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Review Article

Importance of pilates in treating neck pain due to over use of smartphones and laptops: A short review

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ABSTRACT

This study have thrown light on the importance of pilates in treating neck pain after long use of smart phones, laptops or on playstations.

Pilates are useful for treating of neck but its not as much important alone compared to traditional therapy.

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1. Introduction

Persistent neck pain is described by level of restricted development, which emerges with long utilization of cell phones or chipping away at workstations in there everyday lives, from little distresses to extreme and debilitating torment.^{1,2} This condition causes decrease in personal satisfaction,³ prompting drug reliance, enthusiastic changes and challenges at work.^{4,5} Continuous neck torture is depicted by misery and limited turn of events, which arises with long usage of PDAs or working on workstations in there regular daily existences, from little troubles to genuine and devastating torture^{1,2} Inciting drug dependence, energetic changes and difficulties at work.^{4,5} About 14 to 71% of adults will present a scene of neck pain at some point or another in their life, with yearly power changing from 16 to 75%⁶ and a recurrent speed of 75% in the going with five years.⁷ According to Ferreira et al.,⁸ in an assessment guided with 972 Brazilians developed 20 to 69, 24% individuals presented neck pain at any rate

once to some degree as of late, with a regularity of steady torture at 18.9% and serious misery at 34.1%. Equivalent results are seen in various countries. For example, in a Finnish report,⁹ tireless neck torture was seen in 13.5% of women and 9.5% of men, and in a Norwegian report,¹⁰ 13.8% of the individuals declared distress suffering in excess of a half year, while in individuals past 43 quite a long while old rate expanded to 20%. Currently, a couple of sorts of mediations have been acted to decrease progressing neck pain,^{11–13} from normal physiotherapy to more exercises,^{14,15} among them the Pilates system.^{16,17} Pilates can be considered as a decision to improve flexibility, motor coordination, solid strength and robustness, similarly as postural course of action, which are principal components for postural handiness and reconsidered guidance^{18–20} all things considered.

Furthermore, strengthening and square works out, unequivocal for the cervico-scapulothoracic and shoulder area, have been featured as a steady piece of the intercession routine of patients with reliable neck torment, introducing moderate confirmation levels concerning from anxiety and judicious improvement.¹³ The Pilates strategy contains

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the achievement of in general solid beginnings^{18–20} in its collection of activities, paying little mind to how it is feasible to withdraw strong obsession and focus on districts of revenue as exhibited by the introduced pathology, and can, accordingly, be proposed for interventions in people with neck torment.

Regardless, there is no affirmation so far for Pilates answer for neck pain and supportive improvement. Thusly, the spot of the current appraisal was to viably contemplate the impacts of the Pilates procedure on neck torment when stood apart from a benchmark pack or to another kind of mediation. Approximately 14 to 71% of grown-ups will introduce a scene of neck torment eventually in their life, with yearly predominance changing from 16 to 75%⁶ and a repeat pace of 75% in the accompanying five years.⁷ As indicated by Ferreira et al.,⁸ in an investigation led with 972 Brazilians matured 20 to 69, 24% of the people introduced neck torment at any rate once somewhat recently, with a pervasiveness of ongoing torment at 18.9% and intense agony at 34.1%. Comparative outcomes are seen in different nations. For instance, in a Finnish report,⁹ constant neck torment was seen in 13.5% of ladies and 9.5% of men, and in a Norwegian report,¹⁰ 13.8% of the members announced torment enduring more than a half year, while in people beyond 43 several years old rate increased to 20%. Currently, a few sorts of intercessions have been acted to diminish ongoing neck torment,^{11–13} from ordinary physiotherapy to more explicit activities,^{14,15} among them the Pilates strategy.^{16,17} Pilates can be considered as a choice to improve adaptability, engine coordination, solid strength and soundness, just as postural arrangement, which are fundamental components for postural usefulness and re-teaching^{18–20} when all is said in done.

