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Formulation and Evaluation of Herbal Capsule in Treatment of Migraine

Bhagyashri Gayke[1], Anjali Shinde[2], Pallavi Patharkar[3], Madhuri Khandgaokar[4]

I. INTRODUCTION

Migraine is a collection of perplexing neurological conditions in which the brain and itsassociated tissues have been implicated as major players during an attack.

Once considered exclusively a disorder of blood vessels, compelling evidence has led to the realization that migraine represents a highly choreographed interaction between major inputs from both theperipheral and central nervous systems. Migraine is a common problem worldwide with significant morbidity and economic impact.

The direct costs of migraine are directly related to the severity of migraine pain and disability, and rise dramatically with prescriptionmedication usage.

Migraine is the commonest cause of recurrent, severe headache. It is experienced at somepoint by over 20% of women and over 10% men. The tendency to suffer from migraine has a genetic basis, but individual attacks may be triggered by internal or external influences, orsimply come by themselves for no apparent reason.

The name ‘migraine’ originally comes from the Greek wordhemicrania, meaning ‘half of the head’, representing one of the most striking features of the condition: that in many cases pain only affects one half of the head.

Equally commonly, however, pain is felt bilaterally, at the front or the back of the head, morerarely in the face, and rarer still in the body (‘migrainous corpalgia’).

The pain is generally throbbing in nature, and typically made worse by any form of movement or even modest exertion. The majority of migraine attacks are severe or at least moderately. [19]

In a cross-sectional study of headache disorders in a population of 1,000persons the epidemiology of migraine with aura (MA) and migraine without aura (MO) was analysed inrelation to sex and age distribution, symptomatology and precipitants. The headache disorders were classified on the basis of a clinical interview as well as a physical and a neurological examination using the operational diagnostic criteria of the International Headache Society (IHS).

Lifetime prevalence of MA was 5%, male: female ratio 1:2. Lifetime prevalence ofMO was 8%, M:F ratio 1:7. Women, but not men, were significantlymore likely to have MO than MA. Neither MA nor MO showed correlation to age in the studied age interval (25–64 years). Premonitory symptoms occurred in 16% of subjects withMA and in 12% with MO. One or more precipitating factor was present in 61% with MA and in 90% with MO.

In both MA and MO the most conspicuous precipitating factor was stress and mental tension. Visual disturbances were the most common aura phenomenon occurring in 90% of subjects with MA. Aura symptoms of sensory, motor or speech disturbances rarely occurred without coexisting visual disturbances.

The pain phase of MA fulfilled the criteria for MO of the IHS. Headache was, however, less severe and shorter lasting in MA than in MO.

Onset at menarche, menstrual precipitation, menstrual problems, influence of pregnancy and use of oral contraceptives all showed some relationship with thepresence of MO and less with MA.

The present findings suggest that MA and MO share thepain phase. Among subjects with MA and MO, 50% and 62%, respectively, had consulted their general practitioner because of migraine.

