

Effectiveness of family-centered care on self-efficacy and quality of life among caregivers of patient with neurological condition – A pre- and post-test non-equivalent control group design

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ABSTRACT


Background: Health is a fundamental right of each and every person some people need assistance, care, treatment, and support to enjoy health to its full extent. In the past one decade, the neurological condition is highest to cause the dependency ratio. Caregivers are the person who are providing that support and assistance to the dependent person. Sometimes, caregivers are not able to perform the proper care to the patient which causes the poor physical psychological social and environmental health of the caregivers. Caregivers self-efficacy in patient care affect their quality of life, caregivers with good efficacy in patient care have good quality of life as compare to the caregivers with low efficacy in patient care. Family-centered care can enhance the self-efficacy and quality of life of caregivers. **Objectives:** The objectives of the study were to measure the effectiveness of family-centered care on self-efficacy and quality of life in caregivers. **Materials and Methods:** Quasi-experimental (pre-test-post-test non-equivalent control group) design was chosen and the study was carried out on 81 caregivers of patient with neurological condition out of which 9 dropout was there remaining 72 samples were allotted to 36 in each group through convenience sampling technique. Data were collected through structured interview method with baseline data of patient and caregivers, rating scale: Self-efficacy of caregivers. Family-centered care teaching of procedure of activity of daily living and home care procedure was taught to the caregivers for 6 consecutive days **Results:** Mostly patient was dependent on caregivers for the activity of daily living, mostly caregivers were not having previous knowledge and exposure in caregiving before in both the groups. There was a statistically significant difference on self-efficacy of caregivers in the experimental group than that the control group. **Conclusion:** Family-centered care teaching on procedure of activity of daily living and home care procedure was effective on improving self-efficacy of caregivers of patient with neurological condition.

KEY WORDS: Effectiveness; Family-Centered Care; Self-efficacy; Quality of Life; Caregiver; Neurological Condition

INTRODUCTION

According to the WHO, health is the fundamental right of each person and to enjoy the maximum level of health.^[1] Some

people are dependent on the other to enjoy the fundamental right of health.^[2] In neurological condition, the dependency ratio is higher and the cases of neurological condition have been increased in India in the past one decade.^[3] Caregivers are the one who are providing the care, support to the dependent person, while providing the care to the patient with neurological condition, the physical, mental, social, and environmental health of the caregivers are compromised.^[4] It has been seen that caregivers with lower self-efficacy in patient care are not able to manage the patient well and their quality of life.^[5] Family-centered care is the approach which

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addresses the need of the patient and the caregivers. By making caregivers efficient in the caregiving process, the burden of caregiving can be decreased and the self-efficacy and quality of life can be improved.^[6] Caregivers with good self-efficacy can provide care efficiently, prevent the complication effectively, and manage their health and quality of life. Family-centered care has effectiveness in increasing the psychological health satisfaction and the self-efficacy of the caregivers as well the patient, and quality of life of caregivers.^[7]

Problem Statement

A study was to assess the effectiveness of family-centered care on self-efficacy and quality of life among caregivers of patient with neurological condition at selected hospital, Dehradun.

Objectives

The objectives of the study were as follows:

1. To measure the effectiveness of family-centered care on self-efficacy in caregivers of patient with neurological conditions in experimental group
2. To measure the effectiveness of family-centered care on quality of life in caregivers of patient with neurological conditions in experimental group.

MATERIALS AND METHODS

In the present study, quantitative research approach was used, quasi-experimental research design (pre-test and post-test non-equivalent control group design) was chosen. Ethical permission was taken from the ethical committee of Swami Rama Himalayan University ethical committee and then sample was taken from the Himalayan Hospital. Sample size was 81 out of which nine drop out was there, four from the experimental group and five from the control group; remaining 72 caregivers of the patient with neurological condition were allotted to groups through convenience sampling 36 samples in each group. Data were collected with structured interview method with the tools baseline data of patient and caregivers self-structured tool, rating scale: Self-efficacy of caregivers self-structured tool WHOQOL-BREF Hindi structured tool. Neurosurgery ward was kept as experimental group and intermittent care ward was kept as control group to avoid biasness. The first observation data were collected on the 1st day of admission in the ward from both groups and intervention was given to the experimental group for the 6 consecutive days for 45 min daily in group of 4–5 samples. After the 6th day intervention, the second observation data were collected from the both groups. Intervention included the procedure of activity of daily living, that is, eating, oral care, bathing,

toileting, positioning, dressing and ambulation, and home care with preventive measures to prevent complication from long-term bed ridden.

RESULTS

In Table 1, it illustrates that in the experimental group and control group, mostly patients belong the age group of 18 years and above to 28 years and 59 years and above mostly were female among them and need complete assistance in activity of daily living.

