

# Impact of Yoga, Pranayama and Meditation on Symptoms of Hormonal Imbalances in Women: A Correlational Study

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**Abstract:** *Hormones play a vital role in the health of a woman and an imbalance in these hormones can cause several pathological conditions which can deprive her of her quality of life. Irregular menstrual cycle, improper diet, stress, unhealthy lifestyles and use of drugs have been identified as some of the major causes for hormonal imbalances in women. These imbalances are symptomatic in majority of the female, most common symptoms being mood swings, fatigue and headache. This study aims to find out the effect of practices like yoga and meditation on symptoms of hormonal imbalance in females aged between 20-60 years. A correlational and interview method was used to collect data from females of this age group practicing yoga, pranayama and meditation in Muscat, Oman. A specially designed questionnaire was used for data collection and a total of 50 females who have been practicing yoga, pranayama and meditation have participated in the study.*

**Keywords:** Effects of yoga, Effects of pranayama, Effects of meditation, Hormonal Imbalance in Women, Managing Stress, Homeostasis, Holistic wellbeing.

## 1. Introduction

Hormones are chemicals that coordinate different functions in our body by carrying messages through our blood to our organs, skin, muscles and other tissues. These signals tell our body what to do and when to do it. Hormones are essential for life and our health.

Scientists have identified over 50 hormones in the human body so far.

Hormones and most of the tissues (mainly glands) that create and release them make up our endocrine system. Hormones control many different bodily processes, including: Metabolism, Homeostasis (constant internal balance), Growth and development, Sexual function, Reproduction, Sleep-wake cycle and Mood. Hence when there is imbalance in these hormones, it affects various functions of our body and mind.

Throughout the life of a women, they undergo various natural hormonal changes, right from Puberty, Pregnancy & Postpartum then through Perimenopause & Menopause etc. These hormonal changes can have a profound impact on the well being of a women. Improper diet, stress, depressive lifestyle and use of drugs can be some other causes affecting the hormones.

Though timely diagnoses and treatment are recommended for corrections. Lifestyle changes and balanced diet play a major role for an overall well-being. Lifestyle changes, particularly practicing yoga, meditation and pranayama (deep breathing techniques) are believed to have a profound impact on controlling the effects caused by these hormonal imbalances.

During my study, I have interviewed around 50 women, who have been practicing yoga and meditation and have recorded the impact of these practices on the possible symptoms of hormonal imbalances during different stages in their life.

## 2. Objective

My study involves analyzing the impact of Yoga, Pranayama and Meditation on symptoms of hormonal Imbalances, particularly in Women (Age 20 – 60 yrs).

## 3. Hypothesis

H1: Yoga, Pranayama, and Meditation have a significant impact on the symptoms caused by hormonal imbalances and managing stress.

H0: Yoga, Pranayama, and meditation do not have a significant impact on the symptoms caused by hormonal imbalances and managing stress.

Understanding Yoga, Pranayama, Meditation and Hormonal Imbalance.

### Yoga:

The word Yoga is taken from the Sanskrit word ‘YUJ’, which means to “unite”. In ancient Sanskrit, yoga is described as the union of the individual self (Jiva) with the universal self (Brahman) or in simple words union of the mind, body and the spirit.

Yoga is a group of physical, mental, and spiritual practices or disciplines that originated with its own philosophy in ancient India, aimed at controlling body and mind to attain various salvation goals, as practiced in the Hindu, Jain, and Buddhist traditions..... Wikipedia

Patanjali in his book “Yoga Sutras of Patanjali, “mentions yoga as “Yogas Chitta Vritti Nirodha”, which means yoga is an act of stilling the fluctuations of the mind that can help in experiencing ultimate reality and direct one to move towards self-realization.

**Pranayama:**

Pranayama is the yogic practice of controlling the breath, derived from the Sanskrit prana (life force or breath) and ayama (control or expansion). It involves deep breathing techniques such as inhalation, exhalation, and retention to calm the mind, increase oxygen levels, and improve mental, physical, and emotional health.

Breathing techniques affect the autonomic nervous system and help regulate cortisol, the body's primary stress hormone.

**Meditation:**

Meditation is a state of complete relaxation, freed from the remembrance of the past, the plans for the future. Meditation is the way to take deep rest and be alert & conscious at the same time! It is the skill to calm the mind and get in touch with your inner joy.

