Original Article

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Effectiveness of Daoyin Training in Individuals with Chronic Neck Pain: A Scoping Review

Physiotherapy Section

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ABSTRACT

Introduction: Millions of people worldwide suffer from Chronic Neck Pain (CNP), which is a common ailment that significantly impairs quality of life with a prevalence of between 5.9% to 22%. Alternative methods are necessary as traditional therapies frequently offer little alleviation. Various techniques to alleviate CNP are used worldwide, the most recent being the Daoyin Training (DT), a traditional Chinese exercise which has gained attention for its potential therapeutic benefits. Baduanjin, Yijinjing, Wuqinxi, Tai chi and Qigong are various interventions under the wide term DT.

Aim: To explore and identify the benefits and potential applications of DT in managing CNP.

Materials and Methods: The present scoping review is registered on OSF with Doi: 10.17605/OSF.OI/BPDN and followed PRISMA-ScR guidelines. The experimental studies using Daoyin therapy as a treatment technique in CNP patients were included and reviews, book chapters, conference proceedings and other language articles were excluded. Four databases from 2005-2025: PubMed, Science Direct, Ovid-SP and Scopus were searched and 20918 articles were retrieved, out of which 6497 duplicates were removed via Mendeley. The remaining 14421 articles were screened by titles and abstracts, from which only eight full text articles were further analysed based on selection criteria and later only four articles were selected for review. The authors found out that treatment sessions in all four studies were spanned from three to six months and all studies assessed pain and neck disability.

Results: Three studies utilised Qigong whereas one gave Tai Chi exercises. Overall findings suggest that Qigong and Tai Chi both are equally beneficial in relieving pain and reducing disability when compared to traditional exercises. However, they are found to be superior than sham or no intervention.

Conclusion: As per the present study derivations DT can be used in managing pain and disability in individuals with CNP.

Keywords: Chinese exercises, Daoyin training, Qigong, Quality of life, Tai chi

INTRODUCTION

The prevalence of neck pain over a 12-month period usually falls between 30% and 50%, while the occurrence of neck pain that limits activity ranges from 1.7 to 11.5% [1]. When symptom persist for more than 12 weeks, they are classified as chronic. Millions of people worldwide suffer from CNP, which is a common alignment that significantly impairs quality of life with a prevalence of between 5.9% to 22%. There are many potential causes of neck pain but mechanical neck pain has no cause also called as non-specific chronic neck pain. Significant associations have been found between neck pain and psychosocial elements such as catastrophising, stress, anxiety and depression, all of which can affect pain perception [2]. These psychological aspects can lead to a decline in functionality, explained by the "fear-avoidance model," which is related to heightened sensitivity and creates a cycle of psychological and physical issues that further lower the pain threshold. Elevated fear of movement may also correlate with reduced range of motion and speed of movement in the cervical region [3]. Chronic neck pain may also predispose individuals to respiratory problems. Observational assessments of abdominal and chest breathing revealed that 83% of patients with neck pain, among a diverse population suffering from various chronic musculoskeletal pain conditions, exhibited altered breathing patterns, indicating a connection between neck pain and respiration. Muscle imbalances in the scapulothoracic area, resulting from weakness in the middle and lower trapezius and tightness in the upper trapezius, associated with neck disability contribute to chronic neck pain [3,4]. The objectives of treatment of neck pain are to alleviate pain, diminish muscle spasms, enhance range of motion and strength, rectify postural issues and ultimately improve functional abilities and overall quality of life [5].

There are various methods for managing neck pain, which may encompass massage [6], exercise therapy [7], traction [8], stretching, Transcutaneous Electrical Nerve Stimulation (TENS) [9], interferential currents [10], ultrasound [11], heat treatments and patient education [12]. One more recently used technique is DT, which is based on the tenets of Traditional Chinese Medicine (TCM), incorporating dynamic musculoskeletal exercises, coordinated breathing techniques and meditative practices. TCM functional exercises such as Tai chi, Baduanjin, Qigong, Wuqinxi, Yijinjing and Liuzijue are all part of DT, which not only relieves neck pain and can also emphasises psychological well-being and enhance respiratory function in individuals dealing with chronic neck pain [13]. The review aim's to explore and identify the benefits and potential applications of DT in managing CNP. Objective of the study are: to evaluate the effectiveness of DT in reducing pain intensity and neck disability in individuals with chronic neck pain compare to traditional exercise therapies or no intervention, to evaluate the effectiveness of DT on psychological outcomes in individuals with chronic neck pain compared to traditional exercise therapies or no intervention and to compare the methodological rigor of existing studies using tools like PEDro scale.