Also, invigorating and impediment works out, unequivocal for the cervico-scapulothoracic and shoulder locale, have been included as an accommodating piece of the intervention routine of patients with consistent neck pain, presenting moderate evidence levels concerning alleviation from inconvenience and viable improvement.¹³ The Pilates strategy contains the accomplishment of overall strong commencements^{18–20} in its assortment of exercises, regardless of the way that it is possible to isolate solid fixation and spotlight on locale of revenue as shown by the presented pathology, and can, thusly, be recommended for interventions in individuals with neck pain.

In any case, there is no evidence so far for Pilates solution for neck torment and helpful improvement. Consequently, the place of the current assessment was to productively study the effects of the Pilates system on neck pain when stood out from a benchmark bunch or to another sort of mediation.

Reasonable examination on the impacts of the Pilates system on neck torment present methodological contrasts, in any case don't make associations impractical. As

to investigates included thusly, one was dominantly performed with grown-ups¹⁷ and the other with youthful and more seasoned people, portraying a more wide age group.²¹ The divergences and particularities of each age pack make it hard to extrapolate and think about the outcomes, since the elderly folks individuals presents related clinical issues and less fortunate flourishing self-information.^{22,23} It ought to be brought up that neck torment has become an in general clinical issue, which straightforwardly impacts people of the monetarily one of a kind group, at the day's end, grown-ups, which is strong with the model course of action embraced in the two assessments related with this audit, and in the appraisals related with the coordinated examination drove by the Cervical Overview Group of the Cochrane Collaboration.¹²

In the evaluation drove by Dunleavy et al.¹⁷ the last model, considering objective to treat the introduced torment, was made out of 56 people. Regardless, 90 people had been overviewed to recognize clinical separations through the Neck Disability Index.²⁴ Obviously, in the assessment performed by Cazotti et al.,²¹ facilitated with 64 people, people were not depicted per sex and the model appraisal was not revealed, regardless of the way that the acknowledged test size was basic. It ought to be seen that reviews wrapping practices as treatment for the treatment of neck torment, thusly, show a little model size,¹² which can induce inclinations and produce type II blunders.

2. Methodology

2.1. Study design

We found 68 studies supporting us, selection was done based on the keywords such as neck pain and pilates and has gone through the abstracts if we could make clear understanding we went through the whole paper, out of 68 papers, 63 were used and rest were excluded as they didn't fit exactly.

Papers were browsed from following data bases:

Cochrane CENTRAL = 1

EMBASE = 8

PubMed = 2

Science Direct = 51

SCOPUS = 5

Web of Science = 1

3. Discussion

Despite the fact that the included assessments were clinical groundworks, just one appears to have been methodologically planned in a randomized style,²¹ and divergences in the measure of recorded parties were observed. Dunleavy et al.¹⁷ drove a controlled, all things considered, randomized, identical assessment and decided to part the model into three social events, one control and two going through mediations, one with Pilates practices and the other with Yoga. Cazotti et al.²¹ drove their

assessment with an intervention load with Pilates and solution help and a benchmark pack with drug upkeep just, which may have covered up data identified with torment results, since the medicine had a functioning standard zeroed in on lightening from burden. The results of the associations between's packs were introduced in both included appraisals,^{17,21} while in the assessment performed by Dunleavy et al.¹⁷ the outcomes secluded by group over the long haul were additionally given, working with extrapolation of the exposures and view of the impacts of the planning.

As for sort of mediation, Dunleavy et al.¹⁷ accepted performance Pilates rehearses coordinated by physiotherapists arranged inside the technique, that work in change, enactment and supporting of the extensor muscles of the spine, with more imperative invest huge energy in the pectoral bend, in classes performed with bundles made out of 4 to eight individuals. This show was essentially like that got inside the assessment coordinated by Mallin and Murphy,²⁵ with individuals with tenacious neck torture, yet these makers zeroed in on the pelvis in their strategy. Nevertheless, it's definitely not clear what practice show was embraced inside the examination coordinated by Cazotti et al.²¹ The tendency for ground exercises could similarly be because of low costs and essential execution as for real space and thusly the unquestionable truth that they will be told to greater get-togethers, moreover because the certain reality that action block is simply made by the movement of gravity and not exacerbated by the use of embellishments, as happens when using gear springs.

