Management of Paediatric Migraine - A Brief Review

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ABSTRACT

Purpose: *Paediatric migraine is a common and debilitating neurological condition that affects a significant number of children worldwide. Episodes of moderate to severely severe headaches, frequently accompanied by nausea, photophobia, and phonophobia, are the most typical indications and symptoms. Effective management of Paediatric migraines requires a comprehensive approach that includes acute treatment of individual attacks, preventive strategies, and lifestyle modifications. Acute treatment options for paediatric migraines primarily involve the consumption of nonsteroidal anti-inflammatory drugs (NSAIDs) as initial medication treating episodes that are mild to severe. In cases of severe or refractory migraines, triptans may be considered. Preventive strategies occupy a crucial part in reducing the frequency and the degree of intensity of paediatric migraines. These strategies include the use of medications such as antiepileptic drugs, beta-blockers, and tricyclic antidepressants. Lifestyle modifications are integral to the management of Paediatric migraines. Identifying and avoiding triggers, maintaining regular sleep patterns, promoting a healthy diet, and managing stress are key elements in preventing migraine attacks.*
Design/Methodology/Approach: *All pertinent standard papers were briefly reviewed and relevant data was extracted.*
Findings/Result: *The management of paediatric migraines requires a multidimensional approach that encompasses acute treatment, preventive strategies, lifestyle modifications, and healthcare professional involvement. By implementing evidence-based practices tailored to each child, healthcare providers can significantly improve the quality of life for paediatric headache migraine sufferers and minimize the impact of this condition on their overall well-being.*
Originality/Value: *This review article focuses on a thorough summary of the existing research regarding the management of paediatric migraine*
Paper Type: *Review Article*
Keywords: Paediatric migraine, acute treatment, preventive strategies, lifestyle modifications, first-line therapy

Abbreviations:
A list of abbreviations are mentioned in the following table 1.

TABLE 1: List of abbreviations used in this study

S. No.	Abbreviations	Full Form
1	HIS	International Headache Society
2	ICHD	The International Classification of Headache Disorders
3	NSAID	Non-steroidal anti-inflammatory drugs
4	FDA	Food and Drug Administration
5	CBT	Cognitive behavioural therapy
6	AE	Adverse effects
7	DHE	Dihydroergotamine

8	DRA	Dopamine receptor antagonist
9	ECG	Electrocardiogram
10	PedMIDAS	Pediatric migraine disability assessment
11	CCB	Calcium channel blocker
12	TTH	Tension type headache
13	ETTH	Episodic tension type headache
14	CTTH	Chronic tension type headache
15	RCT	Randomised controlled trials
16	TCA	Tricyclic Antidepressant

1. INTRODUCTION :

Among the paediatric population, migraines are a prevalent ailment. It is a multifactorial inherited condition that runs in the family; when parents of a child are asked about it, at least one of them will often mention having suffered from migraines [1]. It is the most prevalent recurring foremost headache in kids, with rates of prevalence of 1.2-3.2% at ages 3 to 7, 4-11% at ages 7 to 11, and 8-23% at ages 15 and beyond [2, 3]. The most prevalent signs and symptoms are episodic bouts of moderate to extremely severe headaches, often accompanied by nausea, photophobia, and phonophobia. The headaches are often throbbing, unilateral, and made worse by physical exertion. Episodes vary in symptomatology, intensity, and handicap, both across people and within the same sufferer who experiences many episodes. Children with migraine suffer from a worse quality of life as a result of this very debilitating ailment. The International Headache Society's (IHS) diagnostic standards are the major source for determining the cause of primary headaches [4]. Although the most recent version (ICHD 3) takes into account several manifestations of migraines in paediatric age, such as the reduced length of time spent in discomfort plus the unilateral/bilateral site of pain, these criteria have limits when applied to paediatric age [5, 6]. There is rising, but insufficient, data on paediatric migraine therapy. The most recent paediatric headache treatment practise parameter recommendations were released in 2004, and they summarise the effectiveness, safety, and acceptability of acute medicine among youths and kids [7]. Although over-the-counter abortive drugs are frequently effective and safe, they occasionally fail to halt an acute attack, which may lead healthcare professionals to use off-label therapy to manage an uncontrollable migraine. The general recommendations for treating acute headaches have depended on extrapolating information from adult research plus updated paediatric studies with stronger evidence [8].