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A. Phases Of Migraine

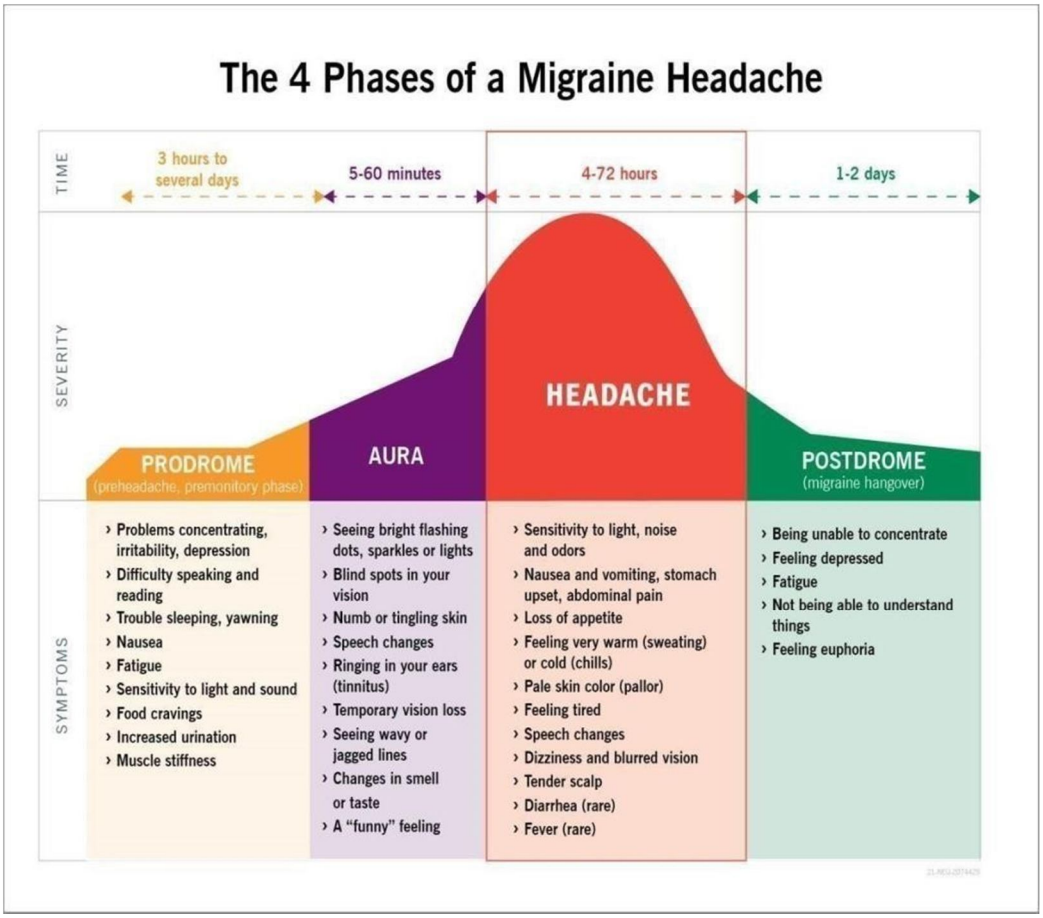


Fig.no.1.1 Phases of Migraine

1) *Prodrome:* The premonitory phase of migraine can begin as early as 3 days before a migraine headacheand allows some patients to correctly predict migraine headache up to 12hours before its onset. Common symptoms experienced during this phase, including fatigue, mood changes,food cravings, yawning, muscle tenderness, and photophobia, point to the involvement of the hypothalamus, brainstem, limbic system, and certain cortical areas during the early stagesof an attack. Migraine may also display a diurnal periodicity and is commonly triggered by alterations in homeostasis. These findings suggest the involvement of chrono biologicalmechanisms in migraine pathogenesis and have led to the investigation of the hypothalamusas a potential site of origin of the migraine attack.
2) *AURA:* Approximately one-third of migraine attacks are preceded by aura. The International Classification of Headache Disorders 3rd edition (ICHD-3) defines migraine with aura as recurrent attacks, lasting minutes, of unilateral, fully reversible, visual, sensory or other CNS symptoms that usually develop gradually and are usually followed by headache and associated migraine symptoms. The most prevalent aura symptoms are visual disturbances; however, other common symptoms include sensory, speech/language, and motor disturbances, as well as disruption of higher cortical function.

B. Headache

Approximately one-third of migraine attacks are preceded by aura. The International Classification of Headache Disorders 3rd edition (ICHD-3) defines migraine with aura as recurrent attacks, lasting minutes, of unilateral, fully reversible, visual, sensory or other CNSsymptoms that usually develop gradually and are usually followed by headache and associated migraine symptoms. The most prevalent aura symptoms are visual disturbances; however, other common symptoms include sensory, speech/language, and motor disturbances, as well as disruption of higher cortical function.

C. Postdrome

The postdrome stage is also known as a migraine hangover. It starts when the peak pain of the headache has lessened. Migraine can affect the entire body. During the postdrome stage,the resulting pain or discomfort can occur anywhere in the body. Postdrome can last 24 to 48 hours, but it doesn't affect everyone, and it doesn't have to occur after each headache. People with migraine can experience the stage differently, and not everyone's symptoms will be the same. Symptom of postdrome include, fatigue, bodyaches, mental "fogginess", dehydration depressed moodeuphoric moodtrouble concentrating.

Migraine is a common disabling condition mostly in adult population and is more prevalent in female predominance .Unilateral throbbing type which is from moderate to severe intensity, headache is a common symptom of the migraine though it may be present with varied presentation.

