



## Case Report

## Ayurveda management of Major Depressive Disorder: A case study

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## ARTICLE INFO

## Article history:

Received 20 July 2019

Received in revised form

23 March 2021

Accepted 30 March 2021

Available online 20 May 2021

## Keywords:

Major Depressive Disorder

Kaphaja unmada

Ayurveda

Panchakarma

Satwawajaya (Ayurveda psychotherapy)

## ABSTRACT

Major Depressive disorder (MDD) is a chronic, episodic disorder which manifests with disturbance in mood, interest, cognition and vegetative symptoms. It has major impact on the quality of life of the patients, by affecting their physical, mental, personal, social, and spiritual wellbeing. *Vishada* and *avasada* represents minor depressive episodes and MDD can be equated to *Kaphaja Unmada*.

Current case presented with sadness, worthlessness, helplessness, death wishes, disturbed sleep and was diagnosed as MDD as per DSM V criteria. Ayurveda diagnosis was *Kaphaja Unmada* involving *kapha*-dominant *vata* and *tama dosha*. Mental examination revealed derangement of *mana* (mind), *buddhi* (intellect), *smruti* (memory), *bhakti* (desire), *sheela* (temperament), *chesta* (psychomotor activity) and *achara* (conduct) components. Patient was *Avara Satwa*. Management was planned with integrative treatment comprising of *Yukti vypoashraya* (pharmacological), *Satwawajaya* (counselling) and *daiwi-vyapashraya* (spiritual-based techniques). Management was with *snehapana* (internal oleation), *vir-echana* (gut cleansing), *sarvanga abhyanga* (massage of whole body with medicated oil) followed by *bashpa sweda* (steam therapy to whole body), *shirodhara* (dripping of medicated oil on fore head), *shiropichu* (transcranial drug administration by placing cotton pad dipped in medicated oil), *katibasti* (holding of medicated oil in well-prepared from dough), *satwawajaya chikitsa*, and *daiwi vyapashraya chikitsa*. Conventional psychopharmacological interventions taken since last year were tapered and discontinued. Treatment continued for 352 days which included 13 days of hospitalized treatment and follow-ups. Intervention outcome showed reduction in Hamilton depression Rating scores from 31 to 6. Patient's self-assessed worry reduced from 16 h/day to 2 h/day, self-assessed daily relaxed state improved from ½ hour/day to 14 h/day. Patient showed complete remission by 180th day of intervention. Improvements sustained even during the non-interventional observation period. Thus, the Ayurvedic integrative management showed efficacy in management of MDD.

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## 1. Introduction

Major depressive disorder (MDD) is a common mental disorder disturbing mood, interest, pleasure, affecting cognition and vegetative symptoms. MDD is the second leading cause of disease burden [1]. It significantly reduces the quality of life of patients. Considering the impact of depression, the World Health Organisation declared slogan of World Health Day 2017 as "Depression—Let's talk". MDD is a chronic disorder with considerable variation in remission and chronicity. Prevalence in India is

high and 48.5 million people are affected [2]. A large South Indian population-based survey showed a prevalence of depression as 15.1% after adjusting for age using 2001 census data [3]. A study at a primary care setting showed a prevalence of 30% and 66% of cases diagnosis was missed by the treating physicians [4]. Depression has 2.1 times higher prevalence in women than men [5]. An epidemiological study showed the prevalence of substance abuse, namely alcohol abuse (4.8%), alcohol dependence (4.5%), cannabis abuse (2.5%) and dependence (2.9%), other drugs abuse (2.3%) and dependence (2.9%) among MDD patients [6]. Suicidal attempts among patients with MDD was found to be 30–40% [7]. Depression is caused by multifactorial combination of genetic, environmental, epigenetic, gender, personality trait factors along with biological component of hypothalamic adrenal pituitary axis, central nervous system, immune and endocrinal components. Environmental

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Peer review under responsibility of Transdisciplinary University, Bangalore.

factors include stressful events like financial insecurity, major health problems, bereavement, etc., occurring one year prior to the onset in adults. MDD episodes may first occur in childhood, adolescence and these episodes may continue in adulthood as well. In majority of cases, MDD is a lifelong episodic disorder with multiple recurrences. With remission, patients will still have residual symptoms and functional impairment [8]. Chronic unremitting course is observed in 20–25% of patients [9]. MDD is associated with an increased risk in development of diabetes mellitus, heart disease and stroke [10].

