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EFFECTIVENESS OF SLOW STROKE BACKMASSAGE ON SHOULDER PAIN AND ANXIETY AMONG STROKE PATIENTSAT SELECTED HOSPITAL

Malathi G

Prof Cum Vice Principal, Depmernment of Medical Surgical Nursing, E.R.K College of Nursing, Dharmapuri, Tamil Nadu, India.

Corresponding Author
Malathi G

Email: malathiganapathi16@gmail.com

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ABSTRACT

Stroke is the second leading cause of death worldwide and in India fourth leading cause of death and fifth leading cause of disability. According to the American Stroke Association, up to 84% of stroke survivors experience shoulder pain and develops anxiety affects about one in four survivors. Slow stroke back massage is one of the classic massage techniques which help in the reduction of shoulder pain and anxiety. Research methodology: Quasi-Experimental Pre-test Post- test control Group Research Design was adopted for the study. Forty research participants were recruited using the non-probability purposive sampling technique. The pretest level of shoulder pain and anxiety was assessed by using numerical pain rating scale and modified Spiel Berger's State Anxiety scale. Slow stroke back massage for ten minutes twice a day was given to the interventional group for seven consecutive days. Posttest was done on 3rd and 7th day of intervention for both group. Result and discussion: The findings revealed that in the interventional group, the level of shoulder pain in pretest and posttest mean and standard deviation were 3.3±0.571 and 1.45±0.510and level of anxiety in pretest and posttest mean and standard deviation were 2.5±0.513 and 1.15±0.366 respectively. The calculated 't' value in the level of shoulder pain in interventional group was 16.907and level of anxiety was 9.0which was greater than the table value 3.88,which considered as significantat P< 0.001. Thus the findings suggested that slow stroke back massage has effective in the level shoulder pain and anxiety. Conclusion: Slow stroke back massage as a simple, non-invasive, and cost-effective approach, along with routine nursing care, can be used as this help in reduction of shoulder pain, anxiety among stroke patients.

Key Words: Effectiveness, stroke, shoulder pain, anxiety, slow stroke back massage

INTRODUCTION

Health is the level of functional and/or metabolic efficiency of a living being. In humans, it refers to the overall state of a person's mind, body, and sprit, it typically means that they are free from illness, injury, or pain. In 1946, the World Health Organisation expanded the definition of health to include a condition of whole physical, mental, and social well-being and not merely the absence of disease or infirmity.The environment in which a person lives generally has a significant impact on their quality of life and health. It is becoming more widely acknowledged that efforts and wise lifestyle decisions made by both individuals and society as a whole, in addition to the development and implementation of health science, contribute to the maintenance and improvement of health.

The brain is an amazing three-pound organ, which regulates, controls all bodily function. The organ located inside the skull that controls all body functions of a human. The cranium, or the bones that make up the skull, protects the brain, which is made up of billions of nerve cells. The brain stem, cerebellum, and cerebrum are

its three main constituent sections. The cerebrum is the largest part of the brain, is responsible for speech, reading, writing, reasoning, emotions, learning, problem solving, thinking, and voluntary movement. The cerebellum control posture, and fine motor movements balance. Breathing, heart rate, and the nerves and muscles involved in walking, talking, eating, and seeing are all managed by the brain stem. The brain and spinal cord are connected via the brain stem. The brain and spinal cord make up the central nervous system.

STATEMENT OF THE PROBLEM:

A Study to Evaluate the Effectiveness of Slow Stroke Back Massage on Shoulder Pain and Anxiety among Stroke Patients at Selected Hospital.

OBJECTIVES:

- To assess the pre-test level of shoulder pain and anxiety in interventional group and routine care group.
- To evaluate the effectiveness of slow stroke back massage on level of shoulder pain and anxiety among research participants in the interventional group and routine care group.
- To associate the pre-test level of shoulder pain and anxiety with their selected demographic and clinical variables among stroke patients in interventional and routine care group.

ASSUMPTION:

- Stroke patients may experience shoulder pain and anxiety due to immobility.
- Slow stroke back massage may have effect on shoulder pain and anxiety on stroke Patient.

