

# Effectiveness of Demonstration Regarding Feeding of Hemiplegia Patient among Caregivers

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**Abstract:** Hemiplegia is a condition where a vertical half of a patient's body is weakness or paralysis occurring on the dominant side of the body, and poor coordination resulting from the new reliance on the domination may make eating difficult and unpleasant. **Objectives:** To assess the practices of oral feeding and of nasogastric tube feeding of hemiplegic patient among caregivers before and after demonstration. To determine the association of selected sociodemographic characteristics with pre-test score. **Methodology-**The quasi-experimental study with pre-test, posttest design was used with 60 study subjects, 30 each for oral feeding group and nasogastric tube feeding group. **Findings:** In the oral feeding group majority 60% of caregivers were in the age group of 28-37 years, 53.3% of them were females, 53.3% of them were graduates, majority 66.7% of them were in service and 70% were married. In the Nasogastric tube-feeding group the majority of caregivers 33.3% were in the age group of 28-37 years, 63.3% were females, 36.7% were educated up to graduate level, and 43.3% of the samples were in-service while 83.3% were married. In the oral feeding group, pre-test phase the mean of the scores was 17.3667, whereas in the post-test phase the mean of the score was 35.7000. In the nasogastric tube feeding pre-test phase the mean of the scores was 14.2667, whereas in the post-test phase the mean of the score was 32.9667. The post-test score of both the groups is significant at  $P < 0.05$ , which clearly indicates that there has been an increase in the knowledge level of caregivers regarding feeding technique after the demonstration. There was a significant relationship with age of the patient and pre test score of caregiver in the nasogastric-feeding group. **Conclusion -** demonstration regarding feeding of hemiplegic patient among caregivers was effective in increasing the skill of the caregivers regarding feeding of hemiplegic patient.

**Keywords:** demonstration, feeding, hemiplegia, caregiver

## 1. Introduction

Hemiplegia is a condition where a vertical half of a patient's body is weak or paralyzed; i. e. one arm and its corresponding leg do not function properly. It can be congenital (occurring before, during, or soon after birth) or acquired (as from illness or stroke). It is usually the results of a stroke, although disease process affecting the spinal cord and other disease process affecting the spinal cord and other disease affecting the hemispheres are equally capable of producing this clinical state. Hemiplegia is a symptom of various medical disorders one of the disorder is cerebral palsy, which can also affect one hemisphere, resulting in limited functioning. Cerebral palsy where this is the only symptoms is often referred just as hemiplegia. One of the most common causes of hemiplegia is stroke. It is known to be a major global health problem and is the third most common cause of death after heart disease and cancer in most industrialized countries, including Sweden (National Board of Health and Welfare, 2000).

## 2. Need for the Study

Hemiplegic condition, which leads to the physical disability, affects the activity of daily living of the patients. Today patients with hemiplegia are admitted to nursing homes in different phases of their disease and with great nursing care needs. It is important that hemiplegia victims receive care of good quality through all levels of care so as to reach optimal health; yet there is a little focus on the care planning for those discharged from acute hospital to nursing homes and almost no research on persons with stroke in nursing homes

as to their health situation, nursing care needs and care. Thus, it seems important to know more about these persons' health and nursing care, as a basis for further care improvement with the aim of minimizing the need for permanent nursing home residence.

Hemiplegia leads to physical disability affecting the activities of daily living and patient becomes dependent on the caregivers. To help the patient's basic needs assistive devices are needed. Nutrition is one of the major needs of the hemiplegic patient.

Hemiplegic patients suffer with the swallowing difficulty so it is necessary to feed properly to the hemiplegic patients to prevent the complications resulting from the hemiplegia. The role of caregiver is important for caring the patients. In India the nurse patient ratio is very poor and there is acute shortage of the qualified nurses, so family caregivers are to be involved in feeding procedure. Self care deficit or disability in hemiplegic patients causes radical and permanent changes in their lives. It creates a major economic and social burden among patients and caregivers. The patient, family and caregivers should receive thorough training in techniques and problem-solving approaches, required to provide effective support [1], while teaching consideration should be given to traditional and cultural background of patient and family to maintain nutrition and hydration, bowel and bladder care, sleep and rest and other safety precautions. Health education is a vital step in achieving compliance. Patients' families and caregiver's knowledge and understanding may determine the ultimate success of his or her habituation and may affect his or her

ability to achieve the optimal level of functioning.

