**EXPLORING THE THERAPEUTIC POTENTIAL OF YOGA IN MANAGING BINGE EATING DISORDER: A – A PILOT STUDY**

Pre-Synopsis

Submitted Towards Partial Fulfillment of

**Doctor of Medicine (MD) in Yoga**

By

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**I N D I A**

**STANDARD INTERNATIONALTRANSLITERATION CODE USED TO TRANSLITARATE SANSKRIT WORDS**

**Abstract**

Chapter 6 shows the data collection and data analysis method. The data has been collected among 17 participants who are suffering from Binge eating disorder. With the help of JASP software the analysis of collected data has been done focusing on the factors of depression, stress, anxiety etc.

Chapter 7, the analysis has been done based on the structuration of the different elements of the JASP software that has been utilised from the betterment of the outcome generation. THe initiation of the different formulations of the suitability of the participant of the 17 has been accommodated in a strategic manner in terms of the creation of the effective changes in the lifestyle of the participants and its impact. The Chapter 8, discussion has included the overall formation of the study argumentation has been undertaken absd on the effective measurement of the ideas generated from the analysis. The overall justification a dn summation of the analytical overview of the research conduction has been done effectively through the evaluation of the results in a successive manner.

Chapter 9: This study investigates the effectiveness of yoga practice to reduce binge eating caused by mental and physical disorders. This study has explored the symptoms, causes, and impact of yoga programs on the psychological and physical health of individuals. In this research, JASP software was used for data analysis to determine the accuracy of the report. Utilisation of several graphs has been done to demonstrate the impact of yoga practice to calm binge eating patients.

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# YOGA FOR BINGE EATING DISORDER – A PILOT STUDY

# 1 INTRODUCTION

Eating disorders (EDs) are described as abnormal eating patterns characterized by an imbalance in energy from an inadequate or excessive food intake. EDs are highly comorbid and can have detrimental effects on one's health **(Novelle, 2018)**.

Discreet episodes of fast and excessive food consumption, not always motivated by hunger or metabolic requirement, are what define binge eating **(Giel et al., 2023).** When someone is binge eating, they may or may not make up for the excess food they have eaten by eating until they are uncomfortable full. Overweight and obesity are frequently the result of binge eating, which is frequently accompanied by emotions of helplessness and psychological discomfort **(Bulik&Ph, 2010)**.

BED is the most prevalent eating disorder (between 2–5% of the adult population) and more common in women than men **(Marie et al., 2019).** BED is characterized by compulsive episodes of disproportionate consumption of highly palatable foods together with a strong sense of loss of control**(Giel et al., 2023).** Binge-eating episodes are often accompanied by feelings of anxiety, shame, disgust and guilt, high risk of suicide, but they are not followed by compensatory purging behaviours**(Bulik&Ph, 2010)** .Although BED is often associated with obesity many BED patients have normal body weights **(Novelle, 2018)**. Comorbidities between obesity and eating disorders include psychological and physical aftereffects that are detrimental to long-term mental and physical health as well as quality of life. Furthermore, there may be similarities between the etiology of obesity and ED, including genetic predisposition and behavioral, cognitive, and environmental risk factors (Roberts & Chaves, 2023) .

# 2. YOGA

Yoga consists of breathing exercises, nervous system-calming physical postures, and meditation, which frequently incorporates self-compassion. According to research, yoga has beneficial benefits on a wide range of psychological, biological, and social aspects that are frequently linked to the emergence of eating disorders **(Brien et al., 2023).** Yoga offers practitioners a unique comprehensive mind-body experience through the combination of physical postures, rhythmic breathing, and meditation exercises **(Gothe et al., 2019).** Epidemiological research has demonstrated that people who frequently practice yoga are less likely to acquire eating disorders. Physical practice, which addresses body schema in a calming and empowering way, may be beneficial for patients with distorted body image. A mindfulness-based intervention can help adults who are overweight and experience moderate levels of stress feel less stressed, and it may also help them distribute less fat around their abdomens (**Radin et al., 2023)**. It's comforting to combine yoga treatment with BMI maintenance. Impact of exercise on lowering anxiety, depressive, and food-related symptoms while also aiding in weight loss. When someone has an eating disorder, anxiety and depression are frequently co-occurring symptoms.There is some preliminary evidence that yoga can help with general ED symptoms, despair, and anxiety **(Marshall, 2011).**

## 1.1 NEED OF THE STUDY

People with eating disorders are dealing with lot of things at various levels -physical , emotional and mental. We need to know how and why some individuals are vulnerable to eating disorders and how to help them recover. Dedication and willingness to work towards improvement of symptoms and causes is an important factor where Yoga may help. Available evidence suggests the positive

impact of the of yoga on the patients with eating disorders.

# 2 REVIEW OF ANCIENT LITERATURE

## 2.1 YOGA

Patanjali yoga sutra speaks about pain in the form of klesha. The Sanskrit meaning of the word klesha is a pain, affliction or misery. The philosophy of klesas is the foundation of the system of yoga outlined by Patanjali. The philosophy of klesas is thus an analysis of the underlying and fundamental causes of human misery and suffering and the way in which this cause can be

4

removed effectively.

Aiv\*aiSmtaragÖe;iÉinveza>pÂ¬eza>. 2-3.

avidyäismitärägadveñabhiniveçäùpancakleçäù|| 2-3||

Ignorance, I-feeling, liking, disliking and fear of death are the pains.How these klesas can be destroyed, is discussed in sutra 10 and 11 of sadhanapada.

teàitàsvheya>sUúma> 2-10.

tepratiprasavaheyäùsukñmäù|| 2-10||

Those klesas are reduced by involution when they are subtle. The phase pratiprasavamean involution or re-absorption of effect into the cause or reversing the process of prasava or evolution.

yaegiíÄv&iÄinraex>. 1,2.

yogaçcittavåittinirodhaù || 1|2 ||

Yoga is restraining the mind stuff (citta) from taking various forms.

| **SR**  **NO.** | **REFERENCE** | **SAMPLE**  **SIZE** | **INTERVENTION** | **OUTCOME MEASURES** | **Results** |
| --- | --- | --- | --- | --- | --- |
| 1. | (Mathisen&Rosenvinge, 2020) | N=76  Age =18–  40 years of  age | Two Group – physical exercise and dietary  therapy (PED‐t) and  cognitive behavioral  therapy (CBT);  16‐weeks treatments  consisted of 20 group sessions, each of 90–  120 min duration with 5– 8 participants in each group. | eating disorder examination questionnaire (EDE‐Q), Clinical Impairment Assessment (CIA), Satisfaction with Life Scale (SWLS), Beck Depression  Inventory (BDI), numbers in remission at post treatment, 6th, 12th and 24th month follow up | Both treatments shared a focus on normalizing eating patterns, correcting basic self‐regulatory processes and reducing idealized aesthetic evaluations of self‐ worth. |
| 2. | (Martinez  avila et al.,  2020) | N = 139  young  participants | Three groups – control group, exercise moderate intensity , exercise  vigorous intensity.  6 month long exercise intervention. | Eating behaviour traits were examined via the self  reported questionnaires: Binge Eating, Three-Factor Eating Questionnaire-R18 and Control of Eating  Questionnaire. | The lack of exercise-induced effects on binge and uncontrolled eating suggests that PA did not influence these psychological markers, maybe due to their lasting nature. |
| 3. | (Galasso et al., 2020) | N = 20  women | Ten women (50%) carried out a dietary and CBT program alone.  10 (50%) carried out a dietary and CBT program in combination with the CAAET . | Anthropometric values,  eating disorder symptoms & exercise capacity were  assessed at baseline (PRE) and after 6 months of  intervention (POST) in both the CTRL and CAAET groups | major improvements in anthropometric measures, eating disorder symptoms, and exercise capacity,  greater improvement in aerobic performance was observed in the CAAET group compared to women in the CTRL group. |
| 4. | (Vancampfort et al., 2013) | N = 211  females | physical therapy  interventions could  comprise aerobic | 5-point Jadad scale [24] to assess the completeness and quality of reporting of RCT. | Patients who follow an aerobic exercise programme report less binges per week. |

