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An Observational Study to Understand the Miasmatic Evolution in Cases of Bulimia Nervosa in Age Group of 18-40 Years

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ABSTRACT:

Background: Bulimia Nervosa is characterized by frequent, recurrent episodes of binge eating (e.g. once a week or more over a period of at least one month). A binge eating episode is a distinct period of time during which the individual experiences a subjective loss of control over eating, eating notably more or differently than usual, and feels unable to stop eating or limit the type or amount of food eaten. Binge eating is accompanied by repeated inappropriate compensatory behaviours aimed at preventing weight gain (e.g. self-induced vomiting, misuse of laxatives or enemas, strenuous exercise). The individual is preoccupied with body shape or weight, which strongly influences self-evaluation. There is marked distress about the pattern of binge eating and inappropriate compensatory behaviour or significant impairment in personal, family, social, educational, occupational or other important areas of functioning. **Objective:** The objective of this study was to observe the miasmatic evolution in cases of bulimia nervosa in age group of 18-40 years. **Materials and Methods:** 30 cases pertaining to miasmatic analysis irrespective of sex and age group of 18-40 years were studied. Cases are taken from O.P.D & I.P.D of Bharti Vidyapeeth Homoeopathic Hospital, rural O.P.D and various camps organized by Bharati Medical Foundation both in urban and rural areas. Newly diagnosed bulimia nervosa cases are taken for study. Firstly, cases justifying case definition taken into the study. Following screening using inclusion and exclusion criteria, eligible patients were recruited into the study. A proper case taking and individualization of each case is done. Then different expression of each miasm is observed in each cases to show the evolution of miasms. **Results:** In this study of 30 patients with bulimia nervosa, the majority were young adults (mean age 26.4 ± 2.8 years), with most cases showing moderate binge-eating severity (76.7%). Psora (83.3%) predominated as the fundamental miasm, while sycosis (33.3%) and tubercular (33.3%) were the leading dominant miasms. A statistically significant positive correlation was observed between BES score and binge episodes per week ($r = 0.365$, $p = 0.047$), indicating that higher severity scores were associated with more frequent binges. A strong negative

correlation was found between exercise hours per week and fasting days per week ($r = –0.627$, $p < 0.01$), showing that patients tended to adopt either fasting or exercise, but not both equally. Additionally, the chi-square test demonstrated that compensatory behaviour was significantly dependent on gender ($\chi^2 = 9.359$, $p = 0.009$), with exercise being predominantly male-associated, while females more often used both fasting and exercise together.In this study of 30 patients with bulimia nervosa, the majority were young adults (mean age 26.4 ± 2.8 years), with most cases showing moderate binge-eating severity (76.7%). Psora (83.3%) predominated as the fundamental miasm, while sycosis (33.3%) and tubercular (33.3%) were the leading dominant miasms. A statistically significant positive correlation was observed between BES score and binge episodes per week ($r = 0.365$, $p = 0.047$), indicating that higher severity scores were associated with more frequent binges. A strong negative correlation was found between exercise hours per week and fasting days per week ($r = –0.627$, $p < 0.01$), showing that patients tended to adopt either fasting or exercise, but not both equally. Additionally, the chi-square test demonstrated that compensatory behaviour was significantly dependent on gender ($\chi^2 = 9.359$, $p = 0.009$), with exercise being predominantly male-associated, while females more often used both fasting and exercise together. **Conclusion:** This research emphasizes that individuals with bulimia nervosa generally exhibit psoric tendencies at the initial stages, but as the condition advances, there is a noticeable shift toward sycotic and tubercular predominance, with syphilitic traits becoming apparent in more severe forms. This gradual transition reflects the dynamic progression of miasmatic influence in eating disorders—beginning with functional disturbances (psora), moving to proliferative or mixed states (sycosis/tubercular), and ultimately reaching destructive patterns (syphilis). These observations are significant because they not only shed light on the behavioral and clinical aspects of bulimia nervosa but also illustrate the role of miasmatic evolution in shaping individualized homeopathic interventions. Recognizing the fundamental and dominant miasms involved enables practitioners to anticipate disease progression, select remedies in harmony with the underlying miasmatic state, and possibly halt advancement into deeper destructive phases. Such an approach holds promise for more accurate treatment, improved prognosis, and comprehensive care in bulimia nervosa management.

INTRODUCTION:

AIM AND OBJECTIVE:

AIM: To study the miasmatic evolution in cases of Bulimia Nervosa.

OBJECTIVES: -

PRIMARY OBJECTIVE: To determine the miasmatic evolution in cases of Bulimia Nervosa.

SECONDARY OBJECTIVE: To understand the miasmatic influence on the progression of bulimia nervosa.

BACKGROUND AND JUSTIFICATION OF STUDY:

The incidence of Bulimia has attained significance over the past 30 years especially in young women in advanced countries. Bulimia has gained importance in the past 30 years. This disorder is 10 times more common in females than in males. It is seldom seen in men. This is a condition that has been recognised only in the developed countries. The prevalence of Bulimia Nervosa is higher in cultures characterized by an idealized thin body ideal. In addition, the prevalence of Bulimia Nervosa is increasing in countries that are industrializing and transitioning to more global and urbanized societies. The distribution of Bulimia Nervosa across cultural groups within a society can change over time. For example, in the United States, the incidence of the disorder appears to be decreasing among Euro American females and increasing among ethnic minority groups, particularly Latinos and African Americans. Bulimia nervosa can affect both sexes but disproportionately affects females. The median age of onset is around 12.4 years old. The estimated prevalence of bulimia nervosa in the United States is 0.9% among adolescents, 1.5% among the general population of women, and 0.5% among the general population of men. While the prevalence of bulimia nervosa is un established in developing countries, prevalence estimates from North America, Australia, and Europe range from0.1% - 1.3% amongmales and 0.5% -2.0% among females.

The study of bulimia nervosa can provide valuable insights into the concept of miasmatic predominance within the realm of Homoeopathy and holistic medicine. Miasmatic predominance refers to the idea that certain underlying predispositions or diatheses make individuals more susceptible to specific diseases or conditions. Here's a justification for studying bulimia nervosa in this context:

HOLISTIC UNDERSTANDING: Bulimia nervosa is a complex psychological and behavioural disorder that involves not only physical symptoms like binge eating and purging but also profound emotional and psychological aspects. Investigating miasmatic predominance in bulimia can offer a holistic perspective on thecondition, considering both the mental and physical aspects of health.

INDIVIDUALIZED TREATMENT: Homeopathy, as a holistic medical approach, emphasizes individualized treatment. Understanding miasmatic predominance in bulimia can help homeopaths tailor treatments to address the underlying predispositions and susceptibilities of each patient, promoting more effective and personalized care.

PREVENTION AND EARLY INTERVENTION: Identifying miasmatic tendencies related to bulimia can contribute to early detection and prevention efforts. Recognizing individuals at risk based on their miasmatic profile could enable interventions and lifestyle modifications to reduce the likelihood of developing the disorder.

RESEARCH AND EVIDENCE-BASED PRACTICE: Researching the miasmatic aspects of bulimia nervosa can contribute to the evidence base for homeopathic and holistic approaches to mental health. This can help bridge the gap between conventional and complementary medicine and enhance the overall understanding of disease predispositions

Study Design:
The study was carried out in BHARATI VIDYAPEETH HOMOEOPATHIC HOSPITAL, KATRAJ, PUNE. Patients with complaints of Bulimia nervosa which satisfy the case definition, inclusion and exclusion criteria were selected. All the 30 cases were taken in respective OPD of BVDUHMC. Case taking was done and individualization of each case has been carried out for observation of different miasmatic expression.
Result was statistically analysed by certified statistician.