Current interventions include both pharmacological and psychological aspects. Moderate to severe depression needs to be treated with medication or combination of medications and psychotherapy [11]. Treatment comprises of initial and maintenance phases. Initial phase lasts for approximately 6 months while the mean maintenance phase lasts for 9–12 months. Initial phase is aimed at remission and restoration of psychosocial functioning while maintenance phase aims to prevent recurrence of symptoms [12]. Psychopharmacological interventions usually include selective serotonin receptor inhibitors (SSRI), tricyclic and tetracyclic antidepressants, serotonin and nor-epinephrine receptor inhibitors (SNRI), Monoamine oxidase (MAO) inhibitors, etc.

Transcranial magnetic stimulation and vagus nerve stimulation have also been found to be effective in depression. Various psychotherapies including cognitive behaviour therapy, interpersonal therapy, behavioural activation therapy, psychodynamic therapy, problem-solving therapy, and mindfulness-based therapy have been found to be beneficial [13]. However, conventional anti-depressants have demonstrated various adverse events like sedation, tremors, sexual dysfunction, and weight gain [14]. Studies have shown that anti-depressants have low adherence rate due to patient concerns about dependency and side effects [15].

In Ayurveda, MDD can be closely related to *Kaphaja Unmada* in severe cases and in mild cases to *vishada* and *avasada*. In severe cases, derangement of *Kapha pradhana tridosha* and in mild cases *Kapha vataja* derangements are observed. In Ayurveda texts, scattered information on mental derangements and treatments is available. *Vishada* is mentioned to be one of the *vataja natatmaja vikara* [16]. *Manasika dusti* involved is *Tama pradhana raja dosha*. *Vishada* is more prevalent in *hina satwa purusha* (decreased mental strength) (C.S.Vi.8.119). Symptoms include *avasada* (derangement) of *manas* (mind) (C.S.Su.16.14, C.S.Su.25.40), *vak* (speech), *kaya* (body) [17]. Presence of *vishada* aggravates co-existing disease conditions (C.S.Su.25.40) (Table 1). Ayurveda approach for