MATERIALS AND METHODS

The present scoping review was prospectively registered on the Open Science Framework (OSF) platform with Doi: 10.17605/OSF.IO/BPDN. The review adhered to the PRISMA Extension for Scoping Review (PRISMA-ScR) guidelines [14]. The methodological approach outlined by Arksey and O'Malley in 2005, involving six key steps, was employed [15]. These steps are discussed below:

A. **Formulate the research questions:** The research question was formulated using the PCC format, i.e., population,

concept and context framework. The population of interest comprised of individual with CNP, with a focus on Effectiveness of DT and experimental research as the concept. This approach facilitated the development of the research question: "Is DT effective in individual with chronic neck pain in reducing neck pain, disability, depression and improving quality of life"?

B. PICO

- Population- patients with chronic neck pain
- Intervention- Daoyin Training (DT)
- Comparison- Comparison with other exercise therapies
- Outcome- Neck Pain and Disability, Heath-related Quality of life, VAS

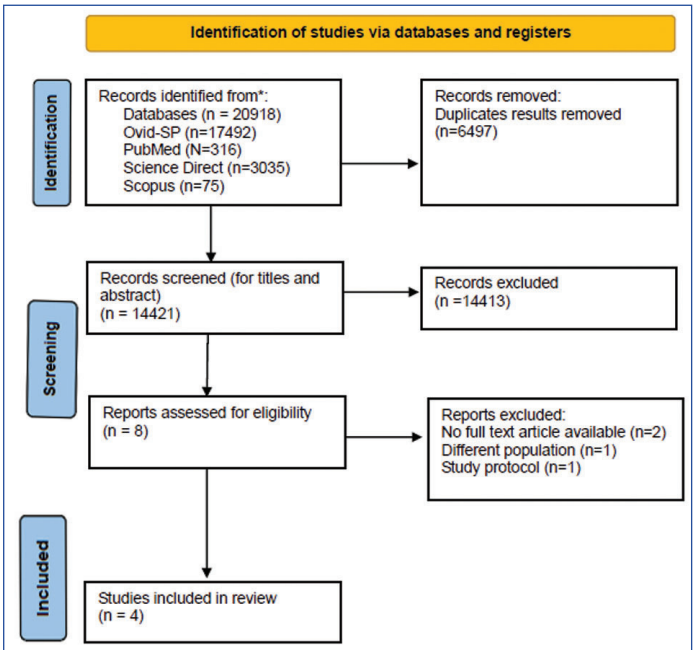
C. Identifying relevant articles: The search was conducted from 2005 to 2025 using four electronic databases (PubMed, Scopus, Science Direct and Ovid-SP) for full-text articles. [Table/Fig-1] shows the keywords or Mesh terms with Boolean operators used to search the databases.