The repeat of the gatherings inside the examination performed by Dunleavy et al.¹⁷ contained seven days after week intercession suffering hour, also got by Mallin and Murphy,²⁵ but these makers really propose correlative home practice. Unexpectedly hand, Cazotti et al.²¹ got a kick out of the chance to get a repeat of twice reliably, which has been seen in various examinations coordinated with Pilates.^{26,27} In the two examinations, the length of the intervention included 12 weeks,^{17,21} addressing a sum of 12 gatherings inside the report by Dunleavy et al.¹⁷ and 24 inside the examination by Cazotti et al.²¹ It should be seen that, during another proficient study with meta-examination on the results of action on neck torture,²⁸ makers saw that an intercession repeat of numerous occasions every week was the first gotten and, accordingly, showed, since this repeat prompts torture improvement, strength, individual fulfillment and utilitarian breaking point.^{29,30}

Scientific procedures concerning torture and handiness were driven inside the included examinations,^{17,21} since these components are directly associated with one another. Misery was assessed inside the assessment performed by Dunleavy et al.¹⁷ through the Numerical Pain Classification Scale, which estimates the force of the misery through a numerical game plan from zero to 10, through inquiries

concerning torture during the last week (to depict the pre-mediation social affairs), torture achieved by practices related with upper extremity advancements and torture achieved by upheld tasks. Cazotti et al.²¹ chose to use the Visual Analog Scale

In the examination coordinated by Dunleavy et al.¹⁷ the evaluations were performed before the beginning of the examination, in the 6th, twelfth and eighteenth weeks, the last suggesting the turn of events, performed following a month and a portion of the completion of the preparation. In the assessment performed by Cazotti et al.²¹ pre-intervention appraisals were finished after 45, 90 and 180 days, or, in step by step moves close, at week zero, six, 13 and 26, and the follow-up was driven at a time interval weeks. It is fundamental to raise the meaning of driving evaluations after an intercession stop period, which considers the check of the assurance of the got benefits.

Basic handiness improvement with Pilates rehearses was seen inside the included assessments.^{17,21} Dunleavy et al.¹⁷ saw better prompts the social occasions submitted to the mediation inside the twelfth week stood out from the 6th, after the most noteworthy mark of 12 gatherings, which wasn't seen inside the benchmark bunch. This demonstrates the report by Mallin and Murphy,²⁵ who in like manner saw improvement during this variable after six gatherings. Nevertheless, confirmation remaining pieces of unremarkableness concerning the advantages related to handiness arising out of mediations with rehearses in long stretch ensuing meet-ups.¹² Moreover, inside the examination performed by Dunleavy et al.,¹⁷ Pilates had more unmistakable effect than Yoga conversely with the benchmark bunch, and just Pilates progressed improvement from the 6th week onwards. In any case, inside the examination drove by Mallin and Murphy,²⁵ a protection inside the improvement of the handiness following a month and a portion of the greatest place of the intervention was seen, while inside the assessment coordinated by Dunleavy et al.¹⁷ no qualification was seen taking a gander at the twelfth and eighteenth weeks.

The reducing of pain with the Pilates intercession was predictable inside the included examinations.^{17,21} Inside the assessment performed by Dunleavy et al.,¹⁷ torture achieved by upheld tasks decreased from the 6th multi day stretch of intervention, with lower regards and close decrease following 12 weeks inside the social events submitted to the intercession. Meanwhile, the normal desolation inside the Pilates pack was lower inside the twelfth week diverged from the 6th, and in this manner the comparable interestingly with the benchmark bunch, with Pilates showing a significant effect. Regardless, no tremendous difference was seen concerning torture achieved by upper member advancements totally separated social events, moreover as inside the ensuing evaluation following a month and a portion of the greatest mark of the

intervention. inside a comparative report, the social occasion submitted to the Yoga intervention also presented torture reduces when diverged from the benchmark bunch, anyway with moderate effect size. Cazotti et al.²¹ also saw basic torture improvement, in any case, they didn't make it clear from which week. These results are as per what has been seen in other systematic composing reviews, which show the advantages of action medicines inside the decrease and decrease of desolation.¹²