2. RELATED WORKS :

A sizable corpus of pertinent research has been done on the treatment of paediatric migraine. These include significant research, recommendations, and sources that have assisted us in comprehending and approaching the treatment of paediatric migraines.

S. No.	Title of study	Focus	Reference
1	American Academy of Neurology (AAN) Guidelines	Recommendations for the immediate management of migraine in kids and teenagers have been issued by the AAN, and they offer evidence-based suggestions for treating paediatric migraines.	T.S.D. Getchius,et al. (2010). [9]
2	American Headache Society (AHS) Guidelines	The AHS has recently released recommendations for diagnosing and treating paediatric migraine. The suggestions include a variety of issues of diagnosis and therapy.	Jessica Ailani MD, (2021). [10]
3	The Childhood and Adolescent Migraine Prevention (CHAMP) Study	The effectiveness of topiramate in avoiding headaches in kids and teens was examined in this significant clinical experiment. The subject has made a big impact on preventative medicine strategies.	Andrew D Hershey, (2013). [11]

4	Pediatric Migraine Disability Assessment (PedMIDAS)	A useful tool for determining how migraines affect kid's everyday activities can be found in the PedMIDAS questionnaire. To evaluate the efficacy of therapies, it has been employed in several research investigations.	Pedro A Sampaio Rocha-Filho, (2017). [12]
5	Drugs for the acute treatment of migraine in children and adolescents	In migraine-afflicted kids in the ages 6 to 17 years, the usage of triptans was contrasted with a placebo. According to the study, triptans significantly reduced both the severity and duration of migraine pain in this cohort when compared to placebo.	Meghan A Linsdell, et al. (2016). [13]
6	The Efficacy and Safety of Topiramate in the Prevention of Pediatric Migraine: An Update Meta-Analysis	In migraine sufferers younger than 18 years old, topiramate can considerably reduce recurring days of headaches and strain from migraines.	Xinwei Wu, (2020). [14]
7	A Review on the Triggers of Pediatric Migraine with the Aim of Improving Headache Education	Stress, insomnia, and nutrition (which incorporates food and being overweight) were evaluated as major headache catalysts or contributors in kids and teens.	Gaku Yamanaka, et al. (2020). [15]

3. OBJECTIVE :

The main objective of this review is to provide succinct information by summarizing information from recent research papers on paediatric migraine treatment. The intention of the following piece is to offer a concise overview of the acute management choices, preventative measures, and adjustments to lifestyle for paediatric migraines. It also focuses on the safety and efficacy of the pharmacological therapies.

4. METHODOLOGY :

In order to find research that has previously been released in peer-reviewed publications, a thorough literature search was carried out utilising pertinent databases including PubMed, Google Scholar, MEDLINE, etc. The right keywords were used in the search strategy to describe paediatric migraine therapy, such as acute management, preventative measures, lifestyle changes, and particular therapies. Inclusion criteria in this review was focused on studies that included paediatric population (patients aged below the age of 18 years) who were diagnosed to have migraine. Relevant data from the included studies were extracted, interpreted and a thorough overview of the available treatments was condensed.

5. MANAGEMENT :

A total of two primary categories of migraine therapy: acute and **prophylactic** therapies. The objectives for long-term migraine therapy should be chosen once the migraine diagnosis has been made and the proper reassurances have been given. Reducing reliance on poorly tolerated, ineffective, or undesirable acute pharmacotherapies; enhancing quality of life; preventing the escalated use of acute headache medications; and encouraging individuals to cope with their condition to improve personal control of their migraines are just a few of these goals.; and decreasing anxiety and psychological indicators associated to headaches [16].