PubMed		
S. No.	**Keywords with Boolean operators**	**Articles retrieved**
1	"Daoyin therapy" AND "chronic neck pain"	1
2	"Tai chi" AND "neck ache"	33
3	"Taiji" AND "Neck ache"	11
4	"Taiji" AND "Chronic neck pain"	8
5	"Baduanjin" AND "Neck pain"	3
6	"Qigong" AND "Chronic neck pain"	17
7	"Wuqinxi" AND "Chronic neck pain"	1
8	"Yinjinjing" AND "Chronic neck pain"	3
9	"Traditional Chinese training" AND "Chronic neck pain"	13
10	"Tai chi" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
11	"Taiji" AND "Cervicodynia" AND "Randomised Controlled Trial"	3
12	"Tai chi" OR "Tai chi chuan" AND "Cervicodynia" AND "Randomised Controlled Trial"	3
13	"Baduanjin" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
14	"Qigong" AND "Cervicodynia" AND "Randomised Controlled Trial"	8
15	"Yinjinjing" AND "Cervicodynia" AND "Randomised Controlled Trial"	3
16	"Traditional Chinese training" AND "Cervicodynia" AND "Randomised Controlled Trial"	9
17	"Baduanjin" AND "Cervical syndrome" and "Randomised controlled trial"	5
18	"Qigong" AND "Cervical syndrome" and "Randomised controlled trial"	1
19	"Wuqinix" AND "Cervical syndrome" and "Randomised controlled trial"	5
20	"Yinjinjing" AND "Neck Disorders" and "Randomised controlled trial"	1
21	"Qigong" AND "Neck Disorders" AND "Randomised Controlled Trial"	3
22	"Tai chi" AND "Neck Disorders" AND "Randomised Controlled Trail"	4
23	"Traditional Chinese training" AND "Cervicalgia" AND "Randomised controlled Trial"	101
24	"Tai chi" AND "Cervicalgia" AND "Randomised Controlled Trail"	11
25	"Yinjinjing" AND "Cervicalgia" AND "Randomised Controlled Trial"	3
26	"Traditional Chinese Training" AND "Cervicalgia" AND "Randomised Controlled Trial"	11
27	"Tai chi" AND "Neck Ache"	27
28	"Taiji" AND "Chronic neck pain" AND "Randomised controlled trial"	1
29	"Baduanjin" AND "Chronic Neck Pain" AND "Randomised Controlled Trail"	9
30	"Qigong" AND "Chronic neck pain" AND "Randomised Controlled Trail"	5
31	"Taiji" AND "Cervicodynia"	11
Science Direct		
1	"Daoyin therapy" AND "chronic neck pain"	9
2	"Tai chi" AND "neck ache"	2
3	"Taiji" AND "Neck ache"	99
4	"Taiji" AND "Chronic neck pain"	83
5	"Baduanjin" AND "Neck pain"	0
6	"Qigong" AND "Chronic neck pain"	49
7	"Wuqinxi" AND "Chronic neck pain"	2
8	"Yinjinjing" AND "Chronic neck pain"	0
9	"Traditional Chinese training" AND "Chronic neck pain"	566
10	"Tai chi" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
11	"Taiji" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
12	"Tai chi" OR "Tai chi chuan" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
13	"Baduanjin" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
14	"Qigong" AND "Cervicodynia" AND "Randomised Controlled Trial"	1

15	"Yinjinjing" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
16	"Traditional Chinese training" AND "Cervicodynia" AND "Randomised Controlled Trial"	1
17	"Baduanjin" AND "Cervical syndrome" and "Randomised controlled trial"	0
18	"Qigong" AND "Cervical syndrome" and "Randomised controlled trial"	125
19	"Wuqinix" AND "Cervical syndrome" and "Randomised controlled trial"	0
20	"Yinjinjing" AND "Neck Disorders" and "Randomised controlled trial"	0
21	"Qigong" AND "Neck Disorders" AND "Randomised Controlled Trial"	237
22	"Tai chi" AND "Neck Disorders" AND "Randomised Controlled Trail"	997
23	"Traditional Chinese training" AND "Cervicalgia" AND "Randomised controlled Trial"	23
24	"Tai chi" AND "Cervicalgia" AND "Randomised Controlled Trail"	10
25	"Yinjinjing" AND "Cervicalgia" AND "Randomised Controlled Trial"	0
26	"Traditional Chinese Training" AND "Cervicalgia" AND "Randomised Controlled Trial"	12
27	"Tai chi" AND "Neck Ache"	292
28	"Taiji" AND "Chronic neck pain" AND "Randomised controlled trial"	263
29	"Baduanjin" AND "Chronic Neck Pain" AND "Randomised Controlled Trail"	0
30	"Qigong" AND "Chronic neck pain" AND "Randomised Controlled Trail"	260
31	"Taiji" AND "Cervicodynia"	1
Scopus		
1	"Daoyin therapy" AND "chronic neck pain"	1
2	"Tai chi" AND "neck ache"	0
3	"Taiji" AND "Neck ache"	0
4	"Taiji" AND "Chronic neck pain"	0
5	"Baduanjin" AND "Neck pain"	0
6	"Qigong" AND "Chronic neck pain"	29
7	"Wuqinxi" AND "Chronic neck pain"	1
8	"Yinjinjing" AND "Chronic neck pain"	0
9	"Traditional Chinese training" AND "Chronic neck pain"	8
10	"Tai chi" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
11	"Taiji" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
12	"Tai chi" OR "Tai chi chuan" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
13	"Baduanjin" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
14	"Qigong" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
15	"Yinjinjing" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
16	"Traditional Chinese training" AND "Cervicodynia" AND "Randomised Controlled Trial"	0
17	"Baduanjin" AND "Cervical syndrome" and "Randomised controlled trial"	0
18	"Qigong" AND "Cervical syndrome" and "Randomised controlled trial"	2
19	"Wuqinix" AND "Cervical syndrome" and "Randomised controlled trial"	0
20	"Yinjinjing" AND "Neck Disorders" and "Randomised controlled trial"	0
21	"Qigong" AND "Neck Disorders" AND "Randomised Controlled Trial"	11
22	"Tai chi" AND "Neck Disorders" AND "Randomised Controlled Trail"	9
23	"Traditional Chinese training" AND "Cervicalgia" AND "Randomised controlled Trial"	0
24	"Tai chi" AND "Cervicalgia" AND "Randomised Controlled Trail"	0
25	"Yinjinjing" AND "Cervicalgia" AND "Randomised Controlled Trial"	0
26	"Traditional Chinese Training" AND "Cervicalgia" AND "Randomised Controlled Trial"	0
27	"Tai chi" AND "Neck Ache"	0
28	"Taiji" AND "Chronic neck pain" AND "Randomised controlled trial"	0
29	"Baduanjin" AND "Chronic Neck Pain" AND "Randomised Controlled Trail"	0
30	"Qigong" AND "Chronic neck pain" AND "Randomised Controlled Trail"	14
31	"Taiji" AND "Cervicodynia"	0
Ovid		
1	"Daoyin therapy" AND "Chronic Neck Pain"	6374
2	"Tai chi" AND "Chronic Neck Pain"	1753
3	"Qigong" AND "Chronic Neck Pain"	1647
4	"Traditional Chinese training" AND "Chronic Neck Pain"	6151
5	"Wuqinxi" AND "Chronic Neck Pain"	1567

