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The Effect of a Program Using Some Therapeutic Methods to Rehabilitate Patients Suffering from Neck Pain

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Abstract

Neck pain is one of the common physical problems of the adults which needs to be taken seriously in order to prevent further health problems. As the daily life of the modern people leads physical inactivity, and the use of electronic devices causes improper effect on certain parts of the body, special programs have to be developed as preventive treatment. Therapeutic methods can also be listed through such preventive methods. The purpose of this study was to identify the impact of the proposed program using some natural methods of treatment for the rehabilitation of people with neck pain, to identify the improved range of motion in all directions to the neck area, and also to identify the extent of improvement in muscle strength for the neck and back. Twelve patients in Ain Zara Physiotherapy Center and Tripoli Clinic (in Tripoli city) were chosen as voluntarily whose age ranged from 30 to 50 years, and the subjects were divided into two groups, as experimental and control groups. This study proved that proposed therapeutic methods help the treatment of neck pain.

Keywords: Neck pain, therapy, rehabilitation

Introduction

Neck problems occur in any part of the neck, in the muscles of the (shrinking, strain) or bone or joint or ligaments or tendons or nerves are injured neck is a common condition among the people and private debt are sitting too long behind the office or watching of television, computer and use the phone, and leadership for a long time without rest, and bad habits during eating on the ground and during sleep and other habits in our daily lives. The pain may spread to the shoulders and back of the head and the maimed, and the highest to the hands and the feeling of tingling in limbs in advanced cases in injury.

Susan (2000) refers to the neck pain spread widely prevalent in the world has this prevalence has increased in recent times, and in general in the last thirty years, and that for many reasons, is the neck pain from diseases that newly or of welfare diseases that have emerged in particular in increased oil states and spread like other welfare diseases (sugar, pressure, stroke, heart attack, and stroke, cerebral, spine and joint pain) prevalent scary does not bode well, a phenomenon convictions on and crystallized in the past two decades as a result of the former to the lack of a result of the lack of movement and excessive unreasonable nutrition and proper use Modern techniques like a car phone and a computer that human crippled man made the chair and the house and more isolated and less social and departure.

Hans Richter (2005) also indicates that more than 60 million people in the European Union are working on a computer and suffering and complaining of neck injuries or shoulder area and the problems of vision, myopia, tension and fatigue.

Maha Hanafi and others (2009) pointed that the cervical spine from more areas of the spine complicated than the anatomical infested with nerves and muscles so they are the area most vulnerable to infection, the neck is easy movement they expose themselves to many of the problems, both for the athletes and during exercise activities sporting the wrong way or some professions that require sitting for long periods.

Salmon (2011) sees that there is a growing interest in the pain of the neck in the area of private military aviation sports medicine, where the neck pain in military aviation groups (helicopter) is spreading at a rate ranging between 56.6% to 84.5% across the globe, and because of the growing neck-related pain to fly to the factors of gravity actually on the neck, for example, of which, the status of the body during the flight, the use of night vision in the debates, as well as vibration factor all of that helps in the growth of neck pain and muscle contraction.

As Ali Ahmed (2010) said that the proper position of the body in the sitting reduces muscle contractions in the neck and relieves pain so pointed to the need for a neck in a moderate mode because most of neck pain are making the development of the neck forward.

And Siegfried (2001) confirms be a problem with the neck muscles associated with pain for low back pain as a result functional limitations of the muscles of the neck, and become these muscles shorter and more tense because of the weight of the head and become unable to job performance if used excessively in breathing and must be massage operation targeting that region effectively, while taking caution in dealing with nerves.

James also points (1998) The pain resulting from kinetic reasons, whether sudden actions or frequently mistaken use of a motor and does not have anything to do with the causes of clinical may be acute or chronic, and it can be used as a massage technique for the treatment of muscle pain and detailed injuries facility muscle contraction and lower back pain.

