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Treatment of Neck Muscle Pain and Tension with TPG Therapy

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ABSTRACT

Keywords:

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Neck pain is pain that appears in the back of the neck, right neck, left neck, or front neck. Neck pain generally occurs due to pulled neck muscles, pinched nerves, or calcification of the joints. In general, neck pain or neck pain is not a serious condition that needs to be watched out for. This condition can heal in a few days or a few weeks without special treatment. However, there are also neck pains that appear as a symptom of certain diseases. Meanwhile, muscle tension in the neck is the most common cause of muscle pain. Usually this muscle tension is triggered by: Poor posture when walking, standing or sitting. Incorrect sleeping position or uncomfortable pillow use. In this study, the focus is on how to deal with or treat neck muscle pain and tension with acupressure, hitting and motion therapy. So in other words this research is to examine the activities of handling pain and tension that often occur in the neck muscles with the acupressure, motion and neck therapy methods. Besides that, you can find out how far the effectiveness of the method is. The hope of the researchers themselves is to get maximum results and gain new knowledge from this activity and to provide references for other researchers in the future.

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1. INTRODUCTION

Today almost all spheres of human life are colored by technology[1]. Technology cannot be separated from human life[2]. Experts say that the relationship between humans and technology can be likened to the relationship between a spider and its web, the two cannot be separated anymore[3][4]. This causes humans to rarely do activities in other words such as walking, running and other physical activities[5]. Besides that, sometimes you forget the time so that you unknowingly take a long time without caring about the side effects it causes[6].

Some of the side effects can be in the form of physical fatigue such as complaints in the muscles, joints and bones which can cause the body's condition to decrease and experience interference with activities[7][8]. Neck pain is pain that appears in the back of the neck[9], right neck[10], left neck[11], as well as the front neck[12]. Neck pain generally occurs because the neck muscles are pulled[13], pinched nerve[14], or calcification of the joints[15]. In general, neck pain[16] or neck pain is not a serious condition that needs to be watched out for[17]. This condition can heal in a few days or a few weeks without special treatment[18]. However, there are also neck pains that appear as a symptom of certain diseases. Meanwhile, muscle tension in the neck is the most common cause of muscle pain[19]. Usually this muscle tension is triggered by: Bad posture when walking, standing, or sitting. Incorrect sleeping position or uncomfortable pillow use[20].

To overcome this, the researcher intends to introduce full-blooded therapy, Hit and Move. Pressing or full-blooded on the trigger point for the process of muscle relaxation so as to reduce stiffness or muscle tension. Hit or tapotement to perfect muscle relaxation, so that the range of motion of the joints increases and pain will decrease. Movements performed by the patient under instructions from the therapist can return the joint to its correct position, and stretch stiff or tense muscles so that they become more relaxed.

2. METHODS

Framework of thinking

The neck is a vulnerable part of the body, it's no wonder that neck pain is a common complaint felt by everyone. Repetitive use, prolonged static position, and trauma are factors that cause neck muscle pain and tension. Neck pain and tension is a musculoskeletal complaint that causes pain, muscle tension, limited range of joint motion, thereby reducing neck function. TPG (totok, hit, motion) is a manipulation that is done by pressing or tapping on the trigger point to relax muscles that are experiencing stiffness. Hit or tapotement to perfect muscle relaxation, and reduce pain due to full-blooded trigger points.

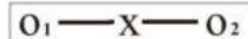
Based on the description above, the description of the concept of thinking flowchart is as follows:



Figure 1. Concept Thinking Flowchart

Research design

The research design used in this study was the Pre-experimental with the One Group Pretest-Posttest Design, which consisted of one group, without a control group. The research process was carried out in three stages, namely, pretest, treatment, and posttest. The result of the treatment is the difference between the pretest and posttest scores. The One Group Pretest-Posttest Design research design can be described as follows:



Information :

O1 = pretest value (before being given TPG manipulation)

X = treatment (TPG manipulation)

O2 = posttest value (after being given the TPG manipulation)

3. RESULTS AND DISCUSSION

Research results

Measurements made on 15 subjects in this study included ROM, pain scale, and function scale. The measurement results obtained the basic pretest and posttest data presented in Tables 1 and 2.

Table 1. Basic Data Range of Motion (ROM)

No	flex		Extension		Left Lateral Flexion		Right Lateral Flexion		Left Rotation		Right Rotation	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	58	69	27	35	32	41	37	43	51	59	58	62
2	35	42	51	65	34	41	23	37	34	42	39	41
3	27	35	48	56	20	38	12	35	45	58	48	56
4	55	63	40	48	32	42	34	45	20	38	28	35