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| **SR**  **NO.** | **REFERENCE** | **SAMPLE**  **SIZE** | **INTERVENTION** | **OUTCOME MEASURES** | **Results** |
| --- | --- | --- | --- | --- | --- |

|  |  | Age- 25 to 63 years | exercises, resistance  training, relaxation  training, yoga, massage or a combination of these. |  | Combining CBT with aerobic exercise results in less depressive symptoms than CBT alone.  A 24-week walking programme and a 12-week yoga programme led to significant BMI reduction. |
| --- | --- | --- | --- | --- | --- |
| 5. | (Sampaio et  al., 2021) | N = 55  women | 27 for the Meditation Group, and 28 for the Control Group. | Reduction in stress and changes in eating  behavior were assessed at baseline, and in the 8th, and 16th week using  thePerceived Stress Scale, the Dutch Eating Behavior Questionnaire, and Binge Eating Scale. | The addition of Healing Meditation to the standard weight-loss treatment may significantly reduce stress and produce positive changes in the eating behavior of overweight and obese women. |

# 3 AIMS AND OBJECTIVES

## 3.1 AIM OF THE STUDY

1. To examine the efficacy of yoga program aimed at reducing binge eating severity and reducing the effects of inappropriate eating habits.

2. To evaluate symptoms, causes , and effect of yoga practice on Stress, Eating patterns, lifestyle, psychological and physiological parameters in people suffering from binge eating disorder.

## 3.2 OBJECTIVE OF STUDY

1. To Assess

∙ Symptom score

∙ The extent of impairment across multiple domains of functioning in individuals with BED

∙ The degree of perceived stress experienced by individuals..

∙ The severity of symptoms related to depression, anxiety, and stress.

∙ Quality of sleep.

Of individuals with binge eating disorder.

2. To evaluate adherence to Yoga

3. To evaluate effect of yoga practice in people with binge eating disorder on- ∙ Comorbidity, no of episodes of binge eating

∙ Stress ,obesity ,eating patters

∙ Psychological parameters (depression, mood, communication, anxiety )

## 3.3 JUSTIFICATION OF STUDY

The increasing use of technology and devices in today's world is causing disruptions to eating habits and lives. In the modern era, elevated levels of stress and anxiety are linked to numerous disruptions in eating habits, which can lead to a variety of eating disorders. The causes and symptoms of these illnesses can be greatly alleviated and completely solved with yoga.

## 4.4 HYPOTHESIS

1. The Yoga and meditation protocol in Binge eating disorder may improve their overall health and lifestyle.

## 4.5 NULL HYPOTHESIS

1. The Yoga and meditation protocol in Binge eating disorder may not improve there overall health.

# 5 METHODS

## 5.5 PARTICIPANTS

The participant having binge eating disorder diagnosed with DSM 4 AND DSM 5- Both male and female.

Age between 18 to 45years.

## 5.5.1 SAMPLE SIZE

The sample size was calculated based on an earlier study on yoga and binge eating. The Binge Eating Scale was kept as the primary outcome variable and the Cohen’s D of 1.7 was found. The Power was kept at 0.95 and alpha was set at 0.05. The calculated sample size was found to be 11 in each group.

Keeping an estimated 20 percent attrition, we fixed a total sample size of 30 (15 in each group) for the study.

## 5.5.2 SELECTION AND SOURCE OF PARTICIPANTS

Participants diagnosed with Binge eating disorder will be from various sources like different yoga centers, college students , evening clinics , as this disorder is seen mostly in women so will be approaching various home makers and working women. Screening of participants will be one from city Ludhiana, Punjab.

## 5.5.2 INCLUSION CRITERIA

## 5.5.2.1 Binge eating symptoms with obesity.

## 5.5.2.2 Both genders.

## 5.5.2.3 Age 18-45 years

## 5.5.3 EXCLUSION CRITERIA

## 5.5.3.1 chronic condition – hyper tension and diabetes.

## 5.5.3.2 Severe psychological conditions like bipolar disorders , schizophrenia. 5.5.3.3 Not able to perform yoga practices.

## 5.5.3.4 Age more than 45 years or less than 18 years

## 5.5.4 ETHICAL CONSIDERATION

Following National Ethics Guidelines (2017), the study will be initiated after Institutional Ethics Committee approval and registration in the trial registry. The participants will be enrolled after due informed consent for the clinical study.

## 5.6 DESIGN OF STUDY

Screening and Enrolment of participants having binge

eating disorder

Yoga group (n=20) Control group (n=20)

Pretest – T1

Pretest – T1

Yoga and meditation **2 months of** Counselling session **Intervention**

Post test – T2

Post test -T2

Analysis

Results

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## 5.7 VARIABLE STUDIED

## 5.7.1 PRIMARY VARIABLES

∙ Binge eating scale

## 1.1.1 SECONDARY VARIABLES

∙ Clinical impairment assessment questionnaire

∙ Perceived stress scale

∙ Depression Anxiety and stress scale

∙ Pittsburgh sleep quality index

∙ BMI

∙ Hip Waist ratio

## 1.2 INTERVENTION

A standardized yoga protocol including asana, pranayama and relaxation techniques will be implemented for 8 weeks, 3 days/week. Details of the protocol are enlisted below in the table **(Pacanowski et al., 2018).**

| **S.N.** |  | **Intervention** | **Time,**  **minutes** |
| --- | --- | --- | --- |
| 1. | SUPINE  ASANA | Cycling | 2 |
| 2. | Front Back rocking | 2 |
| 3. | Pavanamuktasana (wind releasing pose) | 2 |
| 4. | Setubandhasana breathing (bridge pose lumbar stretch) | 2 |
| 5. | IRT | Instant relaxation technique | 1 |
| 6. | PRONE  ASANA | VyaghraSana (tiger breathing) | 2 |
| 7. | Bhujangasana (serpent pose) | 2 |
| 8. | Shalabhasana breathing (locust pose) | 2 |
| 9. | Dhanurasana | 2 |
| 10. | QRT | Quick relaxation techniques | 5 |
| 11. | STANDING  ASANA | Ardhakatichakrasana (lateral arc pose) | 2 |
| 12. | Ardhachakrasana (half wheel pose) | 2 |
| 13. | DRT | Deep relaxation technique | 12 |

| 14. | PRANAYAMA | Nadishuddhi (alternate nostril breathing) | 3 |
| --- | --- | --- | --- |
| 15. | Bhramari (humming bee breath) | 3 |
| 16. | Vibhagiya pranayama (sectional breathing) | 3 |
| 17. | Nadanusandhana (A, U, M, AUM chanting) | 5 |
| 18. | Om Dhyana | 8 |

## 1.3 DATA EXTRACTION AND ANALYSIS

Data will be extracted based on the manual and scoring key. Most appropriate statistical tests will be used based on the distribution of data

# 6 DATA EXTRACTION AND ANALYSIS .

## 6.1 DATA COLLECTION

The data collection of this study will be meticulously structured to determine the impact of the standardised yoga program on persons who are suffering from Binge eating disorder. The participants of the research were sourced from numerous locations such as women's organisations from Ludhiana, Punjab since this research aimed to include both professionals and homemakers. The participants are from both genders from age 18 to 45 years who are diagnosed with BED. The exclusion criteria will neglect the persons who are suffering from severe psychological diseases such as bipolar disorder and schizophrenia with some chronic diseases such as diabetes and hypertension. For this the sample size was 15 but during the research 17 participants have been considered only in one group, that is pre and post. The action is selected due to its accessibility to reach a wider participant demographic particularly women who are suffering from BED. The yoga centres will provide an important recruitment stage as individuals who already participated in the wellness practices can be more upfront in participating in this.