HYPOTHESES:

- **H1**-There will be significant difference between pretest and posttest level of shoulder pain and anxietyamong research participants in interventional group and routine care group.
- **H2** - There will be significant association between the pretest level of shoulder pain and anxiety among research participants with their selected demographic and clinical variables in interventional and routine care group.

DELIMITATIONS:

This study is delimited to,

- the neurology ward.
- The data collection period was limited to 6 weeks.

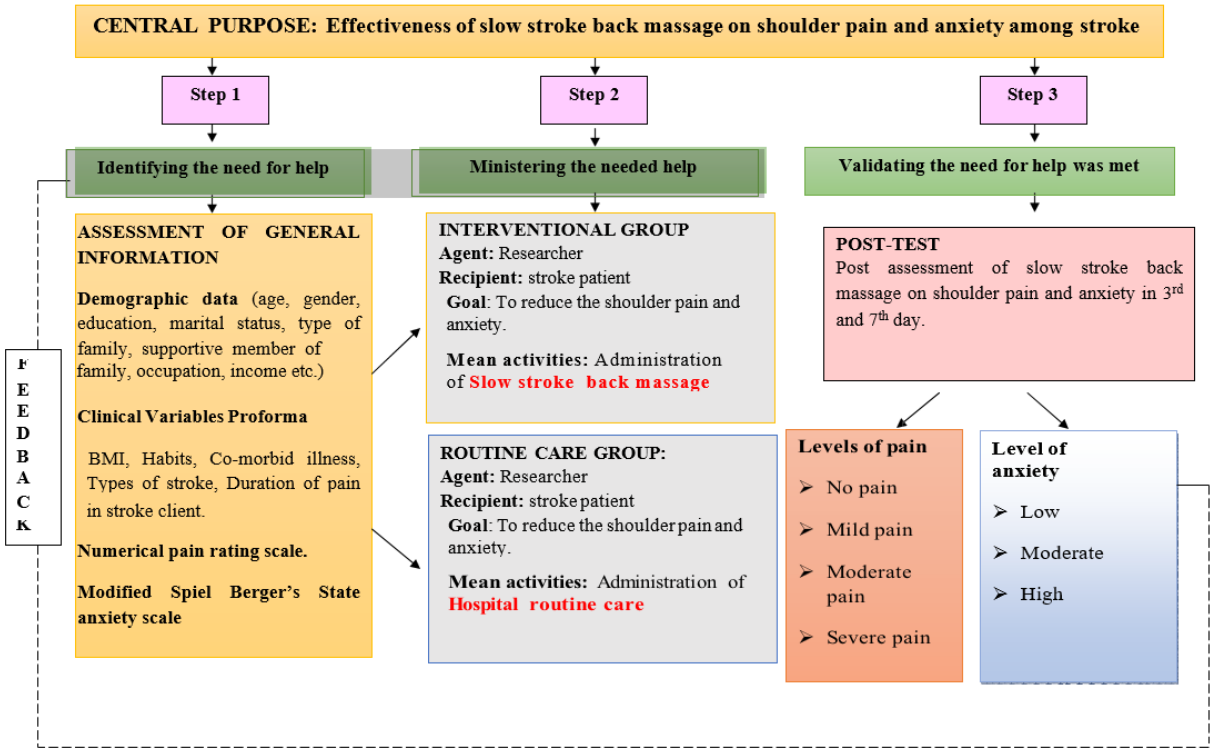

Figure 1: Modified Conceptual Framework Based on Weidenbach's Helping Art of Clinical Theory

