Anxiety, Ratrijagaran, And Doshika Kala's Assessment in Exam going Students with special reference to Manovaha Srotodushti Vikaras

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ABSTRACT

Introduction: The psychosocial wellbeing of youngsters is negatively impacted by stress. Ayurveda stated the twenty-four elements in which the mind is found at the top. It is sometimes assumed that the existence of the mind as a distinct sense organ, i.e., even if the sense organs are linked to their objects, does not means that the necessary comprehension will always be present. The mind naturally possesses the two significant qualities "Anutwam" (atomicity) and "ekatwam" (oneness). Anxiety is regarded as the "Udvega" in classical texts is one of the most commonly seen manovikara and due to various factors like ratrijagrana and lifestyle cases are on the peak. **Aim:** To estimate the anxiety, ratrijagrana and doshika kala in exam going students with special reference to the manovaha Srotodushti Vikaras. **Material & Methods**: A random study on the 30 medical students of 2nd year were taken just before the commencement of the exam and then just before the viva examination. To assess the anxiety level, the 20 item Zung Anxiety Scale was used. The scale consists of the 20 questions with answer based on 4-point scale and raw score was calculated and then converted into standard SAS score that gives the anxiety level. Along with modern parameter Manas Pariksha Bhava Questionnaire were also used to understand the mansika bhava of the patients for the deep understanding as per classical texts. Both the parameters were used both times and the data was analyzed by the statistical package. **Results:** Out of 30 assessed two times; **16.7** students were in the normal, **43.3** mild to moderate, **20.0** severe and **20.0** in the extreme anxiety level with the modern parameters when assessed in the morning, in afternoon 13.3% were in the normal state, 50% in mild to moderate, 23.3% in severe and 13.3% in extreme state. Ayurveda parameters showed differences in which 3.3% were found to be in normal, 30% in mild to moderate, 46.7% severe and 20% extreme in morning and 6.7% normal, 36.7% in mild to moderate, 33.3% in severe and 23.3% in extreme in afternoon. Ayurveda parameters showed more precisely anxiety level among the students and it was also noticed that anxiety levels more in afternoon time compared to morning which can be due to the involvement of vataj kala which plays a significant role in anxiety. **Conclusion:** It was found that out of 30 students 19 students have the history of Ratrijagaran which is one of the major factor for the increase of anxiety in the

students. Students those were regularly involved in the ratrijagrana and the have the dominance of Vata Dosha showed more anxiety level in afternoon and also Ayurveda paramaters showed anxiety levels more deeply with various factors involved.

INTRODUCTION:

Definition: Anxiety is defined as the tense, unsettling anticipation of a threatening but ambiguous event; a feeling of uneasy suspense. Anxiety is as prevalent as depression, but it has received less attention and is frequently detected and undertreated in the general population. Anxiety resulting from the phenomenon of examination is common among students of all streams of education. Examination anxiety is quite prevalent among medical students and deserves greater attention.[1]

CHITTODVEGA: Ayurveda states the term Chittodvega for anxiety neurosis and is one of the Kevala Manovaha Vikara mentioned in Classical text. Ayurveda States that the manovaha Strotas gets vitiated in the manovikara and the involvement of Masthiskha majja also gets vitiated in the manovikara.[2] (RAO, 2014) A subject has a generalized anxiety disorder if they have at least six anxiety symptoms and unwarranted worry about two or more aspects of their lives over a period of six months or longer.