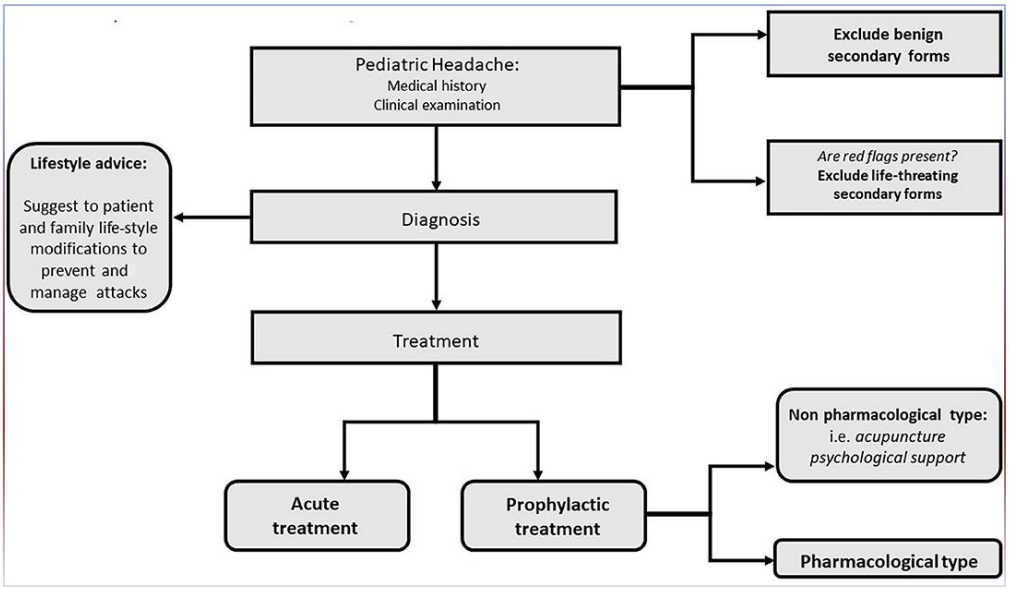

Fig. 1: Lifestyle advise in headache management plan

5.1 Diet and lifestyle:

- It's crucial to stress the value of adopting healthy habits into people's lifestyles while providing advice to parents and children regarding migraine therapy. These should focus on teaching people the value of a functioning properly, balanced diet without meal skipping, as well as how to get enough sleep, stay hydrated, maintain a regular exercise routine, and get enough sleep [17].
- When a migraine attack begins, the youngster should take a nap or go to bed in a quiet, dark room [18].
- In light of their abundance in riboflavin, a vitamin that has been proven to be useful as a migraine prevention supplement, green vegetables are prioritised in the dietary regimen. This strategy can lessen the negative effects of a child's migraine while also lowering the need for pharmaceutical treatments. Given the paucity of pharmacological research in children under the age of 6, a conservative strategy like this one is both safe and maybe useful.
- The non-pharmacological treatments for paediatric migraine include biofeedback, acupuncture, and cognitive behavioural therapy.As previously mentioned, cognitive behavioural therapy (CBT) was successful in treating chronic migraines, but the best outcomes were shown when CBT was paired with pharmaceutical treatment, particularly amitriptyline[19].

6. ACUTE TREATMENT :

A quick return to normal function and complete symptom remission are the objectives of acute migraine therapy. Therapy should be administered correctly, utilised as soon as feasible, and with the least amount of medicine possible. Children should be educated, together with their parents and other carers. To reduce school absences and the condition's detrimental effects on social activities, the kid ought to be capable of obtaining emergency care as quickly as feasible at both home and school. Patients should get information on which emergency drugs to use, when to use them, and how to prevent prescription misuse.

6.1 NSAID’s (Non-steroidal anti-inflammatory drugs):

Among the most popular medicines available over-the-counter in alleviating pain and antipyretics in infants are acetaminophen and ibuprofen. Ibuprofen is a category A prescribed migraine abortive therapy for both adults and kids [20]. Ibuprofen was found to be more effective than a placebo in a randomised controlled study to ensure prompt management of paediatric migraine as young as 4 years old when administered at a dosage of 7.5–10.0 mg/kg given each six hours as necessary [21]. A dosage of 15 mg/kg of paracetamol is used to treat acute migraines. Both of these are efficient and tolerated adequately, albeit ibuprofen is often a superior option for pain management [1]. The use of NSAIDs for medical management of migraines should be restricted to once or twice a week so as to prevent the

progression of a persistent daily headache brought on by pharmaceutical misuse. The most typical side effects are allergic responses, dyspepsia, and gastrointestinal haemorrhage [22]. It has been discovered that naproxen is safer and more effective than a placebo since it has a longer half-life, particularly when coupled with sumatriptan [21]. 5-10 mg/kg every 12 hours, as required, is the recommended naproxen dosage. In the one paediatric migraine trial conducted in an emergency care environment, ketorolac was assessed [23]. The dosage was 0.5 mg/kg intravenous up to 30 mg, and the effectiveness was 55.2% after one hour. One significant paracetamol adverse effect (AE) that generally manifests in overdose situations is acute liver failure. The maximal dose must not go beyond 75 mg/kg in 24 hours starting at the age of 12. The Food and Drug Administration (FDA) estimates four grammes to be the everyday maximum allowable dosage for children aged 12 and older [8, 24, 25].