Type of study: Observational
Allocation: Non-randomized
Non -interventional
End result: effectiveness in identifying dynamic miasmatic changes and evolution in bulimia nervosa .

Inclusion and Exclusion criteria:
Inclusion criteria

1. Patients fulfilling the diagnostic criteria.
2. Patients opting for homoeopathic treatment for their illness.
3. Patients complying for regular follow up.
4. Patients in age group 18-40 yrs.
5. Patients who will fill the consent form.

Exclusion criteria:

1. Patients with substance (any kind of drug) abuse.
2. Patients with suicidal tendencies.
3. Patients with major depression and schizophrenia.
4. Patients undertaking any other mode of treatment along with homoeopathic mode of treatment.
5. Patients who have not filled the consent form.
6. Patients with any other acute systemic illness.
7. Pregnant and lactate women

Outcome Assessment:
The outcome was assessed by identifying the fundamental and dominant miasms in each case of Bulimia Nervosa through detailed case analysis (history, clinical features, BES score, lifestyle patterns). The progression and evolution of miasmatic states were documented, and statistical analysis (descriptive and correlation tests) was applied to establish associations between miasmatic evolution, clinical severity, and compensatory behaviors.

RESULT:

Table 1: Distribution of patients according to age

Age	Number of patients	Percentage
21-23	5	16.67%
24-26	8	26.67%
27-29	14	46.67%

30-32	3	10.00%

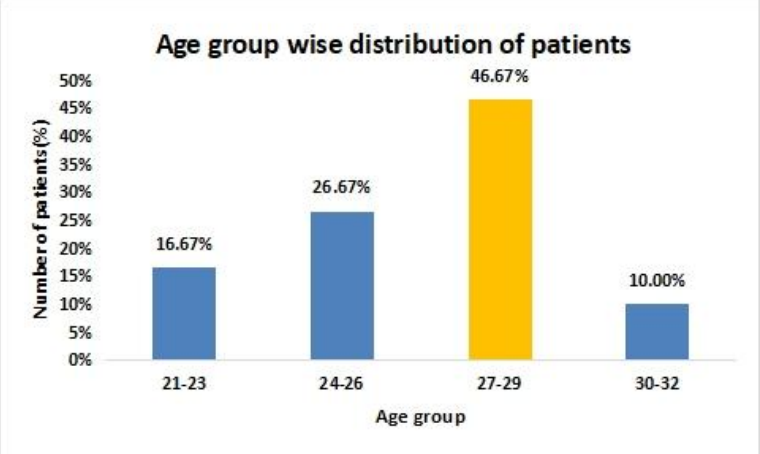

Figure 1: bar diagram representing the Age-wise distribution of patients

Table 1 and Figure 1 show the age-wise distribution of patients in the study to understand the miasmatic evolution in cases of bulimia nervosa

The age-wise distribution of patients indicates that nearly half of the patients (46.67%) are between 27–29 years, making this the most represented category.

The second most common group is 24-26 years (26.67%), followed by 21-23 years (16.67%). Patients aged 30-32 years account for 10.00%.

Table 2: Distribution of Patients according to Gender

Gender	Number of patients	Percentage
Female	13	43.33%
Male	17	56.67%

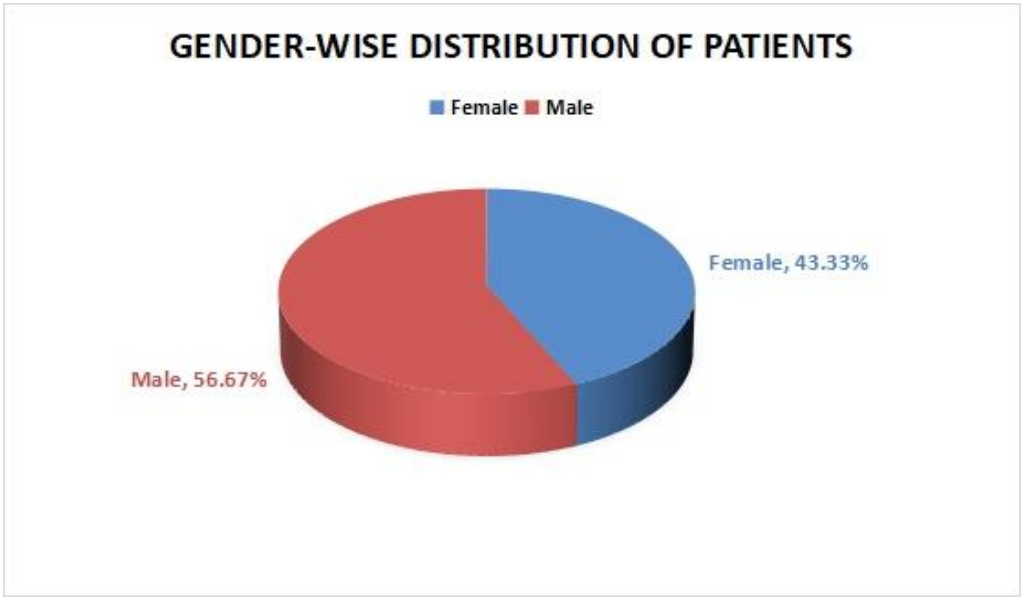

Figure 2: Gender-wise distribution of patients

Table 2 and Figure 2 indicate that 56.67% of patients were male and 43.33% were female in the study.

Table 3: Distribution of patients according to duration of illness in years

Duration of illness(years)	Number of patients	Percentage
0.5-1.5	11	36.67%
1.5-2.5	12	40.00%

2.5-3.5	4	13.33%
3.5-4.5	2	6.67%
4.5-5.5	1	3.33%

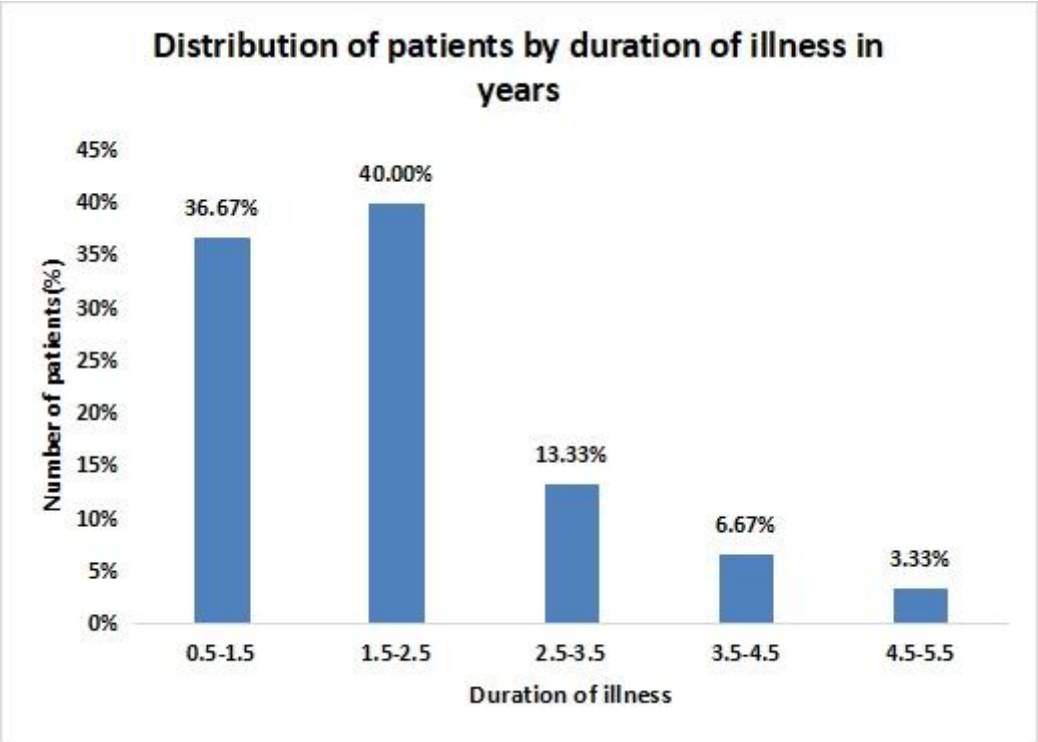

Figure 3: Distribution of patients by duration of illness in years

Table 3 and Figure 3 show the distribution of patients by duration of illness in years for bulimia nervosa.