Symptoms: Chronic anxiety symptoms include flushes of chills, tachycardia palpations, raised blood pressure, tremors, sleep disturbances, increased acidity, difficulties eating, and difficulty concentrating. The illness can make the sufferer persistently uncomfortable in daily activities due to frequent urination, dry mouth, and excessive sweating.[3]

Ayurveda have mentioned that Chittodvega can be considered as the keval Manas vikara; which mean an individual condition and also can be seen as the symptoms of the various psychiatric conditions. There have been very minute differences in conditions like panic disorders, depression and the anxiety but as this condition can be more understood with the help of the man bhava mentioned in the light of unmada in Ayurveda[4]. Acharya Charaka have mentioned in Nidan sthan chapter 7 about the 8 components which are considered as the pillars of the assessment of the mental conditions. Perversion of mind, intellect, consciousness, knowledge, memory, manner, behavior and conduct are seen in the case of the insanity but perversion of any one or two or so components leads to the formation of different Manas vikaras and these can be understood by the assessment through these 8 factors.[5] Ayurveda explained that doshas become more severe in those with Alpa Satva (weak mental fortitude) due to etiological reasons, rising through the Manovaha Strotas and vitiating the heart, the seat of Buddhi, which disrupts the Manas and occludes the Manovaha Strotas, causing Chhita to become disturbed which is called as the Udvega: called as the Chittodvega (Anxiety of Mind.)[6]

MATERIAL:

Study was conducted among 30 students (Second year) in institution on the day of the commencement of the end term examination and data was collected twice; in the morning before the commencement of the examination and then in the afternoon just before the viva. While collection of data Doshika Kala was also taken in consideration in which data was collected in Kaphaj and Vaataja Kala respectively.

Inclusion Criteria:

Second Year BAMS students of the institute on the day of examination were taken for the study after their oral consent with random sampling method.

Exclusion Criteria:

Students who were absent on the day of collection of data.

Null Hypothesis:

There is no relation between anxiety levels in morning and afternoon with modern and Ayurveda tool.

Alternate Hypothesis:

There is relation between anxiety levels in morning and afternoon with modern and Ayurveda tool.

METHODS:

Procedure:

Two questionaries' scales were used

1) **Zung Self-Assessment Anxiety Scale**
2) **Manas Pariksha Bhava**

30 Students were taken on the random sampling method and were told to fill the questionaries' carefully based on their condition.

Zung Self-Assessment Anxiety Scale is set of 20 question instrument in which answers were based on 4-point scale, gives the maximum scoring of 80 points. Zung have also mentioned the criteria for assessing the level of anxiety of subject. The Soring that is calculated from these question is said to be RAW SCORE. This Raw score need to be multiplied with 1.25 for the Anxiety Score.[7]

The values of the anxiety score are interpreted with the level of anxiety in subject.

Place check mark (✓) in correct column.	A little of the time	Some of the time	Good part of the time	Most of the time
1 I feel more nervous and anxious than usual.				
2 I feel afraid for no reason at all.				
3 I get upset easily or feel panicky.				
4 I feel like I'm falling apart and going to pieces.				
5 I feel that everything is all right and nothing bad will happen.				
6 My arms and legs shake and tremble.				
7 I am bothered by headaches neck and back pain.				
8 I feel weak and get tired easily.				
9 I feel calm and can sit still easily.				
10 I can feel my heart beating fast.				
11 I am bothered by dizzy spells.				
12 I have fainting spells or feel like it.				
13 I can breathe in and out easily.				
14 I get feelings of numbness and tingling in my fingers & toes.				
15 I am bothered by stomach aches or indigestion.				
16 I have to empty my bladder often.				
17 My hands are usually dry and warm.				
18 My face gets hot and blushes.				
19 I fall asleep easily and get a good night's rest.				
20 I have nightmares.				

Figure 1 – Zung Self-Rating Anxiety Scale (SAS)

Below 45 – Normal Range

45-59   - Minimal to Moderate Anxiety

60-74   - Moderate to Severe Anxiety

75 and over – Most Extreme Anxiety

Manas Pariksha Bhava is the classical Ayurveda set of questionnaire developed from the assessment of mansika bhava and to know the imbalance or the vibhrama. Ayurveda have explained the mental factor examination with the inference of the Charak samhita. The scale is developed to understand the factors properly.

Set of 20 factors to be answered as 3-point scale which defines the level of particular factors. Values of each factor is noted and converted into 4-point scale and level of anxiety was calculated as per the standard criteria.