4. Conclusion

The current efficient review presents moderate confirmation to assist the sign and practice of Pilates rehearses by individuals with continuous neck torture, since this technique propels utilitarian and valuable improvement after a compact season of your time it's recommended that surveys with better type and methodological meticulousness, as randomized clinical primers, be coordinated, all together that confirmation of this preparation idea are routinely asserted.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

- Cassidy JD, Côté P. Is It Time for a Population Health Approach to Neck Pain? *J Manipulative Physiol Ther.* 2008;31(6):442–6. doi:10.1016/j.jmpt.2008.06.008.
- Kapreli E, Vourazanis E, Billis E, Oldham JA, Strimpakos N. Respiratory Dysfunction in Chronic Neck Pain Patients. A Pilot Study. *Cephalalgia.* 2009;29(7):701–10. doi:10.1111/j.1468-2982.2008.01787.x.
- Ariëns GAM, Borghouts JAJ, Koes BW. Neck pain. In: Crombie IK, Croft PR, Linton SJ, Leresche L, Korff M, editors. *Epidemiology of pain.* Seattle: IASP Press; 1999. p. 235–56.
- Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States. *Nat Health Stat Report.* 2008;(12):1–23.
- Borges MC, Borges CS, Silva AGJ, Castellano LRC, Cardoso FAG. Avaliação da qualidade de vida e do tratamento fisioterapêutico em pacientes com cervicalgia crônica. *Fisioterapia em Movimento.* 2013;26(4):873–81. doi:10.1590/s0103-51502013000400016.
- Fejer R, Kyvik KO, Hartvigsen J. The prevalence of neck pain in the world population: a systematic critical review of the literature. *Eur Spine J.* 2006;15(6):834–48. doi:10.1007/s00586-004-0864-4.
- Carroll LJ, Hogg-Johnson S, Velde G, Haldeman S, Holm LW, Carragee EJ. Course and prognostic factors for neck pain in the general population: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *J Manipulative Physiol Ther.* 2009;32(2):87–96.
- Ferreira GD, Silva MC, Rombaldi AJ, Wrege ED, Siqueira FV, Hallal PC. Prevalência de dor nas costas e fatores associados em adultos do sul do Brasil: estudo de base populacional. *Braz J Phys Ther.* 2011;15(1):31–6. doi:10.1590/s1413-35552011005000001.
- Mäkela M, Heliovaara M, Sievers K, Impivaara O, Knekt P, Aromaa A. Prevalence, Determinants, and Consequences of Chronic Neck Pain in Finland. *Am J Epidemiol.* 1991;134(11):1356–67. doi:10.1093/oxfordjournals.aje.a116038.
- Bovim G, Schrader H, Sand T. Neck Pain in the General Population. *Spine.* 1994;19(12):1307–9. doi:10.1097/00007632-199406000-00001.
- Gross A, Forget M, George K, Fraser MMH, Graham N, Perry L, et al. Patient education for neck pain. *Cochrane Database Syst Rev.* 2012;doi:10.1002/14651858.cd005106.pub4.
- Gross A, Kay TM, Paquin JP, Blanchette S, Lalonde P, Christie T. Exercises for mechanical neck disorders. *Cochrane Database Syst Rev.* 2015;1:4250–4250.
- Childs JD, Cleland JA, Elliott JM, Teyhen DS, Wainner RS, Whitman JM. Neck pain: Clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2008;38(9):1–34.
- Scholten-Peeters GG, Bekkering GE, Verhagen AP, Windt DA, Lanser K, Hendriks EJ. Clinical practice guideline for the physiotherapy of patients with whiplash-associated disorders. *Spine.* 1976;27(4):412–22.