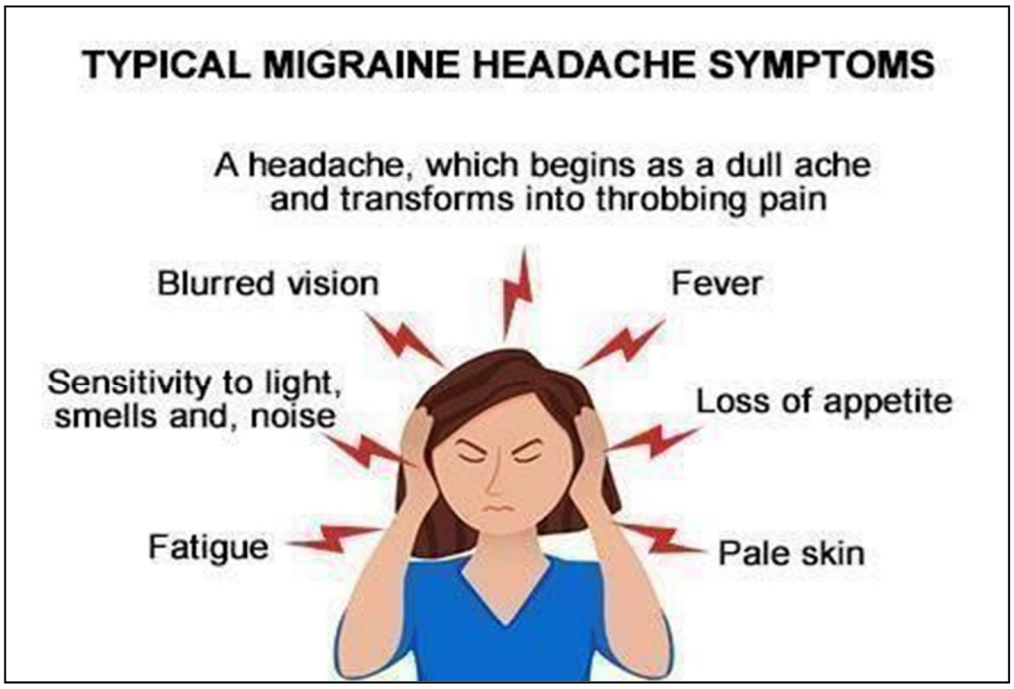


Fig.no.1.2 Migraine symptoms

Headache caused by migraine has at least two of the following four characteristics:

1) Unilateral location
2) Pulsating quality
3) Moderate or severe pain intensity
4) Causing avoidance of routine physical activity (e.g. walking or climbingstairs). Migraine may be accompanied with nausea, vomiting. Migraine constitute 15 % of primary headache and affects 10-20% of general population. Migraine may be triggered from various factors like; dietary, physical, hormonal and genetic factors. The indirect costs exceed the costs of medical care, however, and work-related disability is the most important determinant of the economic impact of migraine. Migraineurs often miss work (absenteeism) or have reduced productivity at work (presenteeism). The use of herbal therapies is ancient and increasing worldwide. There is a growing body of evidence supporting the efficacy of various "complementary" and alternative medicine approaches inthe management of headache disorders. Promising tools to treat migraine patients are herbalproducts.

D. Trigger Factors Of Migraine

The common trigger factors were emotional stress(79%), sleep disturbance (64%) and dietary factors(44%) sleep and stress were significant trigger factor in patients with migraine with aura, whereas environmental factors were important trigger factors in patients with migraine without aura. Stress, sleep and environmental factors were important trigger factors in women and differed significantly from men.



Fig.no1. 3Triggers of Migraine

E. Epidemiology

Migraine is highly prevalent, affecting 12% of the population, attacking up to 17% of women and 6% of men each year. The adjusted prevalence of migraine is highest in North America, followed by South America, Central America, Europe, Asia, and Africa. It is ranked as the second leading cause of disability worldwide. Migraine tends to run in families It is consistently the fourth or fifth most common reason for emergency visits accounting for an annual 3% of all emergency visits. Its prevalence increases in puberty but continues to increaseuntil 35 to 39 years of age, decreasing later in life, especially after menopause.