Moreover, evening colleges as well as clinics will be the primary sources for recruitment. BED primarily impacts the younger generation and middle-aged individuals who experience high value of stress due to work. Therefore, targeting the college students with other members of the community through these settings this research aimed to captivate a wider spectrum of participants with different stress levels and lifestyle patterns. The organisations which worked for the physical and mental health of women also played an important function in selecting those women who are suffering from BED which involved homemakers who may not typically search for treatment yet are open to some alternative approaches of yoga. The exclusion criteria involved individuals with severe psychological conditions who are unable to perform yoga. The exclusion criteria help in opting for the safety of the participants and maintaining the integrity of the data. The data collection methods will fill the self-reported questions that helped in assessing binge eating severity, sleep quality, anxiety and depression. This included a collection of anthropometric data that will be recorded using physical measurements. The data will be collected at two points such as before and after the intervention permitting a comparative analysis to evaluate the improvements.

## 6.2 DATA EXTRACTION AND ANALYSIS

The data extraction and analysis of the study on the efficiency of yoga for individuals suffering from BED will be systematic as well as comprehensive to make sure there is integrity along with the validity of the findings (O'Shea *et al.*,. 2022). This research aimed to evaluate the impact of the eight week yoga intervention regarding numerous physiological and psychological parameters taught is related to BED. This research provided both qualitative and quantitative data collection and analysis methods.

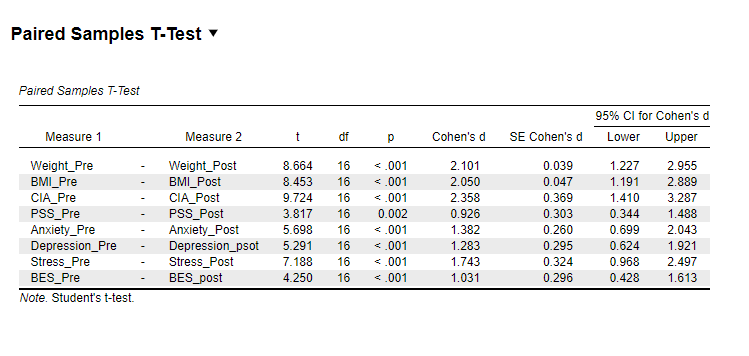
The outcome of the research validating the questionnaire will function as the primary outcome measure. This will evaluate the impact of binge eating before and after the intervention. The clinical impairment assessment scale helped in evaluating the strength to which the behaviours related to binge eating impact the regular functioning of the overall life quality. The perceived stress scale measured the stress level of participants and their perceptions of the stress in their life (Borden & Cook-Cottone,2022). The depression anxiety stress scale helped in evaluating the severity of the symptoms related to stress and anxiety among the participants who participated in this research. The Pittsburgh Sleep Quality Index helps in evaluating the quality of sleep and disturbances over the previous months. The data from anthropometric measurements collected data in body mass index along with waist-to-hip ratio to evaluate the transformations in physical health that are related with the yoga intervention group.

The data extraction process occurred two times: pre-intervention and post-intervention. At the time of initial screening then participants will complete the questions which will be evaluated in a controlled atmosphere to decrease any disturbances and increase the focus. This data collection was handled by trained personnel to make sure there is reliability and consistency. The participants filled out the PSQI, DASS, PSS, CIA ,. BIS and PSQI at the pre-intervention level. In this intervention, each participant will complete the questionnaire individually which will help in ensuring privacy and confidentiality of the participants. The anthropometric information will be measured by the trained persons using some of the standardised protocols to make sure there is accuracy (Sommer *et al*., 2020). In the context of data management, all the gathered information will be coded along entered into a secured database to avert unauthorised access. This process of data entry will be checked twice for accuracy and to reduce any errors.

The data analysis of this research can be done using JASP software which bestows accessibility and user friendly interface for the statistical analysis (Toutain*et al*., 2023). This analysis emphasised juxtaposing the results of the intervention of the yoga as well as the control group across numerous physiological and psychological measures. The data that has been collected from the two intervention phases is entered into the software. The score of each participant for the Binge Eating Scale, Clinical Impairment assessment, Perceived Stress Scale, depression anxiety stress Scale, Pittsburgh Sleep Quality Index, Body mass Index and waist-to-hip ratio in an organised way and alo within a structured format. In the data analysis, the software performed the Chi-square test and the features that were taken to perform this test were weights and BMI to evaluate whether there is any relationship between these two variables. This test performed in the software showed a significant relation between BMI and Weight with a moderate effect size. This data extraction and analysis highlighted the relationship between BMI and weight in individuals with binge eating problems, which can form future interventions that are aimed at administering weight and alleviating health. Thus, the data extraction and analysis helped in understanding the effectiveness of yoga as an intervention program for individuals who are suffering from BED.

# 7. RESULTS

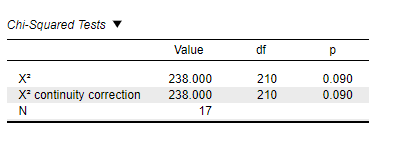
## 7.1 DATA TABLE



**Figure 1: Paired sample T-test**

(Source: JASP)

Association of different elements of market diversification has been done before the integration of different participant response and intervention that can be done effectively through the implementation of the data. The results of the one-sample t-tests indicate significant differences across various measures before and after an intervention, highlighting notable changes in participants' characteristics (Braun et al. 2021). Associationing different elements of market combination can be done effectively through the integration of different parameters of wheat management and food disorder mitigation in a successive manner.(Neumark‐Sztainer et al. 2021). The paired sample T test shows two types of measures one is post and another is pre that includes weight, BMI, CUA, PSS, Anxiety, Depression, Stress and BES. The table shows that the t value is maximum for weight as 8.664 and differential value is 16 for all factors. Cohen's d value is more for the CIA. This paired sample t test provides significant improvements across various measures after the interventions. All factors how statistical changes. The cohen’s d value shows a large impact size specifically for weight and BMI which shows the d value to be 2.101 and 2.050 respectively suggestinmg substantial allevaitions in physical health.

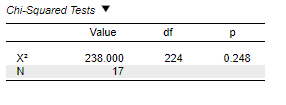


**Figure 2: Chi square of weight and BMI pre**

(Source: JASP)

Association of different elements of formatism of different testing processes to investigate the effectiveness of implementation of the reputed intervention based on the suffering of binge eating disorder has been taken into consideration. This pilot study aims to investigate the effectiveness of yoga as a therapeutic intervention for individuals suffering from Binge Eating Disorder (BED) (Kramer &Cuccolo, 2022). Development of different statistical overview based on the critical parameter of the data analysis process has been taken into consideration based on the formatism of the study. Recent analyses, including Chi-Squared tests, highlight significant findings related to psychological and physiological improvements following yoga practice. Solution of this can lead to bitterness out different valuation of participants on the reduction of the eating disorder in a systematic manner. The Chi-Squared value of 238.000, with 210 degrees of freedom and a p-value of 0.090, suggests a notable association between yoga participation and reductions in binge eating episodes. This leads to the probability under the assumption of success of the interventions Diversification of different data sources can be taken into consideration for the determination of distinctive solutions regarding the effective management of eating habits based on their previous weight in comparison to the body mass index before the intervention.