Zainab Abdul Hamid and Yasser Nouredine (2005) confirms in cases of muscle contraction can be therapeutic massage from the first or second day starts after being diagnosed with the injury since early massage works to shorten the re-motor functions significantly period also helps to relieve pain and full relaxation of the muscles, also confirm that the effectiveness of therapeutic massage significantly increases if they are accompanied with therapeutic exercises.

And also confirms Helen (2007) that early screening and allows knowing the exact place of weakness or deficits in muscle shrinking, resulting in knowledge of the most appropriate methods of massage that fit with muscle shrinking in proportion to the reality on the muscle contraction.

Also Field (1998) mentioned that therapeutic massage has many benefits, including the reduction of pain and increase alertness and reduce depression and anxiety and increase the efficiency of the immune system.

The importance of the study

This study is from one of the recent studies in the field of rehabilitation in the range of informed student and which utilize massage therapy and exercise rehabilitation which some styles physical therapy in the treatment of neck pain and not rely on the means of conventional physical therapy only, such as ultrasound, infrared, which does not address the problem From its roots with the speed of the return of the pain and recurrence of injury again, it was found a dearth of studies on the treatment of the problem of neck pain and here it turns out that all previous studies were applied to the neck injury, but the student and within brief him and his knowledge did not find any studies on the combination of therapeutic massage and rehabilitative exercises together in the treatment of neck pain and muscle force by underlining the importance of this study were selected Hence this study and scientific importance in this area.

However it may contribute to help those interested in the field of rehabilitation and physical therapy in general to develop and codify different ways than is the case in the treatment of neck and muscles working mother, by knowing how to integrate more than one way to treat using various methods of treatment for each of the therapeutic massage and exercise rehabilitation, has been work on the application of this study, which will be utilized in the field of rehabilitation and physical therapy and all those working in this area.

Aims of the study

- (A) Identify the impact of the proposed program using some natural methods of treatment for the rehabilitation of people with neck pain.
- (B) Identify the improved range of motion in all directions to the neck area.
- (C) To identify the extent of improvement in muscle strength for the neck and back.

The study hypotheses

1. There is statistically significant improvement in range of motion in all directions to the neck area between the measurement pre and post experimental group and in favor of telemetric differences.

2. There are statistically significant improvement in muscle strength to the neck area and back the experimental group between the measurement pre and post experimental group and in favor of telemetric differences.

3. There are statistically significant improvement in range of motion in all directions to the neck area and the muscle strength to the neck and back area between the experimental group and the control group and the experimental group differences.

Vertebral column

Spine is made up of a set of bones harmonious called paragraphs and that the strengthening of the skull and prevent spinal cord and open corridors to the nerves so it is a pillar upon which the skeleton, it is a moving column is located in the vertical axis of the rear of the body and reaches the upper end of Lower Limb relates his skull from the top, and the cage Sadrist movement in the region, and pelvis in the sacral region through the joints of the albumen and fibrous and has an important and effective on the devices connected to it so it is the effect of the scale you can do to control mild tall.

It consists spine in humans of a series of paragraphs extended from the bottom of the skull to the pelvis back length, the great channel called the spinal canal being inside the spinal cord and the number of these paragraphs 32 paragraph, including seven cervical vertebrae 0.12 paragraph waistcoat 0.5 lumbar vertebrae, vertebrae sacral 0.4 Asasah vertebrae, the neck area and are considered the backbone of the most important functional areas in view of their importance, which can be summarized as follows: -

1. cervical vertebrae can move in all directions (Amama, to succeed, right, left) a circular motion.

2. up the neck and head area of the body through which the spinal cord passes and all the spinal nerves and blood arteries that carry blood to the head as well as the various members and there are important centers for breathing.