The largest group of patients (40%) had the illness for 1.5–2.5 years. The second largest group (36.67%) falls in the 0.5–1.5 years range. Fewer patients had the illness for more than 2.5 years (only 23.33% combined). Very few patients (just 3.33%) had illness lasting 4.5–5.5 years.

Table 4: Distribution of patients by compensatory type.

Compensatory type	Number of patients	Percentage
BOTH	6	20.00%
EXERCISE	7	23.33%
FASTING	17	56.67%

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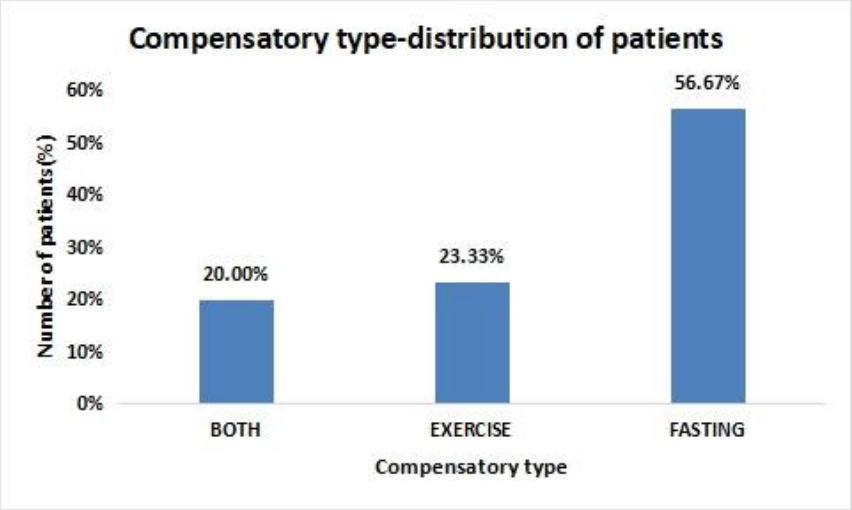

Figure 4: Distribution of patients by compensatory type.

Table 4 and Figure 4 show the Distribution of patients by compensatory type.
The fasting was the most prevalent compensatory behaviour, reported by more than half of the patients (56.67%). This suggests that fasting is a primary method adopted to manage to counteract food intake. Exercise was the second most common compensatory behaviour (23.33%), showing that nearly one-fourth of patients relied on physical activity for compensation. Interestingly, a smaller group of patients (20.00%) reported using both fasting and exercise, indicating a pattern of combining methods, which may reflect more severe or entrenched compensatory tendencies.

Table 5: Distribution of patients by Binge Eating Scale (BES)

BES CATEGORY	Number of patients	Percentage
MILD	1	3.33%
MODERATE	23	76.67%
SEVERE	6	20.00%

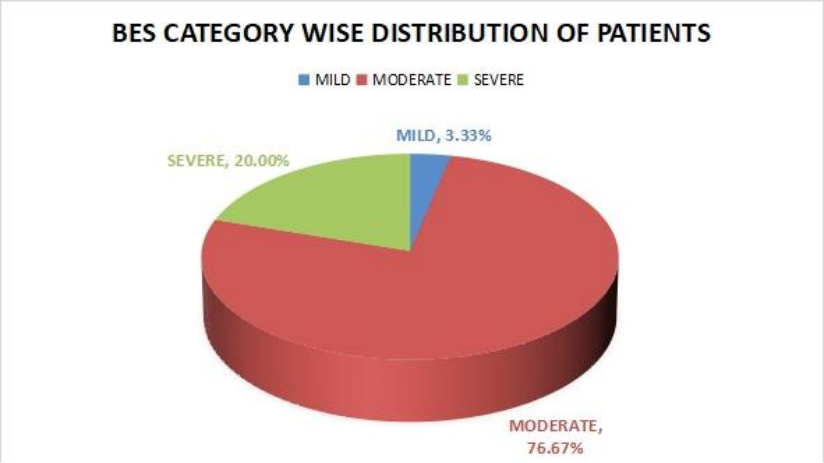

Figure 5: Distribution of patients by BES

Tables 5 and Figure 5 show the distribution of patients by the Binge Eating Scale (BES).The distribution of BES categories in this data reveals that the majority of patients fall into the **moderate category** (76.67%), while a smaller proportion are classified as **severe** (20.00%) or **mild** (3.33%). This suggests that binge eating behaviour is a significant concern among the studied population, with most patients experiencing moderate levels of symptom severity.

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Table 6: Distribution of patients according to fundamental miasms.

Fundamental Miasm	Number of patients	Percentage
PSORA	25	83.33%
SYCOSIS	2	6.67%
TUBERCULAR	3	10.00%

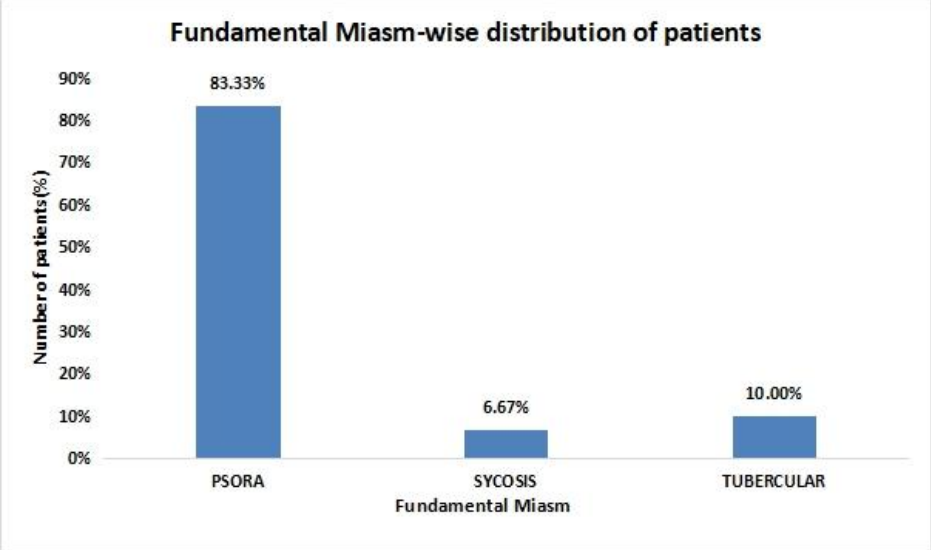

Figure 6: Distribution of patients according to fundamental miasms.

Tables 6 and Figure 6 show the distribution of patients according to fundamental miasms. With 83.33%, Psora(25 cases) is the overwhelmingly predominant miasmatic expression in your dataset. This indicates that the majority of cases presented with psoric tendencies, commonly linked in homoeopathic philosophy with functional disturbances, hypersensitivities, chronic tendencies, and lifestyle/diet-related influences.

Only 6.67% belong to the sycotic miasm. Sycosis is often associated with conditions involving overgrowth, proliferation (warts, fibroids), or suppression of gonorrheal states. Its low presence may suggest that such tendencies were less common in the group studied.