Meditation is not just sitting and thinking about something, it is not just a dry feeling of emptiness. Meditation is a lively fountain of Love, of compassion, of Joy, which are all within us, inside us.

A mind without agitation... is meditation.

A mind in the present moment... is meditation.

A mind, which becomes "no mind" ... is meditation.

A mind that has no hesitation, no anticipation... is meditation.

A mind that has come back home, to the source... is meditation.....

"Gurudev Sri Sri Ravi Shankar", The Art of Living

Meditation is a practice in which an individual uses a technique to train attention and awareness and detach from reflexive, "discursive thinking", achieving a mentally clear and emotionally calm and stable state, while not judging the meditation process itself..... Wikipedia

**Hormonal Imbalance:**

A hormonal imbalance happens when you have too much or too little of one or more hormones. It's a broad term that can represent many different hormone-related conditions.

Hormones are powerful signals: For many hormones, having even slightly too much or too little of them can cause major changes to your body and lead to certain conditions that require treatment.

Some hormonal imbalances can be temporary while others are chronic (long-term). In addition, some hormonal imbalances require treatment so you can stay physically healthy, while others may not impact your health but can negatively affect your quality of life.

Impact of Hormonal Imbalance on Women's Health

**Mental Health**

Because hormones can affect mood and energy levels, a hormonal imbalance can significantly impact mental health. Low estrogen levels, for example, may cause problems such as depression, anxiety, and irritability. High progesterone levels can also lead to increased anxiety and decreased libido.

**Physical Health**

Hormonal imbalances can also cause various physical health issues like reduced muscle strength, fatigue etc.

**Osteoporosis**

Low estrogen levels can lead to weaker bones, increasing the risk of osteoporosis. Women should aim to get enough calcium in their diet and engage in weight-bearing exercises to prevent bone loss.

**Heart Disease**

High testosterone levels can increase the risk of heart disease. Women should maintain healthy cholesterol and blood pressure levels and exercise regularly.

**Breast Cancer**

The risk of breast cancer may also be increased with high levels of certain hormones, such as testosterone and estrogen. This is why getting regular screenings and checking for any lumps or other changes is important.

**Fertility problems**

One of the most common effects of hormonal imbalance in women is fertility problems. If you have difficulty conceiving, it may be due to an imbalance in your hormones. Because the hormones responsible for ovulation are affected by an imbalance, you may not be releasing eggs regularly. This can make it difficult to become pregnant. As mentioned, a hormonal imbalance may disrupt ovulation and prevent conception.

**Weight Gain**

Weight gain is another common effect of hormonal imbalance. If you carry around extra weight, it may be due to an imbalance in your hormones.

**Dental Problems**

Hormonal imbalance can also cause a variety of dental problems. For example, you may experience gum disease or tooth decay if your hormones are out of balance. This is because hormonal imbalance can affect the body's ability to fight off bacteria.

**Acne**

Your hormones play a significant role in the health of your skin. When they are out of balance, it can lead to various skin problems, including acne. Acne is caused by an overproduction of oil in the skin. This can clog pores and lead to breakouts.

**Depression**

One of the most common effects of hormonal imbalance is depression. This is because hormones play a significant role in regulating our mood. When they are out of balance, it can lead to feelings of sadness, anxiety, and irritability. This can make it hard to concentrate, sleep, and enjoy activities you used to enjoy.

Others impacts include Thyroid Disorders, Adrenal Disorders, Insulin Resistance and Polycystic Ovary Syndrome (PCOS). The major being Chronic stress as it can disrupt hormone levels and contribute to a range of health issues, including adrenal fatigue.

**Procedure:**

A specially designed questionnaire was used to assess the extent to which these women (aged 20-60 years) experienced various symptoms, such as fatigue, sleep disturbances, headache, mood swings, lack of focus and concentration, and elevated blood pressure, which are commonly associated with hormonal changes. Their responses have been recorded and analyzed to test the hypothesis.