Incorporation of a different growth system based on the structuralisation of the study process has been taken in consideration to justify the norm of the development process. Participants reported decreased levels of anxiety, depression, and stress, indicating that yoga may foster greater emotional regulation and body awareness (Unicket al.2020). Implementation of sustainable acquisition of data systematics that can create diversification of modulation to affect the needs of intervention for the participants. This aligns with existing literature, which suggests that mindfulness practices inherent in yoga can enhance self-control and coping strategies. Implementation of this can create more diversification of enhancement of control systematically creating more significance for the participants. The pilot study's preliminary results support yoga's potential as a complementary treatment for BED, promoting not only healthier eating behaviours but also improved mental health outcomes. Effective incorporation of this can create more significance of the manipulation of the data based on the structure framework in a critical sense (Estey et al. 2022). As the study progresses, further investigation into the long-term benefits of yoga for BED is essential. These findings encourage integrating yoga into comprehensive treatment plans, offering a holistic approach to managing this challenging disorder and improving overall well-being. All these have been done effectively through this.



**FIgure 3: Chi square of weight and BMI post**

(Source: JASP)

Development of different understanding of the potential intervention that can be inculcated in the parameter of binge eating disorder has been formulated as essential. In exploring the therapeutic potential of yoga for managing Binge Eating Disorder (BED), a pilot study's Chi-Squared test results reveal intriguing insights. Exploration of different variability of the data based on the sampling of the participant has been taken into consideration for the betterment of the evidence formulation in a systematic manner (Zakers&Cimolai, 2022). The calculated Chi-Squared value of 238.000, paired with 224 degrees of freedom, indicates a notable level of variability in the data. Diversification of different significant valuation based on the finding which can lead to potential benefiting of the yoga implementation as the adjunctive of the treatment procedure has be0en indicated through the analysis. However, the p-value of 0.248 suggests that this variability does not achieve statistical significance, meaning there is insufficient evidence to confirm a definitive relationship between yoga practice and reduced binge eating episodes within this sample. Implementation of this can lead to better identification of key areas of development that are suitable for the demonstration of the disorder for the longest period of time for the participants. With a sample size of only 17 participants, the findings may reflect a preliminary exploration rather than a conclusive outcome. Incorporation of this can create more significance of the market evolution tactics and the different types of eating habits which can be observed within the patients can be evaluated. This underscores the necessity for further research with larger cohorts to enhance the reliability and generalizability of the results. Examination of this can lead to determination of different diversification normality study areas based on the structuralisation of the disorder intervention for the sustainable period of time.

Incorporation notation and findings and data points of data that can be done effectively through the incorporation of different formative assessment to create more successiveness of the intervention prospect. Despite the non-significant findings, the pilot study points to the potential benefits of yoga as an adjunctive treatment for BED, as it promotes mindfulness, self-regulation, and emotional awareness. Implementation of different variability of data can be done effectively through the incorporation of different formative assessment coal for quantitative analysis of the intervention prospect. Future studies should consider incorporating qualitative measures to capture participants' subjective experiences and the psychological benefits of yoga (Cook-Cottone, et al. 2022). Association of different elements of market formulation can be initiated through this for the intervention process to be more applicable to various kinds of disorder within the food parameter. Ultimately, this research could pave the way for developing comprehensive therapeutic strategies that integrate yoga into the treatment of Binge Eating Disorder. Implementation of all these are needed to be taken in the consideration format of the study prospect for a longer period of time.

**7.2 FIGURES**

**Figure 4: Weight Pre and post**

(Source: JASP)

The pie chart shows the intervention after and before treatment in the context of weight. The pre weight intervention shows that the percentage is 49 % and after the intervention the percentage is 51 %.This shows that there are health and mental benefits after the intervention which is critically showing that the weight is rising.

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**Figure 5: Depression Level before and after treatment**

(Source: JASP)

The pie chart illustrates a notable decrease in the depression levels pre and post intervention periods which is showing the scores are dropping. This significant reduction shows a successful intervention reflecting an improvement in participants mental health. This substantial difference states that the treatment effectively improved the symptoms of depression which lead to an increased emotional well being(Giel, et al. 2022). This data shown in the pie chart shows that the participants findings focus on the significance of the effective therapeutic approaches in administering depression and highlighting the potential for further research in this to upgrade the treatment strategies.

**Figure 6: Stress level before and after treatment**

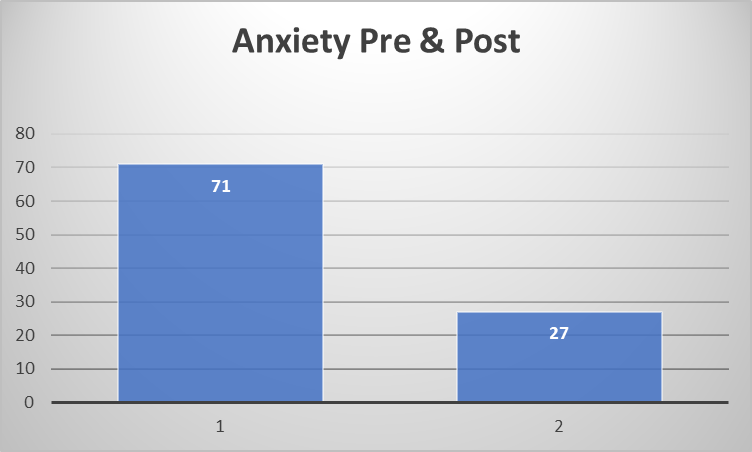
(Source: JASP)

This chart shows there is a significant decrease in the stress levels from pretreatment to post treatment. This shows that stress level value dropped from 94 to 46 which highlights the effectiveness of the intervention in reducing the stress in persons. The half decade indicates that the treatment had benefit on a positive note about the effect of managing stress. Such alleviation is crucial for enhancing the overall well being as high stress level can pessimistically impact the mental and physical health. This outcome suggests that the result were successful in decreasing the level of stress and this could be considered effective for future stress management.

**Figure 7: BMI before and after treatment**

**(Source: JASP)**

This line graph shows the ‘body mass index’ of 17 participants (female and male) of stress levels before and after yoga practice. It reflects the BMI of all the participants who possess binge eating disorders after the disturbance of mental health. This graph represents te line graph in blue color of the BMI of the participants. The BMI of participants before yoga practice has been denoted with ‘blue color’, whereas the BMI of participants after yoga practice has been marked as ‘blue color’. The values of the BMI of 17 participants shows the value pre intervention is higher 245.08 and post intervention as 233.234. Generally, the graph shows that after yoga practice the value of BMI tends to be low. The reduction of the value has not taken place after yoga practice as it is constant. Here, again the reduction has not taken place as the value remains the same.This graph represents unchangeable values before or after the yoga practice within a few participants.. The differences in BMI occur when not all individuals have the same body type. The participants may be within the category of different body types such as ectomorph, endomorph, and mesomorph. Eating disorders tend to affect BMI as it increases the carbohydrate levels in the individual’s body (Quesne et al., 2023). As a result, eating disorders widely impact the body mass index which measures the weight of the body with relation to height. It has resulted in binge-eating disorder as individuals affected by this disorder possess an elevated BMI. It contributes to an increase in excessive weight like overweight or obesity.