6.2 Triptans:

Triptans, a class of medications used to treat migraines, have been demonstrated in studies to be both secure and efficient in paediatric patients [26]. There are now seven triptans in varying formulations [24, 25]. Due to a dearth of RCTs on children and adolescents, few triptans are licenced for use in these age groups, and the majority of studies have been constrained by a significant placebo effect. For usage in youngsters between the ages of 12 and 17, four of the seven triptans have been researched. Almotriptan oral tablet 12.5 mg, rizatriptan 5.0 mg or 10.0 mg melting tablet, zolmitriptan 2.5 mg or 5.0 mg nasal spray, also, oral sumatriptan/naproxen 100/85 mg are the prescribed dosages [20]. The US Food and Drug Administration (FDA) has only authorised one triptan, rizatriptan at 5.0–10.0 mg, for use in children younger than 6 years old. Triptans should be taken as soon as a headache develops for optimal effectiveness. If a headache continues, the dose may be repeated once every two hours or more [24, 27]. In a span of twenty-four hours, just two triptan doses should be provided. The most frequent triptan adverse effects (AEs) include nausea, vertigo, exhaustion, and somnolence, as well as taste disturbance with nasal formulations [8].

For moderate to severe migraine, sumatriptan nasal spray is helpful [Class I, Level A], with taste disturbance being the most frequent side effect [28, 29]. The effectiveness of subcutaneous sumatriptan [Class IV, Level U] is not supported by enough data. A zolmitriptan nasal spray (5 mg) study has demonstrated its superiority as a therapy for acute migraine in teenagers (aged 12 to 17 years) [30]. Triptans are only prescribed as a home remedy for migraine attacks in 2.2% of children who go to the emergency department during an episode. This number raises the question of whether triptans are used less frequently than other medications or whether people who take them are less likely to require emergency department care than those who use other medications [31].

6.3 Dihydroergotamine:

Acute and chronic migraines have been treated using dihydroergotamine, an ergot alkaloid. Due to its limited absorption in the oral form, it is more frequently administered intravenously or as a nasal spray to patients. When a migraine attack strikes, additionally advantageous to kids are ergot-based treatments (such as dihydroergotamine and ergotamine combined with caffeine), but they should be administered in accordance with stringent usage guidelines to reduce the possibility of adverse effects brought on by their vasoconstrictive qualities [1]. Paediatric population responds well to intravenous (IV) dihydroergotamine (DHE) [32,33]. The Raskin procedure is the most well-liked and has been used to adults regularly [34]. For individuals who are incapable to take the larger adult dose due to sensitivity (0.1–0.2 mg/kg every 6h), a high-dose treatment (0.5-1 mg/dose every 8 hours) and a low-dose regimen constitute two separate approaches in paediatrics based on this procedure[32,33]. By the fifth dosage, response is frequently noticeable, and by the tenth dose, effects are typically at their peak. DHE should be continued if improvement is shown to the point the patient ceases experiencing headaches, or the allotted 20 doses have been taken, whichever comes first. Severe nausea and anxiety are two side effects that usually surface after the third dose. Therefore, premedication with an antiemetic and IV hydration is advised.

6.4 Antiemetics:

Prochlorperazine and other dopamine receptor antagonists are beneficial, especially when nausea is significant [35]. There are few studies examining the efficiency and security of DRAs in children. IV prochlorperazine has demonstrated the best efficacy of the examined DRAs [36]. Due to its widespread

availability, methoclopramide is the frequently chosen. dopamine antagonist utilised in urgent situations of acute migraine [37]. The migraine indications of nausea and vomiting can be treated with metoclopramide and prochlorperazine. In clinical settings, metoclopramide IV (0.1-0.15 mg/kg, maximum 10 mg/dose) is often used and has been demonstrated to be more effective than placebo in treating paediatric migraines, although being less efficacious than prochlorperazine [24, 25, 38]. Although it is often well tolerated, extrapyramidal responses including dystonia and akathisia can happen, which can be treated with intravenous diphenhydramine [39].