10% of cases show tubercular miasm. This is often seen as a mixed miasm, reflecting both psoric weakness and syphilitic destructive tendencies, manifesting as recurrent infections, wasting, and instability of health.

Table 7: Distribution of patients according to dominant miasms.

Dominant Miasm	Number of patients	Percentage
SYPHLILITIC	6	20.00%
PSORA	4	13.33%
SYCOSIS	10	33.33%
TUBERCULAR	10	33.33%

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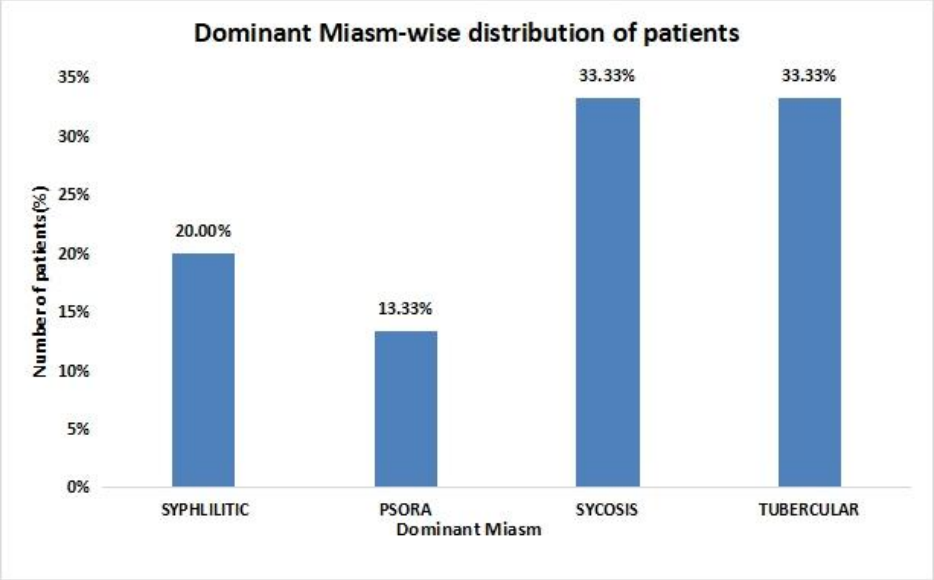

Figure 7: Dominant Miasm-wise distribution of patients

Tables 7 and Figure 7 show the dominant Miasm-wise distribution of patients
The largest proportion of patients belongs to **Sycosis (33.3%)** and **Tubercular (33.3%)**, indicating that these two miasms are the most prevalent in this group.The **Syphilitic miasm** accounts for **20%**, while **Psora** is the least frequent at **13.3%**.

Table 8: Descriptive statistics of variables, Age, duration of illness(years), Binge episodes /week, Fasting days/week, Exercise hours/week and BES Score

Variables	Count	Mean±Sd	Minimum	Median (IQR)	Maximum
Age (yrs)	30	26.4±2.8	21.0	27.0(4.0)	32.0
Duration of illness	30	1.9±1.1	.5	1.5(1.0)	5.0
Binge episodes/ week	30	3.4±1.1	2.0	3.0(1.0)	7.0
Fasting days / week	30	1.8±1.3	0.0	2.0(1.0)	4.0
Exercise hours / week	30	3.7±5.0	0.0	0.0(8.0)	14.0
BES Score	30	23.4±3.5	14.0	23.0(5.0)	30.0

Table 8 represents the descriptive statistics of **variables: Age, duration of illness(years), Binge episodes /week, Fasting days/week, Exercise hours/week and BES Score**
Age: Mean ≈ 26.4 years (Sd ± 2.8). Participants are young adults with a relatively narrow age range (21–32).
Duration of illness: Mean ≈ 1.9 years(sd±1.1), indicating a relatively early-stage population. Median = 1.5 years suggests many participants are in the first 1–2 years of illness.

Eating Behaviour Indicators:
Binge episodes/week: Average ≈ 3.4 episodes(sd±1.1), with most in the range of 2–7. Median = 3 (IQR 1.0), showing mild clustering around the mean. This suggests consistent binge behaviour across participants.
Fasting days/week: Mean ≈ 1.8 days (sd ±1.3), median 2 days, with some participants reporting 0 days.
Exercise hours/week: Mean = 3.7 hrs (sd ± 5.0), but median = 0 hrs (IQR = 8), indicating a highly skewed distribution: most participants report little to no exercise, while a few report very high levels (up to 14 hrs/week). This suggests heterogeneity in compensatory behaviours.
Severity Measure:
BES (Binge Eating Scale) score: Mean = 23.4 ± 3.5, with a range of 14–30.
A score around 23–24 usually falls into the moderate binge eating severity category.
Distribution is relatively tight (low SD), suggesting that most participants cluster around moderate severity, with no extreme outliers.

Patterns & Implications:
The median exercise hours = 0 but high max suggests two subgroups: one with minimal exercise, another using exercise as a compensatory method.

Fasting vs. binge frequency: Many participants seem to fast intermittently, but not at extreme levels (median 2 days/week).

BES scores are relatively uniform, which may limit the ability to detect strong correlations with behaviours like fasting/exercise in such a small sample (N=30).

Table 8: Correlation Analysis

BES Score Vs Binge episodes/ week	Exercise hours / week Vs Fasting days / week
Pearson Correlation=0.365* P-value=0.047<0.05	Pearson Correlation= -0.627** Pvalue <0.01

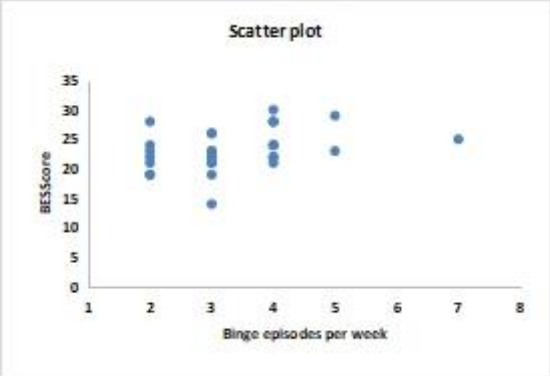

Figure 8: scatter plot of BES Score Vs Binge episodes/ week.

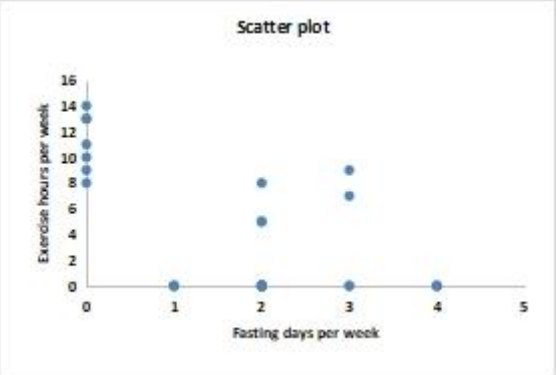

Figure 9: scatter plot of Exercise hours/week Vs Fasting days/week.

Table 8 shows the correlation between BES Score and Binge Episodes/Week, Exercise Hours/Week and Fasting Days/Week.
Figure 8 and 8a show the scatter plot of BES Score Vs Binge episodes/ week and the scatter plot of Exercise hours/week Vs Fasting days/week, respectively.
The Pearson Correlation between BES Score and Binge Episodes/Week is 0.365^{*} with p-value 0.047 (< 0.05).
This is a positive and statistically significant correlation (since p-value < 0.05).
Interpretation: Higher Binge Eating Scale (BES) scores are moderately associated with a higher number of binge episodes per week.
The Pearson Correlation between Exercise Hours/Week and Fasting Days/Week is -0.627^{**} with p-value < 0.01.
This is a negative and statistically highly significant correlation (since p-value < 0.01).
Interpretation: More exercise hours per week are strongly associated with fewer fasting days per week (or vice versa).
Here, BES is moderately linked with binge frequency, as expected (higher disordered eating score, more binges).
Exercise and fasting show an inverse relationship: people who exercise more tend to fast less, and those who fast more tend to exercise less.

