

A Study on the Correlation Between Positive Feelings and Quality of Life of Carers of Stroke Patients

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Abstract: *Objective:* To investigate the correlation between stroke patient carers' positive feelings and their quality of life. *Methods:* 130 carers of hospitalized stroke patients in the First Affiliated Hospital of Xi'an Medical College from January 2020 to October 2023 were investigated using the Caregivers' Positive Feelings Scale, the Quality of Life Scale, and the General Information Questionnaire. *Results:* The positive feelings and the quality of life of stroke patient carers were at a moderately low level, and the scores of positive feelings and quality of life dimensions rated by stroke patient carers were positively correlated ($P < 0.05$, $r = 0.40$). *Conclusion:* The positive feelings and the quality of life of stroke patient carers need to be improved, and the enhancement of positive feelings of these carers can help to improve their quality of life so that they can better serve their patients.

Keywords: Positive feelings; Quality of life; Stroke carers

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1. Introduction

Stroke is a common disease with high disability, recurrence, and mortality rates, in which 50–70% of survivors have sequelae such as paralysis and aphasia of varying degrees, which seriously affects their ability to perform daily activities and requires assistance from family carers in daily life and rehabilitation exercises^[1,2]. Studies have shown that the positive feelings of carers play a very important role in their physical and psychological health and higher quality of life^[3]. Currently, there are few studies in this area in China, therefore, this study investigates the correlation between positive feelings and quality of life of stroke patient carers, to provide a basis for improving the quality of life of stroke patient carers, so that they can better serve stroke patients.

2. General information and methods

2.1. General information

130 cases of carers of stroke patients admitted to the First Affiliated Hospital of Xi'an Medical College from January 2020 to October 2023 who met the inclusion criteria were selected for the study. Patient inclusion

criteria^[4] were those who met the Fourth National Diagnostic Criteria for Cerebrovascular Disease and were diagnosed as stroke patients by cranial CT or MRI. Inclusion criteria for carers: (1) aged 18 years or older, conscious, clear speech, no psychiatric disease; (2) in the recovery period or sequelae, spouses, parents, children, and other relatives living with them, etc.; (3) no vital organ disorders, such as heart, liver, kidney, etc.; (4) still implementing care activities for the patients for at least 1 month until the closing date of the survey; (5) agreed to participate in this study and cooperated with the survey.

2.2. Survey instrument

(1) General information questionnaire

The questionnaire included the age, gender, education level, economic status, and years of caregiving experience of the carers.

(2) Caregivers' Positive Feeling Scale

This scale included two dimensions with a total of 9 entries, including the self-affirmation dimension (entries 1–5), life outlook dimension (entries 6–9), with a range of 9–45 points, and a Likert scale of 5 levels. The higher the score, the higher the carer's degree of positive feelings.

(3) Quality of Life Scale (SF-36)

The scale consisted of eight health concepts including different questions and entries, and the overall and dimensional scores range from 0–100, the closer the score is to 0, the lower the quality of life, and the closer the score is to 100, the higher the quality of life.

2.3. Survey method

A general questionnaire was used. The questionnaire was administered by highly trained nurses using uniform instructions with the informed permission of the carers. The questionnaires were issued, filled out on the spot, and retrieved. 130 questionnaires were issued and 128 valid questionnaires were retrieved, with a recovery rate of 98%.

2.4. Statistical methods

The software SPSS17.0 was selected for statistical data processing, and the measurement information was expressed as mean \pm standard deviation (SD), and the positive feelings and quality of life were analyzed by Pearson correlation.

3. Results

3.1. General information

Of the 128 cases of patient carers, 51 cases were male and 77 cases were female, with an average age of 48.5 ± 13.5 years; in terms of literacy level, 56 cases were in primary school and below, 40 cases were in junior high school, 22 cases were in high school or middle school, and 10 cases were in junior college and above; caregiving time was from 1–8 years, with an average of 6.6 ± 4.0 years; monthly income was less than 2,000 yuan in 22 cases, between 2,000 and 3,000 yuan in 50 cases, and 56 cases with a monthly income of above 3000 yuan.

3.2. Positive feelings of stroke patient carers

The stroke patient carers' positive feelings scores are shown in **Table 1**, and the results suggest that stroke carers have moderately low levels of positive feelings.

Table 1. Scores of positive feeling scale for stroke patient carers (mean \pm SD, score)

Dimension	Number of items	Score
Self-affirmation	6	20.56 \pm 3.43
Life outlook	3	8.03 \pm 2.35
Overall score	9	28.59 \pm 5.78

3.3. Quality of life of stroke patient carers

The quality-of-life scores of stroke patient carers are shown in **Table 2**, and the results suggest that the overall level of stroke patient carers in all dimensions was lower than that of the normative group.

