



The role of exercise in the treating of chronic pain

Ebrahim Haghhighizadeh

MD Medical University of Esfahan

ABSTRACT

This study aims at determining the efficacy of exercise in chronic pain management over the other treatment options. To achieve this objective, 15 studies that address the selected problem were reviewed. The majority of the studies revealed that exercising, when compared to other chronic pain management approaches, is more efficient, mostly in the long run. Most medical therapies work in the short term, but chronic pain reemerges long afterward. Where a person fails to exercise, there is a high chance that he/she will experience disability. Findings suggest that the integration of medical and exercise therapies can bear more results.

Key words: Chronic pain, exercise, treatment

INTRODUCTION

Chronic pain is one of the most critical issues known to diminish a person's quality of life. It is defined as any form of pain, regardless of the location, that lasts for more than 12 weeks. According to O'Sullivan (2012), chronic pain could be excruciating or mild. It might also be continuous or episodic. At the same time, as the researcher added, chronic pain might be entirely incapacitating or merely inconvenient. The most common forms of pain include joint pain, headache, backache as well as pain from an injury. While they occur less often, carpal tunnel syndrome, tendinitis, pelvic, neck and sinus pains have been documented.

Image 1: Common forms of pain



Source: Pinterest (2015)

Chronic pain, according to Tse, Vong and Tang (2013), is not a symptom that persists in isolation. Rather, there are a series of other issues that are associated with pain. Some of these include sleeplessness, disability, fatigue, weakened immune system, and shifts in moods. The prevalence of pain is detrimental as it takes a toll on a person's emotional and physical states. There are several options available for treating chronic pain. While this is the case, Wright and North (2013) expressed that the majority of pain therapies are not effective. As such, they only cause chronic pain cessation but after some time, the condition re-emerges again (Bennell, Dobson & Hinman, 2014). Recent research studies have continually emphasized the need for people to engage in physical exercises if they are to lead a life free from pain. In the present study, the aim is to assess the efficacy of exercise managing chronic pain over the other treatment options.

EXPERIMENTAL SECTION

A qualitative descriptive research method was adopted to achieve the objective of the present study. A descriptive research refers to a study that seeks to describe the characteristics of a specified phenomenon. The research, according to Nijs, et al. (2013), usually answers questions regarding how, why and when the characteristics occurred. The focus population is constituted of people that experience chronic pain. This population is then divided into three. The very first category is comprised of people who engage in regular physical exercises, and those who are often inclined towards inactivity. The second category features people with chronic pain but seeks other forms of therapies to manage the pain.

Data will be collected from the current body of knowledge. However, exclusion criteria are set to ensure that the required sources are accessed. Foremost, only sources that have been published in the last five years will be considered. This necessarily means that any source, regardless of its relevance that was published before 2012 will not be considered. Secondly, sources that look at the effectiveness of exercise as a chronic pain management approach when compared to the rest of the therapeutic approaches will be taken into account. Concerning the search strategy, several credible databases will be used. However, priority will be given to nursing databases. The most preferred include Ebsco, Pubmed, Cochrane, and NCBI.

RESULTS AND DISCUSSION

From the search, 15 studies were found to address the objective in question. The table below documents these articles;

Author(s) and year	Title	Type of article
Nicholas, et al. (2013)	Self-management intervention for chronic pain in older adults: a randomised controlled trial.	Peer-reviewed journal article
O'Sullivan, P. (2012)	It's time for change with the management of non-specific chronic low back pain	Peer-reviewed journal article
Kisner and Colby (2012)	Therapeutic exercise: foundations and techniques	Book
Singh (2014)	Motivating people with chronic pain to do physical activity: opportunities for technology design.	International Health proceeding
Flor and Turk (2015)	Chronic pain: an integrated biobehavioral approach	Book
Miller, et al. (2013)	A comparison of the McKenzie approach to a specific spine stabilization program for chronic low back pain	Peer-reviewed journal article
Tse, Vong and Tang (2013)	Motivational interviewing and exercise programme for community-dwelling older persons with chronic pain: a randomised controlled study	Peer-reviewed journal article
Bertozzi, et al. (2013)	Effect of therapeutic exercise on pain and disability in the management of chronic nonspecific neck pain: systematic review and meta-analysis of randomized trials	Peer-reviewed journal article
Park and Hughes (2012)	Nonpharmacological approaches to the management of chronic pain in community-dwelling older adults: A review of empirical evidence	Peer-reviewed journal article
Girbés, Nijs, Torres-Cueco and Cubas (2013)	Pain treatment for patients with osteoarthritis and central sensitization	Peer-reviewed journal article
Jensen and Patterson (2014)	Hypnotic approaches for chronic pain management: clinical implications of recent research findings	Peer-reviewed journal article
Wright and North (2013)	Management and treatment of temporomandibular disorders: a clinical perspective	Peer-reviewed journal article
Nijs, Kosek, Van Oosterwijck and Meeus (2012)	Dysfunctional endogenous analgesia during exercise in patients with chronic pain: to exercise or not to exercise?	Peer-reviewed journal article
Nijs, et al. (2013)	Fear of movement and avoidance behaviour toward physical activity in chronic-fatigue syndrome and fibromyalgia: state of the art and implications for clinical practice	Peer-reviewed journal article
Bennell, Dobson and Hinman (2014)	Exercise in osteoarthritis: moving from prescription to adherence.	Peer-reviewed journal article