HYPOTHESIS TESTED:
Null hypothesis: The Compensatory type is independent of gender.

Alternative hypothesis: The Compensatory type is dependent on gender.
To test the hypothesis, the **Chi-square Test** was used.

Table 10: Chi-square test table of frequency and percentage of Compensatory type Vs gender.

Compensatory type	parameters	Female	Male	Total
BOTH	Count	5	1	6
	% within Compensatory type	83.3%	16.7%	100.0%
	% within Sex	38.5%	5.9%	20.0%
EXERCISE	Count	0	7	7
	Expected Count	3.0	4.0	7.0
	% within Compensatory type	0.0%	100.0%	100.0%
	% within Sex	0.0%	41.2%	23.3%
FASTING	Count	8	9	17
	% within Compensatory type	47.1%	52.9%	100.0%
	% within Sex	61.5%	52.9%	56.7%

Table 10 shows the compensatory behaviour by sex (female vs. male), broken down into categories: BOTH, EXERCISE, and FASTING.
The chi-square test statistic value is 9.359 with a highly significant p-value 0.009 <0.05.
Hence, we reject the null hypothesis and conclude that The Compensatory type is dependent on gender.
The % within Compensatory type (row percentages) shows how each gender category is distributed within a particular compensatory type.
The % within the compensatory type " BOTH", 83.3% female(5) and 16.7% male(1). The "BOTH" group is heavily skewed toward females compared to males.
Exercise as a compensatory behaviour is exclusively dominated by male(100%).
The % within the fasting group as a compensatory behaviour is 47.1% female and 52.9% male (fairly balanced). Fasting is used almost equally across genders. Unlike BOTH and EXERCISE, this method does not show a strong gender difference.
The % within Sex (column percentages) shows how each sex is distributed across compensatory types. Among females, 61.5% fast, 38.5% do both, and 0% do exercise. Among males, 52.9% fast, 41.2% do exercise, and only 5.9% do both.

Overall Patterns:
- Females are overrepresented in the BOTH category.
- Males are overrepresented in the EXERCISE category.
- Fasting is gender-neutral in this sample.

Cluster analysis:
Objective:
The objective of this analysis was to identify clinically meaningful subgroups (clusters) among individuals with disordered eating behaviours.
The clustering was performed using both clinical/demographic variables and psychological scores, in order to explore whether distinct profiles of patients could be identified.
The variables used in the analysis were:
- Age (years)
- Sex (categorical: Male/Female)
- Duration of illness (years since onset)
- Binge episodes per week
- Fasting days per week
- Exercise hours per week
- Binge Eating Scale (BES) score

These variables were chosen because they capture the severity, behavioural patterns, and demographic background of patients, all of which may help in defining natural groupings.

Methodology
1. Preprocessing:

Categorical variable (Sex) was retained as factor. Numerical variables (Age, Duration of illness, binge episodes, fasting days, exercise hours, BES score) were standardised internally by the clustering method to avoid scale differences dominating results.

2. Distance Metric:
Because the dataset contained both numerical and categorical variables, the Gower distance metric was chosen. Gower distance is well-suited for mixed-type data as it computes dissimilarity by combining normalized numerical differences with categorical matches/mismatches. Computed in R using the daisy() function from the cluster package.

3. Clustering Method:
Agglomerative hierarchical clustering was performed on the Gower distance matrix. Specifically, the Ward's minimum variance method (ward.D2) was applied, which merges clusters to minimize within-cluster variance. This method is appropriate for medical datasets with mixed data types and relatively small sample sizes.

4. Determining the Number of Clusters:
Several approaches were applied to select the optimal number of clusters:
Dendrogram inspection from hierarchical clustering:

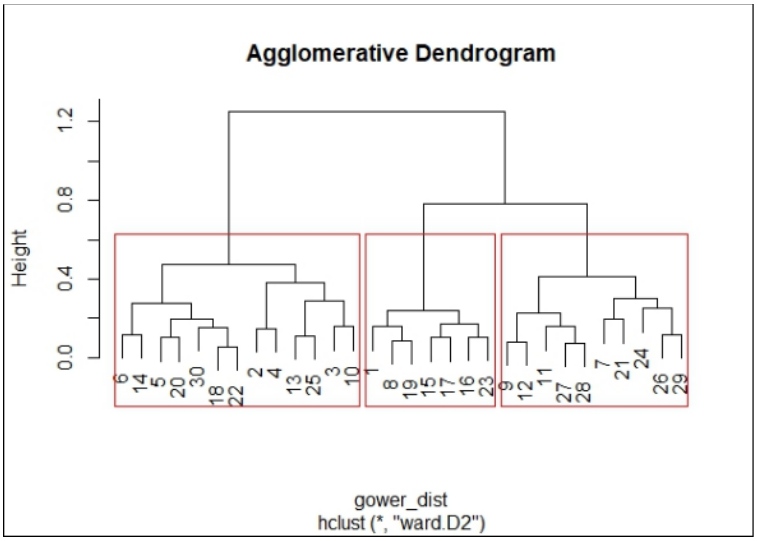

Figure 10: Dendrogram from hierarchical clustering.

In dendrogram, observations (patients) are listed at the bottom (labelled 1–30).
The y-axis (Height) represents the distance (or dissimilarity) at which clusters were merged.
Smaller heights = more similar cases.
Larger heights = more dissimilar clusters.
The red boxes mark the final 3-cluster solution. Each cluster groups patients that are more similar to each other (in terms of age, sex, illness duration, binge episodes, fasting days, exercise, BES score) than to patients in other clusters.

Interpretation: The three red boxes correspond to your three patient subgroups, which align with found using silhouette width.

Silhouette width analysis based on Gower distance.

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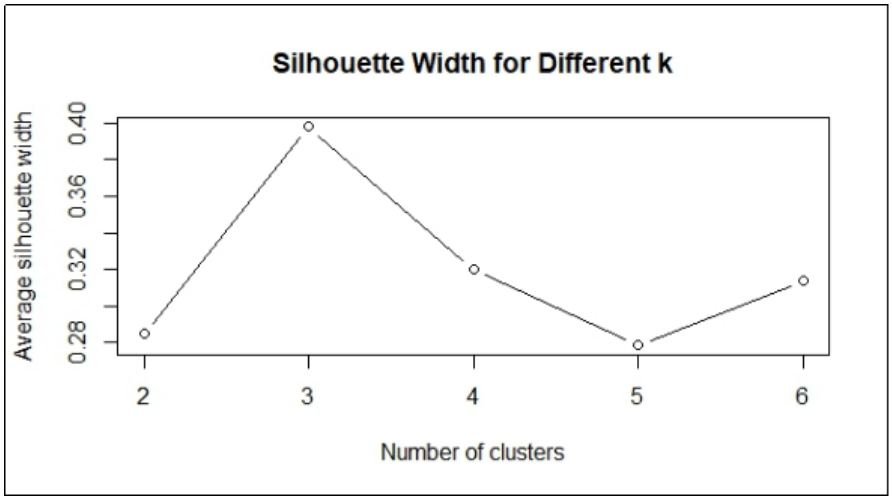

Figure 10a: Silhouette width analysis based on Gower distance.