**Figure 8: Anxiety level before and after treatment**

(Source: JASP)

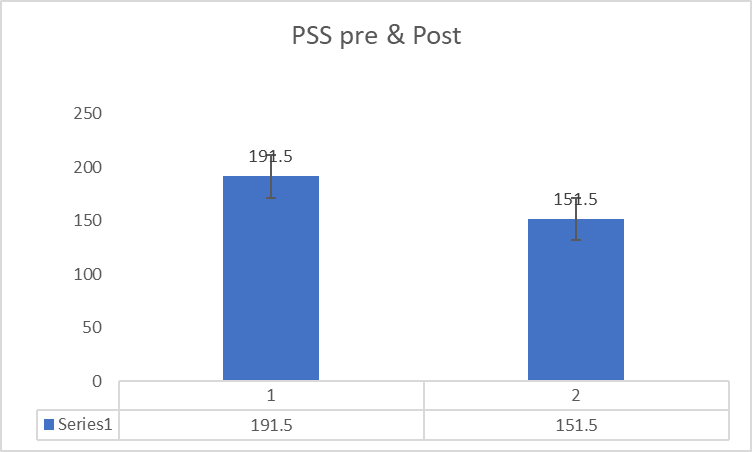
The bar graph provided the data of individuals which indicated the anxiety level of those people who were suffering from binge eating disorder. According to the researcher, Fusco, et al. (2020) believe that binge eating disorder causes the issue of anxiety for a particular time. People feel anxiety due to high levels of stress and depression which affects their mental health (Borden & Cook-Cottone. 2022). These people eat huge amounts of food and sometimes lose control over food (Fusco, et al. 2020). People get badly affected and face psychological issues which cause anxiety. In this case, yoga provides a positive sense of community which reduces the anxiety level. It also provides individuals with a “non-judgemental” image for themselves (Spettigue, et al. 2020). This line graph proves the exact calculation of the anxiety level of each individual which shows the difference between the level of anxiety before and after the treatment of yoga (Park & Slattery. 2021).The post anxiety level as shown in the bar graph states a value of 27 which has reduced from the pre anxiety levels which shows the value to be 71.

Overall, it has been observed that the treatment of yoga was useful in the recovery of binge eating disorder.

**Figure 9: CIA PRE & POST**

(Source: JASP)

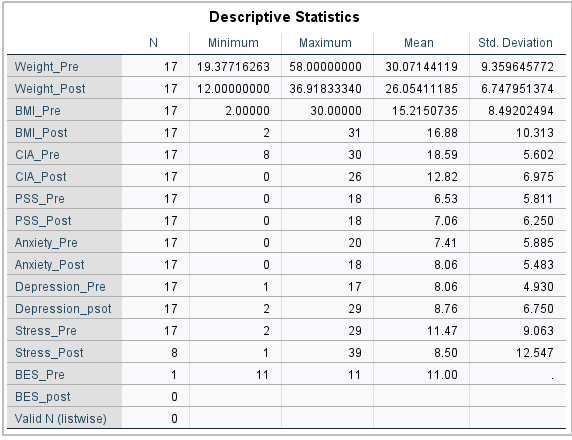
The graph compares CIA scores before and after the intervention which shows significant improvements. At the initial stage the CIA score at pre stage is 28% which is showing a low cognitive function. After the intervention the CIA score rises to a 72% which is showing a notable increase in cognitive abilities. Thai subsequent increase showed that the intervention was effective in alleviating the cognitive functioning among the participants.

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**Figure 10: Pre and post PSS**

(Source: JASP)

The graph comparing the Perceived stress scale scores before and after the intervention shows a marked decrease in the PSS level. The PSS pre scores significantly higher at 194.5 which is showing elevated stress among participants. In contrast the PSS post score drops to 151.5 which is showing a reduction in the perceived stress level after intervention.

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**Figure 11: Descriptive statistics**

(Source: SPSS)

The descriptive statistics provide an overview of various psychological and physical measures before and after an intervention. The dataset includes 17 participants, revealing significant variability in pre- and post-intervention metrics, such as Weight, BMI, CIA, PSS, Anxiety, Depression, as well as Stress. Effectively, post-intervention means suggest improvements in Weight (26.05), Anxiety (8.06), and Stress (8.50) but also show substantial standard deviations, indicating diverse responses among participants. The missing data for BES (Binge Eating Scale) indicates a lack of observations, complicating the overall analysis. Overall, these results highlight both the effectiveness of the intervention and the individual differences in response.

# 8. Discussion

## 8.1 Introduction

The concept of kleshas outlined by Patanjali’s Yoga Sutra serves as the foundation element in understanding human suffering and the pathway to elevation through yoga kleshaswhich are described as the afflictions or source of pain. These are stated as avidya (ignorance), Asmita (I-feeling), raga (attachment) along with dvesha (aversion), as well as the abhinivesha (fear of death). Positioning of different 5 techniques which offer a lens through which to practice and analyse the root cause of psychological and emotional terminal and can be a pathway towards personal transformation and healing can be done towards mitigation of binge eating phenomenon in a sustainable manner. Discussion regarding this has been undertaken in a systematic manner.

## 8.2 Discussion

## 8.2.2 Understanding the Yoga Interventions

Different understanding of the root causes of food disorder can be taken into consideration through the mitigation of different formative assessments regarding spiritual unhealthiness. Avidya, or ignorance, is the root klesha and refers to a fundamental misunderstanding of the nature of reality. This misperception can lead individuals to misconstrue their true selves, driving them into a life filled with delusions and misconceptions . Implementation of different variability of understanding the different conditions of yoga application into the intervention tactics can lead to betterment of the possibility of the adverse effect of food eating disorder. Yoga, representing the sense of ego or individual identity, can distort perceptions and foster a sense of separation from others, leading to competition and conflict (O'Shea et al. 2022). Effective management of this can create different associations of suitability of the physical health which are internal and external to its manifestation, and can create more significance of conducting a healthy lifestyle. Raga involves the compulsive clinging to pleasurable experiences, resulting in a relentless chase for gratification that often leaves individuals feeling dissatisfied. Effective, dvesha embodies the avoidance of unpleasant experiences, which can create anxiety and fear, filling the mind with conflict (Korsak, 2022). Lastly, abhinivesha, or the fear of death, encapsulates a primal anxiety that distorts one’s relationship with life and its inherent impermanence. Incorporational this can create more significance of creating a healthy life schedule that can include different meditative tactics for determining mental health.

**The Path to Overcoming Kleshas**

The incorporation of different ideas based on the inference of yoga in overcoming the negative impact of eating disorders can be taken into consideration based on their pathways. Patanjali offers a clear path to mitigate the influence of these kleshas through the practice of yoga, particularly by restraining the fluctuations of the mind (citta). Sutra 1.2, "Yoga is restraining the mind from taking various forms," emphasises the importance of mental control in achieving peace (Simon et al. 2022). Incorporation of different matrices based on the formulation of variability of the asana that can be taken into consideration for the mitigation of food disorder is important to the examination. Sutras 2.10 and 2.11 discuss the process of pratiprasava, or involution, as a method to reduce the impact of kleshas. Identification of the different effects of the manifestation of the yoga is important to be taken into consideration for the betterment of the applicability scenario for different participants (Trethewey et al. 2023). This process involves introspection and tracing the manifestations of kleshas back to their subtle origins which can be allowing the practitioners to confront and dissolve them at their root rather than merely treating their symptoms. The invention of this can lead to the bitterment of different manifestation tactics of yoga in correspondence to management of the study processes.

