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# Awareness and prevalence of migraine, survey based study in Karachi

Safila Naveed\*, Asra Hameed, Neelam Sharif

Faculty of Pharmacy, Jinnah University for Women, Karachi –74600, Pakistan

## Email address

safila117@yahoo.com (S. Naveed)

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## Abstract

A brain disease, migraine is a special type of headache that causes highly intense, throbbing quality pain in half-head or any one side of head. It may be due to several reasons like food intake, sleep disturbance, stress or tension etc. Hormonal disturbance can result in migraine. There is no specific treatment for migraine. Analgesics or Pain killers may prove effective in migraine. To prevent it cautions must be taken. Our study aims to find out its awareness among university students and professionals and also to check its prevalence in them. A cross-sectional n random method was use to collect data in the month of July and August, 2014 in Karachi. According to our survey, 90% university students and professional are well aware of the term “migraine”. 62% aware about the causes of migraine, 74% aware about the signs and symptoms of migraine while 46% well aware about the treatment strategies of migraine. The overall awareness rate of migraine in university students and professionals is about 68%. We also check its prevalence and find that 26% university students and professionals are suffering from migraine. The common causes of migraine in university students and professionals are stress, tension, sleep disturbance and work load.

## 1. Introduction

A migraine is a relatively common medical condition that can severely affect the quality of life of the sufferer and his or her family and friends.<sup>1</sup> Migraine headache is a special kind of headache. It may last about some hours to days. In half head it can cause intense pain.<sup>2</sup> Migraine is most commonly experienced by both men and women between the ages of 25 and 39<sup>3</sup> and there are two different types of migraines: migraines without aura and migraines with aura. A migraine without aura is a condition characterized by moderate to severe throbbing and unilateral pain.<sup>4</sup>

Migraine attacks can cause significantly severe pain for hours leading to days and be very severe patients can think about is finding quiet or dark to lie down.

Some time migraines are preceded by sensory warning symptoms known as (aura), such as blind spots, flashes of light, and tingling in arms or legs.

There are four phases of migraine, although not all the phases are every patient necessarily experienced.

1. The prodrome, which occurs hours or days before the headache
2. The aura, which immediately precedes to the headache
3. The pain phase it is also known as headache phase
4. The postdrome the effects at the end of a migraine attack

Prodromal symptoms occur in about sixty percent 60% of those with migraines, with

an onset of 2 two hours to two days before the start of pain and these symptoms may included a variety of symptoms including changed mood, depression, irritability, fatigue, stiff muscles (especially around the neck), constipation /diarrhea, and higher sensitivity to smells/ noise. This may occur in those with either migraine with or without aura.

An aura is transient neurological process that occurs before or may be during the headache. Auras appear gradually last less than one hour. Symptoms can be sensory ,visual or motor in nature and some people experience more than one. Visual effects occur in up to 99% of cases and in more than 50% of cases are not by sensory / motor effects and vision disturbances consist of partial alteration in the field of vision and may interfere with a person's ability to read or drive).

In pain phase headache is unilateral and moderate to severe in intensity and it usually comes on gradually. In more than >40% of cases the pain may be bilateral and around neck pain is commonly associated. Bilateral pain is usually in those who have migraines without an aura. Sometimes pain may occur primarily in the back or top of the head. The pain usually lasts 4hours to 72 hours and in children frequently lasts less than one 1 hour.

Medications helpful to reduce the severity of migraines as well as frequency. If treatment hasn't worked then trying a different alternate medication. The medicines with self-help remedies and lifestyle changes can be helpful to make a big difference.