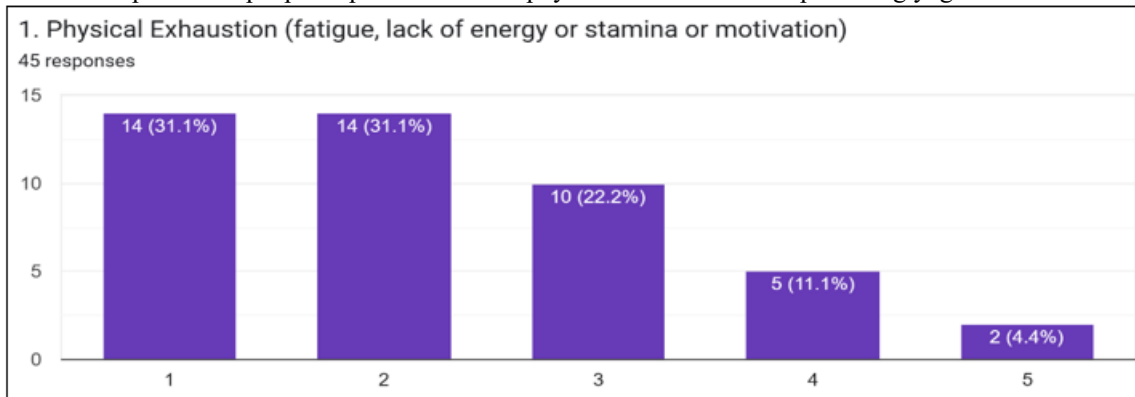
Questionnaire : <https://forms.gle/LyRCdJ5AM8xgqN7AA>

Results interpreted as follows:

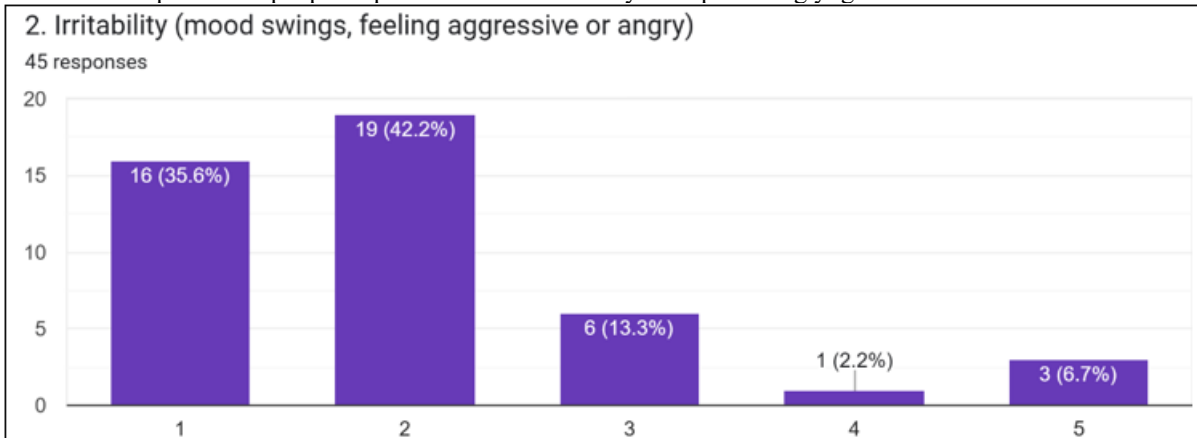
Below is a graphical representation of responses from the participants. Out of 50 people approached, 45 people have given their valuable feedback on their experience of Yoga, Pranayama, and meditation.

In a 5 Point Likert scale, where 1 is low and 5 high.

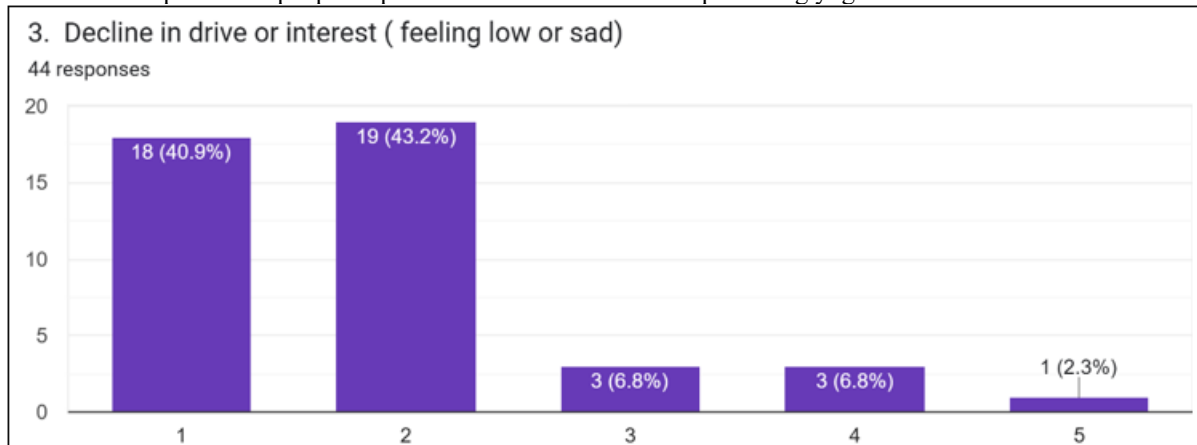
1)  $31.1 + 31.1 = 62.2$  percent of people experienced lower physical exhaustion after practicing yoga and meditation.



