calculated in the previous analysis of this dataset [19], which reflects the impact of the survivors' dysphagia on mealtimes, including social aspects and logistics [19]. Greater caregiver burden is reflected by a higher score, with possible scores ranging from 0 to 120.

2.3 Data Analysis

Demographic information and individual responses to the 6-point Likert scale questions of the relationship questionnaire were analyzed using descriptive statistics. Likert-scale responses were converted to binary variables to depict overall agreement or disagreement which were then used to report frequency of survivors' and spouses' agreement and disagreement with each question. Open-ended responses underwent thematic analysis [24]. The reliability of the relationship questionnaire was assessed using Cronbach's alpha, a measure of internal consistency. Acceptable alpha coefficients are generally ≥ 0.7 [25].

Responses to the Likert scale questions of the relationship questionnaire were also summed for an overall score assessing the individual's perception of relationship strength with a higher score indicating the relationship was perceived as stronger. A single-measures intraclass correlation coefficient (ICC) was also calculated to assess congruence between survivors and spouses with a two-sided paired-samples t-test to determine differences between the total scores of survivors and spouses. Relationship congruence, how much couples agreed regarding perception of relationship strength, was calculated by taking the absolute magnitude of difference between the survivor score

and spouse score for each couple. A smaller value indicated better agreement regarding the relationship. When calculating relationship congruence, the extra two questions provided to spouses were not included, and any missing data from one partner was removed from the other partner. Relationship congruence was then used to assess how the agreement of couples regarding the relationship is associated with (a) dysphagia-related caregiver burden score and (b) SWAL-QoL, using Spearman’s correlations. One-tailed tests were used as taking the absolute magnitude of the difference when calculating relationship congruence removed directionality. Statistical analyses were performed using Microsoft Excel version 2203 and SPSS v.28.

3. Results

3.1 Participants

Of 63 completed surveys, 5 were excluded for the following reasons: non-spousal relationship (n = 4), and only one partner completed the survey (n = 1). A total of 58 surveys (n = 58/63, 92%) from 29 survivor-spouse couples were included in the current study.

Table 1 presents survivor’s demographic information. Most survivors were male (n = 22/29; 76%), White (n = 21/29; 72%), and, on average, 60 ± 12 years of age (range: 33-88). The median time since stroke was 13 months (IQR = 5-44, range: 3-550). Most survivors had one stroke (n = 17/29, 59%), reported swallowing difficulties (n = 23/29, 79%), and were not receiving speech therapy for swallowing (n = 23/29, 79%). Survivors’ SWAL-QoL scores were normally distributed, with an average of 61 ± 21.

Table 1 Stroke Survivor Demographic Information (n = 29).

Characteristic	Frequency <i>n</i> (%)
Gender (female)	7 (24)
Age (years), <i>M</i> ± <i>SD</i>	60 ± 12 (range: 33-88)
Race/ethnicity	
White	21 (72)
Black	7 (24)
Hispanic/Latino	1 (3)
Work Status	
Full-time	5 (17)
Part-time	4 (14)
Unemployed	4 (14)
Retired	16 (55)
Education	
High School	6 (21)
Certificate beyond high school	8 (28)
Some college	1 (3)
Bachelor’s degree	9 (31)
Master’s degree or higher	5 (17)
Time since stroke (months), <i>mdn</i> (IQR)	13 (5-44)

	(range: 3-550)
Stroke type	
Ischemic	10 (34)
Hemorrhagic	5 (17)
Unknown	12 (41)
No response	2 (7)
Stroke localization	
Right	6 (21)
Left	7 (24)
Other/unknown	16 (55)
Number of strokes	
1	17 (59)
2	8 (28)
3 or more	2 (7)
No response	2 (7)
Reported swallowing difficulties	
Yes	23 (79)
No	4 (14)
No response	2 (7)
Receiving speech therapy for swallowing	
Yes	4 (14)
No	23 (79)
No response	2 (7)
SWAL-QoL score, <i>M ± SD</i>	61 ± 21

Table 2 presents spouses’ demographic information. Most spouses were female (n = 22/29, 79%), white (n = 22/29, 76%), and, on average, 57 ± 12 years of age (range: 32-86). Most spouses were either working full-time (n = 10/29, 34%), part-time (n = 10/29, 34%), or retired (n = 7/29, 24%). The average dysphagia-related caregiver burden score was 56 ± 15.