Study conducted by Dring [2], on the families of patients with hemiplegia suggests very few caregivers are prepared to meet the challenges of caring for their loved ones at home. They lack nursing skills, knowledge in their own rights, knowledge of available help and its sources, coping skills and support systems. The nurse must assist the caregivers, prepare them to adjust adequately and help the patients to achieve the optimal level of function. After a stroke, 31% of stroke survivors need assistance with activities of daily living. Structured teaching in relaxed atmosphere helped patients for discharge and helped them to ease the tension at home environment. A study conducted by Brereton [3] suggested family carers are poorly prepared to take on their role, - lacking information and skills needed to provide good care. Nurses have a major role to play in preparing these carers. Structured teaching programme improves the knowledge of caregivers of patients with hemiplegia about self-care activities. They need guidance and teaching from health care professionals about "know how techniques" of feeding for hemiplegic patients. It is essential that nurses should give planned teaching programme in the clinical area. At present in India nurse patient ratio is poor, hence most of the time we are dependent on the caregivers to meet the basic needs of the patients. It is very often caregivers in hospital setup are involved in care of hemiplegic patients.

To provide proper care it is necessary for them to have adequate knowledge of how to perform nursing interventions. One such common intervention is feeding. The family member /caregiver may be improved in performing the skill in feeding of hemiplegic patients if she/he is educated about the feeding technique which will help to prevent the complications of improper feeding technique. A result of study shows that there is a need of education about stroke among caregivers and healthcare providers [4]. There was an improvement shown in the acquisition of stroke related knowledge by both patients with stroke, and their caregivers, after a stroke educational group [5].

### 3. Review of Literature

#### 3.1 Literature Related to Caregiver

The caregiver role is assumed when persons assist in meeting the needs of individuals who are unable to care for themselves. In this society, women usually assume the caregiver role [6]. Typically, the caregiver for the older adult is female, married, and middle aged. Half of all women caregivers are employed, 35% are over 65 years old, and those caregivers who are over 65 may also have a number of chronic illnesses [7]. Family members routinely accept the major responsibility of care giving [8], and the most of the stroke survivors are being cared for at home by the family members [9]. Families experience numerous problems after their loved one suffer a stroke. Emotionally, they may feel entrapped, isolated, disappointed, and despaired [10]. Financial worries and reduced social activities add to feelings of burden [11]. Social isolation and breakdowns in interpersonal relationships occur. These can

be caused by impaired initiative, lack of empathy, irritability, loss of companionship, dependence, conflicting roles, and insensitive, demanding behavior [10]

Similarly, caregiver educational needs differ based on gender. Vanetian and Corrigan [12] reported that male caregivers' highest priority was to learn how to assist the disabled adult; female caregivers required information regarding health and human resources. Education, combined with practical, supportive counseling addressing the resolution of daily issues was more conducive in aiding post-stroke family adjusting. Planned teaching programme improves the knowledge of caregivers about self-care activities of patient with hemiplegia. The family and client need to have realistic expectations about the client's abilities, encourage independence when and where necessary. One of the primary roles of nurse is to educate patients and their families about activities of daily living. In this study too, significant improvement in knowledge score of caregivers about self-care activities was evident. Such teaching programmes will improve the health care practices of clients. Katz ML, [4] found that there is a need of education about stroke among caregivers and healthcare providers. Educational material improves the knowledge about stroke may be an important strategy to increase completion of stroke screening test. The majority of stroke survivors receive home care to offer better support; home caregivers and nurses must understand the care giving experience and knowledge. Similarly substantial decrement in functioning in stroke patients suggests that family caregivers can complete the health utility index reliably when patients are unable to do so [13].

#### 3.2 Literature Related to Feeding

Nutrients are specific biochemical substances used by the body for growth and development activity, reproduction, lactation, health maintenance and recovery from the illness or injury. Because the metabolic process involved in these functions are complex, most nutrients work better together than alone. Several study found that [14]. Findings so far Takahashi [15] suggest in a 70-year-old women on Normalization of hypercholesterolemia in a female stroke patient after switching from enteral tube feeding to oral feeding; the total calories ingested orally were comparable to that of enteral feeding but the fat composition was 62% of that of enteral feeding (fat was 19.6% and 31.7% of the total calories in the two diets, respectively). Her cholesterol level decreased from 286 mg/dl to 197mg/dl. They concluded that Nutrient-balanced tube feeding is useful. The nutritional status of hemiplegia patients receiving tube feeding stated that Long-term enteral feeding by tube has become a frequently used procedure in hemiplegic patients [16].

