



EFFICACY OF PHYSIOTHERAPY INTERVENTIONS FOR MANAGEMENT OF PRIMARY HEADACHES

Shilpa Kumari¹and Ambuja Bhardwaj²

AFFILIATIONS:

1. Physiotherapy Student, Department of Physiotherapy, Rimt University.
 2. Assistant Professor, Department of Physiotherapy, RIMT University.
-

ABSTRACT

Primary headache disorders encompass a heterogeneous group of neurologic disorders that cause recurrent or persistent head pain without any clear underlying cause. Headache is one of the most common reasons for neurologic consultation. The epidemiology of the maximum public primary headache disorders, tension-type headache and migraine, the maximum public trigeminal autonomic cephalalgia, cluster headache, as fine as chronic regular headache are lectured in this assessment. The pathophysiological mechanisms that underlie post-traumatic headache remain largely unknown, but several possible disease mechanisms have been proposed, for which we present the supporting data below. These mechanisms contain impaired down modulation, neurometabolic variations and instigation of the trigeminal sensory system.

Keywords: Efficacy, Management, Search strategy, Physiotherapy, Headache

1. INTRODUCTION

Primary headache disorders include a heterogeneous collection of neurologic disorders that root regular or determined head pain without any pure basic root (Robins and Lipton et al., 2010). Headache is one of the most common reasons for neurologic consultation. For the last 15 years, the diagnostic criteria of the International Headache Society (IHS) have been the accepted standard. Another edition of The International Classification of Headache Disorders replicates our better-quality understanding of about conditions to the documentation of original disorders. Another edition of the IHS classification separates headaches obsessed by main and minor disorder. "Primary headaches" are a type of headache that is not a symptom of an underlying medical condition. The four organization of primary headaches includes migraine, tension-type headache, cluster headache and trigeminal autonomic cephalalgias (RB Lipton et al., 2004).

Primary stabbing headache (PSH) is commonly believed to be a primary headache disorder, start at early age, predominantly in females, regularly related with migraine or cluster headache and alert to indomethacin. A recent population-based study has shown that PSH is common in the general population (J-L Fuh, K-H Kuo & S-J Wang., 2007).

The education of headache triggers is troubled with problems, foremost of which is the large inconsistency of specific trigger effects that regularly prevents formation of pure cause-effect relations. No one stimulus attends as a trigger for all patients, also within an only specific infrequently does contact to a known precipitate always indicator headache (Rothrock JF., 2008).

According to the Diagnostic and Therapeutic Rules of the Italian Culture for the Education of Headaches, the incidence of Osmophobia is stated in the extrascientific data in favour of the diagnosis of headache; additionally, the Rules of the Canadian Headache Society recommend in their criteria for the diagnosis of migraine the presence of osmophobia, which is judged to be highly sensitive and specific for migraine (Giorgio Zanchin, et al., 2005).

2. ETIOPATHOGENESIS

The patho-physiological strategies that cause post-traumatic headache continue mostly unidentified, but some likely sea strategies have been projected, for which we present-day the supporting data below. These strategies include reduced descending variety, neurometabolic vagaries and initiation of the trigeminal sensory structure.

In this Review, we present-day the existing information nearby the epidemiology of PTH and the original pathophysiological strategies. We plan coming study opportunities to advance our understanding of the disease mechanisms, and treatment options for PTH (Nampiampil, D. E., 2008).

The pathophysiology of migraine is controversial, but the prevailing theory describes a persistent neurogenic dural inflammation with plasma extravasation (swelling). Our research suggests that this neurogenic inflammation may also occur locally, closely adjacent to a relatively accessible maxillary nerve segment (Friedman MH, 2004).

Hypnic headache (HH) is main headache condition considered by repetitive strictly sleep associated headache attacks causing wakeful of patients. The headache typically arises at the similar period at night. The original pathophysiology of HH is still rather enigmatic. This review summarizes the current knowledge regarding pathophysiological mechanism in this headache disorder (Dagny Holle and Mark Obermann., 2014).