Manasa, Vignyanam, Rajah, Moha, Krodha, Shoka, Harsha, Priti, Bhayam, Dhairyam, Viryam, Avasthan, Shraddha, Medha, Sandhya, Smriti, Hriya, Shila, Dvesha, Upadhi. These are the factors that are assessed and gives the idea for what factors are majorly gets imbalanced in the state of Chittodvega.[8]

Along with the questionnaire the history of the ratrijagrana was also taken into consideration as the ratrijagrana is of the major cause of vata vriddhi in the body as per Acharya Charaka. Raja and Tama are the two Manasa Dosha involved in Manasa vikaras including Chittodvega[9]. While Chittodvega is considered as keval manovikara in which vitiation of raja and tama is observed and due to relation of these Dosha with sharirika doshas Ratrijagaran history and doshika kala plays a vital role[10].

Doshika effect also plays a vital role in the anxiety as it is considered that vata Dosha relates with the raja manas Dosha and Kapha Dosha relates with the tamas manas Dosha; in which raja Dosha contributes more to the Chittodvega.

Manasa- Arthesu Avyabhichranena
    1 No deviations – 0
    2 Getting deviated very rarely - 1
    3 Deviation often and knowledge perception impairs - 2
    4 Deviation and perception frequently disturbed - 3
Moha – Avijnanena
    1 Normal functioning capacity - 0
    2 Gradual afflictions towards objects - 1
    3 Increased afflictions, oftenly towards objects - 2
    4 Totally involvement and affliction with objects – 3
Harsha – Amodena i.e. "Nritya gita vaditradutsavakaranama" (Chakrapani)
    1. Totally cheerful on all occasion - 0
    2. Cheerful and initiative with good circumstances - 1
    3. Cheerful and active in that, only at occasion - 2
    4. No feeling of cheerfulness - 3
Bhayam – Vishadena
    1 No fear - 0
    2 Fearful only at reasonable cause - 1
    3 Fearful even in reasonable cause - 2
    4 Always fearful emotions – 3
Avasthan - Avibhramena i.e. "Sthiramatitvam" (Chakrapani)
    1 Always confident and stable in perception - 0

2 Often stable in knowledge perception - 1
3 Rarely confident and stable in perception - 2
4 Not stability or confidence in perception - 3

STATISTICAL ANALYSIS

Data entry and analysis were done in statistical software. Frequency distribution tables were used for the description and comparison of the data.

RESULTS:

Most of the students were below the age of 20 years and it was found that most of them have the history of Ratrijagaran and it plays a vital role in the progression of the anxiety levels in the students. Doshika kala impact was also noticed as during the Vaataja kala slight increase in anxiety levels were seen in students.

Table – 1: Distribution of Patients

	Modern Parameter result Morning		Modern Par. Result Afternoon		Ayurveda Par. Morning		Ayurveda par. Afternoon	
	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%
Normal	5	16.7	4	13.3	1	3.3	2	6.7
Mild to moderate	13	43.3	15	50.0	9	30.0	11	36.7
Severe	6	20.0	7	23.3	14	46.7	10	33.3
Extreme	6	20.0	4	13.3	6	20.0	7	23.3
Total	30	100.0	30	100.0	30	100.0	30	100.0

