Introduction

This exploratory study focused on gaining insight into the psychological experience of stroke survivors undergoing inpatient rehabilitation. Specifically, it investigated whether stroke survivors undergoing inpatient rehabilitation were able to identify any positive consequence of their stroke. This phenomenon, also known as benefit finding or positive reframing, has recently received more attention in the coping literature examining reactions to severe illness.

Using a case series methodology and qualitative analytic techniques, 16 stroke survivors were interviewed using standardized open-ended questions related to identification of positive consequences attributed to surviving a stroke. Sixty-three percent of the patients interviewed were able to identify positive consequences of their stroke. The following five themes regarding positive consequences of stroke emerged from this case series: increased social relationships, increased health awareness, change in religious life, personal growth, and altruism. It was concluded that some individuals who have survived an acute stroke are able to reframe their experience in a positive light. This study provides occupational therapists and others with further insight into the coping mechanisms of those individuals who have survived a stroke. The need for further research is stressed.


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stressors such as illness. The literature uses various terms to describe this phenomenon including “benefit finding” (Katz, Flasher, Cacciapaglia, & Nelson, 2001), “finding the silver lining” (Sodergren, Hyland, Singh, & Sewell, 2002), “positive consequences” (Sodergren & Hyland, 2000), and “positive reframing” (Carver, 1997).

The ability of people in adverse situations to identify positive consequences has been measured in a variety of ways including: as part of a comprehensive interview with responses analyzed for themes and trends (Folkman, 1997; Mohr et al., 1999), answers to a specific question (Sodergren & Hyland, 2000; Stanton et al., 2002), and via quantitative standardized measures such as the Silver Lining Questionnaire (Sodergren et al., 2002) and the Satisfaction With Illness Scale (Hyland & Kenyon, 1992).

Individuals living with cancer have reported some experiences related to the disease to be positive or beneficial. Examples include enhanced spirituality, improved personal resources and skills, enhanced sense of purpose, closer relationships with significant others, and changes in life priorities (Antoni et al., 2001). Mohr et al. (1999) interviewed 94 subjects with multiple sclerosis regarding their lives and interpersonal relationships. Several patterns emerged from the data including finding benefits from living with the disease such as deepening of relationships, increased appreciation for life, and increased spiritual interests.

There is emerging evidence to cautiously support an association between the ability to identify positive consequences and improved health outcomes. Katz, Flasher, Cacciapaglia, and Nelson (2001) examined subjects with either cancer or lupus. They found that subjects who perceived more benefits from their illness suffered fewer mood disturbances as measured by the Profile of Mood States. Katz et al. further concluded that the ability to find benefit in an illness was associated with positive health-related consequences such as reduced emotional distress, less fatigue, and lower pain ratings. Stanton et al. (2002) concluded that experimentally induced emotional expression and benefit finding through a written-emotion intervention for early-stage breast cancer patients resulted in fewer cancer-related morbidities.

Folkman (1997) studied caregivers of men with AIDS. This longitudinal study consisted of interviews conducted over time and demonstrated that, in addition to experiencing intense negative psychological states, the subjects experienced positive psychological states during caregiving and bereavement. Folkman recommended that coping theory and research should move beyond focusing strictly on distress as well as use of a more inclusive view of examining both negative and positive psychological states. To date, however, there have been no published studies regarding the ability of stroke survivors to identify positive consequences of their strokes. Information regarding this phenomenon could provide further insight into the psychological processes of stroke survivors.

This study addressed this issue by asking stroke survivors to specifically reflect on positive consequences related to their stroke. The rationale for this methodology is that it is parallel with other researcher’s methods, it reduces the respondent’s burden by being time efficient, and an open-ended question format allows for a variety of individual responses.

Methodology

The design of this exploratory research is a case series using qualitative analytic techniques. Sixteen subjects participated over a 6-month data collection period. The study was conducted at a large urban teaching hospital on a general inpatient rehabilitation unit.

Participants

All patients admitted to the inpatient rehabilitation unit for stroke rehabilitation over the 6-month data collection period were invited by the primary investigator to participate in this study if they met study criteria. Exclusionary criteria included: patients who had received stroke rehabilitation in the past and/or the presence of language disturbances such as Wernicke’s and/or Broca’s aphasia or cognitive disturbances severe enough to preclude participation in an interview.

Potential patients were identified via the daily census. The medical record was then screened to determine if the patient was eligible for the study. Either MRI [magnetic resonance imaging] or CT [computed axial tomography] scan confirmed location of the participant’s stroke. Language and cognitive skills were objectively documented in the medical record by the rehabilitation team using the Functional Independence Measure™ (FIM) on the day of admission. The FIM is a standardized and reliable instrument that documents level of independence in 18 areas including communication (comprehension and expression) and social cognition (social interaction, problem solving, and memory) (Keith, Granger, Hamilton, & Sherwin, 1987). Patients scoring below a 6 (modified independence) on any of the communication and cognition items were excluded.