Figure 10a shows the Silhouette width analysis based on Gower distance.
Silhouette width measures how well each object lies within its cluster compared to other clusters.
Higher values = better cluster cohesion and separation.
The y-axis shows the average silhouette width across all cases for a given k. The x-axis shows the number of clusters (k).

k = 2: Average silhouette width ≈ 0.28 (low → weak separation).
k = 3: Average silhouette width ≈ 0.40 (highest → best clustering solution).
k = 4–6: Values drop again (≈ 0.32–0.29), indicating poorer cohesion and separation.
Thus, the optimal number of clusters is 3, since it maximizes the silhouette width.
The silhouette analysis strongly supports a **3-cluster solution**.
This confirms that patients can be meaningfully grouped into three subtypes based on their age, sex, illness duration, binge episodes, fasting days, exercise, and BES score.
These clusters were then related to **Dominant Miasm** and **Gender** categories for further interpretation.

Table 11: Cluster-wise Distribution of patients.

Cluster	Number of patients	Percentage
1	7	23.33%
2	13	43.33%
3	10	33.33%

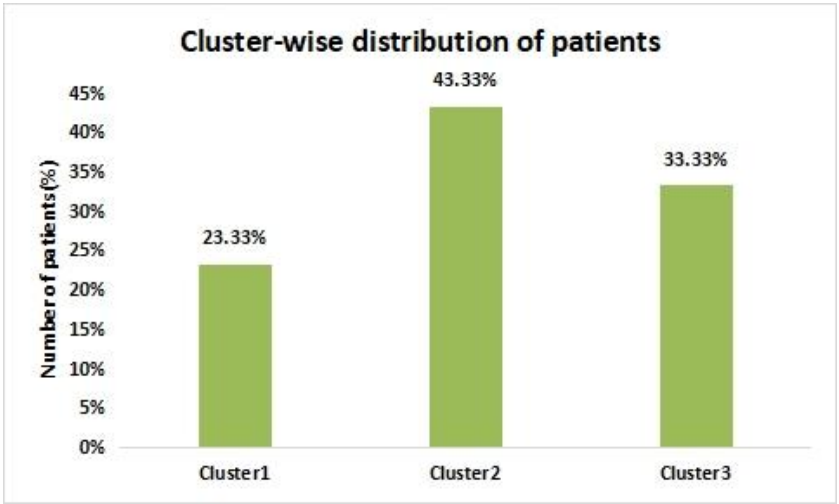

Figure 11:Cluster-wise Distribution of patients.

Table 11 and Figure 11 show the Cluster-wise Distribution of patients. Out of 30 patients,23.33% of patients belong to cluster 1, 43.33% of patients belong to cluster 2, and the remaining 33.33 % of patients belong to cluster 3.

Hypothesis tested:
Null hypothesis: Dominant **miasm type and cluster membership are not associated.**
Alternative hypothesis: Dominant **miasm type and cluster membership are associated.**
To test the hypothesis, **Fisher's exact test** was used.

Table 12: cluster composition based on Dominant Miasm

	Number of patients(percentage)		
Dominant Miasm	**Cluster 1**	**Cluster 2**	**Cluster 3**
PSORA	0(0.00%)	0(0.00%)	4(40.00%)
SYCOSIS	1(14.29%)	7(53.85%)	2(20.00%)
SYPHLILITIC	2(28.57%)	1(7.69%)	3(30.00%)
TUBERCULAR	4(57.14%)	5(38.46%)	1(10.00%)
Total	**7(100%)**	**13(100%)**	**10(100%)**

Fisher's exact test p-value=0.01916 <0.05, reject Ho and conclude that Dominant **miasm type and cluster membership are associated.**

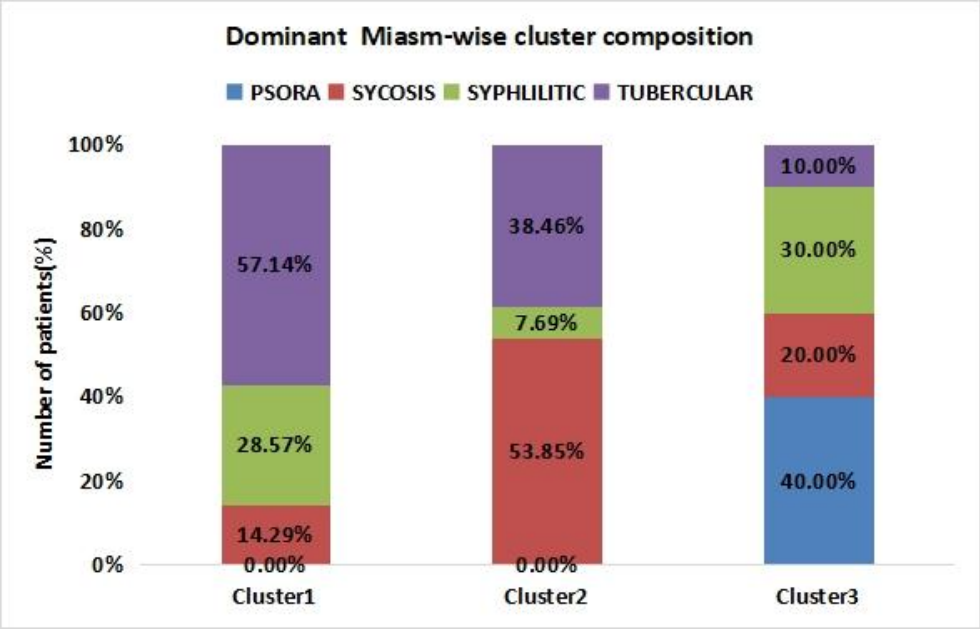

Figure 12: cluster composition based on Dominant Miasm

Table 12 and figure 12 show the cluster composition based on Dominant Miasm.Fisher's test of significance confirms that Miasm distribution is not random across clusters.
In cluster 1 (n = 7), Tubercular dominates: 4 out of 7 (57.14%). A smaller presence of Syphilitic (28.57%) and Sycosis (14.29%) was also observed. No Psora cases were observed in cluster 1.
Cluster 1 seems to capture a group strongly aligned with Tubercular miasm, with some overlap from Syphilitic. This suggests patients in this cluster may share clinical/lifestyle features (duration of illness, binge/fasting patterns, etc.) that align with Tubercular tendencies.

In cluster 2 (n = 13),Sycosis is the majority: 7 out of 13 (53.85%), followed by Tubercular is in 5 out of 13 (38.46%).Only 1 Syphilitic (7.69%) was observed, and no Psora was present.
Cluster 2 is clearly Sycosis-heavy, but with strong Tubercular overlap. This may represent patients whose clinical features cluster around chronicity, growth tendencies, or metabolic patterns typical of Sycosis, yet some Tubercular influence persists.

Cluster 3 (n = 10),is the only cluster with Psora: 4 out of 10 (40%).In cluster 3 Syphilitic is also strong: 3 out of 10 (30%), with Smaller fractions of Sycosis (20%) and Tubercular (10%).
Cluster 3 is Psora-rich (distinguishing it from Clusters 1 & 2). The combination with Syphilitic cases suggests this group reflects more mixed pathology, where Psoric tendencies dominate but Syphilitic are also present.
Cluster 1 = Tubercular; Cluster 2 = Sycosis(with Tubercular overlap); Cluster 3 = Psora + Syphilitic.
The fact that Psora only appears in Cluster 3 shows the clustering captured a meaningful subgroup, separating Psoric features from others.Tubercular and Sycosis patients cluster together in distinct groups (Clusters 1 and 2).Psora emerges as a unique marker of Cluster 3, often mixed with Syphilitic.
Hypothesis tested:
Null hypothesis: Gender **and cluster membership are not associated.**
Alternative hypothesis: Gender **and cluster membership are associated.**
To test the hypothesis, **Fisher's exact test** was used.