6.5 Calcitonin Gene–Related Peptide (Cgrp)- Receptor Antagonist - Bibn 4096 Bs:

A 37-amino-acid neuropeptide known as CGRP, a powerful vasodilator, is found in the perivascular trigeminal nerve fibres which connect the pial arteries, meningeal arteries, and extracranial cephalic arteries [40]. Patients who suffer from migraines have higher amounts of CGRP in their craniums, and CGRP injections can start a migraine episode [41]. CGRP-receptor antagonist BIBN 4096 BS has a very high affinity and specificity for the human CGRP receptor [42]. Numerous animal investigations, human cephalic artery in vitro research, and human trials have demonstrated that it effectively prevents the effects of CGRP [43]. The initial CGRP antagonist that is accessible To carry out clinical studies is BIBN 4096 BS. In recent clinical trials, BIBN4096 BS was given in a dosage of 2.5 mg IV over the course of 10 minutes, and two hours after treatment, there was a decent rate of pain response. The severity of the therapy response was correlated with improvements in nausea, photophobia, phonophobia, and functional ability [44].

Strategies for treating children and adolescents with acute migraine:

(1) Ibuprofen is useful and is to be taken into consideration for the quick relief of childhood migraines (Level A).
(2) Acetaminophen is likely efficient and need to be taken into consideration for the immediate management of migraine in youngsters (Level B).
(3) For the immediate treatment of teenage migraines, sumatriptan nasal spray is useful and should be taken into consideration (Level A).
(4) There are no evidence that either confirm or refute the use of oral triptan preparations in children or adolescents (Level U).
(5) According to the information that exists at the moment, subcutaneous sumatriptan (Level U) efficacy cannot be assessed [7].

7. PROPHYLACTIC TREATMENT :

When children experience four consecutive days with headaches in excess accompanied by some limitations, three or more headache days with significant impairment, or six or more headache days per month, prevention therapies should be investigated [45]. Although there are very few controlled investigations on pharmacological therapy for migraine prevention in children, information is starting to become available. The usage of a variety of these medications is dependent on anecdotal evidence or extrapolated adult experiences. Level I data are available for topiramate, amitryptyline, disodium valproate, propranolol, and timolol [46, 47].

Table 2: Prophylactic treatment of the migraineur child

Medication	Dosage	Adverse Effects
Beta blockers Propranolol	1-3 mg/kg/day	Respiratory issues, heart irregularities, orthostatic hypotension, depressive disorders, and disorientation
Antihistaminic drugs Peritol	2-8 mg/day	Higher appetite, weight gain, and sleepiness
Antiepileptic drugs Topiramat	2-3 mg/kg/day; max 200 mg/day	Anorexia, weight loss, somnolence, cognitive impairment

Valproic acid Levetiracetam	15-40 mg/kg/day (50-100 mg/dL, in serum) 250-500 mg/day	Loss of hair, teratogenic consequences, liver dysfunction, and increased weight Dizziness, irritability, somnolence
Calcium channel blockers Cinnarizine Flunarizine	 1.5 mg/kg/day (30 kg); 50 mg/day (>30 kg) 5 mg/day	 Increased weight, extrapyramidal signs Increased weight, drowsiness
Tricyclic antidepressants Amitriptyline	1 mg/kg/day	Alterations in electrocardiograms, changed atrioventricular transmission, alterations to the mental state (hypomania, suicidal tendencies), constipation, and a chapped mouth

7.1 Pharmacological:

(1) Beta Blockers:

Propranolol is an inhibitor of the beta (b) adrenoceptor that blocks the b1,2 receptors. For a period of over fifty years, propranolol has been used to prevent migraines [48]. There aren't many research demonstrating propranolol's effectiveness in young children. The rhythm of the heart and orthostatic pressure should be checked upon starting propranolol every three months and whenever the dose is raised. In a three-way head-to-head migraine prevention research, propranolol was shown to be equally efficacious to cyproheptadine and more effective than the placebo [49,50]. Typically, the initial dosage is 1 mg/kg divided into three doses, with a daily maximum of 4 mg/kg. Propranolol should not be given to children who have asthma, and it should only be used sparingly in people who also have diabetes, orthostatic hypotension, and depression [51]. Propranolol may increase the likelihood that children with migraine would experience at least a 50% reduction in headache attacks compared to those receiving a placebo (poor confidence in the evidence, 1 Class III study [44]; RR 5.20 [95% CI 1.59-17.00]; confidence in evidence increased owing to size of impact).