**Table 1**  
Comparison of MDD, *Vishada/Kaphaja Unmada* manifestation of the patient.

S.No	MDD	Textual Information – <i>Vishada/Kaphaja Unmada</i>	Patient manifestations
<b>Aetiopathology</b>			
1.	<b>Genetic Factors</b> -5-HTTLPR polymorphism	<i>Bija dusti</i> is the cause in many diseases. Hence it can be involved in <i>vishada</i>	No familial history
2.	<b>Psycho Social Factors</b> -Job loss, marital difficulties, major health problems, and loss of close personal relationships	शोकःपुत्रादविधियेचितोद्वेगः असदिग्धभियाद्विधिपुत्रसमुसादोऽप्रवृत्तःविषादः ( <i>Chakrapani</i> - C. Su 7/27) Death of son, performance or anticipatory anxiety in chronic course	Interpersonal issues with husband, Mother in law, domestic violence, <i>manoabhighata</i>
3.	<b>Personality</b> -Obsessive-Compulsive, histrionic, borderline	<i>Manogata-Tamasikadosha</i>	<i>Tamasika Prakurti</i>
4.	<b>Pathogenesis</b>		
5.	Neurotransmitter- Serotonine, Ephinephrine, GABA	<i>Tama pradhana raja dosha</i>	<i>Tama pradhana prakurti</i> , <i>Kaphapittaja prakurti</i> <i>Kapha Vata</i>
6.	HPA axis, Neural circuitry –Central nucleus, limbic system dysfunction	<i>Vata (Pranavata)</i> regulates the functioning of mind ( <i>Niyanta praneta cha manasa</i> (C.Su.12/8)). <i>Avalambaka kapha dusti</i> leads to <i>hrudaya dusti</i>	<i>Tama pradhana Raja</i>
7.	Psychology theory- <b>Clinical manifestations</b>		
8.	<i>Chinta, bhaya, shoka krodha lobha moha irshya</i> have etiological role in many diseases®. Hence, these are considered as neurological manifestations- Autonomic dysfunction like headache, giddiness, tinnitus.	<i>Vatavyadhi</i> (ch chi 28/17), <i>Sanjaanasha, moha</i> (C.Su.24.28)	Backache, tinnitus
9.	Respiratory-Dyspnoea	<i>Shoshana</i> (C. Su. 25/40),	–
10.	Gastrointestinal- Loss of appetite, increased appetite, weight loss, obesity	<i>Karshya</i> (C.Su.21.29) <i>Jwara</i> (C.Ni 1/19), <i>Ama</i> (C.V.2/8), <i>Trushna</i> (C Chi 22/4) <i>Chardi</i> (C. Chi 20/7), <i>Atisara</i> (C.Chi 19/6–8), <i>Aruchi</i> (C.Chi 26/124)	–
11.	Urogenital-Erectile dysfunction	<i>Manasika Klaihbhya</i> (S.S.Chi 26/9)	–
12.	Psychological- Anhedonia anxiety, worthlessness, helplessness, hopelessness, solitary	<i>Shoka, dainya, vishada, unmada, apasmara</i>	<i>Shoka, dainya, vishada, vishada, chinta, bhaya, krodha, dainya</i>
13.	Secondary Depression- Any chronic disorders. Irritable Bowel Syndrome, chronic fatigue syndrome (CFS), obesity, type 2 diabetes mellitus chronic pain conditions	Any chronic condition cause <i>vata</i> and <i>raja</i> – <i>tama</i> increase. <i>Vishad roga vardhanam</i> . <i>Shoka</i> causes chachexia (शोकःशोषणानां. <i>Jara</i> )	
14.	Treatment – TCA, SSRI, benzodiazepines, electroconvulsive therapy Psychotherpies- Psycosocial therapy, cognitive therapy, i nterpersonal, therapy behaviour therapy psychoanalytically-oriented, therapy, family therapy, sleep deprivation, vagal nerve stimulation, phototherapy	<i>Yuktivyapasharaya, satwawajaya, Daivivyapashraya, Snehapana</i> <i>Langhana</i> (C.Chi. 3/139), <i>Ashwasana</i> (C.Chi. 3/320) (C. Chi 9/86), <i>Harshana</i> (C. Chi. 3/321), <i>Saddvakhya</i> (C. Chi 3/321) <i>Ishtadravyaprapti</i> (C.Chi 9/86), <i>Santwana</i> (C. Chi 9/86) <i>Pratidwandwachikitsa</i> (C. Chi 9/86)	<i>Yuktivyapasharaya, Satwawajaya-Mana jnana, Mana prasadana, Mana nigrahana, aswasana, Pratidwandwacha chikitsa, mana vijanana. Daivivyapashraya</i>

® *Mano dosha* is a etiological factor to diseases like *ama, jwara, gulma, kustha, kshaya, unmada, apasmara, pandu, atisara, chardi, trushna, vatavyadhi, vataja shiroroga*.

depression is as per *Kaphaja Unmada*. In *vataja* manifestations, *vataja unmada chikitsa* is also incorporated. According to the condition *vamana, snehapana, snidga virechana, sarvanga bahyanga, mastiskya chikitsa* can be beneficial. Integration of *Panchakarma*, oral medications, *satwawajaya, daiwivypashraya* also can play an important role in the comprehensive management of MDD.

## 2. Patient information

A female patient aged 52 years presented with disturbed sleep, sadness, worthlessness, helplessness, death wishes, and increased crying spells since past 33 years and her symptoms had aggravated since last one year. She was under on and off psychiatric medications for 15 years. Patient was brought to KAHER's Ayurveda Hospital OPD by her daughter to explore the possible role of Ayurveda treatment (8.9.2011). Case reporting is done as per the CARE case report guidelines (<http://www.care-statement.org>).

### 2.1. Clinical findings and diagnostic assessments

The patient was subjected to thorough psychiatric detailed work-up which was done through information provided by the patient, husband and her daughter. Patient was dull, had low voice, poor eye contact, passive gestures, increased crying spells, irritable, impulsive, reduced personal hygiene, excess worry, uncontrolled worry during most part of the day, feeling worthless, helpless, had death wishes and had withdrawn from family and friends. Other symptoms included sleep disturbance, headache, fatigue, bilateral tinnitus. Patient was a teetotaler.