3. CLINICAL PRESENTATION

3.1 Migraine

- **Examination:** Topics fresher than 12 years were excepted because of anxieties about their skill to understand and constantly answer to question. Symptom records were used to classify migraineurs with the International Headache Society (IHS) based definition described above.
- **Diagnosis of Migraine:** Approximately half (48%) of IHS-defined migraineurs (41% of males and 51% of females) informed a doctor analysis of migraine. These proportions are higher than those estimated in the 1989 survey in which 38% of IHS-defined migraineurs (29% of males and 41% of females) informed a doctor analysis.
- **Medication Use:** A total of 41% of IHS-defined migraineurs used prescription drugs for headaches, a finding similar to that observed in the American Migraine Study in which 37% reported use of prescription drugs for headaches. The quantity of IHS-defined migraineurs by individual over-the-counter medicines to treat their headaches remained 57% in 1999, associated with 59% in 1989. A very small subgroup used no medication at all (Richard B. Lipton, et al., 2001).

3.2. Tension-type headache

- **Biographic data:** The patients' age ranged between 36.8 ± 11.4 and 39.5 ± 12.7 years and was comparable in the three study groups. The common affected role were female.
- **Lifestyle:** Physical activity, quality of sleep, consumption of alcohol, caffeine and chocolate and smoking habits were similar in the two groups of clinic patients and in the subjects from the population. Some of the parameters showed numerical differences, but none of these differences reached the level of statistical significance.
- **Medical history:** One quarter of the affected role informed current diseases beside headache. The most frequent diagnoses were arterial hypertension ($n=13$), followed by elevated serum cholesterol, allergies, hypothyreosis and glaucoma. In none of the hypertensive patients was their evidence of headache attributed to arterial hypertension (Christian Wöber, et al., 2006).

3.3. Cluster headache

- **General features:** The lifetime prevalence of cluster headache is 0.12% (95% confidence interval 0.10% to 0.15%) in 16 articles across four continents, although data on one year incidence are limited. Onset can occur at any age but is typically between 20 and 40 years of age on the origin of large case series and questionnaires.
- **Comorbidities:** Cluster headache is connected with an improved danger of sleep apnea and stimulatingly, a possibly reduced risk of diabetes. Psychological comorbidities are mutual in cluster headache, specially mood syndromes as patients are at an improved risk of equally anxiety and depression.
- **Differential diagnosis:** Dual thoughts are significant in the differential diagnosis of cluster headache: primary headache conditions with parallel features and secondary headaches that present-day with cluster-like headaches. For primary headaches, cluster headache is part of a usual of five disorders called trigeminal autonomic cephalalgias; these all present-day moderately also but change in time, frequency, and treatment (Emmanuelle A D Schindler and Mark J Burish., 2022).

3. 4. Other primary headaches- Primary stabbing Headache

- **Patient characteristics:** The demographics and headache appearances of the education focuses are recorded. Our education topic exposed a woman like majority (69.2%) and inclusive variety of age (median, 54 years; range, 25–83). The indications happened as a design of sole (15.4%) or succession (84.6%) of attempts.
- **Disease courses:** Demographics and headache appearances of education focuses were associated giving to the chronicity of the PSH at the period of performance.
- **Clinical patterns of PSH:** The process of design documentation. The characteristic designs are demonstrated. Twenty-eight patients showed the monophasic design (Dong Yeop Kim, et al., 2017).

4. INVESTIGATION

4.1 Computed Tomography Versus MRI

Computed tomography (CT) detects most abnormalities that may cause headaches. CT generally is preferred to MRI for evaluation of acute subarachnoid hemorrhage, acute head trauma, and bony abnormalities.

4.2 Electroencephalography

The electroencephalogram (EEG) was a standard test for evaluation of headaches in the pre-CT scan era. Gronseth and Greenberg reviewed the nonfiction from 1941 to 1994 on the helpfulness of EEG in the assessment of patients who must headache.

4.3 Neuroimaging During Pregnancy and Lactation

When there are appropriate indications, neuroimaging should be performed during pregnancy. Through the practice of lead shielding, a standard CT scan of the head exposes the uterus to less than 1 mrad. The radiation dose for a typical cervical or intracranial arteriogram is less than 1 mrad.

4.4 Lumbar Puncture

MRI or CT scan always is performed before a lumbar puncture for evaluation of headaches except in some cases where acute meningitis is suspected. Lumbar puncture can be diagnostic for meningitis or encephalitis, meningeal carcinomatosis or lymphomatosis, subarachnoid hemorrhage, and high (e.g., pseudotumor cerebri) or low CSF pressure (Randolph W. Evans and MD., 2019).