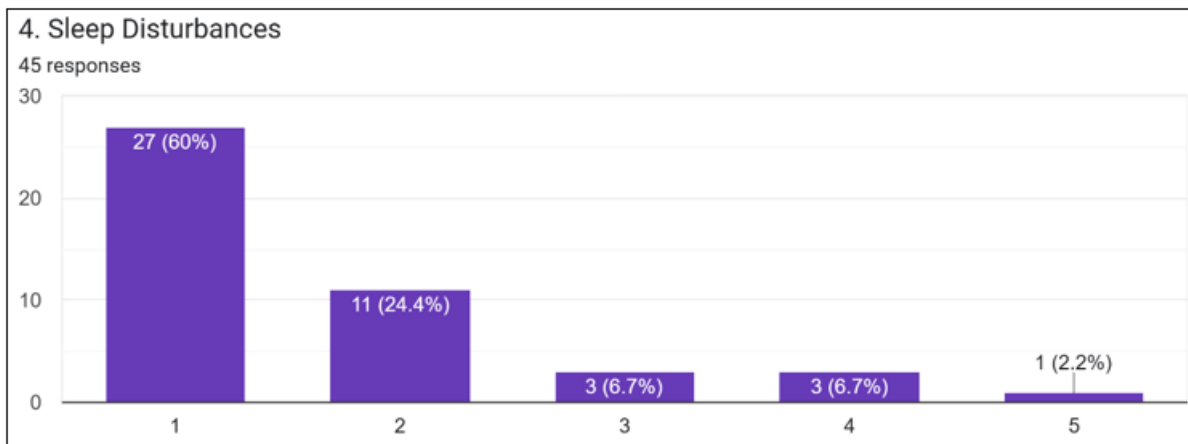
2)  $35.6 + 42.2 = 77.8$  percent of people experienced low irritability after practicing yoga and meditation.



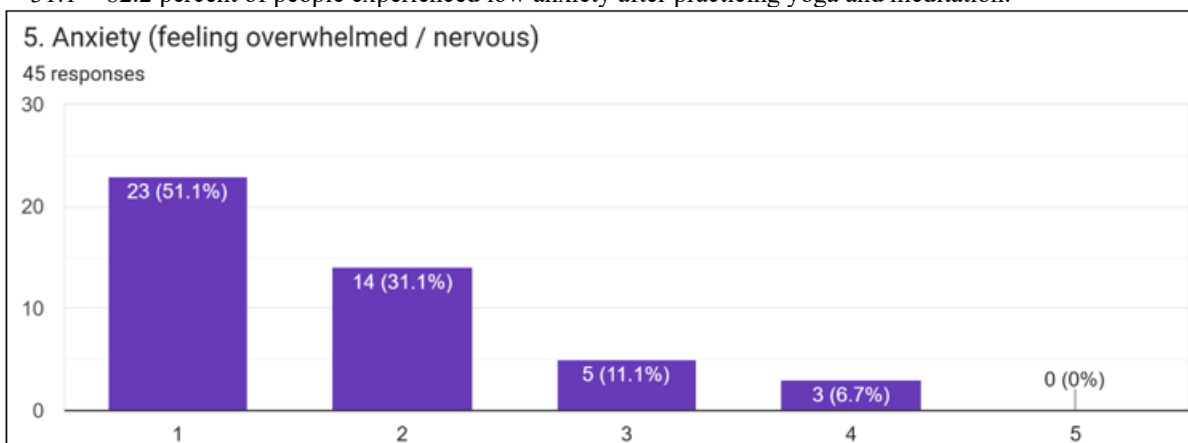
3)  $40.9 + 43.2 = 84.1$  percent of people experienced lower sadness after practicing yoga and meditation.