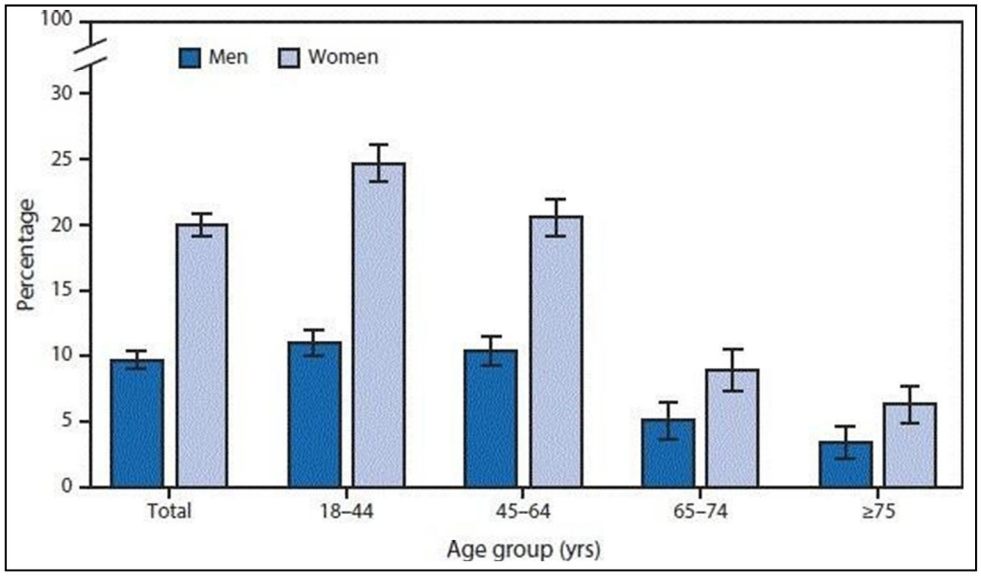


Fig.no.1.4 Epidemiology

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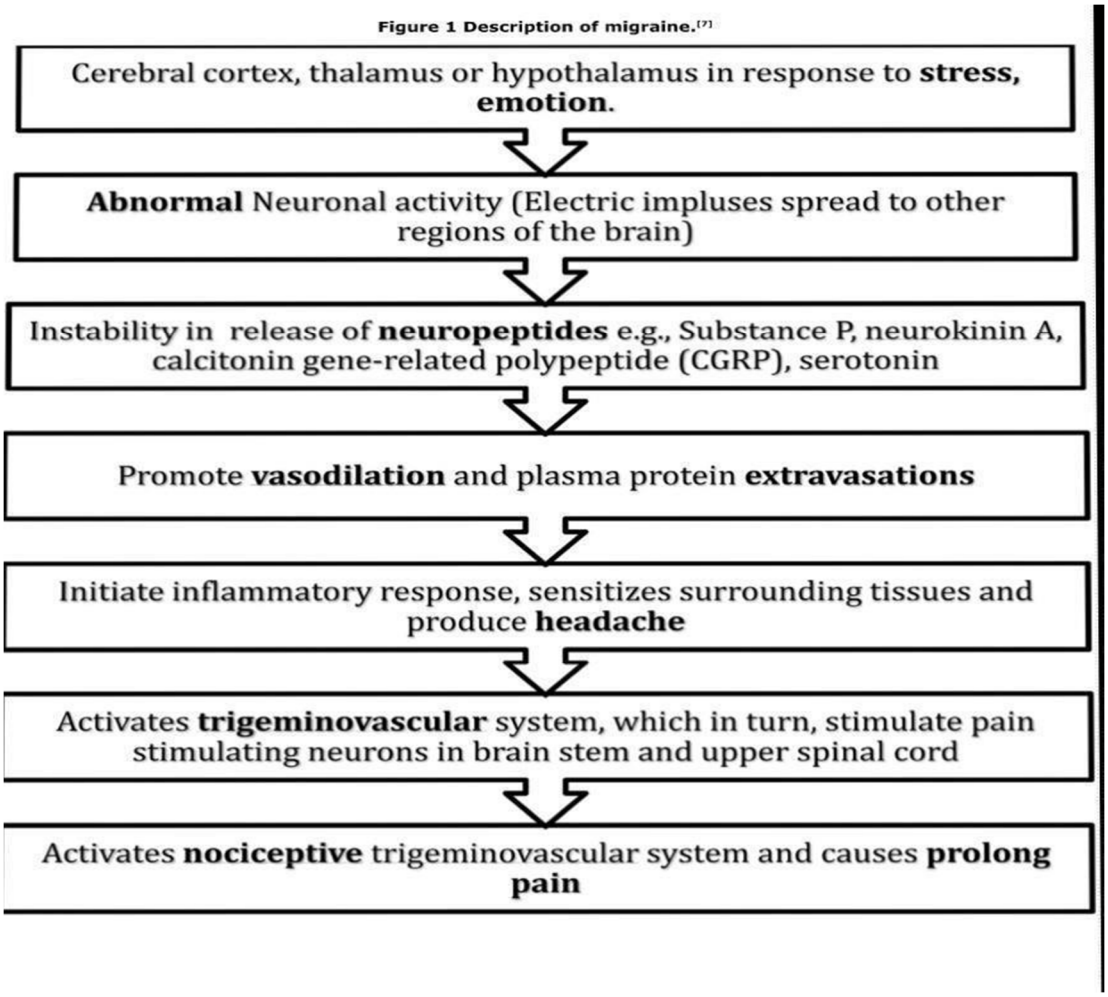


Fig.no.1.5 Migraine description

F. Pathophysiology Of Migraine

There are four phases to a migraine attack: prodrome, aura, headache and postdrome,. The prodrome, caused by hypothalamic activation, is associated with dopaminergic symptoms of yawning, fatigue and polyuria as well as altered food cravings. It can precede the rest of the migraine by hours to days. One-third of patients experience an aura, caused by a spreading wave of cortical depolarisation, which gives the classical phenotypic 'spreading' description. Visual auras (photopsias, flickering lines) are most common, experienced by 65–99% of patients who have migraine with aura.6,7 Sensory, motor and speech aura symptoms may also be seen. The trigger for the headache phase is still debated but involves activation of trigeminal afferents that innervate the dura as well as the trigeminal ganglion. Activation of these structures results in a release of vasoactive peptides including calcitonin gene-related peptide (CGRP), substance P, neurokinin A,and pituitary adenylate cyclase-activating peptide (PACAP), causing local vasodilation. The trigeminal ganglion is a key structure as it exists outside the blood–brain barrier and is rich in CGRP and serotonin receptors, making it a therapeutic target. From here, nociceptive signalling is relay to the trigeminocervical complex and through ascending connections to many other areas of the brain, contributing to the cognitive and autonomic symptoms of migraine. Finally, 60–94% of patients have symptoms following the headache, termed the postdromal phase. These include fatigue, mood disturbance and difficulty concentrating, which are likely continued from the prodromal phase. Patients may attribute these symptoms to side effects of their acute therapies; however, a meta-analysis has confirmed these as features of the disease.

Domestication of plants by man started since the dawn of civilization to meet its basic needs of food, shelter and clothing's. Besides these requirements nature has provided plants for health care, healing and other comforts1.

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With the emerging interest in the world to adopt and study the traditional system and to exploit their potentials based on different health care systems, the evaluation of the rich heritage of the traditional medicine is essential. Now a days, herbal extracts, and herbal powders are used in the preparations to enhance beauty and increase the attractiveness of the person. These herbal preparations are used as sunburn, complexion brighter, hair remover etc. Herbal cosmetics can be classified on the basis of Dosage Form like- cream, powder, soaps, solutions etc Herbal preparations are also found to be useful drugs in treatment of various disorders.