Table 2 shows that in the experimental and control groups, 18–28 years group and (55.6%) (61.1%) most they are male, among all caregivers (36.1%) sibling and (52.8%) children and married (52.8%) (72.2%) and were graduated (36.1%) (58.3%), most of them are on service (36.1%) (30.6%) and living in (66.7%) (52.8%) nuclear family, most caregivers are having up to five members in the family (66.7%) (52.8%), very less (16.7%) (22.2%) caregivers are having knowledge regarding hospital care, only (16.7%) (22.2%) caregivers are having exposure for patient care in past, (5.6%) (8.3%) caregivers have exposure of full caregiving in the past, among them, only (5.6%) (5.6%) can perform the care for the patient, (77.8%) (58.3%) caregivers are not having the confidence to perform the daily living activity and care to the patient in the experimental group and control group, respectively.

Table 3 verifies that there was low self-efficacy in the both groups before the intervention, after giving intervention, it was improved in the experimental group as compare to the control group on applying paired *t*-test found that there was a difference at $P < 0.001$. It shows that intervention was effective to improve the self-efficacy of caregivers.

Table 4 verifies that in between-group analysis of the experimental and control groups, the self-efficacy after the intervention was improved and there was high self-efficacy, and in the control group, there was no improvement in self-efficacy of caregivers in the second observation, on applying independent *t*-test, it shows that there was a difference between both the groups at $P < 0.001$.

Table 5 verifies that there was low quality of life in all domains in the pre-test and there was improvement in quality of life in all domains in the experimental group as compare to the control group on applying paired *t*-test it was found that the at $P < 0.001$, there was the difference between both the groups.

In Table 6, second observation means a score of (78.69) (74.75) (70.39) (74.06) quality of life in the experiment group, second observation score was more than (45.72)

Table 1: Frequency and percentage distribution of the baseline data of patient

Baseline data	Groups		χ^2 (df)	P-value
	Experimental (n=36)	Control (n=36)		
	F (%)	F (%)		
Patient's age				
Above 18 years–28 years	13 (36.1)	6 (16.7)	5.89 (4)	0.20
29 years–38 years	3 (8.3)	2 (5.6)		
39 years–48 years	8 (22.2)	7 (19.4)		
49 years–58 years	4 (11.1)	10 (27.8)		
59 years and above	8 (22.2)	11 (30.6)		
Patient's gender				
Male	17 (47.2)	11 (30.6)	2.10 (1)	0.14
Female	19 (52.8)	25 (69.4)		
ADL eating				
Complete assistance	30 (83.3)	23 (63.9)	3.54 (2)	0.17
Some assistance	4 (11.1)	8 (22.2)		
No assistance	2 (5.6)	5 (13.9)		
ADL oral care				
Complete assistance	32 (88.9)	24 (66.7)	5.14 (2)	0.07
Some assistance	3 (8.3)	9 (25)		
No assistance	1 (2.8)	3 (8.3)		
ADL bathing				
Complete assistance	34 (94.4)	26 (72.2)	6.52 (2)	0.04
Some assistance	2 (5.6)	9 (25.0)		
No assistance	0	1 (2.8)		
ADL toileting				
Complete assistance	34 (94.4)	24 (66.7)	9.06 (2)	0.01*
Some assistance	2 (5.6)	10 (27.8)		
No assistance	0	2 (5.6)		
ADL positioning				
Complete assistance	34 (94.4)	24 (66.7)	10.06 (2)	0.006*
Some assistance	1 (2.8)	9 (25.0)		
No assistance	1 (2.8)	3 (8.3)		
ADL ambulation				
Complete assistance	34 (94.4)	24 (66.7)	10.06 (2)	0.006*
Some assistance	1 (2.8)	11 (30.6)		
No assistance	1 (2.8)	1 (2.8)		
ADL dressing				
Complete assistance	34 (94.4)	23 (63.9)	10.35 (2)	0.005*
Some assistance	2 (5.6)	11 (30.6)		
No assistance	0	2 (5.6)		

*Significant at level of $P < 0.05$

(41.19) (45.64) (38.39) quality of life in the control group, on applying independent *t*-test, there was a difference at $P < 0.001$ which implies that there is a significant difference between the mean score of both groups. It shows that the teaching on family-centered care was effective in improving quality of life among caregivers.

DISCUSSION

The current study finding suggests that family-centered care was effective in improving in caregiver's efficacy for patient care and self-care and life quality in the context of all domains among caregivers in the experimental group.