The nutritional management of neurological patient is complex. The patient with hemiplegia may be unable to feed him or herself because of limb weakness; poor body position. The damaged region of central nervous system determines the resulting disability. The weakness or paralysis occur on the dominant side of the body, poor coordination resulting from the new reliance on the domination may make eating difficult and unpleasant. The patient may have to adjust to eating with one-hand.

Hemiplegia causes the body to slump towards the affected side, may increase the patient risk of aspiration. There is a potential interference with self-feeding in aspxia in which the patient has difficulty with perceptual motor planning. Demonstration may make it possible to do the action.

Eating dysphasia may accompany symptoms include drooling, choking, or coughing during or following meals. Inability to suck from a straw, a gurgly voice quality, holding pockets of food in the buccal recesses weight loss and anorexia are features of nutritional concerns. Dysphasia often leads to malnutrition because of inadequate intake. Swallowing proper position for effective swallowing should be encouraged. Patient with acute or chronic condition may benefit from nutritional support. For acute disease nutritional support may be required in the early term until a degree of function is regained. Nutritional support in the late stages of disease to meet the changing metabolic demands. Nutritional supports helps to avert complication so aspiration pneumonia or sepsis, which can compound the deteriorating effect of diseases. Enteral tube feeding is necessary if the risk of aspiration from eating is higher, the patient cannot eat enough to meet the nutritional needs. In the later case nocturnal tube feeding can bridge the gap between oral intake and actual nutritional requirements. This should allow the normal sensation of hunger to be generated and provide freedom from tube feeding from the day. Unilateral neglect is frequently observed in brain damaged persons, most commonly in conjunction with right-sided brain damage. Manifest as failure to attend to one-half of the body or extra personal space, unilateral neglect is caused by an attentional arousal deficit. Patients with unilateral neglect may present with a variety of behaviors. An understanding of causal mechanisms facilitates implementation of appropriate interventions to assist the patient and caregivers to cope with neglect and improve ability to perform activities of daily living[17]. Another study, found that the current manner in which enteral tube feeding is delivered in the ICU results in grossly inadequate nutritional support. Barely one half of patient caloric requirements is met because of under ordering by physicians and reduced delivery through frequent and often inappropriate cessation of feedings. As difficulties occur both among patients needing and not needing assisted eating, all patients with stroke admitted for rehabilitation need to be systematically assessed for eating difficulties and action needs to be taken to facilitate eating, especially as patients with eating difficulties risk becoming undernourished and in turn developing pressure ulcers[18]. Similarly study on Detection of eating difficulties after stroke: a systematic review Best nursing practice for detecting eating difficulties includes as the first step the Standardized Bedside Swallowing Assessment (SSA) to detect dysphagia (strong evidence). As the second step an observation should be made of eating including ingestion, deglutition and energy (moderate evidence). Applying pulse oximetry simultaneously to SSA can possibly add to the accuracy of aspiration detection, especially silent aspiration (limited evidence). The methods should be used as a complement to interviews [18].

The enteral feeding is beneficial for those who are suffering from gastrointestinal hemorrhage (GIH) and critically ill patients on mechanical ventilation. GIH was strongly

positive heamotest of nasogastric aspirates on 3 consecutive readings, frankly bloody gastric aspirate, heamatemesis or malena various mechanism proposals for the beneficial effect of enteral feeding in prevention of GIH are delusional alkalization as well as role of positive nitrogen balance in maintenance and repetitive process of gastric mucosa.

Temporary dysphagia affects up to 50% of stroke patients in the acute stage of their illness and often necessitates tube feeding. In these patients, the placing of nasogastric tubes is often difficult or impossible. This study evaluated the efficiency and tolerability of a previously described new method for tube placing, which utilizes the induction of the swallowing reflex and has therefore been called "reflex placement". In 14 out of 16 patients in whom the conventional approach failed, the new method was successful. A comparison of the cardiovascular responses to both methods in another 12 patients revealed significantly smaller increases in heart rate and systolic blood pressure during application of the new method. Therefore the suggestion of the use of reflex placement in patients who have suffered a stroke and need tube feeding due to dysphagia [19]. Under nutrition is common in patients admitted with stroke. It aimed to establish whether the timing and route of enteral tube feeding after stroke affected patient's outcomes at 6 months. It is concluded in the study that early tube feeding might reduce case fatality, but at the expense of increasing the proportion surviving with poor outcome [20].