Table 13: clusters composition by gender

	Number of patients		
Clusters	**Female**	**Male**	**Total**
1	0(0.00%)	7(100%)	7
2	13(100%)	0(0.00%)	13
3	0(0.00%)	10(100%)	10

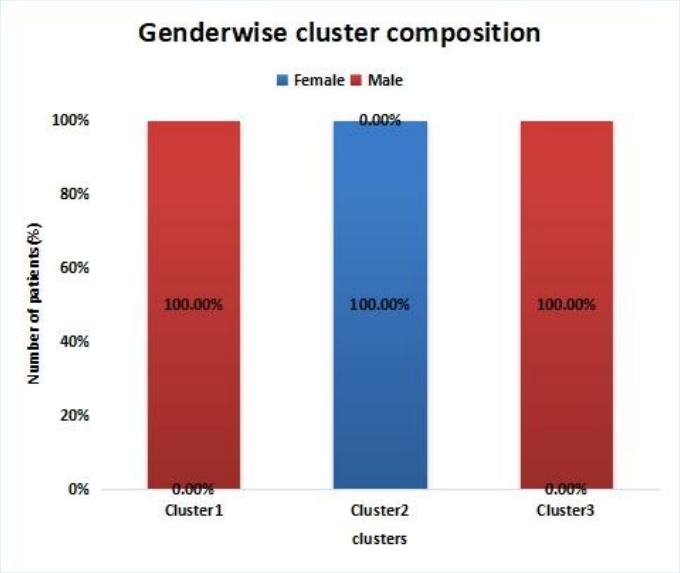

Figure 13: clusters composition by gender

Fisher's exact test p-value <0.05, reject Ho and conclude that Gender **and cluster membership are associated.**
Table 13 and Figure 13 show the cluster composition based on gender. Fisher's test of significance confirms that gender distribution is not random across clusters
In Cluster 1 (n = 7):all Male (100%), no females.
This suggests that this cluster 1 Tubercular-dominant is strongly male-associated.
Cluster 2 (n = 13): All Female (100%), no males.
This cluster is Sycosis-dominant with Tubercular overlap is exclusively female, highlighting a gender-specific pattern.
Cluster 3 (n = 10) :All Male (100%), no females.
This Psora + Syphilitic cluster is also strongly male-driven, with no females at all.
Overall, we can observe gender-specific clustering patterns and conclude that Cluster 2 includes only females. Clusters 1 and 3 include only males.
This is a very strong separation, suggesting that the clustering algorithm picked up gender-linked differences in clinical/behavioural variables (age, illness duration, binge/fasting patterns, exercise, BES scores).
Female patients group together in Sycosis-dominant cluster, possibly reflecting gender-specific illness behaviours.
Male patients split into two profiles: Tubercular (Cluster 1) and Psora + Syphilitic (Cluster 3). This suggests heterogeneity among males. Some showing chronic/tubercular patterns, others leaning towards psoric-syphilitic

tendencies. This demonstrates that clustering successfully captured **gender-specific miasmatic patterns** in the dataset.

- **Cluster 1 (Male–Tubercular)**
- **Cluster 2 (Female–Sycosis/Tubercular)**
- **Cluster 3 (Male–Psora/Syphilitic)**

Table 14: Descriptive statistics of variables, Age, duration of illness(years), Binge episodes /week, Fasting days/week, Exercise hours/week and BES Score by clusters.

Variables		Cluster		
		1	2	3
Age	Mean±Sd	27.4±2.1	26.3±2.8	25.9±3.3
	Median	27.0	27.0	26.0
	Count	7	13	10
Duration of illness	Mean±Sd	1.7±0.8	2.1±1.2	1.6±1.3
	Median	2.0	2.0	1.3
	Count	7	13	10
Binge episodes per week	Mean±Sd	3.6±0.8	3.4±1.5	3.2±0.8
	Median	3.0	3.0	3.0
	Count	7	13	10
Fasting days per week	Mean±Sd	0.0±0.0	2.4±0.9	2.2±0.9
	Median	0.0	2.0	2.0
	Count	7	13	10
Exercise hours per week	Mean±sd	11.1±2.3	1.9±3.1	0.9±2.8
	Median	11.0	0.0	0.0
	Count	7	13	10
BES Score	Mean±sd	24.7±3.0	23.5±3.0	22.3±4.3
	Median	24.0	23.0	22.5
	Count	7	13	10

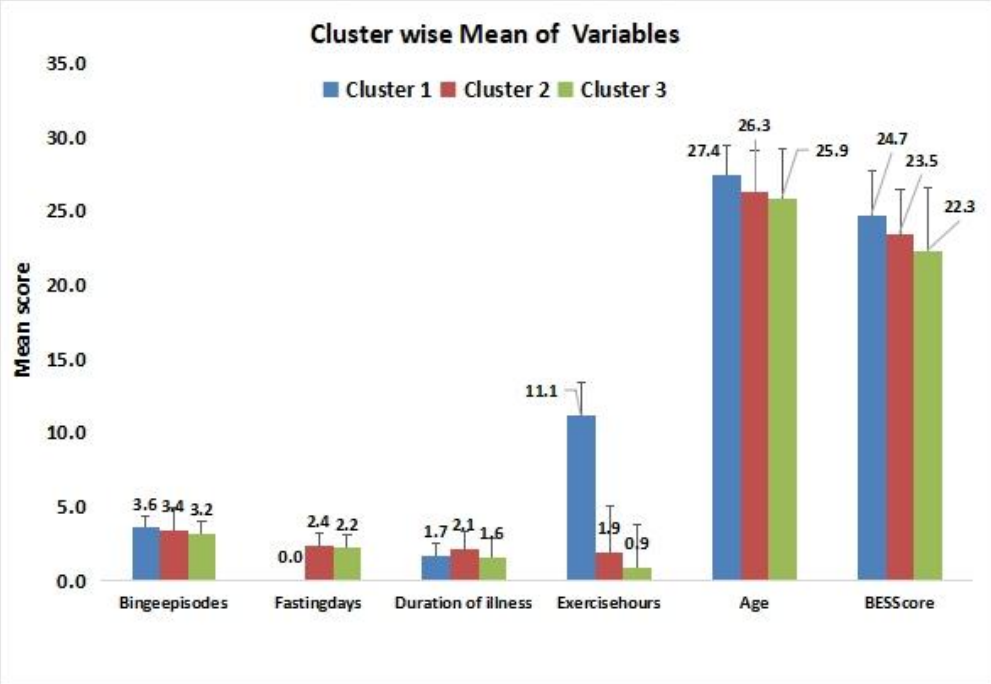

Figure 14 : Mean of variables, Age, duration of illness(years), Binge episodes /week, Fasting days/week, Exercise hours/week and BES Score by clusters.

Table 14 and Figure 14 show Descriptive statistics of variables, Age, duration of illness(years), Binge episodes /week, Fasting days/week, Exercise hours/week and BES Score by clusters.

Cluster 1 (n=7) is characterised by **excessive exercise (≈11 hrs/week)**, **no fasting**, and **moderate binge episodes**. Slightly higher BES scores, suggesting more pronounced binge eating tendencies and represent an **exercise-compensatory subtype**.

Cluster 2 (n=13) is defined by **frequent fasting (≈2–3 days/week)**, **low exercise**, and **moderate bingeing**. Illness duration is slightly longer. and also suggests a **fasting-compensatory subtype**.
Cluster 3 (n=10) engages in **fasting (~2 days/week)** but almost **no exercise**.Binge episodes and BES scores are somewhat lower compared to other clusters.It may represent a **less severe or mixed subtype** with compensatory fasting but milder binge pathology.