[Table/Fig-1]: Search Strategy with number of articles retrieved.

D. **Study selection:** The criteria for inclusion were comprehensive and thorough in order to meet the objectives of the review. The inclusion criteria were experimental studies using Daoyin therapy as a treatment technique. Exclusion criteria were articles not in English language, studies on thoracic outlet syndrome, not available in full text, book chapters, conference proceedings and reviews. A PRISMA flowchart [Table/Fig-2] shows the number of studies considered at each stage of the review process. Detailing the number of studies included and excluded with reason for exclusion at each step.



[Table/Fig-2]: PRISMA flowchart of study process.

The literature search results were uploaded to Mendeley, a reference management software (Available at: https://www.mendeley.com/reference-management/web-importer) for duplicate deletion [16]. The titles and abstracts of all articles identified by the search were reviewed by the first author and then other two authors reviewed all articles selected by title and abstract in full text and applied the eligibility criteria. A further check on the appropriateness of the included texts took place in the data charting stage. The number of studies included and excluded at each stage, along with reasons for exclusion, is presented in a PRISMA flow diagram [Table/Fig-2].

E. **Charting the data:** The researchers carefully went over the chosen papers, charting the collected data for additional examination. One researcher assessed the abstracts and titles of every study that was screened and other researchers subsequently double-checked the results. The researchers separately examined every piece of information in the first round of analysis and in the second round, additional reviewers confirmed their findings. Any discrepancies in data extraction or graphing were settled by the researcher discussion and consultation.

F. **Collating, summarising and reporting the results:** In this phase, an analytical structure is developed to achieve a thorough comprehension of the current literature. A summarise table of the study characteristics containing author, study aim, study design, participants, comparison group, intervention, outcome measures, result and conclusion is explained [Table/Fig-3] [17-20].

RESULTS

Study inclusion: Total of 20918 articles were found by searching the four databases (PubMed, Science direct, Scopus and Ovid-SP). Mendeley, a reference management program, was used to eliminate