#### 4. Objectives

1. To assess the practices of oral feeding and nasogastric tube feeding of hemiplegic patient among caregivers before and after demonstration.
2. To determine the association of selected sociodemographic characteristics with pre-test score of oral feeding skills and pre-test score of nasogastric tube feeding skills of hemiplegic patients among caregivers before demonstration.

#### 5. Assumptions

The study is based on the following assumptions:

- The caregiver understands the importance of oral or nasogastric tube feeding skills for hemiplegic patients.
- Caregivers have poor skills related to feeding of hemiplegic patients and caregivers will be interested in developing their skills.

#### 6. Hypothesis

$H_0$  - There will be no significant difference in the skills of feeding hemiplegia patients before and after demonstration among caregivers.

$H_1$  - There will be significant difference in the skills of feeding hemiplegia patients before and after demonstration among caregivers.



## 7. Limitation of the Study

- This Study is limited to who will be giving care to the hemiplegia patients at selected hospitals in Pune city.
- This study is limited only to those who are willing to participate in the study.
- Only one caregiver has been selected for study from each patient, who is on oral/nasogastric tube feeding.
- Study samples are small.
- There is time limitation to complete the study.

## 8. Research Approach

The research method adopted for the present study was quasi-experimental approach. One group pre test post test design was used.

### a) Independent Variable

The independent variable in this study is the demonstration of oral feeding and nasogastric tube feeding procedure.

### b) Dependent Variable

The dependent variables in this study are practices of feeding of hemiplegic patients among caregivers.

### c) Setting of the Study

All hospitals are full-fledged leading hospitals of the Pune City. Sahyadri Hospital & Poona Hospital is the super specialty hospitals for hemiplegic patients & trauma centers. Jahangir Hospital PUNE has a special I.C.U. for neurological deficit patients. The Bharati Hospital has 750 beds with well-equipped and advanced medical facilities. It has 20-bedded intensive care unit and two separate Medical wards for male and female. In the intensive care units critically ill patients are cared for. 3 to 4 hemiplegic patients were admitted daily for the treatment. Sahyadri Hospital is 150 bedded, has got separate unit of neuro medicine and neurosurgery, which is one of the super specialty hospital in Pune city. In this hospital, daily 3 to 4 hemiplegic patients were admitted for the treatment. Jahangir hospital is 350 bedded in neurology, intensive care unit consists of 20 beds and there are general wards, special rooms for the hemiplegic patients. In this hospital daily 3 to 4 hemiplegic patients were admitted for the treatment. Deenanath Mangeshkar hospitals Pune is 250 bedded and has all specialties of patients are admitted for the treatment. In this hospital daily 1 to 2 hemiplegic patients were admitted for the treatment. N.M. Wadia Hospital Pune is 100-bedded hospital in this hospital 1 to 2 hemiplegic patients were admitted for the treatment daily. Poona hospital and research center is a specialty hospital for neurology and trauma care, it has separate 20 bedded stroke unit. In this hospital, daily 3 to 4 hemiplegic patients were admitted for the treatment.

**d) Population-**In this study, the population consisted of caregivers of hemiplegic patients from the selected hospitals of Pune City.

**e) Sampling Technique:** In the present study, caregivers of hemiplegia patients were selected by convenient sampling technique by the investigator. It was suitable keeping in view the time provided for data collection and the study.

**f) Sample Size-**The sample consisted of sixty caregivers of hemiplegic patients. Out of sixty, thirty were selected for assessing the technique of oral feeding and other thirty were selected for assessing the technique of nasogastric feeding.

### g) Inclusion Criteria

1. The caregivers of hemiplegic patients with nasogastric feeding or oral feeding.
2. The caregivers above the age of 18 years were included.
3. The caregivers who are willing to participate in the study.
4. The caregivers those who could easily read and understand Marathi, English and Hindi were included in the study.

### h) Exclusion Criteria

1. Caregivers of hemiplegic patients with gastrostomy or jejunostomy feeding were excluded.
2. Caregivers of critically ill patients were not included.
3. Caregivers of age less than 18 years and more than 60 years were excluded.

### i) Data Collection Technique and Tool

A structured observation questionnaire was prepared and used for data collection. The researcher is not merely looking at what is happening, but rather is watching with a trained eye for certain events like individuals characteristics and conditions, such as traits and symptoms, verbal and nonverbal communications, behavior, personal habits, activities and skill attainments.

## 9. Plan for Data Analysis

The analysis was made on the basis of objectives and hypothesis. The data analysis was planned to include descriptive and inferential statistics. The plan was developed for data analysis on the basis of the opinion of experts.