As it is shown in the table and chart below, of the 15 studies reviewed, only one (7%) were found to negate the claim that exercise is a more effective way of containing and preventing pain not only in young but also older adults. The two studies included Nijs, Kosek, Van Oosterwijck and Meeus (2012). According to this research, exercise serves as a risk factor for excruciating pain. The researchers reasoned that exercise tends to widen the pain region and in effect, the incidence of chronic pain worsens even further. While this is the case, 14 of the studies, which accounts for 93%, established that pain usually mitigates the chances of chronic pain. Bennell, Dobson and Hinman (2014) revealed that with exercise, it follows that a potential cause of pain is eliminated. These very findings were expressed by a set of other researchers including Nicholas, et al. (2013), Singh (2014) and Gírbés, Nijs, Torres-Cueco and Cubas (2013). In the studies by Kisner and Colby (2012), Park and Hughes (2012) and Jensen and Patterson (2014), it was revealed that exercise retrains the body and as such, even though pain does not go immediately, there is a high chance that it will not prevail in the long term.

Criteria	Pain is effective in managing pain (x)	Pain is not effective in managing pain (y)
Number of studies	14	1

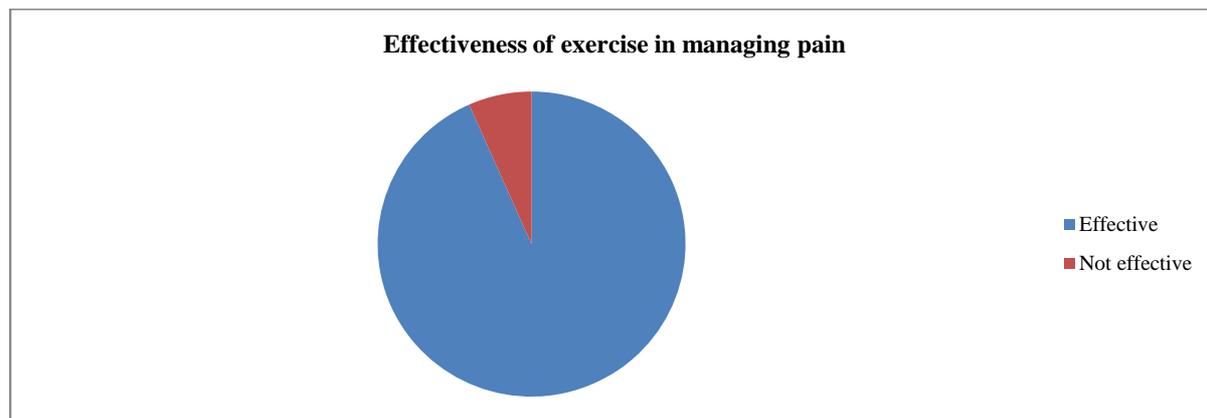
The following formula was used to determine the percentage;

$$= n / 15 * 100$$

Therefore;

$$x = 1 / 15 * 100 = 7\%$$

$$y = 14 / 15 * 100 = 93\%$$



The second area of inquiry as it related to the research question was the manner in which people with chronic pain that engage in regular exercise fare on when contrasted to those who do not take part in physical exercises. The results are presented in the table and chart below. Only one study (7%) revealed contravening results. Nijs, Kosek, Van Oosterwijck and Meeus (2012) purported that attempts to exercise contributes towards flaring up the pain or even worsening up the underlying symptoms. In this regard, the researcher claimed that it is more recommendable to rest and avoid unnecessary body movements. However, the rest of the studies (93%) indicated that physical activity, whether in young or older adults, usually breaks the pain cycle, which is important for a person that experiences chronic pain. Bertozzi, et al. (2013) noted that a person who does exercises is more likely to avoid disability as a result of chronic pain when compared to one who prefers to rest.