Medical history revealed that patient had consulted most of the psychiatry hospitals in her region and was administered different anti-depressants. Current medications were drug combinations of Amitriptyline 25 mg and Chlodiazepoxide 10 mg twice a day and Tab Lorazepam 2 mg twice a day since past one year. *Manapareeksha* assessment revealed derangement of *mana, buddhi, smruti, bhakti, sheela, chesta* and *achara* components (Table 2). *Prakurti* was assessed as *Tamasika prakurti* and *Kaphapittaja prakurti*.

### 2.2. Timeline

#### 2.2.1. History

The patient was a house wife, primary school educated, socio-economic status was middle class, married with three children. All

children were married and comfortably placed in their respective professions and marital lives. At the time of admission, the patient stayed with her husband, elder son, daughter-in-law and grandchildren. Patient was apparently healthy till she got married 33 years ago. Later, she developed interpersonal issues with her husband and mother-in-law. The patient's husband used to be suspicious about her character and was over-guarding, possessive, dominating and harsh thus, leading to marital disharmony. She was forced to stay alone and was confined to the house with restricted socialization. Patient experienced domestic violence, physical abuse by her husband and mother-in-law frequently. An unsuccessful suicide attempt was noted 27 years ago. Patient developed severe depressive symptoms along with insomnia 15 years ago, and from then onwards she has been under psychiatric consultations and medications, details of which were unavailable. Patient had adjustment issues, felt ignored in the family and interpersonal relations were grossly affected. Patient had good rapport with her daughter who stayed in a distant place. Since one year, her symptoms worsened in spite of ongoing medications and hence, she was brought to KAHER's Ayurveda Hospital OPD by her daughter to explore the possible role of Ayurvedic treatment.

## 3. Therapeutic intervention

Patient was diagnosed with *Kaphaja Unmada* and met the diagnostic criteria of MDD [18], and predominantly deranged *dosha* were *tama* and *kapha-vata*. Management was with *snehapana, virechana, sarvanga abhyanga* followed by *bashpa sweda, shirodhara, shiropichu, katibasti, satwawajaya chikitsa*, and *daiwivypashraya chikitsa*. *Shiropichu* was advised to be followed even at home from 10 pm onwards and to be retained for the entire night. Anti-depressant medications were tapered and discontinued during course of the treatment. Details of the treatment algorithm like chronology, duration of treatment, drugs used, dosage, etc. have been enlisted (Tables 3 and 4). The principles and practises of *Panchakarma* [19] were adhered during various *panchakarma* interventions.

### 3.1. Satwawajayachikitsa

Counselling sessions of 30 minutes were carried out daily during hospitalization (i.e., first 13 days) and later during every visit. A total of 18 sessions were conducted for the patient and two sessions

**Table 2**  
Examination of *Manas*.

S.No	Manapareeksha	Patient manifestations
1.	<i>Manadusti</i> –(Abnormality in <i>mana</i> )	Abnormality was noted in <i>chintya, vicharya, uhya, dhyeya</i> and <i>sankalpa</i> . <i>Chintya</i> (process of thinking) abnormality was negatively biased thoughts. <i>Vicaryam</i> (Circumspection - Means of knowing pros/cons) was pessimistic anticipation, <i>uhyam</i> (cogitation - The method of speculation) was generalized passivism, <i>Dhyeyam</i> (Contemplation -The technique of concentration) was assessment of events as hurting, harming and pessimistic. <i>Sankalpa</i> (Conviction- The act of decision) pessimistic emotional judgment associated with withdrawal, aversion, hatredness, solitary confinement and death wishes. <i>Mananigraha</i> was reduced. Decreased interest in <i>indriyarthas</i> . <i>Swanigraha</i> was deranged and failed to control her thoughts and mood. <i>Manadosha</i> were <i>shoka, vishada, chinta, bhaya, krodha, dainya</i> .
2.	<i>Buddhidusti</i> - (Abnormality in <i>buddhi</i> )	Abnormal, emotional judgment and perceptions. Assessment of all events through pessimistic approach, non coping, maladaptive mechanisms. Rigid and lacks adaptive ability to changing circumstances. Viewing family members activities and communications as hurting, disrespecting etc and refrains from participating and contributing in family activities. Reactively family members have disengaged from her. These events over time have made her to make judgment of worthless, hopeless, unwanted, persecuted.
3.	<i>Smrutidusti</i> –(Abnormality in memory)	Ruminations of past painful memories, not accounting pleasurable memories. Memorizing only hurting events.
4.	<i>Bhaktidusti</i> - (Abnormality in desire etc)	Reduced interest in food, personal care, hygiene, recreation,
5.	<i>Shiladusti</i> – (Abnormality in temperament, etc)	Irritability, excitability, emotionally labile, mood congruent behaviours, impulsive, reduced personal care and hygiene
6.	<i>Chesta</i> and <i>Acharadusti</i> –(Abnormality in psychomotor activity and conduct)	General activity reduced, crying spells, social activity reduced, speech poverty, reduced personal care and hygiene