Table 2: Frequency and percentage wise distribution of the baseline data of caregiver

Baseline variables	Groups		χ^2 (df)	P-value
	Experiment (n=36)	Control (n=36)		
	F (%)	F (%)		
Caregiver's age				
Above 18 years–28 years	18 (50.0)	12 (33.3)	5.14 (4)	0.27
29 years–38 years	5 (13.9)	12 (33.3)		
39 years–48 years	7 (19.4)	8 (22.2)		
49 years–58 years	3 (8.3)	3 (8.3)		
59 years and above	3 (8.3)	1 (2.8)		
Caregiver's gender				
Male	20 (55.6)	22 (61.1)	0.22 (1)	0.63
Female	16 (44.4)	14 (38.9)		
Caregivers' relation with patient				
Mother	5 (13.9)	2 (5.6)	14.95 (6)	0.02
Sibling	13 (36.1)	4 (11.1)		
Children	11 (30.6)	19 (52.8)		
Relatives	1 (2.8)	1 (2.8)		
Father	2 (5.6)	0 (0)		
Spouse	3 (8.3)	10 (27.8)		
Friends	1 (2.8)	0 (0)		
Duration of stay with patients				
1 week	35 (97.2)	34 (94.4)	0.34 (1)	0.55
2 weeks	1 (2.8)	2 (5.6)		
Caregiver's marital status				
Married	19 (52.8)	26 (72.2)	5.59 (3)	0.13
Unmarried	15 (41.7)	9 (25.0)		
Widow/widower	2 (5.6)	0 (0)		
Separated	0 (0)	1 (2.8)		
Caregiver educational status				
10 th passed	5 (13.9)	6 (16.7)	10.77 (4)	0.03
12 th passed	13 (36.1)	7 (19.4)		
Graduated	13 (36.1)	21 (58.3)		
Postgraduated or higher education	5 (13.9)	0 (0)		
No formal education	0 (0)	2 (5.6)		
Caregiver occupation				
Agriculture	1 (2.8)	3 (8.3)	16.06 (6)	
Business	2 (5.6)	3 (8.3)		
Service	13 (36.1)	11 (30.6)		
Unemployed	10 (27.8)	1 (2.8)		
Homemaker	9 (25.0)	9 (25.0)		
Pensionaries	1 (2.8)	2 (5.6)		0.01
Student	0	7 (19.4)		
Family type				
Nuclear family	24 (66.7)	19 (52.8)	2.92 (2)	0.23
Joint family	12 (33.3)	15 (41.7)		
Extended family	0	2 (5.6)		

(Contd...)

Table 2: (Continued)

Baseline variables	Groups		χ^2 (df)	P-value
	Experiment (n=36)	Control (n=36)		
	F (%)	F (%)		
No. of family member				
Up to five members	24 (66.7)	20 (55.6)	2.66 (2)	0.26
5–7 member	5 (13.9)	3 (8.3)		
More than 7 members	7 (19.4)	13 (36.1)		
Knowledge regarding hospital caregiver				
Yes	6 (16.7)	8 (22.2)	0.35 (1)	0.55
No	30 (83.3)	28 (77.8)		
Exposure of caregiver				
Yes	6 (16.7)	8 (22.2)	0.35 (1)	0.55
No	30 (83.3)	28 (77.8)		
Type of exposure of the caregiver in caregiving				
Observed caregiving	3 (8.3)	2 (5.6)	1.47 (3)	0.68
Partial caregiving	1 (2.8)	3 (8.3)		
Complete caregiving	2 (5.6)	3 (8.3)		
Not applied	30 (83.3)	28 (77.8)		
Degree of exposure in caregiving				
Minimum care	3 (8.3)	4 (11.1)	0.55 (3)	0.91
Partial care	1 (2.8)	2 (5.6)		
Complete care	2 (5.6)	2 (5.6)		
Not applied	30 (83.3)	28 (77.8)		
Confidence in caregiving				
Yes	8 (22.2)	15 (41.7)	3.13 (1)	0.07
No	28 (77.8)	21 (58.3)		

*Significant at the level of $P < 0.05$ **Table 3:** Comparison of self-efficacy of caregivers in the experimental and control group ($n=72$)

Research variables	Experiment group ($n_1=36$)				Control group ($n_2=36$)			
	Pre-test	Post-test	Paired t -value	P-value	Pre-test	Post-test	Paired t -value	P-value
Self-efficacy	14.9±7.7	43.5±2.13	-22.91	<0.001**	15.78±6.77	17.42±7.8	-1.50	0.14

Df₇₁=91.67 04. *Significant at $P < 0.05$ and **highly significant at $P < 0.001$ **Table 4:** Comparison of the post-intervention score of self-efficacy of caregivers between the experimental and control groups ($n=72$)

Research variable	Experimental group	Control group	Independent t -test	P-value
Self-efficacy			19.27	<0.001**
Pre-test	14.9±7.7	15.78±6.77		
Post-test	43.50±2.13	17.42±7.83		
Mean difference	28.6	1.64		

Df₇₁=91.67 04. *Significant at $P < 0.05$ and **highly significant at $P < 0.001$