Table 2 Spouse Demographic Information (n = 29).

Characteristic	Frequency <i>n (%)</i>
Gender (female)	22 (76)
Age (years), <i>M ± SD</i>	57 ± 12 (range: 32-86)
Race/ethnicity	
White	22 (76)
Black	6 (21)
Decline to answer	1 (3)
Work status	
Full-time	10 (34)
Part-time	10 (34)
Unemployed	1 (3)

Retired	7 (24)
Other	1 (3)
<hr/>	
Education	
<hr/>	
High school	6 (21)
Certificate beyond high school	7 (24)
Some college	2 (7)
Bachelor’s degree	12 (41)
Master’s degree or higher	2 (7)
Burden, <i>M ± SD</i>	56 ± 15

3.2 Reliability of Relationship Questionnaire

Both survivor and spouse versions of the relationship questionnaire demonstrated sufficient internal consistency ($\alpha = 0.817$ and $\alpha = 0.686$, respectively). No items were removed from either questionnaire. The final survivor questionnaire included 13 questions with total possible scores from 0 to 78. The final spouse questionnaire included 15 questions with total possible scores from 0 to 90.

3.3 Descriptive Statistics of Relationship Questionnaire

Table 3 presents the overall agreement and disagreement of survivors and spouses to each question. Survivors expressed overall agreement to 9/13 (69%) questions. They were divided on the remaining four ($n = 4/13$, 31%) questions. Spouses expressed overall agreement to 10/15 (67%) questions, were divided on 4/15 (27%), and expressed disagreement to one ($n = 1/15$, 7%) question.

Table 3 Number of Survivors and Spouses who Agreed and Disagreed with Each Question ($n = 29$).

Question	No. of Survivor Responses		No. of Spouse Responses	
	<i>n</i> (%)		<i>n</i> (%)	
	Agreement ^a	Disagreement ^b	Agreement	Disagreement
Q1: Since the stroke, I feel isolated	20 (69)	9 (31)	14 (48)	15 (52)
Q2: Since the stroke, I feel depressed	21 (72)	8 (28)	21 (72)	8 (28)
Q3: Since the stroke, I do not feel like my typical self	24 (83)	5 (17)	13 (45)	16 (55)
Q4: The stroke has negatively impacted my relationship with my partner/significant other	13 (46)*	15 (54)*	14 (48)	15 (52)
Q5: The stroke has negatively impacted my relationship with other immediate family members	14 (48)*	15 (52)	9 (31)	20 (69)

Q6: The stroke has negatively impacted my relationship with my friends and/or my involvement in the community	15 (54)*	13 (46)*	12 (41)	17 (59)
Q7: I feel as close to my partner as I did before their stroke	25 (86)	4 (14)	21 (72)	8 (28)
Q8: I am able to show my partner as much care/affection as I did before their stroke	22 (76)	7 (24)	24 (83)	5 (17)
Q9: I can talk as directly and openly with my partner as I did before their stroke	24 (86)*	4 (14)*	23 (79)	6 (21)
Q10: Survivor is involved in discussions about their care as related to their stroke	23 (79)	6 (21)	26 (90)	3 (10)
Q11: I feel comfortable talking about the stroke with my partner	27 (93)	2 (7)	26 (90)	3 (10)
Q12: I feel comfortable sharing feelings related to the stroke with my partner	25 (86)	4 (14)	21 (72)	8 (28)
Q13: The stroke has negatively impacted my participation in joint activities with my partner	15 (52)	14 (48)	19 (66)	10 (34)
Q14: I feel supported by my family and/or friends	N/A	N/A	25 (86)	4 (14)
Q15: I have taken on more roles in the family since my partner's stroke	N/A	N/A	26 (90)	3 (10)

^aSomewhat agree, agree, or strongly agree

^bSomewhat disagree, disagree, or strongly disagree

*Missing data (n = 1)