## 10. Findings and Discussion

**Table 1:** Demographic descriptions of caregivers by frequency and percentage

Characteristics	Oral feeding (N=30)		Nasogastric tube feeding (N=30)	
	Frequency	Percent	Frequency	Percent
Age in years				
•18-27	8	26.7	4	13.3
•28-37	18	60.0	10	33.3
•38-47	2	6.7	9	30.0
•48-57	2	6.7	7	23.3
Sex				
•Female	16	53.3	19	63.3
•Male	14	46.7	11	36.7
Education				
•Primary	-	-	4	13.3
•Secondary	10	33.3	9	30.0
•Graduate	16	53.3	11	36.7
•Post graduate	4	13.3	6	20.0
Occupation				
•Business	-	-	1	3.3
•Service	20	66.7	13	43.3
•Housewife	8	26.6	15	30
•Farming	1	3.3	1	3.3
	1	3.3	-	-

•Retired				
Marital status				
•Unmarried	9	30	5	16.7
•Married	21	70	25	83.3
Family				
•Joint	28	93.3	19	63.3
•Nuclear	2	6.7	11	36.7
Residence				
•Rural	4	13.6	2	6.7
•Urban	26	86.7	28	93.3
Relationship				
•Wife	3	10	7	23.3
•Husband	-	-	3	10.0
•Son	11	36.7	8	26.7
•Daughter	6	20.0	6	20.0
•Daughter in law	7	23.3	4	13.3
•Grand son	2	6.7	-	-
•Grand daughter	-	-	1	3.3
	-	-	1	3.3
	1	3.3	-	-

The data presented in table 1 shows that in the oral feeding group majority 60% of caregivers were in the age group of 28-37 years, 53.3% of them were females, 53.3% of them were graduates majority 66.7% of them were in service and 70% were married. In the Nasogastric tube-feeding group the majority of caregivers 33.3% were in the age group of 28-37 years, 63.3% were females 36.7% were educated up to graduate level, 43.3% of the samples were in service while 83.3% were married. in the oral feeding group majority (93.3%) of caregivers belong to the joint family, 86.7% were from the urban area. The majority 63.3% of nasogastric tube-feeding group belongs to joint family, and 93.3% of these was from the urban area

**Table 2:** Demographic description of caregivers according to family type, place of residence, relationship with patients and income status by frequency and percentage

Characteristics	Oral feeding (N=30)		Nasogastric tube feeding (N=30)	
	Frequency	Percent	Frequency	Percent
Income of family				
• Up to 5000	8	26.7	3	10.0
• 5001-7000	1	3.3	4	13.3
• 7001-9000	13	43.3	7	23.3
• 9001-11000	2	6.7	9	30.0
• 11001& above	6	20.0	7	23.3

The data presented in table 2 shows that and a large number 43.3% of the caregivers in the oral feeding group were in the Rs.7001 to 9000 per month income group while 30% of the nasogastric tube feeding group were from the income group of Rs.9000 to 11000 per month..

**Table 3:** Distribution of feeding skill score in the oral feeding group.

Skill score	Before demonstration N=30		After demonstration N=30	
	Frequency	Percent	Frequency	Percent
1-15	7	23.3	0	0
16-25	23	76.7	0	0
≥ 26	0	0	30	100

Table 3 showed that the maximum 23, (76.6%) frequency of caregiver scored between 16-25 in before demonstration of

oral feeding and all 30 (100%) caregiver scored 26 and above after demonstration of oral feeding. The practice scores of the samples show a marked increase as seen in the post demonstration score of the oral feeding group, which indicates that the demonstration of oral feeding technique is effective in increasing the skill of oral feeding of the hemiplegic patient among caregivers.

**Table 4:** Distribution of mean, s. d. pre and post demonstration of oral feeding.

Practice	Pre Demonstration N=30		Post Demonstration N=30	
	Mean	S. D.	Mean	S. D.
Preparation of Procedure	3.0667	1.3880	8.7	0.5350
Procedure	7.4333	1.9241	15.8	1.1861
After care	6.8667	1.7367	11.2	1.1567

The above table no. 4 shows that there is a significant difference in the mean score of practice before and after demonstration. The score of Preparation of Procedure has increased from 3.0667 to 8.7.while actual feeding procedure score mean increased from 7.4333 to 15.8; similarly the score of after care has increased from 6.8667 to 11.2. The test of significance showed that the difference was significant. The P-value for the test is less than 0.05; the null hypothesis is rejected at the 95.0% confidence level.