5	51	64	53	65	32	40	34	41	59	66	53	52
6	25	32	37	44	36	41	38	46	48	58	47	52
7	26	34	60	67	34	40	29	33	39	45	39	46
8	37	44	54	65	38	40	43	44	46	54	40	45
9	16	24	19	26	25	35	35	39	43	48	33	47
10	25	37	40	46	30	41	24	32	53	58	47	54
11	39	48	57	62	26	35	20	30	49	56	58	64
12	25	35	61	67	29	35	36	40	43	45	47	48
13	19	23	18	36	33	42	26	35	48	57	35	45
14	31	44	33	61	33	41	37	42	31	45	30	44
15	22	34	44	48	45	51	30	41	49	54	42	55
\bar{X}	32,73	41,87	42,8	52,73	31,39	40,20	30,53	38,87	43,87	52,20	42,93	49,73
SD	13,02	13,97	13,97	13,36	5,81	3,89	8,22	4,97	9,69	7,84	9,35	7,77

Table 2. Basic Data of Pain Scale and Function

No	Rest Pain		Activity Pain		Tenderness		Turn Function		Bow Function		Look Up Function	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1	0	3	2	4	1	9	10	7	10	8	9
2	0	0	4	2	3	2	10	10	10	10	10	10
3	0	0	1	0	3	2	8	9	10	10	10	10
4	0	0	0	0	3	2	7	8	8	10	9	8
5	1	0	1	0	2	1	8	9	10	10	10	10
6	2	1	0	0	2	1	7	9	10	10	8	9
7	5	3	2	1	3	2	8	9	9	9	10	10
8	1	1	2	1	3	1	8	9	10	10	10	10
9	3	1	8	5	4	2	5	8	8	9	5	8
10	4	1	5	2	7	4	6	9	5	9	5	9
11	4	2	6	3	7	3	7	8	10	10	8	10
12	5	2	6	3	5	1	10	10	10	10	10	10
13	5	3	5	2	7	4	7	9	9	9	8	10
14	6	3	4	2	5	3	7	9	8	9	8	9
15	3	1	2	1	5	2	7	9	10	10	9	10
\bar{X}	2,67	1,20	3,27	1,60	4,20	2,07	7,6	9	8,93	9,7	8,53	9,5
SD	2,09	1,15	2,40	1,40	1,74	1,03	1,35	0,65	1,49	0,49	1,68	0,74

Discussion of Research Results

The results of data analysis using parametric statistical analysis (Paired Samples t Test) and non-parametric statistical analysis (Wilcoxon test) show that TPG therapy has a significant success rate for healing neck muscle pain and tension. The success rate is shown by increasing neck ROM (flexion, extension, left lateral flexion, right lateral flexion, left rotation, right rotation), decreased pain felt, and increased neck function.

The results of the Paired Samples t Test and Wilcoxon test showed ($p < 0.05$) or there was a significant difference between the pretest and posttest. Thus, TPG therapy is effective for healing neck muscle pain and tension. There is an increase in ROM in the neck after TPG therapy because it causes muscle relaxation through pressure (acupressure) 17 points around the shoulders, neck and base of the head. These 17 points are part of the muscle where the muscle often moves or contracts, so it is very susceptible to pain and muscle tension. The muscles in the neck and base of the head that were acuated were the capitis major, rectus capitis minor, splenius capitis, splenius cervicis, longissimus capitis, scalena, sternocleidomastoid, superior oblique, and rectus inferior oblique. While full-blooded which is done on the shoulder is on the pectoralis muscle, middle trapezius, lower trapezius, and levator scapula. Acupressure is done until the pain reaches the maximum level that can be tolerated resulting in temporary ischemia or lack of blood flow in the area that is being tapped.

After full-bloodedness is released, there is an increase in local blood flow, oxygen supply increases, making it easier to remove inflammatory chemicals in the tissues back into circulation. Thus, there is a decrease in muscle tension at the trigger point and a reduction in pain so that the ROM increases. oxygen supply increases, thus facilitating the removal of inflammatory chemicals present in the tissues back into circulation. Thus, there is a decrease in muscle tension at the trigger point and a reduction in pain so that the ROM increases. oxygen supply increases, thus facilitating the removal of inflammatory chemicals present in the tissues back into circulation. Thus, there is a decrease in muscle tension at the trigger point and a reduction in pain so that the ROM increases.

Tapotement action (hit) on the shoulder, neck, and base of the head can reduce the pain that is felt because tapotement will block pain messages sent to the brain through the stimulation given, namely in the form of pressure. This stimulation travels through thickly myelinated A β nerve fibers while pain impulses are carried by A δ and C afferent nerve fibers. Thickly myelinated A β nerve fibers run faster than A δ and C afferent nerve fibers so that before pain messages carried by A δ and C afferent nerve fibers are processed by the brain, thick myelinated A β nerves block or close the gate first, as a result the sensation of pain that is felt is reduced. This process is the Gate Control Theory.

The effects of TPG therapy include: muscle relaxation which causes pain to decrease, increased blood and oxygen flow will facilitate the removal of inflammatory chemicals so that pain and muscle tension are reduced, as well as the release of endogenous opioids which stimulate the release of endorphins from the pituitary gland causing an increase in the range of motion joints (ROM). Thus the overall effect caused by Topurak manipulation causes better neck function.

4. CONCLUSION

Based on the research results that have been obtained, it can be concluded that TPG therapy is effective for healing neck muscle pain and tension as indicated by an increase in ROM, a decrease in pain scale, and an increase in function scale.

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