Author (year)	Study aim	Study design	Participants	Comparison group	Intervention	Outcome measures	Results and conclusion
Von Trott P et al., (2009) [17]	To assess the effectiveness of qigong compared to exercise therapy and no treatment in individuals with chronic neck pain	Randomised controlled trial	177 patients aged 55 or above with chronic neck pain for more than 6 months (pain intensity of more than 20mm on VAS)	Qigong group (n=38) Exercise therapy group (n=39) control group (n=40)	Qigong therapy and exercise therapy, each comprises 24 sessions held over a period of 3 months, with 2 sessions per week	Neck Pain and Disability, Heath-related Quality of life, Depression (ADS)	There were no significant differences in the outcome measures across the three groups at the 3-month intervention and 6-month follow-ups.
Lauche R et al., (2016) [18]	To check the effect of Tai Chi in treating chronic neck pain.	Randomised controlled trial	114 participants (91 females) with chronic non-specific neck pain aged 18 to 65 years (pain intensity of more than 45mm on VAS)	Tai Chi Group (n=36), conventional neck exercise group (n=37), wait-list control Group(n=41)	Participants were assigned to 12 weeks of either group Tai Chi or conventional neck exercises, with weekly sessions lasting 75-90 minutes.	Pain intensity (measured by VAS), pain on movement, functional disability, quality of life, well-being, perceived stress, postural and interoceptive awareness, satisfaction and safety.	Tai chi participants show significant difference in outcome measures as compared to control group and shows no difference as compared with exercise group.
Persson LC et al., (2017) [19]	To study differences in treatment expectations of Qigong and exercise therapy before and after intervention in long term neck pain patients.	Randomised controlled multicenter trial	122 individuals with long-term neck pain (86 women and 36 men) aged between 18 and 65 with mean age of 44 (pain intensity of more than 20mm on VAS)	Qigong group and Exercise therapy group (each group n = 59)	Qigong therapy and Exercise therapy 10 to 15 sessions held over a period of 3 months. Each session lasted for 1 hour.	Expectations of treatment (measured before and after the intervention), neck pain intensity and disability (measured using Neck Disability Index)	Participants with higher expectations showed better treatment outcomes in terms of pain relief and disability reduction. However, the relationship between pre-treatment expectations and actual treatment outcomes was weak but improved slightly after the intervention

Rendant D et al., (2009) [20]	To evaluate the effectiveness of qigong compared to exercise therapy and a waiting list group in patients with chronic neck pain.	Randomised controlled trial	123 patients aged between 20 and 60 years with a duration of neck pain ranging from 6 months to 5 years and an average neck pain intensity more than 40mm on VAS.	Qigong Group (n=42), Exercise Therapy Group (n=39), Waiting List Control Group (n=41)	Both qigong and exercise therapy groups received 18 sessions over 6 months (1 session per week for the first 3 months and biweekly for the next 3 months.)	Visual Analog Scale (VAS), Neck Pain and Disability Scale (NPDS), Short Form 36 (SF-36) Questionnaire, General Self-Efficacy Scale (GSE)	Qigong treatment show significant improvement as compared to the waiting list group. But no significant difference was found between the qigong group and the exercise therapy group.

[Table/Fig-3]: Summary of studies [17-20].

duplicates [16]. A total of 6497 articles were then removed as part of the duplicate deletion process. After that, 14413 papers were excluded after 14421 articles were screened based on titles and abstracts. Eight publications were eventually chosen for full text examination and finally four full-text articles were chosen for the review [Table/Fig-2].

Study attributes: We found out that treatment sessions in three studies spanned for three months [17-19] whereas in one study it is spanned for six months [20]. Von Trott P et al., provide 45-minute qigong training twice a week, Lauche R et al., provide 75-90-minute Tai chi therapy once a week, Rendant D et al., provide qigong therapy once a week for the first three months and twice a month for the remaining three months and Persson LC et al., provide one-hour training sessions once a week. Three studies utilised Qigong [17,19,20] whereas one gave Tai chi exercises [18]. Three of the studies were conducted in Germany [17,18,20] while one in Sweden [19]. The four studies included a total 466 participants with chronic neck pain. Von Trott P et al., included elderly men with mean age of 76 years while Lauche R et al., included participants with mean age of 49.4 years. Rendant D et al. and Persson LC et al., included participants in a varied age range of 20 to 60 years and18 to 65 years, respectively [17-20].

Methodological assessment: The studies included in this review are checked for methodological rigor and quality using PEDro scale. Out of four studies included three studies scored six and one study scored eight in PEDro scale which means good methodological quality [Table/Fig-4].