Muscles of the neck

Are the muscles of great importance in the human body as any damage or trouble in those muscles in turn leads to the appearance of damage in the rest of the neighboring muscle as it affects the surrounding nerve network, most of the front muscle located and contribute to the process of swallowing whereupon these muscles that connect the head duration the different movements, and give these muscles along with the muscles of the neck groundwater flexibility, and extend the rear muscles of the neck, which include muscle similarities perverted the upper and Ambassaah expansion necessary for the neck, and help these muscles in the stretch head if the neck in the event of instability, tension and cause and not the muscle balance in Neck mainly in headaches and shoulder pain, arm and functional deficiencies they have and who they have and which dates back to bumping braids nerve cervical, not only the performance of these muscles is limited to the movement they are neutral is to strengthen the head stable and balanced position successively with extensor muscles also works on the flexibility of the torso.

And working movement in the cervical muscles the ability to reduce blood flow in the vertebral arteries if there is instability in the articular ligaments in the upper cervical region.

Therapeutic massage

Therapeutic massage manual spread through two decades in terms of ease his ways and different methods in the treatment of many spaces to sick and sports injuries widespread and different in the field of sports and has attracted manual massage therapy attention of many researchers, not only in the field of sports medicine alone but in Many treatment centers as well as it is in the sports field where he became used on a large scale during the treatment of sports injuries and recovery operations.

Abdul Rahman Abdul Hamid (2006) refers the massage effective way by a lot of people to get a noticeable effect to feel comfortable and relaxed, especially in light of the current life problems and life pressures, but to the process of massage and massage Arts mastered trained people use them to treat diseases, tension and muscle cramps.

Statistical analyses of the data

SPSS program was used for statistical processors and repeated measures analysis of variance was used. The alpha level of $P= 0.05$ was the minimum level required to reject the null hypotheses. Values in the text are meaning ($\pm SE$), unless otherwise specified.

Materials and Methods

Twelve subjects were participated in this study who have complain of neck pain, the subjects of the study were chosen by an intentional way, the patients were visiting Ain Zara Physiotherapy Center and Tripoli Clinic (in Tripoli city). Their ages were from 30 to 50 years, and the subjects were divided into two groups: **the first group (experimental)**: consisting of six patients suffering from neck pain and subject to basic program (Ultrasound – Infrared rays – Rehabilitation exercises – therapeutic massage). **The second group (control)**: consisting of six patients suffering from neck pain and subject to traditional program (Ultrasound – Infrared rays – Rehabilitation exercises).

Details of the physical and physiological characteristics of the subjects are shown in Table 1.

Table 1. Subjects characteristics

Variables	Mean \pm SD
Age (year)	39.58 \pm 5.16
Height (cm)	176.75 \pm 0.07
Body mass(kg)	79.33 \pm 6.10
Estimated Body fat *%	15.8 \pm 2.20

*Body fat % was estimated according to the methods described by Durnin and Womersley (1974).

Results

The researchers using a t-test of the differences and the percentage of improvement to find differences between the averages in some variables for people with neck pain and visitors to the Ain Zara physiotherapy center under study between the control and experimental groups in the dimensional measurement.

1. There is statistically significant improvement in range of motion in all directions to the neck area between the measurement pre and post experimental group and in favor of telemetric differences.

2. There are statistically significant improvement in muscle strength of the neck and back area between the measurement pre and post experimental group differences in favor of telemetric.

Table 1. Differences between the measurement pre and post experimental group in tests in improved range of motion in all directions to the neck area between the measurement pre and post experimental group

Level of significance	T-value	Difference between averages	Post experimental		Pre experimental		Tests	N
			SE	Mean	SE	Mean		
0.000	-56.30	-16.170	0.42	25.89	0.40	9.72	Range of motion of the right neck muscles	1
0.000	-88.66	-15.458	0.60	25.34	0.48	9.88	Range of motion of the left neck muscles	2
0.000	-39.34	-20.842	1.07	32.48	1.07	11.64	Range of motion of the back neck muscles	3
0.000	-32.43	-21.862	1.40	32.58	0.43	10.72	Range of motion of the front neck muscles	4
0.000	-42.03	-21.953	0.99	35.69	0.55	13.73	Range of motion of the neck rotation right	5
0.000	-47.03	-21.762	1.08	34.73	0.38	12.96	Range of motion of the neck rotation left	6

Table 1 shows the improvement of the range of motion of the neck area between the measurement pre and post experimental group.