3.4 Thematic Analysis

3.4.1 Current Relationship Strengths

Survivors. The most common strength, identified in 41% (n = 12/29) of survivor responses was affection. Beyond naming love, care, affection or closeness in the response, this theme also included responses such as having shared interests, spending time together and feeling “married to [their] best friend.” Communication was identified as a strength of the relationship in 14% (n = 4/29) of responses. Other responses also identified support (n = 3/29, 10%), respect (n = 3/29, 10%), trust (n = 3/29, 10%), and collaboration (n = 2/29, 7%) as strengths. Responses mentioned infrequently included: shared values, humour, intelligence, acceptance, appreciation, optimism, and commitment. Four survivors (14%) did not respond to the question or responded that they did not know the current strengths of their relationship and two respondents (7%) said their relationship was the same.

Spouses. The most common strength, identified in 31% (n = 9/29) of spouse responses, was affection. Seventeen percent (n = 5/29) of responses identified communication as a strength of the

relationship and 14% ($n = 4/29$) of responses specifically identified honesty, which could be considered an aspect of communication, in their response. Spouses also identified humour and laughter ($n = 3/29$, 10%), trust ($n = 5/29$, 17%) and collaboration ($n = 2/29$, 7%) as strengths. Other responses mentioned infrequently included: support, not taking each other for granted, endurance, steadfastness, dependability, empathy, understanding, and patience. Four spouses (14%) did not respond to the question.

3.4.2 Opportunities to Strengthen the Relationship

Survivors. Four survivors (14%) identified that communication could be improved. Specific examples included improving communication techniques when talking about difficult topics and not becoming defensive. Other aspects of the relationship which could be improved were compromise ($n = 3/29$, 10%), intimate lives ($n = 2/29$, 7%), and spending more time together or with friends ($n = 2/29$, 7%). Other responses mentioned infrequently included: letting go, trusting each other, positivity, and showing appreciation. Many survivors ($n = 10/29$, 34%) were unsure how the relationship could be made stronger or did not respond to the question. Three respondents (10%) said the question was not applicable or that their relationship was the same.

Spouses. Five spouses (17%) identified that communication could be improved (e.g., being honest) and three (10%) identified that improvements in emotional aspects (e.g., decreased outbursts and anger, increased emotional support) could benefit the relationship. Ten percent ($n = 3/29$) of spouses expressed wishes to return to “how it used to be” before the stroke. Other aspects that could strengthen the relationship included compromise ($n = 3/29$, 10%), trust ($n = 3/29$, 10%), and spending more time together ($n = 3/29$, 10%). Other responses mentioned infrequently included: more patience, increased intimacy, and respect. Many spouses ($n = 9/29$, 31%) were unsure how the relationship could be made stronger or did not respond to the question. One respondent ($n = 1/29$, 3%) said there was no way the relationship could be made stronger.

3.5 Exploring Relationship Congruence

According to the ICC, the survivors and spouses demonstrated poor congruence regarding their relationship ($ICC = 0.135$, $p = 0.238$). The paired samples t-test identified no significant difference between the overall assessment of the relationship between the two groups ($t = -0.966$, $p = 0.342$). Relationship congruence scores between corresponding survivor-spouse couples ranged from 0 to 32 ($M = 8.10$).

3.6 Correlation of Relationship Congruence with Caregiver Burden and SWAL-QoL

There was no significant correlation between relationship congruence score and dysphagia-related caregiver burden score ($r_s = -0.273$, $p = 0.076$) nor SWAL-QoL ($r_s = -0.133$, $p = 0.246$).

4. Discussion

The aim of this study was two-fold, to: describe how the survivor-spouse relationship is affected by stroke and explore whether relationship congruence is associated with either dysphagia-related caregiver burden or swallowing-related QoL. Study findings refuted the authors’ hypothesis that

greater relationship agreement between couples would be associated with lesser dysphagia-related caregiver burden and better QoL.