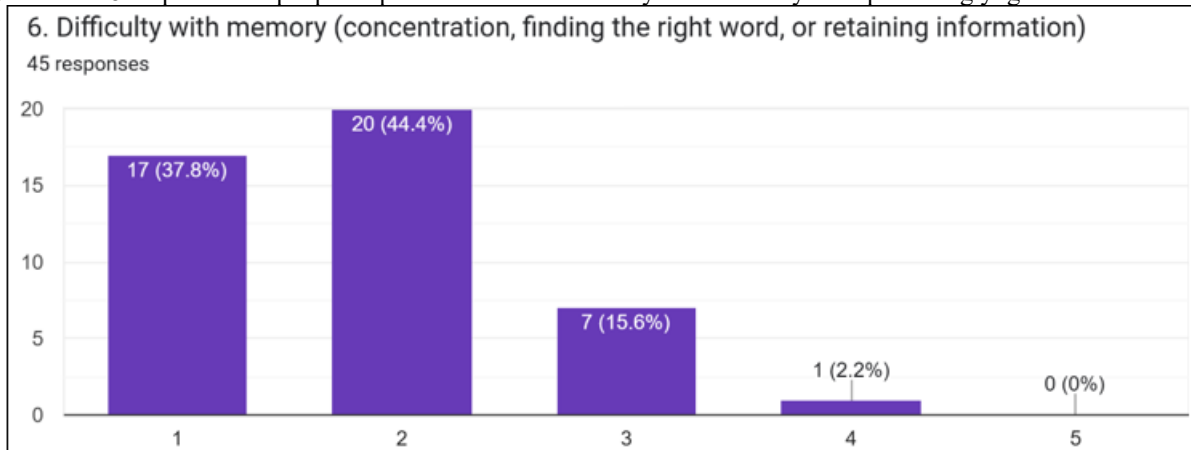
4)  $60 + 24.4 = 84.4$  percent of people have experienced lower sleep disturbances after practicing yoga and meditation.



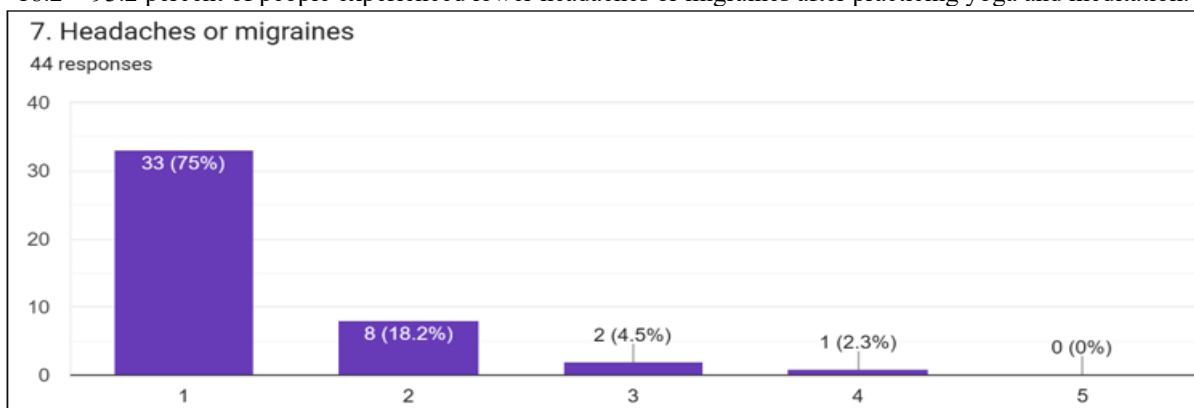
5)  $51.1 + 31.1 = 82.2$  percent of people experienced low anxiety after practicing yoga and meditation.