Diagram – 1:
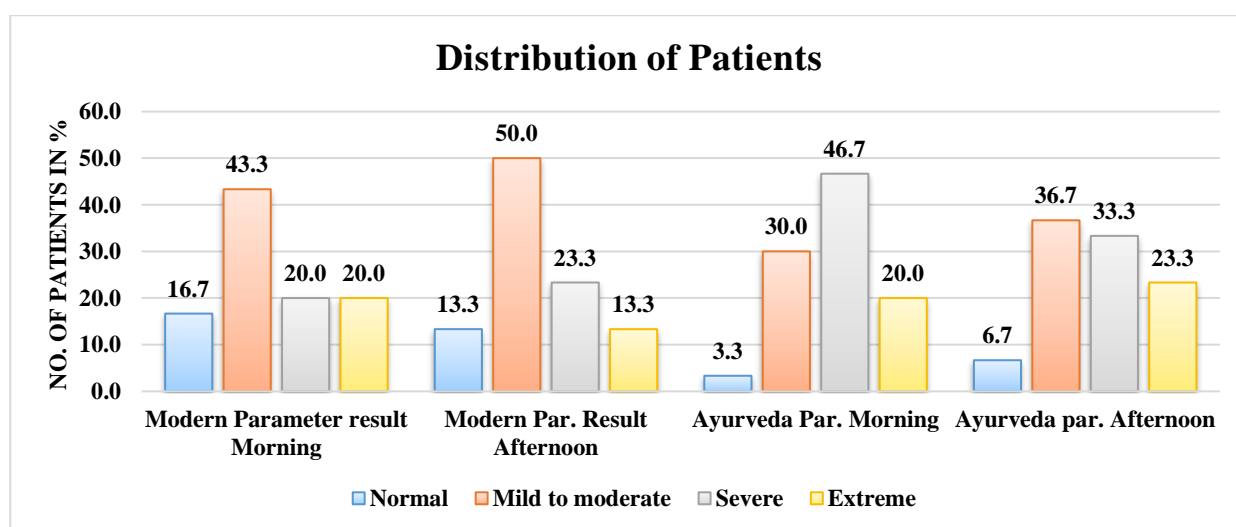
Table – 2: Wilcoxon Signed Ranks Test to compared Morning and Afternoon measures of Anxiety.

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	Afternoon - Morning	N	Mean Rank	Sum of Ranks	z - value	p - value	Result
Modern	Negative Ranks	10	10.25	102.50	-0.312	0.755	NS
	Positive Ranks	9	9.72	87.50			
	Ties	11					
	Total	30					
Ayurveda	Negative Ranks	12	10.88	130.50	-0.537	0.567	NS
	Positive Ranks	9	11.17	100.50			
	Ties	9					
	Total	30					

Modern: Negative ranks were 10, positive ranks were 9 and 11 ties. Test statistic value was -0.312 with p – value 0.755 which is greater than 0.05 (level of significance). i.e., there is no significance difference in anxiety level at the time of morning and afternoon exam according to modern tool.

Ayurveda: Negative ranks were 12, positive ranks were 9 and 9 ties. Test statistic value was - 0.537 with p – value 0.567 which is greater than 0.05 (level of significance). i.e., there is no significance difference in anxiety level at the time of morning and afternoon exam according to ayurveda tool.

Table – 3: Wilcoxon Signed Ranks Test to compared Anxiety measure, Measured by Ayurveda and Modern tool.

		N	Mean Rank	Sum of Ranks	z - value	p - value	Result
Ayurveda Par. Morning - Modern Par. Morning	Negative Ranks	5	10.50	52.50	-2.09	0.037	S
	Positive Ranks	15	10.50	157.50			
	Ties	10					
	Total	30					
Ayurveda par. Afternoon - Modern Par. Afternoon	Negative Ranks	2	5.00	10.00	-2.392	0.017	S
	Positive Ranks	10	6.80	68.00			
	Ties	18					
	Total	30					

Morning: Negative ranks were 5, positive 15 and 10 ties out of 30 responses. Test statistic value is **-2.09** with **p – value 0.037** which is less than **0.05** (significance level). i.e., there is significance difference in anxiety level measured by modern and Ayurveda tools and Ayurveda tool was measured high anxiety as compared to modern tool.

Afternoon: Negative ranks were 2, positive 10 and 18 ties out of 30 responses. Test statistic value is **-2.392** with **p – value 0.017** which is less than **0.05** (significance level). i.e., there is significance difference in in anxiety level measured by modern and Ayurveda tools and Ayurveda tool was measured high anxiety as compared to modern tool.