G. Advantages of Herbal Medicine

1) Herbal medicine have long history of use and better patient tolerance as well asacceptance.
2) Medicinal plants have a renewable source, which is our only hope for sustainablesupplies of cheaper medicines for the world growing population.
3) Availability of medicinal plants is not a problem especially in developing countries like India having rich agro-climatic, cultural and ethnic biodiversity.
4) The cultivation and processing of medicinal herbs and herbal products isenvironmental friendly.
5) Prolong and apparently uneventful use of herbal medicines may offer testimony of their safety and efficacy both in crude form and as a pure chemical upon which modern Throughout the world, herbal medicine has provided many of the most potent medicines to the vast arsenal ofdrugs available to modern medical science, medicines arestructured.

Natural Herbal Products are becoming more popular across world. Plants have been found to be useful for treating various ailments in humans and animals, and people tend to use natural produced substances due to their psychological feeling that natural product is safer.

Following crude drugs are used to formulate the herbal capsule for treatmentin migraine.

- ***Emblica officinalis*** Common name – AmlaFamily - Phyllanthaceae

Use - In migraine Amla control internal secretion of chemical andreduces chances of blood pressure which is a major cause of migraine.

- ***Zingiber officinale*** Common name – GingerFamily Zingiberaceae

Use - The chemical compounds in this oil which include gingerols and shogaols have anti-inflammatory and pain-relieving effects and are also effective at treating nausea and vomiting, two symptomsassociated with migraine attacks.

- ***Withania somnifera***

Common name - Indian ginsengFamily – Solanaceae
Use - Ashwagandha may directly reduce migraines by controllingstres.

- ***Glycyrrhiza glabra***

Common name – Liqourice, jethmadhFamily – Fabaceae
Use - It has its effectiveness in stress relieving and memory enhancing.

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II. LITERATURE SURVEY

1) Narendra singh, et al., (2011)

Withania somnifera (Ashawagandha) is very revered herb of the Indian Ayurvedic system of medicine as a Rasayana (tonic). It is used for various kinds of disease processes and specially as a nervine tonic. Considering these facts many scientific studies were carried out and its adaptogenic / anti-stress activities were studied in detail. In experimental models it increases the stamina of rats during swimming endurance test and prevented adrenal gland changes of ascorbic acid and cortisol content produce by swimming stress.

2) Shashikant M Prajapati, et al., (2013)

Glycyrrhiza glabra Linn. commonly known as Licorice/Liquorice, Sweet wood, Mulahatti and Yashtimadhu. The present review study is an attempt to provide reportedinformation on its phyto-constituents and pharmacological activities.

3) Daniela Pietrobon, et al., (2013)
Migraine is a collection of perplexing neurological conditions in which the brain and itsassociated tissues have been implicated as major players during an attack. This review focuses on emerging concepts that drive the science of migraine in both a mechanistic direction and a therapeutic direction.

4) Neeru Bhatt, et al., (2013)
Ginger is a rhizomatous plant and has been used as a spice and medicine in theIndiansubcontinent since ancient times. The herb serves as a stimulant and carminative andis used in dyspepsia and colic. It is known to have blood thinning and cholesterol lowering properties, due to which it is used in treatingheart diseases. The major phenolic compounds and essential oils act as potent antioxidant and exhibit free radical scavenging properties.

5) Sankaran Mirunalini, et al., (2013)
Medicinal plants are natural gift to human lives to promote disease free healthy life. Phyllanthus emblica, commonly known as amla is widely distributed in tropical and subtropical areas and has therapeutic potential against deleterious diseases. Earlier it becomes a notable fruit for its rich amount of vitamin C, polyphenols such as tannins, gallic acid, ellagic acid, flavonoids like quercetin and rutin.

6) D'Andrea, et al., (2014)
A miscellaneous of recreational drugs and other herbal remedies have been supposedto have a role in headache treatment but quality of clinical studies in this field is lowand inconclusive. Further research is warranted in this area.

7) Nisha, et al., (2015)
Migraine is described as Ardhaavabhedhaka in Ayurvedic classics. Migraine isthe second most common cause of headache. In Ayurvedic Classics various procedureshad been explained for treating Migraine. This article presents some conceptual approaches of ayurveda for the treatment of migraine.

8) Bhupendra Shah, et al., (2017)
Migraine is a common disabling condition mostly in adult population and shows female predominance .Unilateral throbbing type moderate to severe intensity headache is a common manifestation of the migraine though it may present with varied presentation. This article reviews the path physiology, diagnosis and evidencebased approach for management of migraine.

9) Purnendu Panda, et al., (2017)
Conventional solid dosage forms include powders, granules, capsules, andtablets. Drugs (which are chemicals) are in general more stable in solid state than in liquid state. For this reason, poorly stable drugs are usually prepared in solid dosage forms.In this chapter, we will examine two solid dosage forms, powders.