**Table 3**  
Intervention through Panchakarma procedures at different time-points.

S.No	Treatment plan	Treatment	Intervention period in days													
			1	2	3	4	5	6*	7	8	9	10	11	12	13	
1	Snehapana	Bramhi ghrita - 30 ml Bramhi ghrita - 75 ml Bramhi ghrita - 125 ml	√	√												
2	Sarvangaabyanga Bashpasweda	Ksheerabala taila			√		√									
3	Virechanan	Gandharvahastyadiernada taila 75ml + kshira 75 ml					√									
4	Sarvangaabyanga Bashpasweda	Ksheerabala taila								√	√	√	√	√	√	√
5	Shirodhara	Balaashwagandha taila								√	√	√	√	√	√	√
6	Shiropichu	Balaashwagandha taila								√	√	√	√	√	√	√
7	Kati basti	Dhanwantara taila								√	√	√	√	√	√	√

\* Day 6 - vishrama kala (Rest day).

for the husband. The sessions included components like *Manajnana* (education of her strengths, weaknesses, *manabudhi* abnormalities like misinterpretations, reduced coping ability, lack of communication skills, rigid and maladaptive to the changing circumstances, reduced social interaction, mood-congruent judgment, pessimistic views of the events, etc.), *Manoprasadana* (relaxation techniques like walking, *pranayama*, *ashawasana*), *Manonigraha* (mind control methods like replacing stressful thoughts with neutral or positive ones, reinforcing techniques, conversations with others, engaging in pleasurable activities), *Pratidwandwa chikitsa* (self-suggestion with positive affirmations against negative perceptions of the persons/events, neutralizing the hurtful past remunerations actively, and *harshana* technique of involving in her pleasing activities), *Aashwasanadi (santwana - assurance and dhairya - motivational approach)*, feedback approach (self-assessment of worry and relaxed state of mind and reworking on corrective measures for the next day), and *Manavijanana* (communication skills, problem-solving skills, conflict management, coping skills, socialization skills, *samadhi*-equanimous approach to sensory perceptions). *Daiwivypashraya chikitsa* had components like reading spiritual books, chanting of devotional songs and writing the god’s names on a page.

**4. Follow-up and outcomes**

Patient was hospitalized for the first 13 days of treatment in which *panchakarma* procedures, *satwawajaya chikitsa*, *daiwivya-pashraya chikitsa* were administered. Anti-depressant drugs prescribed for the patient were continued. Patient was taught to assess and quantify worry and relaxed state of mind for a day. These were used for modulation of *satwawajaya chikitsa*. During this period, patient showed improvement in worry, relaxed state of mind, sadness, helplessness, worthlessness, quality of sleep, tinnitus, and

backache. Lack of interest decreased and she started relishing her past likings (music, etc.) and interacting with other patients. Interpersonal relations with husband also improved. Self-assessment of worry showed reduction from 16 hours/day to 5 hours/day. Self-assessment of relaxed state of mind improved from 0.5 hours/day to 8 hours/day, and HDRS total score reduced to 24 from 31. Similar improvement trend was noted throughout the course of the treatment (Table 5).

Patient was on allopathic medication of Tricyclic anti-depressant (drug combination of Amitryptiline 25 mg and chlordiazepoxide 10 mg) twice a day and Lorazepam 2 mg twice a day. Medications could be at sub-therapeutic doses. Considering the improvement in patient symptoms, on the 91<sup>st</sup> day, dosage of both medications were reduced to once a day. These medications were discontinued from 119<sup>th</sup> day of treatment. Dose alterations were done on the recommendation of a psychiatric physician.