(2) Tricyclic Antidepressants:

Analgesic-rebound headache has been treated with tricyclic antidepressants in both adults and children. With a 150 mg maximum dose, the proposed dosage is 1-2 mg/kg/day administered at night. A serotonin-norepinephrine reuptake inhibitor called venlafaxine also been utilised to prevent migraines in older people. Amitriptyline is still one of the most often given preventative drugs for childhood migraine. However, its effectiveness in paediatric migraine has not been examined in randomised controlled studies, one of the most popular treatments in the paediatric age spectrum. It is possible to progressively raise starting dosages of 5 to 12.5 mg administered once day to 1 mg/kg/day. Amitriptyline must be gradually increased over an 8–12 week period, rising by 0.25 mg/kg/day every two weeks, due to its adverse effect profile, notably somnolence [52, 53]. Amitriptyline can be substituted with nortriptilyne due to its weaker anticholinergic action and sedative effects [54]. Before starting the medication, an ECG should be done since non-specific electrocardiographic alterations and potential changes in atrioventricular conduction may be seen.

(3) Anti-Epileptic Drugs:

Both migraine and epilepsy are neurological illnesses that appear episodically. They may both exhibit neuronal hyperexcitability, a pathogenic trait. Cortical spreading is caused by an increase in extracellular glutamate concentration, the primary excitatory neurotransmitter that leads to seizures and depression [55]. Although there does appear to be a higher concordance in children, there are presently no controlled paediatric research available to assess the co-morbidity of behavioural problems with migraine or epilepsy. For teenagers older than 12 years old, topiramate is the only preventative medicine that has been licenced [56]. The recommended dosage is 200 mg every night, up to the greatest extent of 2-4 mg/kg per day. The adverse effects of topiramate treatment that are most frequently mentioned

are paresthesias, tiredness, memory or linguistic issues, decreased appetite and anorexia, metabolic acidosis, hyperthermia, dizziness, and stomach discomfort. Valproic acid and topiramate both showed efficiency in a short retrospective research assessing its efficacy. The monthly average of headache frequency, severity, duration, and PedMIDAS outcomes were decreased in those kids receiving valproic acid treatment [57]. The first dose of valproate therapy is 10–15 mg/kg given twice daily. It is possible to raise this dose by 15 mg/kg increments, up to a daily maximum of 60 mg/kg. Levetiracetam has been shown to be beneficial in treating migraines when administered at doses of 125 to 250 mg twice day. Patients may experience lightheadedness, irritability, and sleepiness when using levetiracetam [58].

(4) Calcium Channel Blockers:

A group of drugs known as calcium channel blockers (CCBs) is frequently used for several cardiovascular disorders like excessive blood pressure and angina. Some CCBs have also been investigated for their conceivable ability to help both adult and child populations avoid migraine headaches. In contrast to other preventative measures, it is significant to emphasize that the data for these medicines' effectiveness in paediatric migraine prevention is fairly thin. A non-selective calcium channel blocking medication having particular consequences on the cerebrovascular system, flunarizine, has been shown to be useful in the prevention of migraines in several investigations [59]. Kim et al. demonstrated that the effectiveness and tolerability of flunarizine 5 mg/day were equivalent to those of topiramate in a retrospective trial including 475 patients. Flunarizine (5 or 10 mg/day) had a responder rate of 80% (89/111 patients) and topiramate (from 25 to 100 mg/day) of 81% (122/150 patients), respectively [60]. Daytime sedation and weight gain were the most often reported negative effects of Flunarizine. An L-type calcium channel blocker called cinnarizine has a variety of pharmacological effects that might affect how well it works to treat migraines. A 1.5 mg/kg/day dosage in children under 30 kg and 50 mg/day dose in children above 30 kg effectively lowers the frequency and severity of headache in migraine-prone children, according to a double-blind, placebo-controlled, randomised research. Extrapyramidal and weight gain were minor adverse effects as well [61].