Author/year	Specified eligibility criteria	Randomised allocation of subjects	Allocation was concealed	Baseline prognostic markers being similar across groups	There was blinding of all subjects	Therapist's blinding	Assessors blinding who measured at least one key outcome	Measures comprised of at least one key outcome were taken from more than 85% of participants initially taken	Interpretation by "intention to treat"	Comparisons of between-group statistics reported for at least one key outcome	Measures of variability and point measures for at least one key outcome	Total
Lauche R, et al., (2016) [18]	1	1	1	1	0	0	1	1	1	1	1	8
Rendant D, et al., (2011) [20]	1	1	0	1	0	0	0	1	1	1	1	6
Persson LC, et al., (2017) [19]	1	1	0	1	0	0	0	1	1	1	1	6
Von Trott P et al., (2009) [17]	1	1	0	1	0	0	0	1	1	1	1	6

[Table/Fig-4]: PEDro scale [17-20].
Key: 1=yes 0 = no

Outcome measures: The studies utilised various standardised outcome measures to assess the effectiveness of Qigong and exercise therapy in patients with chronic neck pain. These included the Visual Analog Scale (VAS) [21], Neck Pain and Disability Scale (NPAD) [22], assessing both neck pain and associated disability and the Short Form 36 (SF-36) Health Survey Questionnaire [23] for evaluating health-related quality of life. Additional measures included the General Scale of Depression (ADS) [24], the Neck Disability Index (NDI) [21] and questionnaires for sleep quality, global satisfaction with treatment and frequency of physical activity. These assessments were conducted at baseline, three months and six months to evaluate changes and effectiveness across different treatment groups. The studies also employed other measures, such as the Multidimensional Assessment of Interoceptive Awareness (MAIA) [25], the Postural Awareness Scale (PAS) [26,27] and questionnaires for psychological wellbeing, stress resistance and enjoyment. Overall, these comprehensive assessments provided a thorough evaluation of the impact of Qigong and exercise therapy on chronic neck pain and related outcomes.

Effect on pain intensity: Von Trott P et al., showed that no significant differences were observed in average neck pain between the qigong and waiting list groups, with a mean difference of -11 mm (Range: -24.0 to 2.1, p=0.099) or between the qigong and exercise therapy groups, with a mean difference of -2.5 mm (Range: -15.4 to 10.3, p=0.699) [17].

Lauche R et al., showed that The Tai Chi group exhibited a significant reduction in pain intensity compared to the wait list control group, with a difference of -10.5 (Range: -20.3 to -0.9, p=0.033) after 12 weeks. In contrast, there was no significant difference in pain intensity between the Tai Chi and neck exercise groups, with a difference of 3.4 (Range: -9.5 to 12.3; p=0.450) [18].

Rendant D et al., showed that there is significant reduction in neck pain with qigong compared to no treatment with mean difference of -14.2 mm (Range: –23.1 to –5.4, p=0.002) and comparing qigong to exercise therapy, no significant difference was found at both three months (mean difference: -1.3 mm, p=0.782) and six months (mean difference: -0.7 mm, p=0.872) follow-ups [20].

Effect on neck disability: Von Trott P et al., showed that no significant differences were observed in neck disability with qigong and control group with a mean difference of -6.7 (Range: -15.4 to 2.1, p=0.135). Similarly, there was also no significant difference between the qigong and exercise therapy groups, with a mean difference in neck disability was 2.3 (Range: -6.2 to 10.8, p =0 0.600) [17].

Rendant D et al., both qigong and exercise therapy groups showed significant improvements in neck disability when compared to the waiting list control group over the 6-month period, with a mean difference of -8.2 compared to the waiting list group (p=0.003). The exercise therapy group showed a mean difference of –1.5 [20].

Lauche R et al., showed that Tai chi significantly improves neck disability. Tai Chi and wait list mean difference of -6.5, (Range: -10.0, -3.0, p<0.001). No significant difference was found between Tai Chi and neck exercises mean difference of 0.4, (Range: -3.5 to 4.3, p=0.86) [18].

Effect on depression: Von Trott P et al., both the interventions did not demonstrate a statistically significant reduction in depression scores when compared to each other. Specifically, the qigong group showed a mean difference of -0.2 (p=0.93) compared to the waiting list, while the exercise therapy group showed a mean difference of 0.4 (p=0.85) when compared to qigong group [17].

Lauche R et al., showed that depression scores compared to baseline was not statistically significant for Tai Chi or neck exercises, with the results providing a confidence interval of (-1.9, 0.4) indicating potential overlap with no clear effect [18].

Effect on quality of life: Von Trott P et al., showed the no significant differences in average neck pain between the qigong group and the waiting list control group with a mean difference of 6.7 (15.4; 2.1, p=0.135) qigong and exercise therapy mean difference of 2.3 (6.2; 10.8, p=0.600) [17].