5. REHABILITATION

- **Spinal Manipulation** Spinal manipulation, is found superior to the drug therapy at follow up and when compared to mobilization placebo, the manipulation group experienced significant improvements in pain intensity (Debashish., 2012).
- **Acupuncture** acupuncture has an extended institution of practice for the treatment of various pain situations, as well as headache. Its success has remained considered mostly for primary headaches, mainly for migraine and tension-type headache (TTH), whereas no controlled studies are present in the literature about cluster headache and other primary headaches Eismann, et al., 2009).
- **Trigger point manual treatment** myofascial Trigger point treatment is usually pursued with invasive (dry or wet needling) or non-invasive techniques (manual treatment or low-level laser therapy) that, according to the most accepted hypothesis, are believed to decrease the ischemia associated nociception started by the contracture of a minor percentage of muscle and therefore, the grade of sensitization of TNC (Yeganeh Lari, et al., 2015).

- **Cupping therapy** Cupping is an East Asian medicationrehabilitation that has remained used for thousands of centuries. The physician positionsdifferent cups on the patient’s covering for cupping therapy and produceslimitedpressure. Severalcategories of cupping takeremainedexperienced in clinical fields as well astaken cupping, wet cupping, moving cupping (A. Kaki, et al., 2019).
- **Dry Needling Technique** Dry needling is attractivemore and morecommonamongst physiotherapists for the organization of myofascial pain. Dry needling includes the addition of a minorinstrument needle into known trigger points (definite as ‘hyperirritable spots inside a skeletal muscle or in the muscle fascia that are relatedby a hypersensitive palpable nodule’) (Linde K, et al., 2009).
- **Kinesio taping for Muscle-Contraction Headache**A muscle-contraction headache develops from forward flexion of the head during work, or from excess stress during activities of daily life. The Kinesio Taping® Method will assist with reduction in muscle 'tension. Clean the forehead to remove oils prior to application (Kenzo kase & Jim Wallis., 1998).
- **Yoga for headaches** Yoga, coupling physical workoutby breathing and relaxation, is a commonalternatemethod of mind– body therapy. Yoga long has remained used to decrease the physical signs of long-lasting pain; meditation and yoga also may help individuals deal with the emotional aspects of chronic pain, dropping anxiety and depression (Kim DH, et al., 2005).
- **Hydrotherapy for headaches** Hydrotherapy otherwise water rehabilitation is the application of water which initiates healing. Three states of water (liquid, steam, ice) can be used therapeutically. The goals of hydrotherapy are to increase the circulation and quality of blood (Chowdhury RS, et al., 2011).
- **Myofasial release for headaches** Myofascial release (MFR) is a therapeutic technique facilitating the release of fascial restrictions by using gentle pressure and stretching with the intention of restoring range, decreasing pain, and optimizing length(Kharwandikar P, et al., 2019).
- **Neuromuscular Technique for headache** Physiotherapy is a form of non-pharmacological health service that can help patients suffering from Tension Type Headaches to reduce pain and discomfort in the skull due to tension of the neck muscles improve body movement and function and improve the musculoskeletal system and improve the life of Tension Type Headache patients (Nagrале et al., 2010).

6. LITERATURE REVIEW SEARCH STRATEGY

Search was performed at the beginning of feb,2024 on PubMed and Google Scholar databases. A combination of Keywords and Medical Subject Headings including “Primary Headaches”, “Rehabilitation in Primary headaches”, “Migraine, Tension Type Headaches”. The affiliated information in this research project was attained from both review articles and clinical trials published from the year 2005-2024.

As Selection criterion, it was decided that articles included in the study needed to describe at least 1 possible risk factor associated with Primary Headache or a rehabilitation protocol for the same. The articles which were not written in English, not available in full text, assessing a region other than shoulder complex were excluded.

The search strategy identified 54 potentially relevant articles on PubMed and 43 on Google Scholar amounting to a total of 61 articles. Next title and abstract review, only 61 articles were considered relevant and retained for analysis.

CONCLUSION

Primary headache conditions include a heterogeneous group of neurologic syndromes that originate repeated or determined head pain without any pure basic origin. Headache is one of the greatest mutual reasons for neurologic consultation. For the past 15 years, the investigatively measured of the International Headache Society (IHS) take be situated the believed standard. Primary headache syndromes include a heterogeneous group of neurologic conditions that reason repeated or determined head pain without at all strong original root.

The epidemiology of the maximum mutual primary headache syndromes, tension-type headache and migraine, the record communal trigeminal autonomic cephalgia, cluster headache, as well as long-lasting regular headache are give a lecture in this analysis. A primary Headaches is not an indication of an original illness. Chemical action in your brain, the nerves or blood vessels nearby your head containers show a part in primary headaches.