### 1.1. Causes

The exact cause of migraine is not fully understood.<sup>5</sup> Migraine is a disease of the brain.<sup>6</sup> Migraines can be triggered by:<sup>7-8</sup>

- Diet (foods such as coffee, tea, cheese, alcoholic beverages or nuts)
- Strong odors like perfumes
- Bright lights
- Loud noises
- Changes in the weather
- Stress
- Sleeping more or less than usual
- Certain medications

The effects of migraine may persist for some days after the headache is called the migraine postdrome. The patient may feel tired in this phase and have head pain, gastrointestinal symptoms, cognitive difficulties, weakness and mood changes. Some people feel euphoric after an attack.

### 1.2. Signs and Symptoms<sup>9</sup>

- Throbbing quality pain on one side of the head
- Intense pain that affect daily activity of an individual suffering from it.
- Nausea or vomiting
- Sensitivity to light and sound
- Attacks lasting 4 to 72 hours, sometimes longer
- Increased pain with exertion (e.g. climbing stairs)

### 1.3. Treatment

Treatment can be acute, preemptive, or preventive.

*Acute* treatment is initiated during an attack to relieve pain and disability and to stop progression of the attack.

*Preemptive* treatment is used when a known headache trigger exists, such as exercise or sexual activity, and for patients experiencing a time-limited exposure to a trigger, such as ascent to a high altitude or menstruation.

*Preventive* treatment is maintained for months or even years to reduce attack frequency, severity, and duration.

Patients taking preventive medication can also use acute and preemptive medication.<sup>10-13</sup>

Non-pharmacological therapies such as relaxation therapy, acupuncture, electrical stimulation, and even hypnosis may also be considered in the treatment of migraine.<sup>14</sup>

Common non-prescription painkillers such as acetaminophen, acetylsalicylic acid and ibuprofen are effective for milder attacks, if taken early.<sup>15</sup> Prescription medications may also be used for the treatment of migraine and include both non-specific and specific therapies. Non-steroidal anti-inflammatory drugs (NSAIDs), and combinations of analgesics are effective for Non-specific migraine therapies.<sup>15-16</sup> specifically developed for the treatment of migraines, the triptans are another treatment option for the relief of migraine pain.<sup>16</sup>

### 1.4. Prevention<sup>2</sup>

- Eat regular, healthy meals. Don't go too long without food. Avoid foods that seem to cause migraine. Like;
  - wine, ale, and beer
  - cheeses
  - aged, canned, cured, and processed meats
  - breads made with yeast
  - Cheesy food, chocolate, or nuts.
- Don't use medicines that trigger headaches, stop using birth control or hormone pills.
- Don't smoke cigarettes.
- Get plenty of sleep every day.
- Lower down the stress by relaxation, resting & fun.
- Avoid driving in migraine.

## 2. Methodology

This is a survey based study on the awareness of migraine among university students and professionals. A cross-sectional and random method was use to collected data from different universities and professional institutes of Karachi city about the knowledge of Migraine in the month of July-August 2014. Data from 100 students and professionals (n=100) were collected and analyzed. A specially designed questionnaire was used for data collection. We also check the prevalence of migraine in the students and professionals. We also collected data about the causes of migraine from the persons suffering from migraine.

**2.1. Data Analysis**

We have analyzed our data statistically and used tables and graphs for analysis of our data obtained.

**3. Result & Discussion**

Migraine is a severe headache in one side of the head. The exact MOA (mechanism of action) of the headaches a number of things may involve. Commonly migraine triggers are: Hormonal changes or disturbances in women. Fluctuations in estrogen level seem to trigger headaches with known migraines. Other than these females with a history of migraines report headaches before or during their menstrual cycle, when they have a major drop in estrogen level. Females have an increased tendency to develop migraines during pregnancy or in menopause.

Hormonal treatment medications, such as hormone replacement therapy, oral contraceptives also may worsen headache/migraines. Foods may also affect for example aged cheeses, processed foods and salty foods may trigger migraines and some time skipping or fasting also can trigger attacks. Some food additives like sweetener aspartame and different preservative (monosodium glutamate) found in many foods and they may trigger migraines. Some drinks like alcohol and highly caffeinated drinks are may trigger migraines.