Similar study conducted by Ding *et al.* did a randomized trial to see the effect of family-centered care on the child and caregivers, the research found that there was a marked improvement in patient condition and the caregivers were

satisfied, knowledge, skill for patient care, and anxiety, depression-like symptoms were also improved.^[8] There was an improvement in the quality of life of caregivers after giving intervention which means caregivers. Self-efficacy was having positive correlation with the quality of life in all domains. If self-efficacy of caregivers improves, the quality of life will also improve in all domains of health. Similar study by Barber showed that intervention was effective in improving the quality of life of caregivers.^[9]

Strength of study was that the sample size calculation was done to determine the appropriate sample size and limitation was, intervention was given for a very short period, intervention was limited to teaching, the self-expressed practice tool was used to assess the self-efficacy of caregivers, there was no homogeneity in the control and experimental groups.

Table 5: Comparison of quality of life of caregivers in the experimental and control groups and quality of life of caregivers ($n=72$)

Research variable	Experiment group				Control group			
	Pre-test	Post-test	Paired <i>t</i> -value	<i>P</i> -value	Pre-test	Post-test	Paired <i>t</i> -value	<i>P</i> -value
Physical health	45.8±15.0	78.69±12.5	-19.22	<0.001**	48.22±10.8	45.72±10.4	1.44	0.15
Psychological health	36.4±16.2	74.75±14.3	-16.43	<0.001**	43.64±13.2	41.19±12.3	1.103	0.27
Social health	45.7±8.7	70.39±9.8	-16.78	<0.001**	46.83±10.2	45.64±8.08	0.761	0.45
Environment health	37.2±14.3	74.06±11.9	-17.32	<0.001**	42.61±9.6	38.39±8.96	2.77	0.009*

Df₁=91.67. *Significant at $P<0.05$ and **highly significant at $P<0.001$

Table 6: Comparison of the post-intervention score of quality of life between the experimental and control groups ($n=72$)

Research variable	Experimental group	Control group	Independent <i>t</i> -test	<i>P</i> -value
Quality of life				
Physical health			12.17	<0.001**
Pre-test	45.8±15.0	48.22±10.8		
Post-test	78.69±12.51	45.72±10.38		
Mean difference	32.89	-2.5		
Psychological health			10.73	<0.001**
Pre-test	36.4±16.2	43.64±13.2		
Post-test	74.75±14.24	41.19±12.23		
Mean difference	38.35	2.45		
Social health			11.68	<0.001**
Pre-test	45.7±8.7	46.83±10.2		
Post-test	70.39±9.81	45.64±8.08		
Mean difference	24.69	1.20		
Environment health			14.36	<0.001**
Pre-test	37.2±14.3	42.61±9.6		
Post-test	74.06±11.91	38.39±8.96		
Mean difference	36.86	4.21		

Df₁=91.67. *Significant at $P<0.05$ and **highly significant at $P<0.001$

CONCLUSION

Family-centered care was effective in improving self-efficacy and quality of life in caregivers of patient with neurological condition.

REFERENCES

- Hofgastein B. Presentation-Designing the Road to Better Health and Well-Being in Europe, at the 14th European Health Forum Gastein. Austria: World Health Organization regional Office for Europe; 2011.
- World Health Organization. World Report on Disability. Geneva: World Health Organization; 2011.
- Social Statistics Division Ministry of Statistics and Programme Implementation Government of India, Disabled Person's in India a Statistical Profile; 2016.
- Murthy RS. Caregiving and caregiver: Challenges and opportunities in India. Indian J Soc Psychiatry 2016;32:10-8. Available from: <https://www.indjsp.org/article.asp?issn=0971-9962;year=2016;volume=32;issue=1;spage=10;epage=18;aulast=murthy>. [Last accessed on 2019 Jan 27].
- Penning M, Wu Z. Caregiver stress and mental health: Impact of caregiving relationship and gender. Gerontologist 2015;56:1102-13.
- Kim SK, Choi Y, Lee JH, Jang DE, Kim S. A review of trend of nursing theories related caregivers in Korea. Open Nurs J 2018;12:26-35.
- Kumar J, Singh A. Family centered care: Beginning of a new era in India. Indian Pediatric 2017;54:788. Available from: https://www.researchgate.net/publication/319545966_family-centered_care_beginning_of_a_new_era_in_india. [Last accessed on 2021 Jan 10].
- Ding X, Zhu L, Zhang R, Wang L, Wang TT, Latour JM. Effect of family centred care interventions on preterm infants and parents in neonatal intensive care units a systematic review and meta-analysis of randomised control trials. Aust Crit Care 2019;32:63-75.
- Barber FD. Effect of social support on physical activity, self-efficacy, and quality of life in adult cancer survivors and their caregivers. Oncol Nurs Forum 2013;40:481-9.

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