Rendant D et al., both qigong and exercise therapy groups exhibited significant improvements in various domains of the SF-36 compared to the waiting list group after six months in physical functioning (qigong group had a mean score of 80.2 compared to 74.8 in the waiting list group p=0.081), Bodily pain (mean difference=63.6, p=0.0030), Vitality (mean difference = 51.5, p=0.0012) [20].

Lauche R et al., showed that Tai Chi led to a significant improvement in the physical component of quality of life compared to the wait list group. Tai Chi and wait list showed mean difference of 4.1, (1.1, 7.0, p=0.01). No significant difference between Tai Chi and neck exercises with mean difference of 4.0, (Range: -2.0 to 10.1, p=0.14) [18].

DISCUSSION

By utilising understanding from both traditional and modern views, this review aims to investigate the various ways by which Qigong therapy may reduce neck pain. The results suggest a number of important ways that practicing Qigong might reduce pain and enhance neck health in general.

A basic component of Qigong is the integration of physical movement, focused breathing and mental concentration, which has significant benefits for pain management. As mentioned, Qigong helps people relax, reduce muscle tension and develop body awareness- all of which are closely linked to pain relief in musculoskeletal conditions [17]. The mind-body connection, especially in practices like Qigong, has been shown to modulate the nervous system, reduce pain perception and stimulate the release of endorphins, the body's natural painkillers. Owing to these benefits, improvement in pain threshold and in severity of symptoms has been observed in a RCT by Lauche R et al., where 12 weeks of Tai chi intervention improved pain in individual with chronic neck pain non-specific neck pain [18]. Rendant D et al., state that Qigong may assist to manage pain by improving mental and physical coordination [20]. TCM and Qigong are based on the concept of Qi, or vital energy. TCM proposes that pain and illness can result from issues or imbalances in the body's Qi flow. By facilitating the flow of Qi, qigong seeks to reestablish equilibrium and is considered to reduce pain [20]. Although Qi itself is not directly measurable using Western scientific techniques, the related techniques of deep breathing, mindful movement and mental concentration do produce observable physiological benefits, such as improved blood circulation, reduced muscle tension and nervous system modulation. Qigong's thereby enhances blood flow, lower inflammation and promote relaxation-all of which are crucial for the treatment of neck discomfort [18].

Asymmetry in body posture frequently results in increased tension on the neck's muscles and ligaments, making poor posture a known cause of neck pain. In order to deal with imbalances and minimize strain, Qigong places a strong emphasis on appropriate alignment and posture [17]. It helps in improving flexibility and muscle strength via targeted movements for the upper back, shoulders and neck. In addition, studies suggests that exercises like Tai Chi, a related branch of Qigong, might improve postural awareness, lessen posture-related issues and help with general pain management. Wang Y et al., shows that people who practice Tai Chi have better awareness and control over their posture, thereby reducing the chances of chronic neck pain [28].

Stress, anxiety and depression are some of the mental health conditions that are frequently associated with chronic pain. The meditative elements of Qigong are helpful in resolving these psychological issues that might make pain more severe. Qigong improves psychological well-being by encouraging relaxation, lowering stress hormones like cortisol and building inner peace, which helps people manage pain more effectively [29]. While Qigong stimulates the parasympathetic nervous system, which encourages relaxation and lessens the body's stress reaction, stress activates the sympathetic nervous system, improving the muscle tension and pain sensitivity [17]. The studies done on patients with upper crossed syndrome show positive effects of DT on psychological functions [27]. However, in this review none of the included studies show any significant effect of DT on psychological functions [17-20].

Apart from collecting the results, The authors also estimated Pedro scores of all four included studies so that follow researchers can assess clinical trials on basis of its reliability and results. Due to limited experimental studies present, further randomised controlled trials with more number of patient of chronic neck pain with different outcome measures are needed to inculcate better results and effects.

Limitation(s)

In the present systematic review only a few studies were included, and to account for this, no meta-analysis was carried out. Grey literature and hand-picking of unpublished articles/thesis was also not done in this review.

CONCLUSION(S)

The present review concludes that DT which can be used as a holistic approach in managing pain and disability in individuals with chronic neck pain. The effectiveness of qigong, comparable to traditional exercise therapy, provides evidence that mind-body therapies could be viable alternatives for chronic pain management.

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