Other than food and additives stress at home or work can cause migraines.

A change of weather can prompt a headache or migraine. Some physical factors such as intense physical exertion may provoke migraines. Sometimes different medications like contraceptives, vasodilators (nitroglycerin) can increase the chances of migraines.

Missing sleep or getting too much sleep may also increase chances of migraines in some people. Bright lights and sometimes sun glare can induce headache or migraines. Sometimes loud sounds, smells including paint thinner, perfume, smoke and others can also trigger migraines, headache in some people.

Several factors involved to having migraines.

**3.1. Family History**

Up to 90 % ninety percent of people with migraines have a family history of migraine attacks. The chances of migraines increase if one or both parents have migraines, then children have chance of having migraines.

**3.2. Age**

Migraines can begin at at any age most people experience their first migraine during adolescence some times by age around forty 40, most people who have migraines started.

**3.3. Sex**

Women are three times more chances to have headache /migraines. Headaches may affect males more than womens

but at time of puberty and beyond, more womens are affected.

**3.4. Hormonal Changes**

Woman who has migraines may find that headaches begin just before or after onset of menstruation.

We have done a survey based study about migraine in university students as well as in professional in Karachi city. These types of survey conducted by our fellows and these are very useful for health professionals 17-24. 5 questions were asked in our survey from 100 university students and professionals. There was a 6th question too in our survey about the reason of individual’s migraine if he or she suffering from migraine.

*Table 1. Awareness about migraine*

Questions and options	Yes	No
Do you know about migraine?	90	10
Do you know about the causes of migraine?	62	38
Do you know about the signs and symptoms of migraine?	74	26
Do you know about the treatment of migraine?	46	54
Are you suffering from migraine?	26	74

The first question was about the basic knowledge of migraine asked from 100 university students and professionals. 90% university students and professionals were well aware of the term migraine, whereas there were 10% university students and professionals too who even heard this term “migraine” first time in their lives.

The second question was about the awareness of the causes or reason of migraine, asked from 100 university students and professionals. 62% university students and professionals were well aware about the causes or reasons of the migraine while 38% university students and professionals have no idea about the causes or reasons of migraine.

The third question was about the awareness of the signs and symptoms of migraine, asked from 100 university students and professionals. 74% university students and professionals were well aware about the signs and symptoms of the migraine while 26% university students and professionals have no idea about the signs and symptoms of migraine.

The fourth question was about the awareness of the treatment of migraine, asked from 100 university students and professionals. 46% university students and professionals were well aware about the treatment of the migraine while 54% university students and professionals have no idea about the treatment of migraine.

The fifth question was about the prevalence of migraine, asked from 100 university students and professionals. 26% university students and professionals were there who are suffering from this painful disease. Then a 6<sup>th</sup> and the last question of our survey were asked from these 26% sufferers. This question was about the cause or reason of their migraine. The reasons of their migraines were stress, tension, sleep disturbance, work load, noise, food and pregnancy. In these all reasons, the hormonal disturbance occurs, which is proved as a root cause of the special type of headache “migraine”.

Table 2. Causes of migraine

Causes of migraine	Percentage in people according to our survey.
Stress	35%
Tension	27%
Sleep disturbance	19%
Work load	8%
Other reasons or causes like noise, food and pregnancy	11%

#### 4. Conclusion

After our survey we are reached to the result that the overall awareness of migraine is 68% in university students and professionals. We also concluded that 26% people are suffering from this disease and the most common causes of migraine in university students and professional is stress and tension.

Using preventive medications and by lifestyle changes reduce the number and severity of migraines and also these suggestions may be helpful:

If different foods or odors that seem to have triggered migraines avoid them.

It is also recommended that reduce caffeine and alcohol intake and also avoid use of tobacco.

In general, establish daily routine with proper sleep try to control stress. Regular exercise may reduce tension and can help to prevent headache / migraines.

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