Empirical Evidence Supporting Yoga's Efficacy

Implementation of different understanding of the pre existing data based on the psychological impact of yoga and interventions into the binge eating phenomenon and it to be examined essentially for the determinant of the study prospect. Recent studies provide empirical support for the efficacy of yoga and related interventions in addressing the psychological impacts of kleshas. Incorporation of the suitability of yogas and asana can lead to the diversification of metabolic health in terms of curing the internal health of the patients. For instance, Martenstyn et al. (2022), compared two treatment groups—physical exercise combined with dietary therapy (PED-t) and cognitive behavioural therapy (CBT).The implementation of the suitability of the lifestyle of the patients can be altered through this in a systematic manner. The incorporation of the suitability of the yogas in terms of the psychological affinities of the patients can create more significance of the curing prospects for a suitable period of time. The evaluation of the eating disorders can be done through the engagement of the conduction of the asana in a suitable manner in terms of the time parameters to be provided and the successiveness of the intervention in mitigating the negative impacts. The findings indicated that both treatments focused on normalising eating patterns and enhancing self-regulatory processes which can directly address the attachment (raga) and aversion (dvesha) associated with eating disorders. The association of the different elements of the diversification of the mitigation tactics in terms of solving the internal matters of the psychological affinities. The use of CBT aligns well with the practice of yoga, as it encourages individuals to challenge their thought patterns, thus combating avidya. The incorporation of this can lead to long term benefits.

In another study by Borden & Cook-Cottone et al. (2020), the focus on exercise interventions revealed a lack of significant effects on binge eating and uncontrolled eating, suggesting that these psychological traits may be deeply rooted in the kleshas. Development of the different associations of the engagement of this highlights the need for a comprehensive approach that includes mental and emotional training alongside physical activity (Raisi et al. 2023). Incorporation and differential resources of the precisions must be taken into consideration based on the effectiveness of their mitigation tactics. Similarly, it is found that participants engaging in a combination of dietary therapy and CBT alongside a yoga program showed significant improvements in both anthropometric measures and exercise capacity. Implementation of these can lead to determining the different identification norms of key areas of development in terms of creating suitability of psychological health success. This underscores how integrating physical and mental practices can effectively target kleshas, especially raga and dvesha related to body image and self-worth. Effective integration of this can create mass alteration of these processes in terms of food-related disorders.

**Integrating Yoga Principles in Interventions**

Formulation regarding the development of suitability in terms of creating individuals who are capable of solving their own psychological and health disturbance is true implementation of yoga as their principles of lifestyle management are important to be evaluated. The collective findings from these studies suggest that interventions designed to mitigate kleshas can benefit from integrating yoga principles. Incorporation of this concrete more sustainability of market engagement in terms of making more if it's management cold and fine different practices creating more regularity of holistic positive mindset formation (Lu et al. 2020). Mindfulness practices, for example, can help individuals cultivate awareness of their thought patterns and emotional responses, effectively addressing avidya and asmita. Responses based on the emotional factorization and third process of the patients must be evaluated and suitable yoga and meditation tactics must be provided that can lead to the holistic growth of positivity within the lifestyle engagement of the individuals. Regular physical activity should be framed within a holistic context that acknowledges the emotional and psychological dimensions of well-being, thus addressing raga and dvesha. Understanding different cognitive manifestations of the individual based on their personal lifestyle management is important to be undertaken for the betterment of mitigation tactics incorporation within the regular habit management of the patient (Estey et al. 2023). Cognitive restructuring techniques as well as akin to CBTs which can also be utilised to challenge negative thought patterns stemming from kleshas. This has been providing individuals with tools to confront their fears and misconceptions. The utilisation of all these must be taken into consideration in the diversified manner.

Effective engagement of market tendency and position of medical rehabilitation to the patient regarding the mental disorders must be prioritised less than the naturalistic control over the mind which can be promoted through the implementation of yoga. Moreover, community support through group sessions can foster a sense of connection and reduce feelings of isolation linked to Asmita and abhinivesha. Implementation of this can create more self realisation factors within the individual leading to the betterment of psychological health. A multi-faceted approach that includes dietary therapy, physical activity, and psychological support offers a comprehensive strategy for addressing the complex interplay of kleshas (Perry & Cook-Cottone, 2022). Formation of different understanding based on the effective management goals of maintaining the suite ability of market exchange is an emotional factorization of the patients in terms of reacting to worldly scenarios that must be taken into consideration, which can lead to a negative impacting on the mind. The philosophical insights provided by Patanjali regarding kleshas offer profound guidance for addressing the roots of human suffering through the practice of yoga. Formation of this can lead to the betterment of ideological principles that can be utilised for the better acquisition of the health matrix of the patient for a long period of time. The empirical studies reinforce the effectiveness of integrating physical, mental, and emotional interventions to combat the psychological barriers posed by kleshas. Through the fostering of self-awareness as well as the emotional regulation with the practitioners can engage in a transformative journey towards self-realisation and inner peace which can effectively reduce the pain and afflictions inherent in the human experience (Galasso et al. 2020). The inclusion of all these can lead to holistic growth of the patient’s mental and physical health in a suitable manner. As individuals engage with these concepts and practices, they may find themselves on a path toward not only personal healing but also a deeper understanding of their connection to the broader human condition. The inclusion of this can lead to the betterment of the market formulations in a diversified manner for yoga and healthy life promotions.

## 8.2.3 Statistical analysis

The association of different elements of understanding the variability of the pilot study has been taken into consideration based on the suggestive measures of implementing statistical data. The pilot study investigating the effectiveness of yoga as a therapeutic intervention for individuals suffering from Binge Eating Disorder (BED) presents intriguing findings that align with existing literature on the psychological and physiological benefits of yoga. Optimisation of difference in the implementation of chi- square test and t-test has been accommodated based on the format of assessment of the study process (Brown, 2020). The utilisation of various statistical methods, including Chi-Squared tests and paired sample t-tests, provides a comprehensive overview of the study's outcomes and highlights the need for further investigation. Formation of different understandings of the market evaluation has been accommodated essentially for the betterment of diverse participant management.

The paired sample t test compares the rate of pre and post intervention values for several measures such as BMI, weight, CIA, PSS, BEs, anxiety and depression. This shows that the T values are all significant which means there is a considerable difference between pre and post intervention across the numerous values. The highest t value is related to weight which is showing substantial physical health alleviations from the intervention (O'Shea et al. 2023). The chi squared test shows the association between BMI and weight before the intervention. The chi squared and p value shows that there is statistical significance which shows that there is notable intervention of the pre and post intervention measures (Rizzuto et al. 2021). After the intervention the Chi squared test showed a value of 238.000 with degrees of freedom 224 and a p value of 0.248. This shows that although participants have experienced some changes in the BMI the impacts on BMI and weight do not show statistically important outcomes. The depression levels before and after the intervention reveals a clear reduction in scores which shows a substantial decrease in the depressive symptoms which shows that intervention in the form of Yoga was effective in decreasing the levels which shows that the intervention level has the potential to alleviate emotional well being. The chart on stress levels a drastic reduction in the values which highlights yoga as an intervention process is impactful. This shows that the intervention, specifically yoga, may serve as a beneficial factor for effective management of stress. The line graph of BMI pre and post intervention shows slight improvements which shows the BMIn values to be dropping. The BMI reduction is not that drastic, suggesting that the interevntion had an optimistic and small effect regarding the management of weight and physical health . Participants BMi values vary possibily due to the different body types and eating habits. This slight decrease shows yoga and other treatments could aid the participants achieve a healthier body structure. The graph of PSS post and pre shows a significant reduction in the stress level which demonstrates that the intervention was highly effective in decreasing the stress level which contributes to an overall alleviation in the well-being and mental health (Domingues& Carmo,2021). The CIA score before and after intervention shows a dramatic alleviation with the score rising to 72%. Thai enhancement shows that the intervention was specifically effective in alleviating the cognitive abilities among the participants. On an overall basis the statistical analysis including the paired sample restr, chi squared test showed an important improvement in the physical as well as mental well being following the intervention (Cristina de Barba et al. 2023). This intervention specifically yoga showed a promise in administering BED and its related symptoms such as stress, anxiety and depression. This research will further larger sample size could confirm the findings and find a deeper understanding of the values that has been determined using the JASP software.