Procedures

After being identified via the unit census and preliminary chart review to determine eligibility, the primary investigator explained the study procedures and risks (feelings of fatigue and/or feeling frustrated or upset by the questions asked during the interview process), and obtained informed consent.

The interview took place after therapy hours (4:00 p.m.) in one session during days 5–7 after admission to the rehabilitation unit. A script was used to ensure consistent phrasing. The question and prompts were phrased as follows:

“Mr./Mrs. ______, while I know having a stroke is probably a very negative situation in many respects, I was wondering if you have been able to identify any positive consequences related to your stroke.”

Prompt 1: “For example, any positive personal changes?;” Prompt 2: “Any positive thoughts?;” Prompt 3: “Any positive ideas?”

The possible response set included:

“Yes,” “No,” “I am not sure,” and no response. If the patient answered yes, the primary investigator asked the patient to share his or her thoughts, which were recorded verbatim by hand.

Data Analysis

Frequency distributions of the response set (“Yes,” “No,” “I am not sure,” no response) to the question were calculated for all patients. When patients answered “Yes,”
verbatim written responses were analyzed for themes and trends. The qualitative analytic software program NUD*IST (Non-numerical, Unstructured, Data Indexing, Searching, and Theorizing) version 5 (QRS International, 2002) was used to assist with the analysis. For this study, NUD*IST was used for analysis of open-ended answers from the interviews. Verbatim responses were uploaded into NUD*IST and the text units were coded to reflect developing themes related to positive consequences of surviving a stroke.

The data were also examined by an external reviewer to corroborate coding and themes. The external reviewer was a licensed clinical psychologist who specialized in neurological inpatient rehabilitation. The external reviewer’s comments were integrated into the final analysis.

Results

Overall, 16 patients were recruited to participate in the study and 52 were excluded. Demographic and clinical information is summarized in Table 1.

When asked whether or not they could identify any positive consequences of their stroke, 10 (63%) patients answered “Yes.” The following five themes emerged from their responses:

1. Increased social relationships. Patients were aware of increases in the amount of time spent with families and friends. In addition they noted feeling that family relationships were strengthened, and personally feeling closer and more connected to significant others in their lives.

2. Increased health awareness. Patients discussed that they had an increased understanding of health or body issues. They also noted feeling that they were getting better overall health care and that they were starting to understand the importance of healthy living habits.

3. Change in religious life. Comments related to feeling generally more religious and to having an improved relationship with God were made by the patients. Patients also discussed increases in religious behaviors such as praying more often.

4. Personal growth. Patients reported that their stroke resulted in personal improvements. Examples of personal growth and self-improvement included improved focus on what is important in life, enjoying living each day, and positive personality changes such as being patient, not needing to control all situations, and being more humble.

5. Altruism. Some of the statements that patients made were related to unselfish concern for the welfare and interests of others such as family members and friends. Comments were made regarding using the stroke as a warning to others to improve daily living habits and helping others who have had or may have a stroke in the future.

See Table 2 for examples of specific responses that were coded for each of the five themes that emerged during the analysis of data.

Pattern matching techniques (Yin, 2003) or examining each of the patients for trends related to selected variables were used to further analyze the data. No particular patterns emerged in the data related to which patients did or did not identify positive consequences and/or which themes were identified when considering the variables of age, gender, ethnicity, or side of lesion.

Eight of the 10 patients who were able to identify positive consequences regarding their stroke identified only one of the above themes, whereas two of the patients were able to identify two or more of the above themes. The theme of increased health awareness was identified by 4 of the patients, personal growth was identified by three patients, increased social relationships was identified by two of the patients, change in religious life was identified by two patients, and themes related to altruism were identified by two patients.

Discussion

The findings of this study related to positive consequences are consistent with a growing body of research and literature that identifies the ability to identify positive consequences as an underestimated adaptation to adverse events. Five themes regarding positive consequences emerged from this response analysis: increased social relationships, increased health awareness, change in religious life, personal growth, and altruism.

The themes that emerged from this study are similar to those in other published research focused on gaining insight into the ability to perceive positive consequences or find benefit from other illnesses. Mohr et al. (1999) analyzed the phenomenon of benefit finding in subjects who had multiple sclerosis (MS). The researchers found that their subjects identified a deepening of relationships with others, an increased appreciation for life, and increased focus on spirituality attributed to having MS.

Similarly, Katz et al. (2001) found that those living with cancer and those living with lupus were able to identify a deeper appreciation of life, more compassion for others, and an increased willingness to express feelings openly as positive consequences of their disease. Hyland and Kenyon (1992) studied subjects with chronic obstructive pulmonary disease and found that common themes related to identifying positive consequences of illness included feeling that family really cared and that the true value of friendships and relationships was highlighted. Brod (1998) examined subjects living with diabetes and lower extremity ulcers. Similar to the present study, subjects identified improved relationships, increased awareness of health issues, and increased patience as positive consequences of living with their illness.