10) Jacob Olalekan Arawande, et al., (2018)
The percentage yield of each extract in each of the solvent was calculated and each extract was qualitatively screened for flavonoids, tannin, reducing sugar, volatile oil,resin, chalcone, balsam, amino acid, acid test, phlobatannin, saponins and vitamin C.

11) Aminu Saleh Ahmad, et al., (2020)
This work reviews and comparatively analyzes the herbal and allopathic treatments tocure the problems in health care. It suggests the adoption of the concept of integrative medication and health care that connects mainstream allopathic medical treatment and herbal therapies and select the best, scientifically validated therapies out of the systems.

12) Deborah I. Friedman, et al.,
Migraineurs often describe environmental triggers of their headaches, such asbarometric pressure change, bright sunlight, flickering lights, air quality, and odors.Environmental aspects of indoor space and workplaces are also implicated inmigraine experience. This article addresses commonly mentioned environmental triggers with a discussion of their pathophysiology and proposed preventive measures.

13) Pushpendra Kumar Jain,et al.,(2016)

EO is famous ayurvedic herb (the name means sour in Sanskrit) is likely one of the most useful drug treatments within the Indian pharmacopoeia, and is considered to beone of the most strongest uvenatives (Rasayana), particularly for the blood, bones, liver, and heart. It is an exceptionally rich source of vitamin C containing 30 times the amount found in oranges. It is one of the oldest oriental medicines mentioned in Ayurveda as potential remedy for various ailments. EO (Amla) is widely used in theayurvedic medicines and believed to increase defense or immune power against diseases.

14) Jason C Ray,et al.,(2021)

Migraine is a common neurological disorder, affecting over one billion people worldwide. The World Health Organization Global Burden of Disease study ranked migraine as the second leading cause of disability.1 Every year, 2.5% of patients with episodic migraine progress to chronic migraine, with associated impacts on quality of life and health care use. The key modifiable risk factors are effective preventive medication, avoidance of acute medication overuse, obesity, stress, depression and anxiety

A. Objective

1) To formulate and evaluate such a herbal powder that is useful in treating migraine.
2) It also reduces the frequency of migraine attacks.
3) To formulate an easy to administer product.
4) Helps to tackle nausea and vomiting caused during migraine attacks. • Improve hormonalbalance.

B. Plan of Work

Literature Survey.
Selection of plant material.
Procedure Crude Drugs
Evaluation of plant material.
Evaluation of formed product.
Result and conclusion

C. Drug Profile

1) Emblica officinal

- Kingdom Plantae (Plants)
    - Subkingdom- Tracheobionta
    - Superdivision- Spermatophyt
- Division-Angiospermae
- Class-Dicotyledone
- Subclass- Rosidae Order-Geraniales
    - Family-Euphorbiaceae
    - Genus-Emblica
- Species- Officinali Geartn
- Part used-Seeds

a) Use - In migraine Amla control internal secretion of chemical and reduces chances ofblood pressure which is a major cause of migraine.



2) Zingiber officinale

- Kingdom-Plantae
- Subkimgdom-viridiplantae
- Phylum-Spermatophyta
- Superdivision-Embryophyta
- Division-Tracheophyta
- Class-Monocotyledon
- Order-Zingiberale
- Family-Zingiberacea
- Genus-Ginger
- Species-Zingiber Officinale
- Part used-Rhizome

a) Use: The chemical compounds in this oil which include gingerols and shogaols have anti-inflammatory and pain-relieving effects and are also effective at treating nausea and vomiting, two symptoms associated with migraine attacks.



3) *Withania somnifera*

- Kingdom- Plantae
- Subkingdom-Tracheobionta
- Subphylum-Magnoliophyta
- Class-Magnoliopsida
- Subclass-Asteridae
- Order-Solanales
- Family-Solanacea
- Genus-Withania
- Species-withania Somnifera
- Part use-Root

a) *Use:* Ashwagandha may directly reduce migraines by controlling stress.



Fig.no. 5.3 Ashwagandha

4) *Glycyrrhiza glabra*

- Kingdom-Plantae
- Phylum-Spermatophyta
- Subphylum-Angiospermae
- Common name - Liqourice
- Family – Fabaceae

a) *Use:* It has its effectiveness in stress relieving and memory enhancing.



Fig.no.5.4 Jethmadh

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III. MATERIAL AND METHOD

A. *Material*

Procurement of crude powder of -

- *Emblica officinalis*
- *Zingiber officonale*
- *Withania somnifera*
- *Glycyrrhiza glabra*

B. *Method*

- Sieving
- Mixing
- Wet granulation method
- Manual capsule filling method
- Methodology
- The powders of *Amla, ginger, Ashwagandha* and *yasthimadhu,* are sieved separately toget a uniform size
- 100 gm of each powder are measured and taken.
- The powders 100 gm each are mixed together.
- Add granulating liquid &make a dough.
- Pass from the sieves.
- Drying in the hot air oven
- Again pass through the sieve form porper uniform particle size granules
- The granules are fill in the capsule shell.