Table 2. Scores of quality-of-life scale for stroke patient carers (mean \pm SD, score)

Dimension	Score	Constant mode	P value
Physiological functions	81.53 \pm 17.36	90.80 \pm 15.07	0.000**
Role physical	43.95 \pm 34.97	79.51 \pm 34.70	0.000**
Physical pain	76.31 \pm 21.50	82.41 \pm 21.25	0.029*
General health	43.15 \pm 18.60	67.30 \pm 21.97	0.000**
Vitality	64.35 \pm 16.58	71.44 \pm 15.81	0.001**
Social Functioning	67.38 \pm 24.22	85.29 \pm 18.06	0.000**
Emotional role	46.77 \pm 31.63	76.45 \pm 38.47	0.000**
Mental health	71.48 \pm 15.36	73.52 \pm 15.68	0.301
Total SF-36	67.19 \pm 11.61	80.25 \pm 10.23	0.001**

* $P < 0.05$, ** $P < 0.01$

3.4. Analysis of the correlation between positive feelings and quality of life of stroke patient carers

The results of stroke patient carers' quality of life and positive feelings are shown in **Table 3**, and the results suggest that the correlation between the health status of stroke patient carers and positive feelings of each dimension is high and positively correlated ($P < 0.05$).

Table 3. Correlation analysis between positive feelings and quality of life of stroke patient carers (r)

Dimension	Physiological functions	Psychological functions	Physical pain	General health	Vitality	Social functions	Emotional functions	Mental health
Self-affirmation	0.074	0.058	0.062	0.521	0.152	0.235	0.148	0.244
Life outlook	0.025	0.062	0.235	0.633	0.148	0.176	0.119	0.235

4. Discussion

4.1. Positive feelings of stroke patient carers

Carers' positive feelings, also known as carer satisfaction, have been described as rewarding, beneficial, appreciative, and meaningful in life^[5,6]. The results of this study show that the positive feelings of carers are at a moderately low level, and the results in this study are similar to the results of positive feelings of primary caregivers of inpatients by Zhao *et al.*^[7], and slightly lower than the results of the study by Zhang *et al.*^[8], which is mainly manifested in the affirmation of self-worth of the carer and the future life of the carer has a strong sense of uncertainty, which is the same as the results of positive feelings of the main caregiver of

the stroke research community by Liu *et al.* ^[9]. Positive feelings results are consistent, the reason for this is that on the one hand, stroke patients have different degrees of physical dysfunction, and carers need to take on caregiving tasks. The carer's psychological well-being gradually declines as the patient's motor function declines. On the other hand, the reasons include the support of society, the reduction of social opportunities and recreational activities, the lack of appropriate technical training, etc., which shows that China's social group health services are insufficient. Based on the results of this study, we suggest establishing associations or groups and organizing regular lectures or symposiums for carers, and teaching them relevant knowledge and skills so that they can feel social understanding and support.

4.2. Quality of life of stroke patient carers

The present investigation showed that the SF-36 scores of all dimensions of carers of stroke patients were significantly lower than those of the domestic norm, indicating that the quality of life of carers of stroke patients was generally low, with the lowest overall health score. This is similar to the findings of Chen *et al.* ^[10] who investigated the quality of life level of 168 spouses of stroke patients using the General Quality of Life Index questionnaire (GQOLI), the reasons for which may be related to the carers' factors (age, physical factors, physiological status, health status, lack of knowledge, and emotional status), the patient's factors (the patient's physical handicap and self-care, and level of dependence on the carer), family factors (level of dependence and relationship with the number of family members, family economic situation), and social factors (social support and identification, interpersonal identification). Therefore, while providing therapeutic measures for stroke patients, nurses should pay close attention to the health status of carers ^[11], and take effective nursing interventions to improve the quality of life of carers of stroke patients by targeting the various factors affecting their quality of life, to provide better care for stroke patients.

4.3. Correlation between positive feelings and quality of life of stroke patient carers

This study used Pearson correlation analysis to analyze the relationship between the item scores of stroke patient carer positivity as well as quality of life. The results showed that stroke patient carers' positive feelings were positively correlated with quality of life ($r = 0.40$, $P < 0.01$), which means that the stronger the carers' positive feelings, the higher their quality of life, and this result is consistent with the study of Mei *et al.* ^[12], which showed that the positive feelings of the community stroke patients' spouses were positively correlated with life satisfaction. Liew *et al.* ^[13] showed that a certain degree of positive feelings can alleviate the impact of negative feelings on quality of life, and He *et al.* ^[14] found that positive emotions have a positive expected effect on life satisfaction. The reason for this analysis may be that positive experiences enable carers to give purpose and meaning to their lives, and learning new skills, mastering processes, and overcoming caregiving difficulties, etc. can increase internal strength and sense of control. Therefore, healthcare professionals should pay more attention to positive feelings while focusing on the quality of life of carers of stroke patients ^[15].

5. Conclusion

In conclusion, this study concluded that enhancing the positive feelings of stroke patient carers can reduce their sense of uncertainty, thus improving the quality of life of carers of stroke patients and enabling them to better serve their patients.

Disclosure statement

The authors declare no conflict of interest.

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