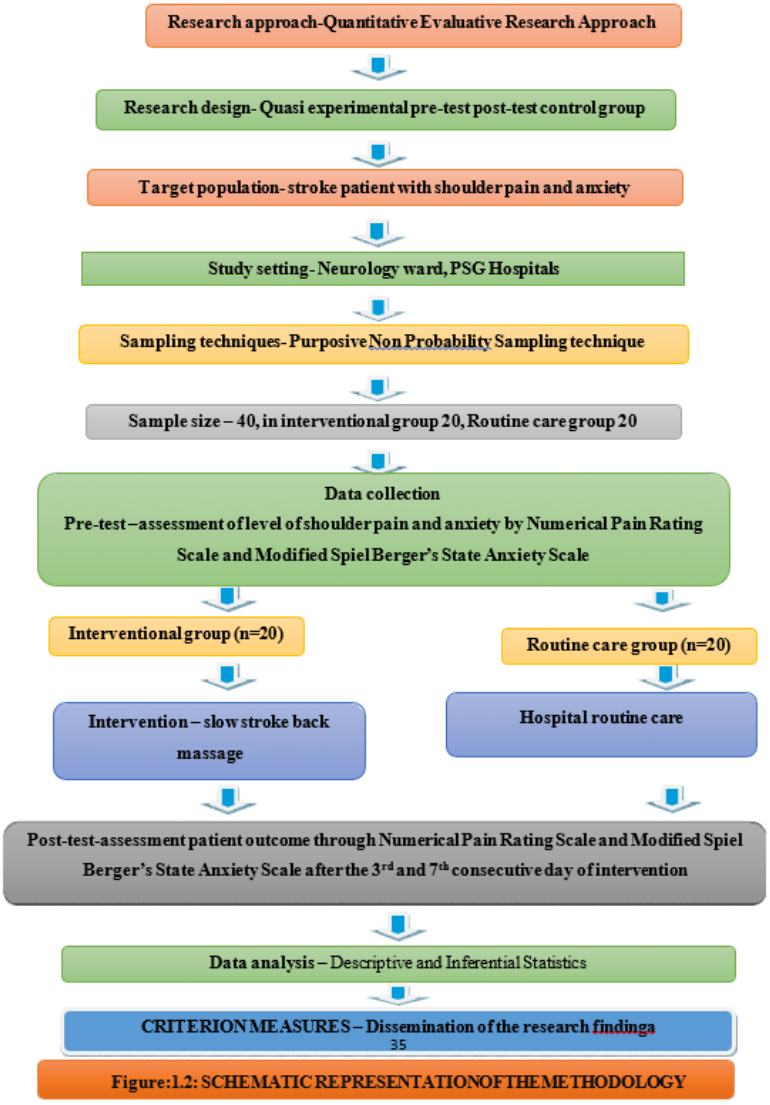

Figure:1.2: SCHEMATIC REPRESENTATIONOFTHEMETHODOLOGY

RESULT AND DISCUSSION:

Association of pre- test level of shoulder pain and anxiety with their selected demographic and clinical variables among the research participants in interventional and routine care group.

H2 - There will be significant association between the pretest level of shoulder pain and anxiety among research participants with their selected demographic and clinical variables in interventional and routine care group.

Table 1: a Chi-square value, frequency and percentage of pre- test level of shoulder pain with their selected demographic variables in interventionalgroup. n =20

S. No.	Demographic Variables	Interventional group								Calculated χ2 value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1	Age(in years)									χ2 = 5.661
	a)35 to 45	-	-	-	-	2	10	-	-	df = 9
	b) 46 to 55	-	-	-	-	2	10	1	5	16.919
	c) 56 to 65	-	-	1	5	4	20	1	5	NS
	d) above 65	-	-	-	-	4	20	5	25	

2	Gender									$\chi 2 = 2.029$
	a) Male	-	-	1	5	7	35	6	30	df = 6
	b) Female	-	-	-	-	5	25	1	5	12.592
	C) Transgender	-	-	-	-	-	-	-	-	NS
3	Educational Status									$\chi 2 = 10.190$
	a) Illiterate	-	-	-	-	4	20	4	20	df = 9
	b) Middle school	-	-	-	-	6	30	-	-	16.919
	c) High school	-	-	1	5	1	5	3	15	NS
	d) Diploma/Degree	-	-	-	-	1	5	-	-	
4	Marital Status									$\chi 2 = 3.220$
	a) Married	-	-	1	5	8	40	4	20	df = 9
	b) Unmarried	-	-	-	-	2	10	-	-	16.919
	c) Widowed	-	-	1	5	1	5	2	10	NS
	d) Diverse	-	-	1	5	1	5	1	5	
5	Type of the family									
	a) Nuclear family	-	-	-	-	7	35	1	5	$\chi 2 = 4.637$
	b) Joint family	-	-	1	5	4	20	5	25	df = 9
	c) Extended family	-	-	-	-	-	-	-	-	16.919
	d) Separated family	-	-	-	-	1	5	1	5	NS
6	Supportive members in family									
	a) Parents	-	-	-	-	-	-	-	-	
	b) Spouse	-	-	-	-	5	25	1	5	$\chi 2 = 3.214$
	c) Children	-	-	1	5	6	30	4	20	df = 6
	d) Siblings	-	-	-	-	1	5	2	10	16.919
	e) Others	-	-	-	-	-	-	-	-	NS
7	Occupational status									
	a) Unemployed	-	-	-	-	6	30	5	25	
	b) Skilled worker	-	-	-	-	5	25	2	10	$\chi 2 = 21.200$
	c) retired	-	-	1	5	-	-	-	-	df = 6
	d) Professional	-	-	-	-	1	5	-	-	16.919
										S*
8	Income									
	a)<15000	-	-	-	-	2	10	2	10	
	b)16000-30,000	-	-	-	-	3	15	3	15	$\chi 2 = 3.780$
	c)31000-45000	-	-	1	5	5	25	2	10	df = 6
	d)>50000	-	-	-	-	2	10	-	-	16.919
										NS