Criteria	Argues against exercise (x)	Supports exercise (y)
Number of studies	1	14

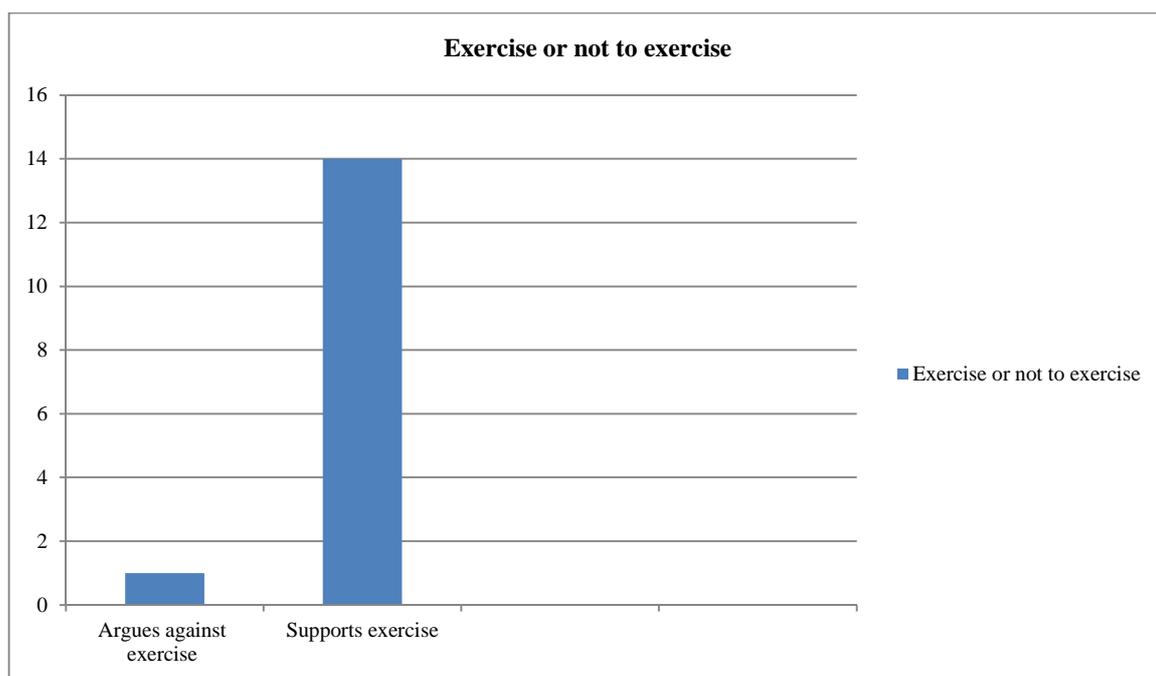
The following formula was used to determine the percentage;

$$= n / 15 * 100$$

Therefore;

$$x = 1 / 15 * 100 = 7\%$$

$$y = 14 / 15 * 100 = 93\%$$



In determining the effectiveness of exercise to manage chronic pain, the various studies were reviewed to determine their findings on the success of exercise in relation to other forms of therapies. The findings are presented in the table and chart to follow. 9 of the studies (60%) revealed that, when compared to other therapeutic approaches in which medicines are used, engaging in physical exercise realize better outcomes. Some of the studies that expressed such a finding include Miller, et al. (2013) and Flor and Turk (2015)'s. These researchers revealed that exercise helps in the long term management of chronic pain, while the rest of the approaches are only effective in the short term. 4 of the studies (27%) revealed that the success of exercise in managing chronic pain equals that of the medical therapies. 14 of the studies (93%) claimed that, to realize optimized outcomes, it is ideal to use medication and exercise therapies hand in hand.