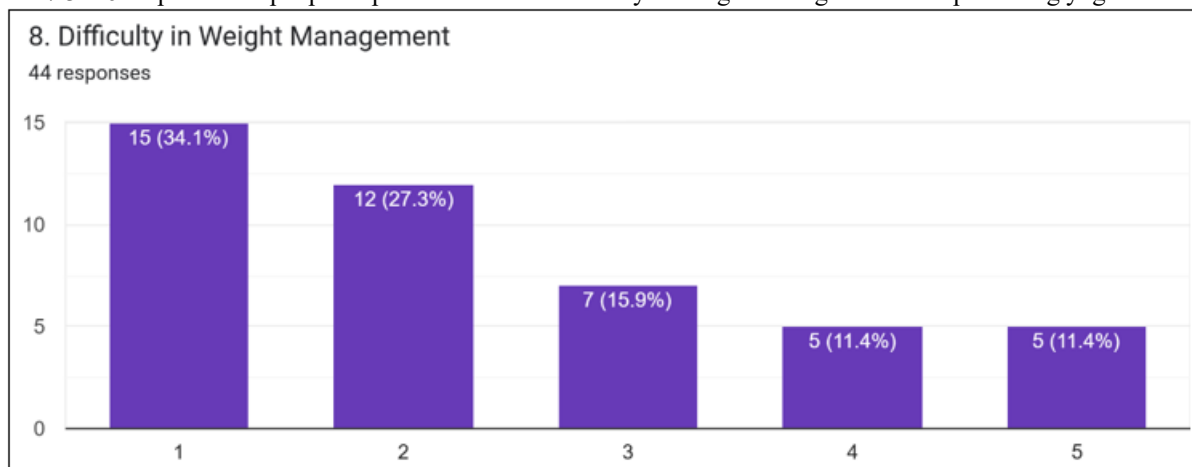
6)  $37.8 + 44.4 = 82.2$  percent of people experienced lower difficulty with memory after practicing yoga and meditation.



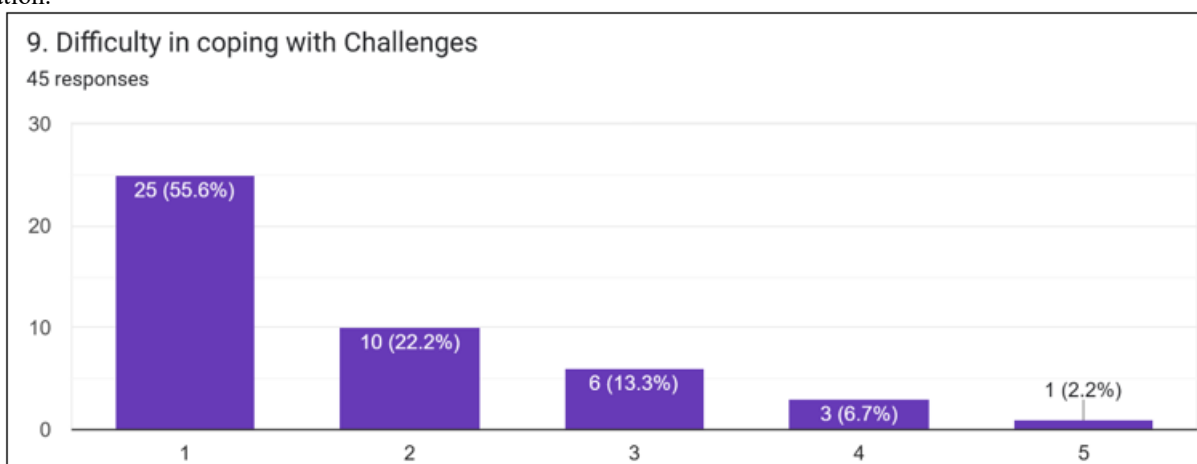
7)  $75 + 18.2 = 93.2$  percent of people experienced lower headaches or migraines after practicing yoga and meditation.



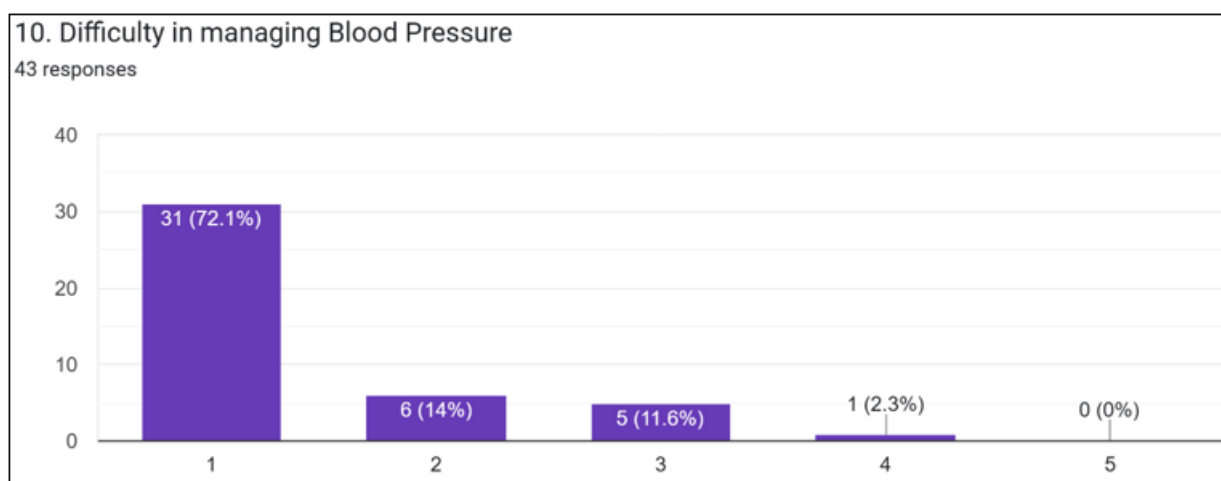
8)  $34.1 + 27.3 = 61.4$  percent of people experienced lower difficulty in weight management after practicing yoga and meditation