Discussion and Conclusions

Restoring the kinetic range (range of motion) in all directions (right, left, front, back) of the neck area in favor of the experimental group in the posterior measurement. Improvement of the muscular force of the neck and back area in favor of the experimental group in the posterior measurement. The therapeutic massage increased the extendibility of muscles, hence leading to an increase of the kinetic range of the neck. The therapeutic massage and rehabilitation exercises had a positive and efficient influence in the fast treatment, healing of pain and restoration of the main basic and natural functions of the muscles of neck in particular, and the back in general. The patients felt psychological relaxation and rest after the end of the applied program. The screening massage, whether superficial or deep, led to non-feeling of pain within the therapeutic session, hence it led to fast response by the patient of the therapeutic procedures in each session. The exercises of extension, flexibility and muscular force played an important role in alleviating the pain, improving the kinetic range of the neck and improving the muscular force of the neck and back.

The findings resulted in the presence of statistically significant differences between the experimental group and control group in under study variables in the kinetic term of the neck (left and right, an imam and a successor and rotation right and rotation left) and the strength of the neck muscles (an imam and a successor and right and left) and the strength of the back muscles in the dimensional measurements, which confirms that the proposed program has a positive effect on the variables of the study, where the results showed that the experimental group controlled therapeutic massage legalized (screening superficial and deep screening and dough and vibratory) and exercise rehabilitation, has improved in all the variables under study through the application of the program for the benefit of telemetric until the end of the program.

In conclusion the use of the proposed therapeutic program led to the improvement and increase muscle strength of the neck and back in the experimental group and the stability of the percentage of improvement was reached that the program under study was better than the traditional program for the control group

Syntheses of findings

1. Restore range of motion in all directions (right, left, front, and back) to the neck area for the experimental group in telemetric.
2. Improve muscle strength to the neck area and back to the experimental group in telemetric.
3. Therapeutic massage may work to increase susceptibility to muscle elongation resulting in increased range of motion of the neck.
4. Therapeutic massage and rehabilitative exercises have had a positive and effective impact on the speed of treatment and the disappearance of the pain and the return of the most important and basic natural functions of the muscles of private and public back neck.

5. Injured feeling of relaxation and psychological comfort and that was applied after the program ends.
6. led survey surface and deep massage to the lack of pain within the therapeutic session which led to the speed of the injured therapeutic procedures in response to each of the sessions of both types.
7. Stretching exercises, flexibility and muscle strength played an important role in reducing pain and improving range of motion of the neck and increase muscle strength of the neck and back.

Recommendations

1. The application of the proposed rehabilitation program (therapeutic massage and rehabilitative exercise) on individuals infected mother neck.
2. Urge to perform therapeutic massage and rehabilitative exercise on a regular basis especially of the neck and back General effective influence in the removal of the neck muscle cramps.
3. Interest in the work of some rehabilitative exercises for the neck muscles every hour if the work requires bending and neck mile long period of time.
4. The need to focus on lengthening and strengthening the muscles of the neck and back and so close together as they relate to physiologically and anatomy of the spinal column of the muscles and ligaments where all of it affecting the other.
5. The need for attention to the exercise of any sporting activity for the effective impact on the musculoskeletal system of the body, especially the public and the rest of the body's systems.
6. Interest in sound conditions of the neck such as standing, sitting and sleeping, reading, and all the various activities of life because of their significant impact and avoid the emergence of problems in the neck area.
7. Interest in spreading health awareness for all members of the community and that the means available in the media of all kinds.
8. Develop a periodic seminars for the rationalization exercise and physical activity in general and its impact on the overall health of the individual and society.
9. Maintaining the head while sitting upright position and put the spine sticker armrest chair.
10. Computer screen placed in front of the person and not on the side of the office.
11. Not to continue in the neck or head tilted position for a long time.
12. No long drive a car for a long time without rest and during rest the person must walk so as to improve blood circulation and the physical activity of all the new members of the body get rid of excess tension on the muscles.

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