Table.no.6.1 Phytochemical screening

Phytochemical Screening

CrudeDrug	Chemical constituentneeded	Tests performed	Present ornot (+/-)
Emblica officinalis	Ascorbic acid	Test for ascorbic acid About 0.5 g of plant extract was added to 2 mL of acetic acid and it was shaken for 3 minutes, and then filtered. Few drops of2, 6-Dichlorophenolinddophenol solution were added to the filtrate. The presence of faint pink colour confirms that ascorbic acid ispresent.	+
Zingiber officinale	Gingerol Shagoal	Test for phenol About 0.5 g of plant extract was added to 1 mL of 10% FeCl3 solution. A deep bluish green colouration was an indication forthe presence of phenol. . In beakers, 5 ml of each previous filtered extracts were taken and 1ml of FeCl3 1% and 1 ml of K3(Fe(CN)6) 1% were added.The appearance of fresh radish blue color indicated the presenceof polyphenols.	+ +

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Withania somnifera	Sitanosides Acylstrylglucosid e	Test for saponins Honeycomb test-0.5 mg of bark extract was taken in a test tubeand few drops of 5% sodium bicarbonate solution was added. The mixture was shaken vigorously and kept for 3 min. Formation of honeycomb like froth shows the presence ofsaponins. Foam test-0.5 mg of extract was diluted with 20 ml distilled water and shaken well in a graduated cylinder for 15 min. Theformation of foam to a length of 1 cm indicated the presence ofsaponins. Glycoside test 0.5 mg of bark extract was dissolved in 1 ml of water and then aqueous NaOH solution was added. Formation of yellow colorindicates the presence of glycosides.	+ + + +
		0.2 g of plant extract and 2.5 mL of dilute sulphuric acid were mixed together and boiled for 15 minutes, cooled and neutralizedwith 5 mL each of Fehling solution A and B. The formation of brick red precipitate confirmed glycoside.	
Glycyrrhiza Glabra	Glycyrrhizin	Glycoside test 0.5 mg of bark extract was dissolved in 1 ml of water and then aqueous NaOH solution was added. Formation of yellow colorindicates the presence of glycosides. 0.2 g of plant extract and 2.5 mL of dilute sulphuric acid were mixed together and boiled for 15 minutes, cooled and neutralized with 5 mL each of Fehling solution A and B. The formation of brick red precipitate confirmed glycoside.	+ +

Table.no.6.1 Phytochemical screening

Observation and Conclusion

Sr.no.	Crude drug	Chemical constituent needed	Inference
1	Embelica officinalis	Ascorbic acid	Present
2	Zingiber officinale	Gingerol Shagoal	PresentPresent
3	Withania somnifera	Sitanosides Acylstrylglucosides	PresentPresent
4	Glycyrrhiza glabra	Glycyrrhizin	Present

Table.no.6.2 Observation Table



Fig.no.6.1 Phytochemical screenin

C. Ascorbic acid Assay

Weigh accurately about 0.1 gm of the sample and dissolve in mixture of 100ml freshly boiled and cooled water and 25 ml of 1M sulfuric acid. Immediately titrate with 0.05 M Iodine, using starch solution as indicator until a persistent blue – violet colour is obtaine

Preparation

- The powders of Emblica officinalis, Zingiber officinale, Withania somniferaand Glycyrrhiza glabra are sieved from # 120 seive separately to get a uniformsize.
- Then each drug is triturated in mortal and pestle for homogeneous powder formation.
- After the homogenous powder formation phytochemical screening test of each powder drug are performed to check the presence of desired chemical constituent.
- Then each drug is weighed, in order to calculate the dose and the powders aremixed together accordingly.
- The formulated powder drug is evaluated
- The formulated the granules form wet granulation methods.
- The formulated granules is then filled in the capsule shell. • After capsule filling, Disintegration test for capsule is carried out.

Sr.no.	Crude Drug	Quantity
1	Amla powder	4.50 mg
2	Ginger powder	12.50 mg
3	Indian ginseng powder	2.50 mg
4	Liquorice powder	2.50 mg

Table no. 7.1 Formulation Table

IV. EVALUATION

A. Evaluation test for Mix Powder

Density :-

Bulk density; Determination of Bulk Density.

1. Take 5gm powder sample.
2. Sieve it to break the agglomerations.
3. Take a dry graduated cylinder and gently introduce the powder.
4. Read the volume of powder without compacting.
5. Calculate the bulk density.

Bulk Density =Bulk weight/Bulk Volume

Value of bulk density is 1.3 ml

Tapped density; Determination of Tapped Density.

1. Take 5mg of powder sample, pour it into graduated cylinder.
2. Place it on the holder on bulk density apparatus.
3. Carry out 500 tapping on the same sample.
4. Measure the Tapped volume v.
5. calculate the tapped density.

Tapped Density=Bulk weight/Tapped volume

Value of tapped density is 1.1ml

- Flow properties

o Percentage(%)

compressibility index is a ratio of

{bulk volume-tapped volume}/Bulk volume

(1.3-1.1)/1.3 = 15.3

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The percentage compressibility was found to be
15.38 which indicate good flow

- Hausners ratio is a ratio of bulkvolume/tapped volume
  1.3/1.1 = 1.18

The Hausners ratio is 1.18 which indicates good flow properties.
The %compressibility index and Hausners ratio are responsible to checkthe flow properties of powder.