9)  $55.6 + 22.2 = 77.8$  percent of people experienced lower difficulty in coping with challenges after practicing yoga and meditation.



10)  $72.1 + 14 = 86.1$  percent of people experienced lower difficulty in managing blood pressure after practicing yoga and meditation.



#### 4. Discussion

From the above results it can be observed that 62.2 percent of people experienced lower physical exhaustion, 77.8 percent of people experienced low irritability, 85.4 percent of people experienced lower sadness, 84.4 percent of people have experienced lower sleep disturbances, 82.2 percent of people experienced low anxiety, 82.2 percent of people experienced

lower difficulty with memory, 93.2 percent of people experienced lower headaches or migraines, 61.4 percent of people experienced lower difficulty in weight management, 77.8 percent of people experienced lower difficulty in coping with challenges and 86.1 percent of people experienced lower difficulty in managing blood pressure after practicing yoga , pranayama and meditation.

The above graphical representation gives us a clear picture that women (20 - 60 yrs) experienced significant changes in the major symptoms of hormonal imbalance, mainly with respect to fatigue, headache, lower mood, irritability, sleep disturbances etc after they started practicing Yoga, pranayama and meditation.

Hence, we may reject the Null Hypothesis which states as follows

H0: Yoga, Pranayama and meditation do not have a significant impact on the symptoms caused by hormonal imbalances and managing stress.

## 5. Conclusion

From the above correlational study conducted on the impact of yoga, pranayama and meditation on the symptoms of hormonal imbalance in women (20-60 yrs), we can conclude that there is a significant difference on the symptoms after practicing yoga and meditation.

## 6. Summary

Hormones play a vital role in daily functioning and stress management in a woman's life. Though supplements and other treatments can be undertaken after diagnosis, lifestyle changes like yoga, pranayama and meditation can help in keeping the symptoms like fatigue, migraine, anxiety and stress, sleep disorders and mood swings etc usually associated with hormonal imbalance, away. Early practice can contribute to holistic well-being in women.

Further indepth experimental studies with respect to the structural and function part of the brain as well as vitamin and minerals deficiencies responsible for such symptoms can be explored by future researchers.

Additional benefits experienced by the participants as mentioned by them

“Yoga helped in the holistic physical fitness, increased muscle strength, flexibility and even endurance in other workouts.”

“I am feeling very active throughout the day, my balance improved, I am able to hold breath for long time”

“With practice of Yoga and Meditation, I feel that I have more time to do things”

“Inner calmness”

“Appreciate small happiness in life”

“Overall increases quality of life”

“Calmer and less reactive to outside influences”.

“Getting right thoughts and the correct time”

“Yoga and meditation together create a powerful path to inner peace, balance, and overall well-being.”

“Yoga and Meditation are wholesome tools to manage one's physical, mental, emotional and social wellbeing”

“Mind becomes positive”

“Flexibility in movement, willingness to adapt better to new situations, better focus, and being in the present moment more and more.”

“Inner strength”

“There is behavioral changes also, like positive thinking, remaining happy and calm.”

“Mind is much calmer and stable after meditation.”

“I feel very light.”

“Attention span increases and keeps the mind calm.”

“It helps in reducing anxiety and being peaceful.”

“Yoga & Meditation keep us centered, and we sail through with greater equanimity.”

“Increased self-awareness and calm”

“Thyroid reduced”

“Yoga gives activity to the body.”

“My periods have become regular, which were a little irregular before, and also the period pain has completely reduced, which used to be a lot before.”

“Fantastic flexibility”

“Overall well-being”

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