However, observation on 119<sup>th</sup> day of assessment showed marked worsening of the clinical condition (HDRS score 32) and this was attributed to environmental stress. This was a puerperal period of the patient’s daughter-in-law and perinatal care of new born caused increased work pressure, and disturbed sleep due to attending the neonate at night. Treatment was with modified with *saraswata churna* and *unmada gajakesari rasa*. The patient was symptom-free (HDRS score 7) from 180<sup>th</sup> day of treatment. *Shiropichu* was advised for most part of the treatment. Non-interventional observations were carried out from 269<sup>th</sup> day to 352<sup>nd</sup> day and patient remained in the disease-free state with more of relaxed state (14 h/day) and decreased worry state (2 h/day).

**5. Discussion**

Management of MDD through integrative Ayurveda approach proved to be effective and was well-sustained during the

**Table 4**  
Intervention through oral medicaments at different time-points.

S.No	Shamana Chikitsa	Intervention period in days					
		13–91	91–119	119–152	152–180	180–269	270–352
1	Tab Tryp-C 1BD	√					
	Tab Tryp-C 1OD		√				
2	Tab Lorazepam 2 mg 1 BD	√					
	Tab Lorazepam 2 mg 1 HS		√				
3	Mahakalyanaka ghrita 20 ml BD empty stomach	√	√	√	√	√	
4	Tab Manasamitravataka 2TID	√	√				
5	Saraswatarishta 3 tsf TID	√	√	√	√	√	
6	Aswagandha + Jatamamsi Kwatha 50 ml BD	√	√	√	√	√	
7	Saraswatachurna 1 tsf TID			√	√	√	
8	Tab Unmadagajakesari rasa 1 TID					√	
9	Shiropichu with Balaashwagandha taila at night	√	√	√	√	√	



**Table 5**  
Assessments during the period of intervention.

S.No	Days of Intervention	1 <sup>st</sup> day (7.9.11)	2 <sup>nd</sup> day	3 <sup>rd</sup> day	5 <sup>th</sup> day	7 <sup>th</sup> day	9 <sup>th</sup> day	11 <sup>th</sup> day	13 <sup>th</sup> day	91 <sup>st</sup> day (7.12.11)	119 <sup>th</sup> Day (4.1.12)	152 <sup>nd</sup> day (8.2.12)	180 <sup>th</sup> day (7.3.12)	269 <sup>th</sup> day (4.6.12)	352 <sup>nd</sup> day (24.8.12)
1.	Daily dairy-Worry (hrs/day)	16	14	10	13	9	7	6	5	3	16	6	3	2	2
2.	Daily dairy-Relaxed state (hrs/day)	½	1	3	4	5	6	7	8	11	2	10	12	13	14
3.	Sleep (in hrs)	7	7	6	5	6	7	6	7	7	7	5	7	7	7
4.	HDRS Scores	31	–	–	–	–	–	–	24	24	32	17	7	7	6

observation period as well. The patient was admitted in the inpatient department for the span of 13 days and was later on outpatient care for 352 days. Last 83 days of observation were non-interventional. Tricyclic anti-depressant administered since past one year was tapered on the 91st day and discontinued from 119th day onwards.

The patient had *Tama pradhana raja* and *Kapha vatapradhana tridhoshha dusti* with diagnosis of *Kaphaja Unmada* and severe MDD (HDRS score was 31). Hence, *snigda virechana*, *sarvaanga abhyanga*, *bhaspa sweda*, *shirodhara*, *shirothalam*, *katibasti*, oral medications and *satwawajaya* treatments were planned.

*Snehapana* (*Brahmi ghrita*), *sarvanga abhyanga* (*Kshirabala taila*), *snigda virechana* (*Gandharvahastyadi eranda taila*), *shirodhara* and *shiropichu* (*Balaaswagandhadi taila*), and *kati basti* (*Dhanwantara Taila*) were administered during the hospital stay of the patient (13 days). *Shiropichu* with *balaaswagandhadi taila* (retained for the entire night) was administered during the entire course of the treatment. These treatments, along with the prescribed medications, decreased *kapha*, and *vata*, and aided in sleep promotion, *mana prasdana* (mood restoration), and *mana niyamana* (regulation of mind and thoughts) through *mastishkya* and *medhaya rasayana* (nootropic) effect. Decreased *tama* and increased *satwa* were observed after *satwawajaya chikitsa*. *Kati basti* was for the concomitant backache manifestation.