***p < 0.05, S – Significant, N.S – Not Significant**

Table 1.1 a stated the significant is found in occupational status with level of shoulder pain (21.200). Hence, the research hypothesis **H2** was retained only for the variable occupational status.

Table 1.2 b: Chi-square value, frequency and percentage of pre-test level of shoulder pain with their selected clinical variables in interventionalgroup. n =20

S. No.	Clinical Variables	Interventional group								Calculated $\chi 2$ value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1	**BMI**									
	a) Under weight	-	-	-	-	1	5	1	5	$\chi 2 = 3.489$
	b) Normal	-	-	1	5	8	40	2	40	df = 8
	c) Over weight	-	-	3	15	4	20	-	-	15.507
	d) Obese	-	-	-	-	-	-	-	-	NS
2	**Habits**									$\chi 2 = 3.577$

	a) Smoking	-	-	1	5	3	15	3	15	df = 6
	b) Alcoholic	-	-	-	-	4	20	3	15	12.592
	c)Others specify:	-	-	-	-	5	25	1	5	NS
3	**Co-morbid illness**									
	a) Diabetes mellitus	-	-	-	-	6	30	1	5	$\chi 2 = 6.539$
	b) Hypertension	-	-	1	5	4	20	3	15	df = 6
	c) COPD	-	-	-	-	1	5	3	15	15.507
	d) Cardiac illness	-	-	-	-	1	5	-	-	NS
	f) Others specify:	-	-	-	-	-	-	-		
4	**Types of stroke**									
	a) Ischemic stroke	-	-	1	5	9	45	4	20	$\chi 2 = 2.480$
	b) Hemorrhagic stroke	-	-	-	-	2	10	3	15	df = 9
	c)Transient ischemic attack (Mini stroke)	-	-	-	-	1	5	-	-	16.919 NS
	d) Brain stem stoke	-	-	-	-	-	-	-	-	
5	**Duration of pain in stroke client**									[
	a) Pain develops after 2 weeks of stroke.	-	-	-	-	3	15	2	10	$\chi 2 = 12.296$
	b) Symptom onset is often gradual	-	-	-	-	8	40	1	5	df = 6
	c) Pain is frequently severe and unrelenting, with pain free episodes not exceeding a few hours.	-	-	-	-	1	5	2	10	16.919 NS
	d) Pain develops within 3 to 6 months of stroke.	-	-	-	-	-	-	2	10	

N.S – Not Significant

Table 1. 2 b displayed that there was no statistically significant association between the pre-test level of shoulder pain with selected clinical variables. Hence, the research hypothesis H2 was rejected.