Overall, survivors and spouses were divided regarding whether the stroke had negatively impacted their relationship. Couples in this study reported many aspects of strong relationships. Anderson et al [26]. suggest that couples can reconstruct their marriage and new roles post-stroke when they communicate, resolve conflicts, and feel valued in the relationship. Participants in the current study exhibited characteristics suggestive of the ability to communicate and resolve conflicts. They expressed feeling able to talk as directly and openly with their partner as before the stroke and feeling comfortable talking or sharing feelings about the stroke with one another. Furthermore, both survivors and spouses identified communication as a strength of their relationship. Survivors' and spouses' identification of affection, trust, collaboration, and respect as strengths of the relationship also likely contribute to feeling valued in the relationship. Thematic analysis revealed that, as a group, participants shared many similar opinions regarding relationship strengths and weaknesses. The increase in non-responses regarding relationship weaknesses compared to relationship strengths suggests that couples in this study may experience difficulties in evaluating how to improve their relationship.

The results regarding the effects of stroke on the relationship, obtained from both the relationship questionnaire and the thematic analysis, add to the body of literature describing how relationships are impacted post-stroke. Two studies by Thompson and Ryan [9, 10] have identified some of the following outcomes in couples post-stroke: emotional disturbances (e.g., depression, anger), feelings of identity loss, and decreased sexual activity. These findings were also identified in the current study as most survivors and spouses reported feeling depressed post-stroke and some spouses expressed wanting emotional improvements in the relationship. Most survivors also identified not feeling like their typical self which could be related to identity loss. Open-ended responses from both survivors and spouses also identified increased intimacy as a possible relationship improvement. Other studies have identified that couples must adjust to role changes post-stroke [11, 12]. This was also seen in the present study as 90% of spouses reported taking on more roles in the family post-stroke. McCarthy et al. [12] suggest that couples experience a lack of support post-stroke. However, this was not the case for most participants in the current study; 86% of spouses reported feeling supported by family and/or friends. The current study is also, to the authors' knowledge, the first study to explore the impact of a couples' relationship on dysphagia outcomes post-stroke and thus adds novel information to the bodies of dysphagia and stroke literature.

Clinical Implications. This study sample identified that some survivor and spouse couples navigating swallowing difficulties post-stroke may experience feelings of depression, isolation, and identity loss. Such information is relevant to healthcare providers, such as primary care physicians, SLPs, and other specialists who regularly interact with stroke survivor-spouse couples throughout their recovery process, as it provides insight into the other challenges couples may be navigating. This could lead to referrals to appropriate supports such as counselling. Healthcare providers can also use this information to better prepare and inform patients and spouses of possible changes they may experience that they had not considered or expected. Furthermore, relationship strengths and weaknesses, such as those identified by participants in this study, can also be used to inform the development of relationship-focused interventions and counselling for stroke survivor-spouse couples such as those being explored by McCarthy et al. [27] and Yasmin et al. [28].

4.1 Limitations

The present study has several limitations. Previous work has suggested that relationships can moderate the effects of physical disability on loneliness [29], and that cognitive impairments like dementia can affect relationships [30]. Given that such outcomes are possible post-stroke [4, 6], the effect of other disabilities on the relationship is important to consider. Unfortunately, the present study was unable to adjust for the possible impact of such factors due to its small sample size. Furthermore, the study sample was also composed of primarily White participants, male survivors, and female spouses which is not an accurate representation of stroke demographics. A previous study estimated that the prevalence of individuals experiencing the effects of stroke in 2013 was 1.10% in men and 1.21% in women [31], suggesting a more equal distribution between men and women than represented in our sample. Individuals belonging to ethnic groups such as South Asian and Chinese populations also have higher prevalence of cardiovascular disease than those of European descent [32], which places them at greater risk of experiencing stroke. Consequently, this limits the generalizability of results. Furthermore, couples of different ethnicities or gender pairings than those in our study (e.g., same sex couples or couples where the stroke survivor is female) may have different experiences due to social and/or cultural factors. Because of the small sample size, these limitations could not be mitigated through statistical means.

The study also suffers from the possibility of response biases. The individuals who chose to participate may be somehow different from those who chose not to participate. Additionally, because the relationship assessment was self-reported, it is possible participants may have altered their responses as a result of knowing they are part of a study. For example, participants may have responded to appear more socially desirable rather than reporting their true thoughts or feelings.

Finally, the usefulness of the association of relationship agreement with dysphagia measures may be limited since the relationship questionnaire was asking specifically about the impact of stroke on the relationship, not dysphagia. Thus, it is suggested that future research further explores this association using a dysphagia-specific assessment of the relationship. In addition to potentially providing a more accurate assessment of the association between relationship agreement and dysphagia-related outcomes, this could also provide a description of how dysphagia itself affects the relationship and possibly inform future interventions.