- Falla D. Unravelling the complexity of muscle impairment in chronic neck pain. *Man Ther.* 2004;9(3):125–33. doi:10.1016/j.math.2004.05.003.
- Cohen SP. Epidemiology, diagnosis, and treatment of neck pain. *Mayo Clin Proc.* 2015;90(2):284–99.
- Dunleavy K, Kava K, Goldberg A, Malek MH, Talley SA, Tutag-Lehr V, et al. Comparative effectiveness of Pilates and yoga group exercise interventions for chronic mechanical neck pain: quasi-randomised parallel controlled study. *Physiotherapy.* 2016;102(3):236–42. doi:10.1016/j.physio.2015.06.002.
- Kuo YL, Tully EA, Galea MP. Sagittal Spinal Posture After Pilates-Based Exercise in Healthy Older Adults. *Spine.* 2009;34(10):1046–51. doi:10.1097/brs.0b013e31819c11f8.
- Emery K, Serres SJ, McMillan A, Côté JN. The effects of a Pilates training program on arm–trunk posture and movement. *Clin Biomech.* 2010;25(2):124–30. doi:10.1016/j.clinbiomech.2009.10.003.
- Sinzato CR, Taciro C, Pio CA, Toledo AM, Cardoso JR, Carregaro RL. Efeitos de 20 sessões do método Pilates no alinhamento postural e flexibilidade de mulheres jovens: estudo piloto. *Fisioterapia e Pesquisa.* 2013;20(2):143–50. doi:10.1590/s1809-29502013000200008.
- Cazotti LA, Jones A, Silva D, Ribeiro LHC, Natour J. Effectiveness of Pilates Method for the treatment of chronic mechanical neck pain. *Arthritis Rheum.* 2013;65:S776–7.
- Hartvigsen J, Christensen K, Frederiksen H. Back pain remains a common symptom in old age. A population-based study of 4486 Danish twins aged 70?102. *Eur Spine J.* 2003;12(5):528–34. doi:10.1007/s00586-003-0542-y.
- Maiers M, Bronfort G, Evans R, Hartvigsen J, Svendsen K, Bracha Y, et al. Spinal manipulative therapy and exercise for seniors with chronic neck pain. *Spine J.* 2014;14(9):1879–89. doi:10.1016/j.spinee.2013.10.035.
- MacDermid JC, Walton DM, Avery S, Blanchard A, Etruw E, McAlpine C, et al. Measurement Properties of the Neck Disability Index: A Systematic Review. *J Orthop Sports Phys Ther.* 2009;39(5):400–C12. doi:10.2519/jospt.2009.2930.
- Mallin G, Murphy S. The effectiveness of a 6-week Pilates programme on outcome measures in a population of chronic neck pain patients: A pilot study. *J Bodywork Mov Ther.* 2013;17(3):376–84. doi:10.1016/j.jbmt.2013.03.003.
- Tulder MW, Koes BW, Bouter LM. Conservative treatment of acute and chronic nonspecific low back pain: A systematic review of randomized controlled trials of the most common interventions. *Spine.* 1997;22(18):2128–56.
- Junges S, Gottlieb MG, Baptista RR, Quadros CB, Resende TL, Gomes I. Eficácia do método Pilates para a postura e flexibilidade em mulheres com hipercifose. *R bras Ci e Mov.* 2012;20(1):21–33.
- O'Riordan C, Clifford A, Ven P, Nelson J. Chronic Neck Pain and Exercise Interventions: Frequency, Intensity, Time, and

- Type Principle. *Arch Phys Med Rehabil.* 2014;95(4):770–83. doi:10.1016/j.apmr.2013.11.015.
29. Chiu TT, Lam TH, Hedley AJ. A randomized trial on the efficacy of exercise for patients with chronic neck pain. *Spine.* 2005;30(1):1–7.
30. Ylinen J, Takala EP, Nykänen M, Häkkinen A, Mälkiä E, Pohjolainen T, et al. Active Neck Muscle Training in the Treatment of Chronic Neck Pain in Women. *JAMA.* 2003;289(19):2509–16. doi:10.1001/jama.289.19.2509.

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