Table 1.3 a Chi-square value, frequency and percentage of pre- test level of anxiety with their selected demographic variables in interventionalgroup. n =20

S.NO	Demographic Variable	Interventional group						Calculated $\chi 2$ value
		Mild anxiety		Moderate anxiety		Severe anxiety		
		f	%	f	%	f	%	
1	AGE							
	a)35 to 45	-	-	-	-	2	10	$\chi 2 = 2.444$
	b) 46 to 55	-	-	2	10	1	5	df = 6
	c) 56 to 65	-	-	3	15	3	15	12.592
	d) above 65	-	-	5	25	4	20	NS
2	Gender							
	a) Male	-	-	7	35	7	35	$\chi 2 = 0.016$
	b) Female	-	-	3	15	3	15	df = 4
	C) Transgender	-	-	-	-	-	-	9.488 NS
3	Educational Status							
	a) Illiterate	-	-	4	20	4	20	$\chi 2 = 1.200$
	b) Middle school	-	-	3	15	3	15	df = 6
	c) High school	-	-	3	15	2	10	12.592
	d) Diploma/Degree	-	-	-	-	1	5	NS
4	Marital Status							
	a) Married	-	-	6	30	7	35	$\chi 2 = 4.410$

	b) Unmarried	-	-	-	-	2	10	df = 6
	c) Widowed	-	-	2	10	1	5	12.592
	d) Diverse	-	-	2	10	-	-	NS
5	Type of the family							
	a) Nuclear family	-	-	4	20	4	20	$\chi 2$ =2.400
	b) Joint family	-	-	4	20	6	30	df = 2
	c) Extended family	-	-	2	10	-	-	5.991
	d) Separated family	-	-	-	-	-	-	NS
6	Supportive members in family							
	a) Parents	-	-	-	-	-	-	$\chi 2$ =3.758
	b) Spouse	-	-	2	10	4	20	df = 8
	c) Children	-	-	5	25	6	30	15.507
	d) Siblings	-	-	3	15	-	-	NS
	e) Others	-	-	-	-	-	-	
7	Occupational status							
	a) Unemployed	-	-	6	30	5	25	$\chi 2$ =2.234
	b) Skilled worker	-	-	3	15	4	20	df = 6
	c) retired	-	-	1	5	-	-	12.592
	d) Professional	-	-	-	-	1	5	NS
8	Income							
	a) <15000	-	-	2	10	2	10	$\chi 2$ =1.167
	b)16000-30,000	-	-	4	20	2	10	df = 6
	c)31000-45000	-	-	3	15	5	25	12.592
	d)>50000	-	-	1	5	1	5	NS

N.S – Not significant

Table 1.3 a showed that there was no statistically significant association between the pre- test level of anxiety with demographic variables in interventional group. Hence, research hypothesis H2 is rejected.

Table 1.4 b Chi-square value, frequency and percentage of pre- test level of anxiety with their selected clinical variables in interventional group. n =20

S.NO	Clinical Variable	Interventional group						Calculated $\chi 2$ value
		Mild anxiety		Moderate anxiety		Severe anxiety		
		f	%	f	%	f	%	
1	**BMI**							
	a) Under weight	-	-	-	-	2	10	$\chi 2$ = 2.961
	b) Normal	-	-	7	35	4	20	df = 6
	c) Over weight	-	-	3	15	4	20	15.507
	d) Obese	-	-	-		-	-	NS
2	**Habits**							
	a) Smoking	-	-	3	15	4	20	$\chi 2$ = 0.286
	b) Alcoholic	-	-	4	20	3	15	df = 4
	c)Others specify:	-	-	3	15	3	15	9.488
								NS
3	**Co-morbid illness**							
	a) Diabetes mellitus	-	-	4	20	3	15	$\chi 2$ = 2.143
	b) Hypertension	-	-	4	20	4	20	df = 8
	c) COPD	-	-	1	5	3	15	15.507
	d) Cardiac illness	-	-	1	5	-	-	NS
	f) Others specify:	-	-	-	-	-	-	
4	**Types of stroke**							
	a) Ischemic stroke	-	-	6	30	8	40	$\chi 2$ =1.1486

	b)Hemorrhagic stroke	-	-	3	15	2	10	df = 6 12.592 NS
	c)Transient ischemic attack (Mini stroke)	-	-	1	5	-	-	
	d) Brain stem stoke	-	-	-	-	-	-	
5	**Duration of pain in stroke client**							
	a) Pain develops after 2 weeks of stroke.	-	-	3	15	2	10	$\chi 2 = 3.644$ df = 6 12.592 NS
	b) Symptom onset is often gradual	-	-	5	25	4	20	
	c) Pain is frequently severe and unrelenting, with pain free episodes not exceeding a few hours.	-	-	-	-	3	15	
	d) Pain develops within 3 to 6 months of stroke.	-	-	2	10	1	5	