5. Conclusions

The impact of stroke on each spousal relationship is different and likely mediated by relationship factors such as strength (i.e., ability to communicate, resolve conflict). The description of post-stroke relationship changes presented here adds to, and largely aligns with, the existing body of literature exploring relationships post-stroke. The present study also adds novel information regarding the association of relationship agreement to dysphagia-related measures. However, this study highlights a significant lack of dysphagia-specific literature addressing how dysphagia affects spousal relationships post-stroke. Thus, future work should be conducted to explore how dysphagia affects relationships. In generating this knowledge, more nuanced analyses regarding how aspects of relationships affect dysphagia outcomes can be conducted.

Acknowledgments

We thank Amanda Morano-Villhauer for her valuable contributions to the design of the survey.

Author Contributions

AH: Methodology, data analysis, writing. SS: Conceptualization, methodology, data curation, supervision. ANM: Conceptualization, methodology, data curation, supervision.

Funding

Portions of this work were supported by an Advancing Academic-Research Careers Award from the American Speech-Language-Hearing Association (to S. Shune).

Competing Interests

The authors have declared that no competing interests exist.

Additional Materials

The following additional materials are uploaded at the page of this paper.

1. Appendix A: Relationship Questionnaire Presented to Spouse Participants with Responses on a 6-point Likert Scale (Strongly Disagree, Disagree, Somewhat Disagree, Somewhat Agree, Agree, Strongly Agree).

References

1. Black K, Lobo M. A conceptual review of family resilience factors. *J Fam Nurs*. 2008; 14: 33-55.
2. Zhao X, Lee K, Baney B, Penrod J, Schubart JR. Resilience in the context of informal caregiving: A scoping study. *Med Res Arch*. 2016; 4.
3. Liu Z, Heffernan C, Tan J. Caregiver burden: A concept analysis. *Int J Nurs Sci*. 2020; 7: 438-445.
4. Mayo NE, Wood-Dauphinee S, Ahmed S, Gordon C, Higgins J, Mcewen S, et al. Disablement following stroke. *Disabil Rehabil*. 1999; 21: 258-268.
5. Grefkes C, Fink GR. Recovery from stroke: Current concepts and future perspectives. *Neurol Res Pract* 2020; 2: 1-10.
6. Tatemichi TK, Desmond DW, Stern Y, Paik M, Sano M, Bagiella E. Cognitive impairment after stroke: Frequency, patterns, and relationship to functional abilities. *J Neurol Neurosurg Psychiatry*. 1994; 57: 202-207.
7. Hartman-Maeir A, Soroker N, Ring H, Avni N, Katz N. Activities, participation and satisfaction one-year post stroke. *Disabil Rehabil*. 2007; 29: 559-566.
8. Rangira D, Najeeb H, Shune SE, Namasivayam-MacDonald A. Understanding burden in caregivers of adults with dysphagia: A systematic review. *Am J Speech Lang Pathol*. 2022; 31: 486-501.
9. Thompson HS, Ryan A. The impact of stroke consequences on spousal relationships from the perspective of the person with stroke. *J Clin Nurs*. 2009; 18: 1803-1811.