- **Cluster 1 = Exercise-driven compensation**
- **Cluster 2 = Fasting-driven compensation**
- **Cluster 3 = Fasting with lower binge severity**

Overall,from table 12, 13 and 14 we can conclude that,

- **Cluster 1 :Male–Tubercular with Exercise-driven compensation**
- **Cluster 2 :Female–Sycosis/Tubercular with Fasting-driven compensation**
- **Cluster 3 :Male–Psora/Syphilitic with Fasting with lower binge severity**

CONCLUSION:

The observational study was conducted on 30 cases of Bulimia Nervosa for miasmatic analysis, irrespective of sex, within the age group of 18–40 years. The patients were selected from the O.P.D. and I.P.D. of Bharati Vidyapeeth Homoeopathic Hospital, rural O.P.D.s, and various health camps organized by Bharati Medical Foundation in both urban and rural settings. Only newly diagnosed cases fulfilling the case definition and meeting the inclusion and exclusion criteria were recruited.

A detailed case taking and individualization was carried out for each patient, followed by analysis of miasmatic expressions to understand the evolution of miasms in Bulimia Nervosa.
Out of the 30 patients, the majority (40%) belonged to the 18–24 years age group, followed by 25–30 years (30%). Females (60%) were found to be more affected than males (40%). The Binge Eating Scale (BES) severity grading revealed that 56% had moderate severity, 30% were in the severe grade, while 14% presented with mild severity. The condition was most commonly seen among students (50%) and young professionals (33%), reflecting the influence of academic and occupational stress.

On miasmatic evaluation, Psora emerged as the most prevalent fundamental miasm, while Sycosis and Tubercular tendencies were seen in different cases depending on the chronicity and severity of symptoms. The analysis highlighted the dynamic evolution of miasms across the clinical spectrum of Bulimia Nervosa.
For statistical evaluation, both descriptive and inferential methods were applied. Mean, standard deviation, median, and percentages were calculated for demographic and clinical variables. Pearson's correlation test was employed to study the association between BES severity and behavioural factors (binge episodes, fasting days, and exercise hours), while a chi-square test was used to examine the relationship between compensatory behaviours and gender. The significance level was set at $p < 0.05$.

This study not only establishes the miasmatic distribution in Bulimia Nervosa but also emphasizes the importance of individualized case taking and holistic understanding of the disorder. The findings suggest that homoeopathic miasmatic interpretation can provide valuable insights into the progression, chronicity, and future management of Bulimia Nervosa.

CONFLICT OF INTEREST:

NIL

REFERENCES:

1) ICD-11: International Classification of Diseases 11th Revision : the Global Standard for Diagnostic Health Information Book by World Health Organization
2) American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (5th Ed.) American Psychiatric Association (Ed): American Psychiatric Publishing, Washington, DC; 2013.
3) Dr.Vivekanand. (2014, December 07). Types of Bulimia Nervosa. Medindia. Retrieved on Oct 04, 2023 from https://www.medindia.net/patients/patientinfo/bulimianervosa-types.htm.
4) Patel RS, Olten B, Patel P, Shah K, Mansuri Z. Hospitalization outcomes and comorbidities of bulimia nervosa: a nationwide inpatient study. Cureus. 2018 May 5; 10(5).
5) The Chronic Miasm with Repertory by J. Henry Allen - The Chronic Miasm; Author. J.H. Allen; Edition. 2nd ed.; Publisher. B. Jain Publishers (P) Ltd., 2003; ISBN. 8170210828.
6) Lectures of Homoeopathic philosophy by James Tyler Kent - Author, James Tyler Kent; Edition, reprint; Publisher, Indian Books & Periodicals...

7) Chronic diseases their peculiar nature and their homoeopathic cure bySamuel Hahnemann -Author, Samuel Hahnemann; Edition, reprint; Publisher, B. Jain Publishers, 1999.
8) Hahnemann's Organon of Medicine 6th edition - Author: William Boericke. Publisher: B. Jain Publishers (P) Ltd. Language: English. Edition: 2018. ISBN: 9788131901410.
9) Caminsky M, Patel R, Van Heerden HJ, Pellow J, Razlog R. Case studies on the homeopathic treatment of binge eating in adult males. health sa gesondheid. 2016 Jan 1; 21(1):294-302.
10) Dehn, K. et al. (2017) a qualitative enquiry into the use of homeopathy for eating disorders: The homeopath's perspective - kathrine dehn, Hpathy.com. Available at: https://hpathy.com/homeopathy- papers/a-qualitative-enquiry-into-the-use-of-homeopathy-for-eating-disorders-the-homeopaths-perspective/ (Accessed: 04 October 2023).
11) van Heerden HJ, Razlog R, Pellow J. Pilot Study on the Homeopathic Treatment of Binge Eating in Males. Alternative Therapies in Health & Medicine. 2016 Sep 2; 22.
12) Kessler RC, Berglund PA, Chiu WT, Dietz AC, Hudson JI, Shahly V, Aguilar-Gaxiola S, Alonso J, Angermeyer MC, Benjet C, Bruffaerts R. The prevalence and correlates of binge eating disorder in the World Health Organization World Mental Health Surveys. Biological psychiatry. 2013 May 1; 73(9):904-14.
13) Bhaskaran Sathyapriya., et al. "Bulimia Nervosa – A Psychiatric Eating Disorder". Acta Scientific Medical Sciences 2.2 (2018): 21-26.
14) Jordan J, McIntosh VV, Carter JD, Rowe S, Taylor K, Frampton CM, McKenzie JM, Latner J, Joyce PR. Bulimia nervosa-non purging subtype: Closer to the bulimia nervosa-purging subtype or to binge eating disorder?. International Journal of Eating Disorders. 2014 Apr; 47(3):231-8.
15) Fairburn CG, Beglin SJ. Studies of the epidemiology of bulimia nervosa. The American journal of psychiatry. 1990 Apr 1; 147(4):401-8.
16) Duarte C, Pinto-Gouveia J, Ferreira C. Expanding binge eating assessment: Validity and screening value of the Binge Eating Scale in women from the general population. Eating behaviours. 2015 Aug 1; 18:41-7.
17) Rikani AA, Choudhry Z, Choudhry AM, Ikram H, Asghar MW, Kajal D, Waheed A, Mobassarah NJ. A critique of the literature on aetiology of eating disorders. Annals of neurosciences. 2013 Oct; 20(4):157.
18) Jain A, Yilanli M. Bulimia Nervosa. InStatPearls [Internet] 2023 Jul 31. Stat Pearls Publishing.
19) Vithoulkas, G., & Chabanov, D. (2023). The Evolution of Miasm Theory and Its Relevance to Homeopathic Prescribing. Homeopathy : the journal of the Faculty of Homeopathy, 112(1), 57–64. https://doi.org/10.1055/s-0042-1751257
20) Nikumbh SB. Studying the evolution of miasm in autism spectrum disorders: A case series. J Intgr Stand Homoeopathy 2020;3(2):43-50.
21) Herscu, Paul, and National Center for Homoeopathy. "Homeopathic Treatment of Eating Disorders." The Center?, 1990. Television.
22) Adler, U. C., Adler, M. S., Cesar, A. T., Santos, H. F., Magalhães, P. A. D. F., Nogueira, R. D. S., Campos, E. M., Viana Júnior, A. B., & Sanders, L. L. O. (2023). Homeopathy for Major Depressive Disorder: Protocol for N-of-1 Studies. Homöopathie bei Major Depression: Protokoll für „N = 1"-Studien (HOMDD-1-Studien). Complementary medicine research, 30(4), 332–339. https://doi.org/10.1159/000531072