REFERENCES

- Astin JA & Ernst E., (2002).** The effectiveness of spinal manipulation for the treatment of headache disorders: a systematic review of randomized clinical trials. *Cephalalgia*. 22:617–623.
- Chowdhury RS, Islam MD, Akter K, Sarkar MAS, Roy T, Rahman SMT., (2011).** Therapeutic Aspects of Hydrotherapy: A Review. *Bangladesh J Medicine*. 32: 138-141.
- Christian Wöber, Julia Holzhammer, Josef Zeitlhofer, Peter Wessely, Çiçek Wöber-Bingöl., (2006).** Trigger factors of migraine and tension-type headache. *J Headache Pain*. 7: 188–195.
- Dagny Holle, Steffen Naegel and Mark Obermann., (2014).** Pathophysiology of hypnic headache. *Cephalalgia*. 34(10) 806–812.
- Dong Yeop Kim, Mi Ji Lee, Hyun Ah Choi, Hanna Choi and Chin-Sang Chung., (2017).** Clinical patterns of primary stabbing headache. *The Journal of Headache and Pain*. 18(44) 01-09.
- Emmanuelle A D Schindler and Mark J Burish., (2022).** Recent advances in the diagnosis and management of cluster headache. *State of the Art Review*.
- Falsiroli Maistrello L, Geri T, Gianola S, Zaninetti M and Testa M., (2018).** Effectiveness of Trigger Point Manual Treatment on the Frequency, Intensity, and Duration of Attacks in Primary Headaches. *Frontiers in neurology*. Vol. 9.
- Friedman MH., (2004).** An Intraoral Etiology and Noninvasive Treatment. *Headaches*. 125-135.
- Fuh J-L, Kuo K-H & Wang S-J., (2007).** Primary stabbing headache in a headache clinic. *d Cephalalgia*. (27) 1005–1009.
- G. Zanchin, Dainese F, Mainardi E, Mampreso C, Perin, F. Maggioni., (2005).** Osmophobia in primary headaches. *J Headache Pain*. (6) 213–215.
- Jihye Seo, Hongmin Chu, Cheol-Hyun Kim, Kang-Keyng Sung and Sangkwan Lee., (2021).** Cupping Therapy for Migraine.
- Kharwandikar P, Shende M, Abdul APJ., (2019).** Effectiveness of sub - occipital myofascial release and cervical manipulation in patients with cervicogenic headache. *Int J Healthc Biomed Res*. 25–32.
- Kim DH, Moon YS, Kim HS., (2005).** Meditation and yoga reduce emotional stress of chronic pain. *Prog Neuropsychopharmacology Biol Psychiatry*. 29:327- 331.

- Nagrle, A. V, Glynn, P., Joshi, A., & Ramteke, G. (2010).** The efficacy of an integrated neuromuscular inhibition technique on upper trapezius trigger points in subjects with non-specific neck pain: a randomized controlled trial. *Journal of Manual & Manipulative Therapy*, 18(1): 37–43.
- Nampiarampil, D. E., (2008).** Post-traumatic headache: epidemiology and pathophysiological insights. *J neurology*. Paola Schiapparelli, Gianni Allais, Sara Rolando, Gisella Airola, Paola Borgogno, Maria
- Grazia Terzi, Chiara Benedetto., (2011).** Acupuncture in primary headache treatment. *Neurol Sci.* 32 (1) S15–S18.
- R.B. Lipton, M.E. Bigal, T.J. Steiner, S.D. Silberstein, and J. Olesen, (2004).** Classification of primary headaches. *NEUROLOGY* (63) 427-435.
- Randolph W. Evans and MD., (2019).** Diagnostic Testing for Migraine and Other Primary Headaches. *Neurologic Clinics.* 27(2) 707–725.
- Rasmussen BK., (1995).** Incidence of Primary Headache. *Am J Epidemiol.* 161(11) 1066–1073.
- Richard B. Lipton, Seymour Diamond, Michael Reed, ; Merle L. Diamond, Walter F. Stewart., (2001).** Migraine Diagnosis and Treatment. *Headache.* 41: 638-645.
- Rothrock JF., (2008).** Perceived triggers of primary headache disorders: A meta-analysis. *Cephalalgia.* 38(6) 1188–1198.
- Stacey France, Jenna Bown, Matthew Nowosilskyj, Megan Mott, Stephanie Rand and Julie Walters., (2014).** Evidence for the use of dry needling and physiotherapy in the management of cervicogenic or tension-type headache. *Cephalalgia.* 34(12) 994–1003.