10. Thompson HS, Ryan A. A review of the psychosocial consequences of stroke and their impact on spousal relationships. *Br J Neurosci Nurs*. 2008; 4: 177-184.
11. Kitzmüller G, Asplund K, Häggströ T. The long-term experience of family life after stroke. *J Neurosci Nurs*. 2012; 44: E1-E13.
12. McCarthy MJ, Lyons KS, Schellinger J, Stapleton K, Bakas T. Interpersonal relationship challenges among stroke survivors and family caregivers. *Soc Work Health Care*. 2020; 59: 91-107.
13. Brann M, Himes KL, Dillow MR, Weber K. Dialectical tensions in stroke survivor relationships. *Health Commun*. 2010; 25: 323-332.
14. Wu CY, Skidmore ER, Rodakowski J. Relationship consensus and caregiver burden in adults with cognitive impairments 6 months following stroke. *PMR*. 2019; 11: 597-603.
15. Kruithof WJ, Post MWM, van Mierlo ML, van den Bos GAM, de Man-van Ginkel JM, Visser-Meily JMA. Caregiver burden and emotional problems in partners of stroke patients at two months and one year post-stroke: Determinants and prediction. *Patient Educ Couns*. 2016; 99: 1632-1640.
16. McPherson CJ, Wilson KG, Chyurlia L, Leclerc C. The caregiving relationship and quality of life among partners of stroke survivors: A cross-sectional study. *Health Qual Life Outcomes*. 2011; 9: 1-10.
17. McPherson CJ, Wilson KG, Chyurlia L, Leclerc C. The balance of give and take in caregiver-partner relationships: An examination of self-perceived burden, relationship equity, and quality of life from the perspective of care recipients following stroke. *Rehabil Psychol*. 2010; 55: 194-203.
18. Martino R, Foley N, Bhogal S, Diamant N, Speechley M, Teasell R. Dysphagia after stroke: Incidence, diagnosis, and pulmonary complications. *Stroke*. 2005; 36: 2756-2763.
19. Davis C, Namasivayam-Macdonald AM, Shune SE. Contributors to poststroke dysphagia-related caregiver burden. *Am J Speech Lang Pathol*. 2021; 30: 1061-1073.
20. Shune SE, Namasivayam-MacDonald AM. Swallowing impairments increase emotional burden in spousal caregivers of older adults. *J Appl Gerontol*. 2020; 39: 172-180.
21. Ejem DB, Drentea P, Clay OJ. The effects of caregiver emotional stress on the depressive symptomatology of the care recipient. *Aging Ment Health*. 2015; 19: 55-62.
22. Namasivayam-MacDonald AM, Ayub A, Najeeb H, Shume SE. Understanding the independent predictors of dysphagia-related quality of life in stroke survivors. *J Speech Lang Hear Res*. 2022; 65: 1697-1723.
23. McHorney CA, Robbins J, Lomax K, Rosenbek JC, Chignell K, Kramer AE, et al. The SWAL-QOL and SWAL-CARE outcomes tool for oropharyngeal dysphagia in adults: III. Documentation of reliability and validity. *Dysphagia*. 2002; 17: 97-114.
24. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006; 3: 77-101.
25. DeVellis RF, Thorpe CT. *Scale Development: Theory and Applications*. 5 ed. Thousand Oaks, California: Sage Publications; 2021.
26. Anderson S, Keating NC, Wilson DM. Staying married after stroke: A constructivist grounded theory qualitative study. *Top Stroke Rehabil*. 2017; 24: 479-487.
27. McCarthy MJ, Garcia YE, Dunn DJ, Lyons KS, Bakas T. Development and validation of a quality of relationship intervention for stroke survivor-family caregiver dyads. *Top Stroke Rehabil*. 2020; 27: 305-315.

28. Yasmin N, Riley GA. Psychological intervention for partners post-stroke: A care report. *NeuroRehabilitation*. 2020; 47: 237-245.
29. Warner DF, Adams SA. Physical disability and increased loneliness among married older adults: The role of changing social relations. *Soc Ment Health*. 2016; 6: 106-128.
30. Prakke HM. Spousal relationships in which one partner has early cognitive problems. *Dementia*. 2012; 11: 199-215.
31. Krueger H, Koot J, Hall RE, O'Callaghan C, Bayley M, Corbett D. Prevalence of individuals experiencing the effects of stroke in Canada. *Stroke*. 2015; 46: 2226-2231.
32. Anand SS, Yusuf S, Vuskan V, Devanesen S, Teo KK, Montague PA, et al. Difference in risk factors, atherosclerosis, and cardiovascular disease between ethnic groups in Canada: The study of health assessment and risk in ethnic groups (SHARE). *Lancet*. 2000; 356: 279-284.



Enjoy *OBM Geriatrics* by:

1. [Submitting a manuscript](#)
2. [Joining in volunteer reviewer bank](#)
3. [Joining Editorial Board](#)
4. [Guest editing a special issue](#)

For more details, please visit:

<http://www.lidsen.com/journals/geriatrics>