**Table 5:** Paired sample tests for oral feeding of hemiplegic patients among caregivers.

Pair	Paired difference			'T' Value	df	'P' Value
	Mean	S.D.	S.E.Mean			
Preparation of Procedure	5.6333	1.4499	0.2647	21.28	29	0.000*
Procedure	8.3667	2.3560	0.4301	19.45	29	0.000*
After care	4.3333	2.4542	0.4481	9.67	29	0.000*

\*P< 0.05

Preparation of Procedure before and after demonstration of 30 observations with a difference mean of 5.6333, standard deviation of 1.4499 and standard error mean is 0.2647; the computed "t" statistic equals 21.280. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level. The Procedure before and after demonstration of 30 observations with a difference mean of 8.3667 and a standard deviation of 2.3560 and a standard error mean is 0.4301; the computed "t" statistic equals 19.451. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level. After care before and after demonstration of 30 observations with a difference means of 4.3333 and a standard deviation is 2.4542 and standard error is 0.4481, the computed "t" statistic equals 9.671. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level.

**Table 6:** Distribution of feeding skill score in the nasogastric tube-feeding group.

Practice score	Before demonstration N=30		Post demonstration N=30	
	Frequency	Percentage	Frequency	Percentage
1-15	26	86.7	0	0
16-25	4	13.3	14	46.7
≥26	0	0	16	53.3

This table 6 shows that the maximum 26, (86.7%) frequency of caregiver scored between 1-15 in before demonstration of nasogastric tube feeding and majority 53.3% of scored 26 and above after demonstration of nasogastric tube feeding. The practice scores of the samples show a marked increase as seen in the post demonstration score of the nasogastric tube feeding group, which indicates that the demonstration of nasogastric tube feeding technique is effective in increasing the skill of nasogastric tube feeding of the hemiplegic patient among caregivers.

**Table 7:** Description of mean, s. d. of before and after demonstration of nasogastric tube feeding

Practice	Pre Demonstration N=30		Post Demonstration N=30	
	Mean	S.D.	Mean	S.D.
Preparation of Procedure	5.5667	1.8880	14.1667	2.4786
Procedure	4.4000	1.4288	10.8000	1.8644
After care	4.3000	1.2905	8.0000	1.5536

The above table 9 shows that there is a significant difference in the mean score of practice before and after demonstration. The score of Preparation of Procedure has increased from 5.5667 to 14.1667, while actual feeding procedure score mean increased from 4.4000 to 10.8000, similarly the score of after care has increased from 4.3000 to 8.000.

**Table 8:** Paired sample tests for nasogastric tube feeding of hemiplegic patients among caregivers

Pair	Paired difference			'T' Value	df	'P' Value
	Mean	S.D.	S.E. Mean			
Preparation of Procedure	8.6000	2.1909	0.4000	21.500	29	0.000*
Procedure	6.4000	2.0103	7.1507	17.437	29	0.000*
After care	3.7000	2.0367	4.4605	9.950	29	0.000*

\*P< 0.05

Preparation of Procedure before and after demonstration of 30 observations with a difference mean of 8.6000 and a standard deviation of 2.1909 and standard error mean is 0.4000; the computed "t" statistic equals 21.500. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level.

Procedure before and after demonstration of 30 observations with a difference mean of 6.4000 and a standard deviation of 2.0103 and a standard error mean is 7.1507, the computed "t" statistic equals 17.437. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level.

After care before and after demonstration of 30 observations with a difference means of 3.7000 and a standard deviation is 2.0367 and standard error mean is 4.4605, the computed "t" statistic equals 9.950. Since the P-value for the test is less than 0.05, the null hypothesis is rejected at the 95.0% confidence level.

The calculated value  $\chi^2$  smaller than the table value at 5% level ( $p>0.05$ ), that means there is no significant relationship of the age group, sex, education, occupation and marital status of the care giver with pre test score regarding oral feeding to the hemiplegic patient. The calculated value  $\chi^2$

greater than the table value at 5% level ( $p<0.05$ ), that means there is a significant relationship with age of the patient and pre test score of caregiver regarding nasogastric feeding to the hemiplegic patient. The all caregivers (100%) were satisfied with the demonstration of the feeding procedure for the hemiplegic patient in both the groups.

## 11. Discussion

The findings of this study have been discussed with reference to the objectives and hypothesis. The pre testing of caregivers in oral feeding group as well as the nasogastric tube feeding groups on skill regarding feeding of hemiplegic patients show that caregivers have less skill about feeding of hemiplegic patients. This indicates the need for demonstration on feeding of hemiplegic patients among caregivers.