Opinion	Exercising is effective than other medications (x)	The success of the two method categories is comparable (y)	The two methods should be integrated (z)
Number of studies	9	4	14

The following formula was used to determine the percentages;

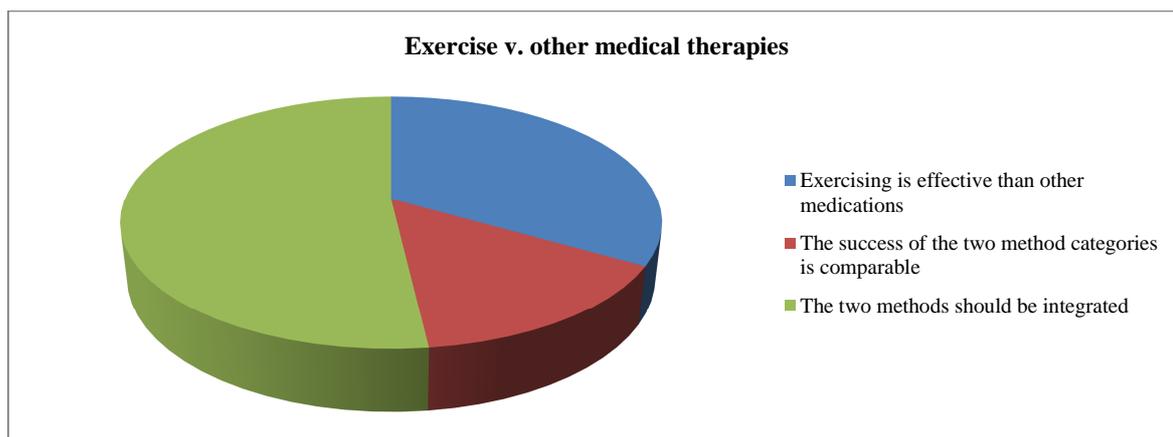
$$= n / 15 * 100$$

Therefore;

$$x = 9 / 15 * 100 = 60\%$$

$$y = 4 / 15 * 100 = 27\%$$

$$z = 14 / 15 * 100 = 93\%$$



CONCLUSION

In this paper, the purpose was to make an inquiry into the effectiveness of exercise in managing of chronic pain. To do this, the various research findings were identified and analyzed. It was revealed that indeed, exercising could assist in managing long term chronic pain cycle. The failure to exercise is detrimental as it enhances the chances of disability in the future. It has also been found that, unlike exercising, medical therapies are effective mostly in the short term. A major finding, however, has been that combining exercise therapies and medication can assist in solving the issue of chronic pain not only in the short term but also in the long run.

There were, however, several limitations of the study. As such, it was based on previous studies, which might have been affected by certain biases. If this is so, it is apparent that these very biases might have been factored into the present study, a thing that threatens the credibility of the findings.

REFERENCES

- [1] Bennell, K. L., Dobson, F., & Hinman, R. S. (2014). *Best Practice & Research Clinical Rheumatology*, 28(1), 93-117.
- [2] Bertozzi, L., et al. (2013). *Physical therapy*, 13(12), 34-56.
- [3] Flor, H., & Turk, D. C. (2015). *Chronic pain: an integrated biobehavioral approach*. London, UK: Lippincott Williams & Wilkins.
- [4] Gírbés, E. L., Nijs, J., Torres-Cueco, R., & Cubas, C. L. (2013). *Physical therapy*, 93(6), 842-851.
- [5] Jensen, M. P., & Patterson, D. R. (2014). Hypnotic approaches for chronic pain management: clinical implications of recent research findings. *American Psychologist*, 69(2), 167.
- [6] Kisner, C., & Colby, L. A. (2012). *Therapeutic exercise: foundations and techniques*. New York, NY: Fa Davis.
- [7] Miller, E. R., Schenk, R. J., Karnes, J. L., & Rousselle, J. G. *Journal of Manual & Manipulative Therapy*, 2013, 12(3), 22-29.
- [8] Nicholas, M. K., et al. (2013). *PAIN®*, 154(6), 824-835.
- [9] Nijs, J., et al (2013) *Clinical rheumatology*, 32(8), 1121-1129.
- [10] Nijs, J., Kosek, E., Van Oosterwijck, J., & Meeus, M. (2012). *Pain physician*, 15(3S), ES205-ES213.
- [11] O'Sullivan, P. (2012). *British journal of sports medicine*, 46(4), 224-227.
- [12] Park, J., & Hughes, A. K. (2012). *Journal of the American Geriatrics Society*, 60(3), 555-568.
- [13] Pinterest (2015). Explore Fibromyalgia Syndrome, Chronic Pain, and more! Retrieved from <https://www.pinterest.com/pin/168392473542960978/>
- [14] Singh, A., et al. (2014, April). In *Proceedings of the 32nd annual ACM conference on Human factors in computing systems* (pp. 2803-2812). ACM.
- [15] Tse, M. M., Vong, S. K., & Tang, S. K. (2013). *Journal of clinical nursing*, 22(13-14), 1843-1856.
- [16] Wright, E. F., & North, S. L. (2013). *Journal of Manual & Manipulative Therapy*, 2(3), 18-19.