**Statistical Overview and Key Findings**

Evaluation of the key findings of data integration has been accommodated based on the statistical evaluation of different formative assessment in a diversified manner. The Chi-Squared test results revealed a value of 238.000 with 210 degrees of freedom and a p-value of 0.090, indicating a notable association between yoga participation and reductions in binge eating episodes . Different understandings of the participation and reduction of the different episodes of psychotic formulations within the individuals have been accommodated in a diversified manual (Cristina de Barba et al. 2023). Although the p-value does not reach conventional levels of statistical significance, it suggests that there is a trend worth exploring further. Evolution of this can lead to betterment of different key findings that can lead to identification of key areas that need to address through yoga and intervention. This finding aligns with prior research indicating that mindfulness practices inherent in yoga can enhance self-regulation and coping strategies, potentially mitigating the symptoms of BED. Formation of this can lead to the betterment of different identification normal statistical overview (Cahyono et al. 2022). The incorporation of the study's sample size of 17 participants raises questions about the innovativeness of these findings. The integration of the different results for the initial results appears promising, they are limited by the small cohort, underscoring the need for larger studies to validate these preliminary findings. Furthermore, the diversity of participant responses emphasises the variability in how individuals may benefit from yoga, highlighting the necessity for tailored interventions.

**Psychological and Physiological Improvements**

Association different psychological physiological factorization needed to be undertaken based on the formative assessment of the key finding zero diversified manner. The assessment of various psychological parameters before and after the intervention revealed significant improvements. Evaluation of different understanding of the different engagement of interventions must be taken into consideration on the strategic management goal of different formulations of formative assessment (Fernández et al. 2023). The analysis of pre and post-treatment depression scores illustrated marked decreases, with many participants showing substantial reductions. Incorporation can lead to betterment for an identification of findings that can lead to the validation of preliminary data analysis in a structured manner. THeexemplification , while one participant’s score unexpectedly increased, the overall trend indicated that most participants benefited from the intervention, showcasing yoga's potential to alleviate depressive symptoms. Integration of all this can lead to bitterment of different evaluated principles engaged in the formulation of the study process.

Similarly, the evaluation of stress and anxiety levels demonstrated significant reductions post-intervention. Different facilitation of the matrix is important to Undertaker based on the different levels of stress and lips discount that can be addressed through strategic underlying. Stress scores showed a general trend of decline, with many participants experiencing notable improvements after practising Yoga. Implementation of this can lead to betterment of different identical formulations of yoga interntra into the strategic management goal of food related disorders. Bar graphs visually reinforced these trends, illustrating the intervention's overall success in managing stress. Such outcomes emphasise the importance of ongoing support and personalised treatment strategies, particularly for individuals with persistent symptoms.

**Body Mass Index (BMI) and Weight Management**

Evaluation of the body mass index is important to be taken into consideration for the betterment of different format assessments based on the changes due to the intervention on the muscle and fat ratio in a diversified manner. The evaluation of BMI before and after the intervention indicated a significant reduction in participants' weight status. Formation of different understandings based on the systematic approach towards the sampling of the data has been taken into consideration based on the suitability of the intervention in creating a positive body mass ratio that can lead to longevity of lifespan for the patients. Most participants experienced decreased BMI scores, suggesting that yoga not only aids psychological health but may also contribute to physical well-being (Chey et al. 2023). Effective engagement of this can lead to better acquisition of market tendency and the food that are needed to be consumed in accordance to the intervention that can lead to suitability of the body mass index for the patients. However, the presence of individuals who did not experience weight changes, particularly those with extremely high pre-treatment BMIs, points to the complexity of weight management in the context of BED. Incorporation this can lead to the betterment or different assessment of depressions based on their success within the implementation of interventions. Visual representations of the data, such as bar graphs, showcased the overall trend toward improved BMI levels, reinforcing the effectiveness of the intervention. All different process methodologies based on the creative assessments of the market tendency can be taken into consideration in a strategic merits to the implementation of understanding the body mass in for the patients in accordance to the weight management. Nevertheless, these findings indicate a need for personalised approaches, particularly for those who may not respond as positively to the intervention. Transition of different individuals based on their weight pre and post intervention must be undertaken for the implementation of different ratios which can indicate positive tendencies of intervention towards the customisation of the lifestyle of the participants.

Diversification of the key areas of participants of the efficacy of intervention can be indicated by the incorporation of different strategic influences of the values from the statistics. The one-sample t-test results further validate the efficacy of the yoga intervention, showing highly significant p-values (< .001) across multiple measures, including age, height, weight, BMI, and psychological parameters (CIA, PSS, Anxiety, Depression, Stress, and BES). 0 formation of different ideas of incorporation of psychological tendency which is on the different valuation of the participants and their response can be done effectively through the integration of this enough strategic manners. These results provide strong evidence against the null hypothesis, indicating substantial changes in these variables post-intervention. Formation of this can lead to better when the different identification norms are based on hypotheses which have been taken into consideration based on post-intervention studies on the changes of wheat and other factors which are important for a positive Outlook towards lifestyle management (Taleb Khan & Cook-Cottone, 2020). Specifically, the reductions in anxiety and depression scores were statistically significant, with p-values of 0.018 and 0.003, respectively. Engagement of this can lead to better acquisition of Idea of significant influence of different factors within the parameter of psychological and physiological betterment of the participants for long way period of time internals of incorporating interventions within the stipulated time frame. These findings support the hypothesis that yoga may serve as a valuable adjunctive treatment for BED, promoting emotional regulation and greater body awareness. In accordance to this , different variability of the data can lead to identification of differences of approach with Hindi intervention matrices.

Understanding the limitation of the very beauty of the intervention and their limitation within this is a direction that can be applied for the determination of the intervention implementation for future studies. Despite the promising findings, the study's limitations cannot be overlooked. Effective engagement of this can lead to better acquisition of market tendency leading to significant formulation of values that indicate towards and affected factors to be included within the diversification of the research. Factors such as age and gender have no particular significance within the diversification of the results of changeability over a period of time. The small sample size (n=17) raises concerns regarding the generalizability of the results). The application of the control group has not been taken into consideration. Additionally, while the study highlights significant changes in psychological and physiological parameters, the lack of qualitative measures limits the understanding of participants' subjective experiences during the intervention. Incorporation of different understanding of the future measures of qualitative and quantitative understanding and it to be benefiting towards the psychological and physiological factorization of the participants and their responses towards betterment. Future research should incorporate qualitative assessments to capture participants' perceptions and the psychological benefits of yoga more comprehensively (Domingues&Carmo, 2021). Engagement of this can lead to better identification of future areas of implementation for the studies in a diversified manner. Moreover, the non-significant findings regarding the Chi-Squared test suggest that more rigorous statistical analysis is needed in subsequent studies. Association of this, can lead to the betterment of the study’s incorporation for the future evaluation in a strategic manner. A larger cohort would allow for a more detailed exploration of the relationship between yoga and binge eating behaviours, enabling researchers to draw more robust conclusions (Levine, 2020). The findings of this pilot study suggest that yoga could be integrated into comprehensive treatment plans for BED. The inclusion of this can create more significance of the statistical formulation in a diversified manner leading to the betterment of the patients based on the strategic development.