(5) Antihistaminic Drugs:

Cyproheptadine, an antihistamine, blocks calcium channels and has anti-serotonergic effects. Despite not having been the subject of controlled research, cyproheptadine has been used extensively in younger children due to clinical experience showing that it is effective in lowering headache frequency and intensity. Sedation and an increase in appetite are possible side effects [62]. The dosage per day ranges from 2 to 8 mg/kg. The dosage may be taken as a single dose before going to sleep. When compared to a placebo, the combination of propranolol and cyproheptadine was shown to be the most effective treatment option [49].

7.2 Non-Pharmacological:

- Paediatric migraine patients might gain benefit from cognitive behavioural therapy, acupuncture, and biofeedback as non-drug remedies.
- Cognitive behavioural therapy (CBT) was successful in treating chronic migraines, but the best outcomes were shown when CBT was paired with pharmaceutical treatment [63].
- As a non-invasive mind-body therapy method, biofeedback (also known as biological feedback) involves attaching electrical sensors to your body in order to track certain bodily processes, such as heart rate, blood pressure, brain waves, breathing, skin perspiration, and muscular tension [64]. Whilst the physiological mechanisms of their efficacy are uncertain, evidence from one experiment indicate that relaxation and biofeedback treatments may be able to change plasma beta-endorphin levels [65].
- The two most popular forms of biofeedback for headache have been "handwarming" or thermal biofeedback for migraine and electromyographic biofeedback for Tension type headache (TTH) [66].
- Further well-controlled research are required, however magnesium salt appears to be beneficial in treating juvenile episodic and chronic TTH (ETTH, CTTH) [67].

8. RECOMMENDATIONS :

A significant number of randomised controlled studies examining the effectiveness of preventative medicines for paediatric migraine sufferers have been ineffective in comparing effectiveness to placebo.The CHAMP research's findings constitute the primary innovation for paediatric migraine prevention over the preceding ten years. The research in question brings up three significant concerns:

- Primarily the phenomenon of placebos is particularly effective in young patients (approximately 60% of patients), making it an important therapeutic tool.
- The CHAMP research makes us question if pharmaceutical therapy is still permitted.
- Last but not least, we need to emphasize that no medication with a sole prescription for treating migraines is now available in paediatric age.

There needs to be more research that should be conducted in order gather more evidence regarding the drugs used in prophylactic migraine treatment in children as there is no significant evidence available in the present sceanrio.

Further investigations might: (1) pinpoint variables linked to people's experiences with pharmacological prophylaxis, (2) examine variations in migraine strike regularity throughout a period of time to establish the clinically most pertinent length of likely prophylactic treatment, and (3) pinpoint nonpharmacological goals for migraine prophylaxis.

9. CONCLUSION :

In the end, a multimodal strategy focusing upon both acute alleviation of symptoms and preventative measures is necessary for the therapy of paediatric migraines. The intervention of these illnesses depends on accurate diagnosis and identification.

A three-leveled strategy for management and treatment is necessary, encompassing biobehavioral supervision for lifetime impact, preventative therapy for chronic or incapacitating migraines, and pharmacological therapy for sudden attacks, which frequently requires a main and auxiliary drug. The likelihood for the kid with migraneur to live with a high standard existence can be increased by discovering and preventing triggers as well as using the right therapeutic approach. Ibuprofen, prochlorperazine, and certain triptans represent generally efficient and secure treatments for treating acute migraine and other innocuous headache issues among children, according to the present studies. Once a specific diagnosis has been established, preventive therapy is required; nevertheless, it is important to be aware of the pharmaceutical agents' contraindications in addition to its potential short- and long-term negative effects. Some examples of prophylactic medication are beta blockers such as propranolol, TCA’s like amitriptyline, anticonvulsants like topiramate etc. The psychological reinforcement that must be provided to each kid during the course of their preventative therapy for paediatric migraine so as to ensure that they are a cooperative patient devoid of additional mental health issues is a significant component of the procedure.

Further investigation within this demographic is required, and it ought to examine factors including dosage, concurrent drugs, therapy time frame, and longevity of therapy's impact.

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