Table 1. Demographic and Clinical: Descriptive Statistics

<table>
<thead>
<tr>
<th>Gender, n (%)</th>
<th>Age, mean (SD)</th>
<th>Ethnicity, n (%)</th>
<th>Site of Stroke, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male: n = 8 (50%)</td>
<td>M = 61 (+/-11)</td>
<td>Caucasian: n = 7 (44%)</td>
<td>Left: n = 7 (44%)</td>
</tr>
<tr>
<td>Female: n = 8 (50%)</td>
<td></td>
<td>African-American: n = 5 (31%)</td>
<td>Right: n = 8 (50%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hispanic: n = 4 (25%)</td>
<td>Cerebellum: n = 1 (6%)</td>
</tr>
</tbody>
</table>
The theme of improved relationships is also present in a study by Cruess et al. (2000) that examined the effectiveness of an intervention focused on enhancing benefit finding in women with early stage breast cancer. Sodergren and Hyland (2000) examined 57 subjects who were living with respiratory dysfunction. The subjects identified the themes of improved relationships, positive influence on others, positive personality changes, spiritual changes, changes in priorities, and new pursuits. The authors concluded that positive consequences of illness are highly varied and are more common than often realized.

Sodergren et al. (2002) examined subjects undergoing cardiopulmonary rehabilitation and concluded that the rehabilitation process itself might lead to an increase in the ability to perceive positive consequences of illness. All of the patients who participated in the present study had recently been transferred to the inpatient rehabilitation unit from acute neurological units. It is possible that this accounted for the high percentage of patients who were able to find benefit in surviving their stroke.

It is not clear if the ability to attribute positive consequences to an adverse event can be modified or learned. Nor is the mechanism of benefit finding clear. Taylor (1983) hypothesized that the harshness of an adverse event could be lessened depending on how the event is viewed or interpreted. In addition, people are driven to interpret events in a way that enables them to return to their previous level of psychological function. Therefore, finding a “silver lining” during a stressful event may be self-enhancing by achieving a more favorable balance between their current situation and previous level of psychological functioning. Similarly, a cognitive adaptation such as reframing a negative situation may give people a sense of control and the ability to overcome feelings of being helpless (Taylor). Finally, LeShan (1994) hypothesized that the ability to find benefits in illness is not a cognitive reframing but is a phenomenon of real existential growth.

Conclusions
This study has documented that some acute stroke survivors are capable of identifying positive consequences related to their stroke. Future research should determine whether or not this ability is associated with positive health consequences in this population. If so, determining whether or not this ability can be learned or facilitated is critical in the potential development of interventions focused on improving quality of life or function in the stroke survivor population. Although there is limited evidence to suggest that this skill can be learned, findings by Cruess et al. (2000) provide cautious optimism that interventions focused on enhancing benefit finding can be effective in a population of breast cancer patients. Replication of this finding in a stroke survivor population is recommended. Replication of the present study is also recommended. If this occurs, a larger sample is suggested to strengthen findings as is the inclusion and analysis of the impact of other variables such as the amount and type of social support, and the presence or absence of other psychological variables such as anxiety.

References


Table 2. Examples of Coding of Statements Related to Positive Consequences of Surviving a Stroke

<table>
<thead>
<tr>
<th>Increased Social Relationships</th>
<th>Increased Health Awareness</th>
<th>Change in Religious Life</th>
<th>Personal Growth</th>
<th>Altruism</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Now I know that a lot of people care about me.”</td>
<td>“I am taking better care of my health.”</td>
<td>“I have increased patience and am slowing down so that I am able to smell the roses.”</td>
<td>“I will be able to help my family take better care of their health, especially if this is hereditary.”</td>
<td>“Others can be more aware of their health problems.”</td>
</tr>
<tr>
<td>“I also am feeling closer to my family and see my family more often.”</td>
<td>“I am getting better health care and am on a better diet.”</td>
<td>“I am learning to appreciate everything and life in general and am learning to take things in stride.”</td>
<td>“I can use this as a health warning to my family and friends.”</td>
<td>“I am learning to be humble.”</td>
</tr>
<tr>
<td>“I care more about other people.”</td>
<td>“I am more concerned about my health status and am more aware of health issues.”</td>
<td>“I am letting go of controlling everything.”</td>
<td>“I can help others with the same problem.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“I will take better care of my health.”</td>
<td>“I am learning to appreciate all the people I love.”</td>
<td>“I am taking better care of my health.”</td>
<td></td>
</tr>
</tbody>
</table>

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