The caregiver role is assumed when persons assist in meeting the needs of individuals who are unable to care for themselves. In this society, women are usually assumed to be the caregiver [6]. Typically, the caregiver for the older adult is female, married, and middle aged. Half of all women caregivers are employed, 35% are over 65 years old, and those caregivers who are over 65 may also have a number of chronic illnesses [7]. Neal [21] reported that 2.2 million Americans are caregivers for elderly ill or disabled persons. Family members routinely accept the major responsibility of care giving[8], and most stroke survivors are being cared for at home by family members[9]. The caregiver role is assumed when persons assist in meeting the needs of individuals who are unable to care of themselves. The study of men responses to care giving has been limited, but gender differences in care giving appear to exist[22]. Women caregivers suffered significantly greater physical health decline and reported more mental health symptomatology than did the male caregivers in this study[23]. In another study examining gender differences, researchers found that longer illness duration and greater disability resulted in lower adjustment in wives, decreased ability to perform activities of daily living was associated with lower adjustment in husbands, and husbands reported more changes in social roles [24]. Women have more negative reactions to care giving [25]. Women juggle multiple care giving roles and report greater feelings of guilt and inadequacy [7].

In the oral feeding group majority 23, (76.6%) frequency of caregiver scored between 16-25 in before demonstration and all 30 (100%) caregiver scored 26 and above after demonstration of oral feeding. The mean score of Preparation for Procedure increased from 3.0667 to 8.7; while actual feeding procedure increased from 7.4333 to 15.8; similarly the score of aftercare increased from 6.8667 to 11.2. In the present study the 'p' value calculated to find out the association between the selected demographic variables the calculated value  $\chi^2$ , smaller than the table value at 5% level ( $p>0.05$ ), that means there is no significant relationship the age group, sex, education, occupation, marital status type of family, the place of residence, relationship with patient and income of family of the care giver with pre test score of caregiver regarding oral/nasogastric tube feeding to the hemiplegic patient. And



increase in skill level is  $<0.05^*$ , with relation to age of caregiver in nasogastric feeding group. This suggests that there is a significant association between increase in knowledge level and these demographic variables. Similarly study shows that there is no significant difference in patients well being based on the gender of the caregiver. Similarly, caregiver educational needs differ based on gender. Vanetzian and Corrigan [12] reported that male caregivers' highest priority was to learn how to assist the disabled adult; female caregivers required information regarding health and human resources. Education, combined with practical, supportive counseling addressing the resolution of daily issues was more conducive in aiding post-stroke family adjusting [9].

From all the findings it can be concluded that Demonstration improves the skill of caregivers about feeding of patient with hemiplegia. The family and client need to have realistic expectations about the client's abilities, encourage independence when and where necessary. One of the primary roles of nurse is to educate patients and their families about activities of daily living. In this study to, significant improvement in skill score of caregivers about feeding of hemiplegic patients was evident. Such demonstration has improved the health care practices of clients. Suitable intervention packages need to be developed and feasibility of their implementation and effectiveness require in-depth studies. This clearly indicates that the demonstration on feeding hemiplegic patients among caregivers was effective in increasing the skill of the caregivers.

Demonstration provides an opportunity for observational learning; it commands interest by use of concrete illustrations. The learner not only can hear the explanation, but also can see the procedure or process. As a result, demonstration method projects a mental image in the learner's mind, which fortifies verbal knowledge. The demonstration method has universal appeal because it is understandable by all. "The demonstration method is adaptable to both groups and individual teaching. It activates several senses: teaches by exhibition any explanation. This increases learning because the more senses are used with the opportunities for learning. It trains the learner in the art of careful observation, a quality that is so essential to become an expert. It is the method in itself learning through observation and it uses several senses. It provides opportunity for observational learning; it projects a mental image in the learner's mind, which fortifies verbal knowledge. It clarifies the underlying principle by demonstrating the "why" of the procedure. It is a visualized explanation of a fact or idea or process. It shows how certain things are done, and has a three fold approach, telling, showing and doing. In performing a good demonstration, rapport between the learner and teacher must be established, and the demonstrator must know his subject thoroughly and must be able to show it clearly too all observers.