Table – 4: Rank Correlation Coefficient and Measure of agreement between Modern Morning Parameter Measures and Ayurveda Morning Parameter Measures.

		Value	Asymptotic Standard Error	Approximate T	p - value	Result
Interval by Interval	Pearson's R	0.440	0.157	2.594	0.015	S
Ordinal by Ordinal	Spearman Correlation	0.420	0.168	2.450	0.021	S
Measure of Agreement	Kappa	0.088	0.120	0.865	0.387	NS
N of Valid Cases		30				

Spearman Correlation coefficient value is **0.420 with p - value 0.021**, there is weak positive correlation between modern and Ayurveda morning measures. Also, measure of agreement is **0.088** with p – value **0.387** which is not significant.

Table – 5: Rank Correlation Coefficient and Measure of agreement between Modern Afternoon Parameter Measures and Ayurveda Afternoon Parameter Measures.

		Value	Asymptotic Standard Error	Approximate T^b	p - value	Result
Interval by Interval	Pearson's R	0.638	0.112	4.382	0.000	HS
Ordinal by Ordinal	Spearman Correlation	0.622	0.121	4.204	0.000	HS
Measure of Agreement	Kappa	0.428	0.124	3.906	0.000	HS
N of Valid Cases		30				

Spearman Correlation coefficient value is 0.622 with p – value 0.000 which is highly significant, there is strong positive correlation between modern and Ayurveda afternoon measures. Also, Measure of agreement is 0.428 with p – value 0.000.

DISCUSSION:
Exam anxiety is a condition that affects many students, not only medical students. But for medical students, a rigorous academic load and higher aspirations may be a psychological hardship. Out of 30 assessed two times; **16.7** students were in the normal, **43.3** mild to moderate, **20.0** severe and **20.0** in the extreme anxiety level with the modern parameters when assessed in the morning, in afternoon 13.3% were in the normal state, 50% in mild to moderate, 23.3% in severe and 13.3% in extreme state. Ayurveda parameters showed differences in which 3.3% were found to be in

normal, 30% in mild to moderate, 46.7% severe and 20% extreme in morning and 6.7% normal, 36.7% in mild to moderate, 33.3% in severe and 23.3% in extreme in afternoon. Ayurveda also states that for healthy physical and mental health proper daily regimen that is dincharya, diet and yoga should be done on regularly basis. Students those who were involved in the junks food and history of ratrijagrana were found to have more anxiety levels. The Questionnaire developed by the Ayurveda proved to be very good for the assessment of the mental health and for the diagnosis and treatment purpose this should be used for the precise results. This will provide more appropriateness for the Ayurveda treatment in the mental health. Along with the diet, daily routine and yoga practices precise treatment can be given. Manas roga can be understood properly with the help of these parameters and the they will be beneficial in every manas roga[11] (AL, 2022)

CONCLUSION:

From this study it can be concluded that Ayurveda tools for the assessment of the anxiety involving various factors of mental health can be used for the assessment of such patients for the proper diagnosis and can be treated accordingly for the factor found disturbed. There is a relationship between the Modern and Ayurveda tool for the assessment of the anxiety in both the doshaj kala; in which the afternoon gives very strong relation between the two. Anxiety which is considered as the Chittodvega in Ayurveda give relation in both Ayurveda and modern parameter. The difference between the morning and afternoon anxiety levels with both parameters was not that big but some of the students showed the difference in them that shows the existence of doshika kala effect on anxiety. Large study samples can also be taken into consideration for the results. Various Manasa can be studies with these parameters and disturbance of particular factor can also be studied for the better diagnosis and prognosis. It is also noticed that among student 23 students were having the high scoring of specific factors of Manasa pariksha bhava and these were ***Harsha, Bhayam***, ***Manasa, Avasthan, Moha.*** These 5 factors among 20 were more prominently seen high in students. So these factors give the idea of the state of the patient in precise manner and can be treated accordingly.

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