## 8.3 Summary

In summary, the incorporation of yoga interventions highlights the potential of yoga as a therapeutic intervention for individuals suffering from Binge Eating Disorder. The significant improvements in psychological parameters, in association with promising trends in physiological measures which can support the notion that yoga can play an important role in managing BED. The identification of the various limitations of the study, particularly the small sample size, emphasise the need for further research to validate these findings. Integrating yoga into comprehensive treatment plans may provide a holistic approach to addressing the multifaceted nature of BED.

# 9. CONCLUSION

## 9.1 CONCLUSION

The study aimed to evaluate the efficacy of yoga programs aimed at reducing binge eating severity and reducing the effects of inappropriate eating habits. The study has also assessed the causes, symptoms and effects of the yoga practices on mental and physical health along with the overall lifestyle of individuals who are suffering from binge eating disorder. The data analysis of this report has been done with the help of JASP software for the accuracy of the report. The graphs which have been provided here show the importance of yoga in the recovery of binge disorder. This study identifies that with the help of yoga treatment people can get relief from binge eating disorders and issues related to this such as depression, anxiety, stress etc.

## 9.2 APPRAISAL

## 9.2.1 STRENGTH OF THE STUDY

* The research has properly examined the importance of the yoga treatment in reducing binge eating severity as well as reducing the effects of inappropriate eating habits which badly affects the mental and physical health of each individual. People are following an inappropriate routine nowadays. As a result, they are dealing with eating disorders with a lot of things in terms of mental, physical and emotional. People who are suffering from binge eating disorder are facing several issues such as depression, anxiety, stress etc. The findings of this research paper will help those people to gain insights how yoga treatment can reduce their depression, anxiety and stress levels. From that perspective, this research paper would be helpful for those people.
* This study will contribute to the literature as this research includes a detailed analysis of different types of yoga practices such as ‘avidya’, ‘aversion’ etc (Pandit, 2023). Yoga is very helpful in recovery from binge eating disorder. Due to the lack of cross-sectional studies on the benefits of yoga in eating disorders, this study provides significance to the body of knowledge which is already present in the field.
* This study would be helpful for the practitioners also. This research paper will provide information to those practitioners who want to gather knowledge about different practices of yoga. For the intervention, the principles of yoga practices would help change the lifestyle of those people who are suffering from binge eating disorders. This study provides dedication and willingness to work towards the improvement of symptoms as well as causes is an important factor where Yoga may help those patients who are suffering from binge eating disorder.

## 9.2.2 LIMITATIONS OF THE STUDY

* The limitation of this study is that there is an absence of biomarkers for the evaluation of the impact of yoga on the treatment of binge eating disorder. Although self-report assessments are generally helpful in gaining insights into subjective sensations.
* Another limitation of the study highlights the significant psychological parameters and also there is a lack of qualitative measure limits which could be helpful in understanding the participants' subjective experiences during the intervention.
* There are some non-significant findings regarding the Chi-Squared test. This suggests that for the subsequent studies, more rigorous statistical analysis is required which can lead to the betterment of the research.
* Another limitation of this research paper is that no control group has been used for the completion of this research paper. As there is an absence of a control group in this research paper hence it was difficult to determine the results and meaningful conclusion.

## 9.2.3 IMPLICATIONS OF THE STUDY

The research found that the statistical analysis of different formative assessments of the ‘Chi-Squared’ and ‘one-sample t-tests’ has resulted in a wider revelation of a prominent increase of yoga participants (Streeter et al., 2020). However, these formative assessments have been used to mitigate binge-eating disorders among individuals suffering from stress, anxiety, depression, and BMI. It has acknowledged the intervention of yoga to reduce these disorders in individuals. The execution of distinct variables to understand the varied conditions of yoga application within the intervention tactics to reveal the unfavorable effects of binge eating disorder. The study has acknowledged the efficacy of long-term yoga practice that has helped to bring wellness within both mental and physical factors of individuals. The study has also discussed the cost-effectiveness of these disorders in performing yoga (Philipson et al., 2023). Finding such a roadmap to overcome Kleshas is significantly necessary to culminate the effect of binge eating disorder among individuals. This roadmap consists of tapas, svadhyaya, kriya, and dhyana that help to regulate the mind and bring calmness to the individuals. However, to overcome this we are required to explore knowledge and wisdom. Klesha, a concept of Patanjali’s Sutra has underlined the relevance of its 5 pillars as avidya which is known as ‘ignorance’, asmita also called ‘I-feeling’, raga known as ‘attachment’ and dvesha, regarded as ‘aversion’, lastly abhiniversha knows as the ‘fear of death’. Practicing yoga tends to eliminate these mental attributes from individuals and helps to foster mindfulness. Based on the findings of the empirical evidence, it has been understood the efficacy of klesha in reducing the psychological patterns of individuals dealing with stress, anxiety, BED, depression, and BMI. The utilisation of existing literature in this research has exposed the various elements of psychological and physiological advantages of yoga.

## 9.2.4 SUGGESTION FOR FURTHER STUDY

Focusing on the limitations and findings of the current research, numerous factors need additional research to widen the existing knowledge, along with an enhanced understanding of the impact of long-term yoga practice accompanied by mental, physical, and eating disorders. Recommendations include solving the problems of binge beating as there are numerous areas that need to be examined. First is the prolonged impact of yoga on BED, this research has shown the short-term benefit of yoga to mitigate the effects of binge eating caused by stress, anxiety, depression, and elevation of BMI among individuals. To state the long-term advantages of yoga in eliminating binge-eating disorders, evidence of existing literature is less to prove its effect on individuals (Park & Slattery, 2021). Second, is that this research has been conducted by focusing only on one group which is pre- and post-groups of the participants who are dealing with BED. The study has not focused on the control groups as it is beneficial for the study to investigate other aspects of the study that the former group has not addressed. This research has not addressed other therapeutic modalities like cognitive behavioural therapy (CBT) would furnish mindfulness-based interventions.

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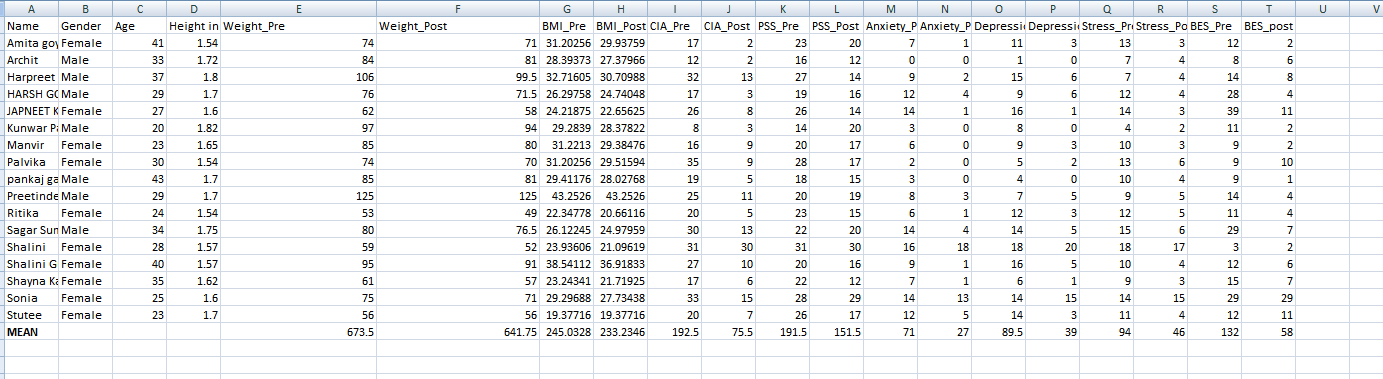
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# APPENDIX



(Source: Provided)