After *panchakarma* procedures, the following oral medications were administered - *Mahakalyanaka ghrita*, *Manasamitra vataka*, *Saraswatarista* and decoction of *Ashwagandha* with *Jatamamsi* from 13th to 119th day. The medication regimen was later modified. The patient had gradual and sustained clinical improvement. However, clinical deterioration (119th day) due to environmental stress was observed and it lasted for the next 90 days and the patient was administered additional medications viz., *saraswata churna* and *unmadagajakesari rasa*. *Saraswata churna* along with other medications has psychotropic activity.

*Satwawajaya chikitsa* included components of *manajnana*, *man-aprasadana*, *mananigrahana*, *pratidwandwa chikitsa*, *aswasana*, and *mana vijanana*. Patient was cooperative and actively worked on the techniques advised during counselling.

The patient had chronic depression for the past 33 years and was on different psychiatric medications since past 15 years, details of which were unavailable and hence, couldn't be assessed. Ayurveda diagnosis was *Kaphaja Unmada* and management was by addressing the derangements of *kapha*, *vata*, *tama*, *mana vaha srotas* components like *mana*, *budhi*, *smruti*, *bhakti*, *sheel*, *chesta*, and *achara*. Integrative protocol comprising of *panchakarma* procedures (*virechana*, *sarvanga abhyanga*, *bhaspa sweda*, *shirodhara*, *shiropichu*), oral medications (*medhya*, *rasayana*), *satwawajaya chikitsa* and *daiwivyapashraya chikitsa* were administered for a period of 269 days and non-interventional follow-up of 83 days showed effective management of *Kaphaja Unmada* i.e., MDD. *Snigda virechana* was planned as it was a *kapha pradhana vataja* condition.

*Sarvanga abhyanga* (*Ksheera bala tail*), *bhaspa sweda*, *shirodhara*, and *shiropichu* (*Balaaswagandha taila*) were administered to decrease *vata* along with *kapha*. Oral medications were effective against *kapha* and *vata doshas*. The treatment was successful in discontinuing anti-depressant drugs and the patient was even stable after Ayurvedic medications were withdrawn. However, this warrants a long-term follow-up observation.

Interventions used in the study provide evidence of management of various psychiatric conditions and possess psychotropic and neurotropic effects. A study showed Ayurveda management through *virechana* was effective in the management of MDD [20]. *Shirodhara* showed beneficial outcomes in patients with generalized anxiety disorder (GAD) and also showed improvement in insomnia [21,22]. *Shirodhara* and *shiropichu* are the transcranial route of drug delivery and a study has shown the possibility to deliver central nervous system drugs through the brain-targeted transcranial route when applied on the scalp in an oil-solubilized dosage form [23,24]. Few of the oral medications and their ingredients have demonstrated psychotropic action. *Manasamitravataka* is effective against GAD [21], while *Ashwagandha* has anxiolytic and anti-depressant activity [25]. Few drugs like *vacha* [26], *jatamamsi* [27], *brahmi* [28], and *shankhapushpi* [29] have demonstrated anti-depressant activity.

## 6. Conclusion

Ayurveda integrative protocol was successful in managing *Kaphaja Unmada* i.e., MDD. This not only decreased *kapha*, *vata* (biological substrates of depression), and components of *manodusti*, but also increased *manabala* (mental strength) by restructuring *mana* through reworking *chintya*, *vicharya*, *uhya*, *dheya*, *sankalpa* (thought process), and *buddhi* (cognitive restructuring) leading to changes in *bhakti*, *sheela*, *chesta* and *achar*. These will help in *swasthya* through balancing of internal milieu (*shareerika* and *manasika dosha* balance) and external milieu through social and spiritual wellbeing.

## 7. Patient perspective

Patient felt she rejuvenated and good. Patient's daughter opined of good and sustained improvement of the patient. Her mental state, bonding with the family members, communication with the husband, socialization improved considerably. Compared to previous interventions, current interventions had better compliance. The patient's husband opined that patient adhered to the treatments without much reminders and pressures.

## 8. Informed consent

Informed consent was taken from the patient for this study.

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