B. Evaluation Test for Capsule

1) Disintegration Test

To determine whether the capsules disintegrate & pass through screen ofspecified pore size within the prescribed time when placed in a liquid medium under experimental condition.
Apparatus: Disintegration TestScreen pore size: 2.0±.2 mm

- Movement:29-32 cycles/min
- Tempreature of the medium:37±2 degree C
- Medium: water,0.1 m HCl, artificial gastric juice

Observation :- aproxly 9 min



2) Dissolution Test

- Place 1000ml of water having a temp of 36.5 to 37.5 into the vessel. Place specified number of capsules in basket 7 adjust the speed to 100rpm.
- Withdraw req.volume for every 10min time interval. Filter and determinethe amount of active ingredient.
- The sample passes the test if the amount of active ingredients in thesolution is not less then 70% of the stated amount**.**

Observation: approx 10 min



V. RESULT AND CONCLUSION

The Herbal capsule made up of Amla, Ashwagandha, Yashtimadhu and Ginger powders mixed together is formulated to manage and treat various symptoms associated with migraine.

Phytochemical screening tests and assay were also performed to check the presence of therequired chemical constituents. The tests showed positive result for thepresence of the chemical constituent

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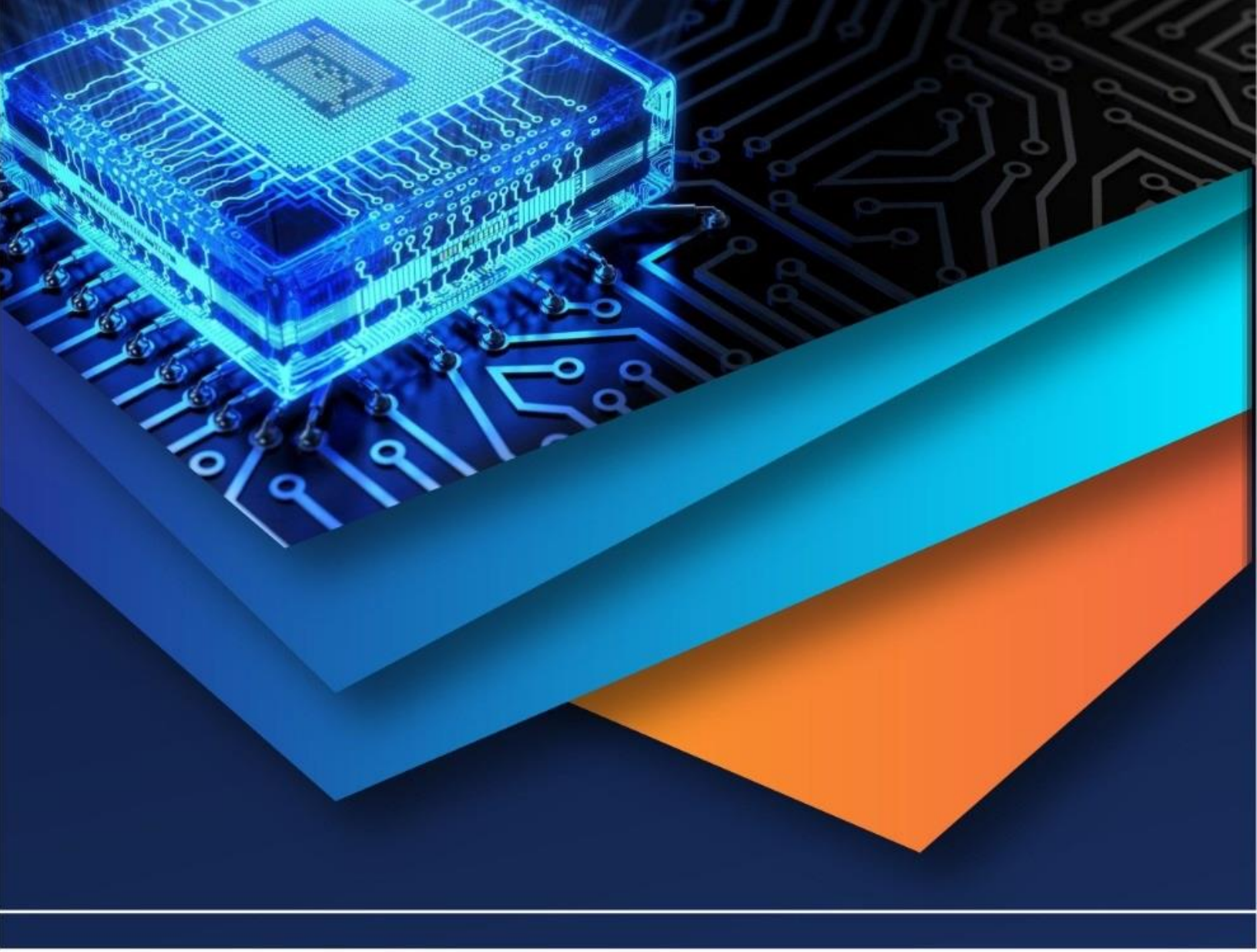
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