N.S – Not significant

Table 1.4 b displayed that there was no statistically significant association between the pre-test level of anxiety with selected clinical variables. Hence, the research hypothesis H2 was rejected

Table 1.5 a Chi-square value, frequency and percentage of pre- test level of shoulder pain with their selected demographic variables in routine care group. n =20

S. No.	Demographic Variables	Routine care group								Calculated $\chi 2$ value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1	Age(in years)									$\chi 2 = 1.905$ df = 9 16.919 NS
	a)35 to 45	-	-	-	-	1	5	-	-	
	b) 46 to 55	-	-	-	-	6	30	2	10	
	c) 56 to 65	-	-	-	-	4	20	1	5	
	d) above 65	-	-	-	-	3	15	3	15	
2	Gender									$\chi 2 = 0.010$ df = 6 12.592 NS
	a) Male	-	-	-	-	9	45	4	20	
	b) Female	-	-	-	-	5	25	2	10	
	C) Transgender	-	-	-	-	-	-	-	-	
3	Educational Status									$\chi 2 = 2.245$ df = 9 16.919 NS
	a) Illiterate	-	-	-	-	3	15	3	15	
	b) Middle school	-	-	-	-	5	25	2	10	
	c) High school	-	-	-	-	4	20	1	5	
	d) Diploma/Degree	-	-	-	-	2	10	-	-	
4	Marital Status									$\chi 2 = 2.468$ df = 9 16.919 NS
	a) Married	-	-	-	-	8	40	3	15	
	b) Unmarried	-	-	-	-	1	5	-	-	
	c) Widowed	-	-	-	-	3	15	3	6	
	d) Diverse	-	-	-	-	2	10	-	-	
5	Type of the family									$\chi 2 = 3.069$ df = 9 16.919 NS
	a) Nuclear family	-	-	-	-	7	35	2	10	
	b) Joint family	-	-	-	-	4	20	4	20	
	c) Extended family	-	-	-	-	2	10	-	-	
	d) Separated family	-	-	-	-	1	5	-	-	
6	Supportive members in family									$\chi 2 = 2.313$ df = 9 16.919 NS
	a) Parents	-	-	-	-	-	-	-	-	
	b) Spouse	-	-	-	-	4	20	3	15	
	c) Children	-	-	-	-	6	30	3	15	
	d) Siblings	-	-	-	-	4	20	-	-	
	e) Others	-	-	-	-	-	-	-	-	

7	Occupational status									$\chi 2 = 2.857$
	a) Unemployed	-	-	-	-	6	30	4	20	df = 9
	b) Skilled worker	-	-	-	-	4	20	-	-	16.919
	c) retired	-	-	-	-	3	15	2	10	NS
	d) Professional	-	-	-	-	1	5	-	-	
8	Income									$\chi 2 = 3.333$
	a)<15000	-	-	-	-	4	20	1	5	df = 9
	b)16000-30,000	-	-	-	-	2	2	3	15	16.919
	c)31000-45000	-	-	-	-	6	30	2	10	NS
	d)>50000	-	-	-	-	2	10	-	-	

N.S – Not significant

Table 1.5 a showed that there was no statistically significant association between the pre- test level of shoulder pain with demographic variables in routine care group. Hence, research hypothesis **H2** is rejected.

Table 4.4.3 b Chi-square value, frequency and percentage of pre-test level of shoulder pain with their selected clinical variables in routine care group. n =20