## 12. Conclusion

The purpose of the present study was to assess the effectiveness of demonstration regarding feeding of hemiplegic patient among caregivers. The present study can be justified on the fact that most of the time caregivers have to deal with the problems of hemiplegic patients without any

professional support. In today's world with emergence of nuclear families and husband and wife working, hemiplegic patients are not being given enough quality care. An appropriate nursing information and assistance focusing on rehabilitation and stroke caregiver's needs should be provided to stroke caregivers performing informal care to ensure that both patients and caregivers have the best possible quality of life.

The nurse patient ratio is poor in Indian setup hence most of the time, are dependent on the caregivers to meet the basic needs of the patients. It is very often caregivers in hospital setup who are involved in care of hemiplegic patients. To provide proper care it is necessary for them to have adequate knowledge of how to perform nursing interventions as they lack nursing skills, knowledge in their own rights, knowledge of available help and its sources, coping skills and support systems. The nurse must assist the caregivers, prepare them to adjust adequately and help the patients to achieve the optimal level of function. Providing caregiver demonstration on feeding technique of hemiplegic patients has shown a significant effect in improving their skill. Thus, it helps for better practices and will lessen the problems faced by caregivers in caring the hemiplegic patients.

## 13. Future Scope

### 13.1 Clinical Nursing Practice

Nurses working in the clinical set up can benefit from such researches, as it will provide more insight regarding the rehabilitative aspects of hemiplegic patients. If caregivers are involved in patient care training informal caregivers of patients with stroke improved patients and caregivers quality of life and reduced cost. This study indicates the needs of sufficient nurses to make it possible for them to practice clinical care, which is crucial with respect to knowing the person cared for. Furthermore it is important to view the caregiver, to integrate supervision and continuous education to increase the quality of care. Crucial knowledge is developed over time in clinical care and there is a serious risk, Caregiver with little skill rarely meets and cares for the hemiplegic patients. When considering these complex persons with a hemiplegia, it is not possible to assume that caregiver with poor education should be able to decide when they should ask for help. Furthermore the needs of multi-professional assistance need to be better considering for quality care. When such demonstration on feeding of hemiplegic patients among caregivers are made which cost less and are more effective, it will provide sound and comprehensive knowledge to nursing personnel and health teaching to caregivers. It is essential that nurses should give planned teaching programme in the clinical area. Nurses can also use this opportunity to include other family members and care givers in the hemiplegic patients for better understanding and cooperation which will in turn reduce the care givers burden and burnout syndromes. Nurses and other health care workers have to begin to provide intensive and long-term services or demonstration on self care activities, assisting for activities of daily living, to caregivers at the earliest to combat the future problems.

### 13.2 Nursing Education

Nursing education is developing rapidly in India and nurse from our country can be found all over the world providing care and education. The needs of older people are extremely heterogeneous and further aggravated by a disease such as stroke. Thus caregivers need to learn more about research-based and comprehensive assessments, strategies and ways of interacting with persons cognitively and communicatively impaired. There is also a need to increase the knowledge of how to maintain or increase persons' capabilities, which is important to integrate in daily care. In training programmes learning to consider a holistic view that recognizes the health potential physically, psychologically and socially could be an important repertoire for nurses and caregivers. Thus there is a need to further develop gerontological nursing both in nursing programmes and also the gerontological specialist programme

The education curriculum must include imparting knowledge about the use of various audio visual aids and teaching strategies. Now days, much importance is given to awareness and promotion of health than the curative aspects. As the needs of society are continuously changing, newer components must be incorporated in the nursing curriculum. Nursing education must emphasize on preventive and rehabilitative aspects. The nursing teachers can use the result of the study as an informative illustration for the students. Nursing education should help in inculcating values and a sense of responsibility in the students to educate the caregivers of hemiplegic patients with the activities of daily living and to foster the practice of health education in discharge planning.

### 13.3 Nursing Administration

As a part of administration, the nurse administrator plays a vital role in educating clients, caregivers and student nurses. The Nurse administrator can utilize this type of demonstration of procedure to enhance the knowledge of students and staff nurses and caregivers. Nursing administration can depute nurses for various workshops, conferences, and special courses; and also in-service education programs can be arranged for the nursing staff. The findings of the study should be used as a basis of in-service education programs for nurses so as to make them aware of the present problems in the society.

### 13.4 Nursing Research

There is a need for more experimental studies to test the effects of different nursing interventions, for example the use of both expressive and instrumental nursing. There is a need for extended and intensive nursing research in the area of health education for caregivers to improve their knowledge and skill for better compliance with the treatment plans designed for hemiplegic patients and to prevent further risks due to improper technique.

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