S. No.	Clinical Variables	Routine care group								Calculated $\chi 2$ value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1	**BMI**									$\chi 2 = 2.048$
	a) Under weight	-	-	-	-	2	10	-	-	df = 8
	b) Normal	-	-	-	-	7	35	2	10	15.507
	c) Over weight	-	-	-	-	4	20	3	15	NS
	d) Obese	-	-	-	-	1	10	1	5	
2	**Habits**									
	a) Smoking	-	-	-	-	4	20	1	5	$\chi 2 = 3.2.03$
	b) Alcoholic	-	-	-	-	4	20	-	-	df = 6
	c)Others specify:	-		-	-	6	30	5	25	12.592
										NS
3	**Co-morbid illness**									
	a) Diabetes mellitus	-	-	-	-	6	30	2	10	$\chi 2 = 4.921$
	b) Hypertension	-	-	-	-	2	10	2	10	df = 6
	c) COPD	-	-	-	-	4	20	-	-	15.507
	d) Cardiac illness	-	-	-	-	-	-	1	5	NS
	f) Others specify:	-	-	-	-	2	10	1	5	
4	**Types of stroke**									
	a) Ischemic stroke	-	-	-	-	6	30	5	25	
	b)Hemorrhagic stroke	-	-	-	-	6	30	1	5	
	c)Transient ischemic attack (Mini stroke)	-	-	-	-	2	10	-	-	$\chi 2 = 2.931$
	d) Brain stem stoke	-	-	-	-	-	-	-	-	df = 9
										16.919
										NS
5	**Duration of pain in stroke client**									
	a) Pain develops after 2 weeks of stroke.	-	-	-	-	6	30	1	1	
	b) Symptom onset is often gradual	-	-	-	-	7	35	2	10	
	c) Pain is frequently severe and unrelenting, with pain free episodes not exceeding a few hours.	-	-	-	-	1	1	2	10	$\chi 2 = 5.336$
										df = 9
										16.919
	d) Pain develops within 3 to 6 months of stroke.	-	-	-	-	-	-	1	5	NS

N.S – Not significant

Table 4.4.3.b displayed that there was no statistically significant association between the pre-test level of shoulder pain with selected clinical variables. Hence, the research hypothesis H2 was rejected.

CONCLUSION

The study aimed at evaluating the effectiveness of slow stroke back massage on shoulder pain and anxiety among stroke patients at a tertiary care hospitals. For longer duration, slow stroke back massage can be used extensively to prevent shoulder pain and anxiety. It is simple, non-invasive and cost effective approach, where the care givers also can practice at community setting.

REFERENCES

1. Ajesh Kumar, T. K., & S. C. (2017). *Application of nursing theories* (1st ed., pp. 13–22). Jaypee Brothers Medical Publishers.
2. Akhoury, G. S. (2010). *Principles and practice of therapeutic massage* (2nd ed., pp. 45–55, 65–70). Jaypee Brothers Medical Publishers.
3. Alligood, M. R. (2014). *Nursing theory: Utilization & application* (pp. 61–73). Elsevier Mosby.
4. Alligood, M. R. (2018). *Nursing theorists and their work* (pp. 43–44). Elsevier.
5. Basavanthappa, B. T. (2014). *Nursing administration* (3rd ed.). Jaypee Brothers Medical Publishers.
6. Black, J. M., & Hawks, J. H. (2010). *Medical-surgical nursing: Clinical management for positive outcomes* (pp. 172–180). Elsevier.
7. Cooper, G. M., & Hausman, R. E. (2018). *The cell: A molecular approach* (pp. 19–35). Oxford University Press.
8. Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
9. Osborn, C. E. (2008). *Essentials of statistics in health information technology*. Jones & Bartlett Publishers.
10. Hinkle, J. L., Brunner, L. S., Cheever, K. H., et al. (2014). *Brunner & Suddarth's textbook of medical-surgical nursing* (pp. 87–91). Lippincott Williams & Wilkins.
11. Williams, L., & Hopper, P. D. (2015). *Understanding medical surgical nursing* (1st ed.). Jaypee Brothers Medical Publishers.
12. Hollis, M., & Jones, E. (2009). *Massage for therapists: A guide to soft tissue therapy* (3rd ed., pp. 30–35, 80–90). Wiley-Blackwell.
13. Brainin, M. (2010). *Textbook of stroke medicine* (1st ed., pp. 77–86). Cambridge University Press.
14. https://proquest.com/
15. https://ovidsp.ovid.com/
16. https://www.scopus.com/
17. https://delnet.nic.in /
18. http: wwwpupmed. Com
19. https://rtop.bmj.com /
20. https://casereports.bmj.com/pages/
21. https://www.clinicalkey.com /
22. www.ijergs.org.
23. http://dx.doi.org/10.21088/jnmmh. 2454.7506.3117.1.
24. http://dx.doi.org/10.2139/ssrn.3494312.
25. http://repository-tnmgrmu.ac.in/id/eprint/9548.