

Effect of *Amalakash Rasayana* on Mental Health of Premature Ageing Patients

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Abstract

Premature ageing is accelerating mode of ageing, which create early symptoms of ageing and age related diseases depending upon its rate determining by various factors. Premature ageing is strongly affected by environmental, lifestyle and some disease conditions which are related to ageing but not due to ageing itself. The objective of *rasayana* drugs is to improve nutritional state of body by which healthy youthfulness and longevity is expected. All ingredients of *Amalakash Rasayana* (AR) are known to have antioxidants, free radical scavenging activity, adaptogenic activity, and immune modulatory activity and to enhance production of endogenous antioxidant enzymes. The study which was single blind clinical research was designed to assess the efficacy of AR on mental health on 51 persons who are clinically aged than their actual age and to evaluate it therapeutically as an anti-ageing medicine. It was observed that some premature ageing patients had tension (21.66%), depression (7.5%) and anxiety (1.66%). On Both Hamilton Anxiety Rating Scale (HARS) and Hamilton Depression Rating Scale (HDRS), GIT symptoms (76.92%), depressed mood (39.58%), and insomnia (38%) was improved. The improvement of tension, insomnia, depressed mood, respiratory symptoms and GIT symptoms were statistically highly significant ($p < 0.001$). Totally, AR showed moderate improvement on HARS in 28.13% patients, whereas on HDRS in 19.35% patients. On abnormal *Manasa Bhava*, AR improved *pritti* in statistically highly significant manner ($p < 0.001$), whereas *chinta* and *vishada* in significant manner ($p < 0.01$). Keeping all these facts in view, it can be concluded that observed results on parameters of HARS and HDRS and abnormal *manasa bhava* are due to anti stress and adaptogenic activity and also due to *medhya* effect of *Amalakash Rasayana*.

Keywords: Hamilton anxiety rating scale; Hamilton anxiety rating scale; *Manasabhava*; *Amalakash rasayana*; Premature ageing.

Introduction

Ageing is defined as an inevitable and generalized impairment of functions resulting in growing risk of age associated diseases. The people over 60 years are accepted globally to refer to the older population.[1] Charaka considers old age starts at 60 years of age, while Sushruta demarcates old age after 70.

It is important to distinguish normal ageing that is universal biological changes that occur with advancing age and are unaffected by disease and environmental influences, which is known as chronological ageing and according to Ayurveda *kalaja jara*. In contrast, the accelerated ageing is strongly affected by environmental, lifestyle and some disease conditions which are related to ageing but not due to ageing itself. This condition is known as *akalaja jara*. [2]

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Vagbhata was first mentioned how ageing proceeds, whether it starts simultaneously in all tissues or from particular part of the body. According to his view, some qualities are being deteriorated in each decade of life beginning from birth. For instance, at the end of fourth and ninth decade intellect (*medha*) and mind (*Cheta*) are lost respectively and the maximum life span of 100 years.

Sharangadhara had similar view with mild modification considering maximal life span of 120 years. According to him, chronological deteriorations of intellect (medha), reasoning capacity (buddhi), and mind (cheta)[3] take place in fourth, ninth and eleventh decade in the life. Though, the rate of ageing is genetically predetermined; lifestyle, dietary habits, addictions, mental makeup, social and family life, medication, and many other environmental factors may influence the ageing process and their unfavorable effects accelerates ageing process (akalaja jara). Among hundreds of theories of ageing, free radical theory has remained rational over time as it provides many realistic explanations for the process of ageing. The changes induced by free radicals are believed to be the key cause of ageing. Diet, active and stress free living play a role in neutralizing free radicals thereby retarding ageing and age related disease as well.[4]

Rasayana formulations are unique preparations which are composed of plant materials known to have antioxidants[5], free radical scavenging activity[6] and adaptogenic activity.[7] Rasayana drugs may have a role in minimizing free radical induce damages in premature ageing. Amalakayas rasayana is a classical formulation, which is a formulated from the ingredient of Vayasthapana kashaya and was prepared as per classical references.[8] Ayurveda classics have explained mental state examination meticulously in detail.[9] The means to assess all mental factors by inference are described in Charaka Samhita utilizing which, a specially designed rating scale for mental factor examination is prepared by giving scoring to various presentations of mental state.[10] This scale was adopted in the present research work with the aim of clinical evaluation and analysis of effect of trial drug on mental state.

Objectives

The study was designed to assess the

efficacy of AR on mental health on persons who are clinically aged than their actual age and to evaluate it therapeutically as an anti-ageing medicine.

Materials and Methods

The 51 premature-ageing patients of both sexes who attended the O.P.D. of IPGT & RA, Gujarat Ayurveda University, Jamnagar during May 2009 to June 2010 were selected for the clinical study. Informed consent was taken in trilingual consent form after explaining the purpose of study in detail in non-technical terms verbally. The study was cleared by Institutional Ethics Committee of the Institute.

Inclusion Criteria

Patients aged between 30-60 years having signs and symptoms of premature ageing and disturbed mental health were selected irrespective their age, sex, education, socio-economic status and religion etc.

Exclusion Criteria

Patients below 30 and above 60 years, suffering from any chronic systemic disease such as DM, HTN, COPD and malignancies which are due to some other pathologies rather than the ageing and who are on any chronic medication were excluded from the study.

Method of Study

The study was a randomized single blind clinical research. The diagnosed patients were subjected to the detailed history taking based on demographic data as well as mental health before the clinical trial. All patients were subjected to routine haematological, and biochemical examinations before and after treatment. The premature ageing patients were prescribed Amalakayas Rasayana (AR), 5 gm thrice daily for 10 weeks in empty

stomach with unequal amount of honey and ghee as anupana. After completion of treatment, patients were observed for 1 month and all parameters were re-assessed.

Criteria for Assessment

Improvement was assessed by proper scoring of Hamilton Anxiety Rating Scale (HARS)[11], Hamilton Depression Rating Scale (HDRS)[12] and manasa bhava pariksha[13,14] before and after the treatment. The obtained results were categorized according to the percentages given as follows; Cured- 100% relief in all signs and symptoms; Marked improvement: 76% to 99% improvement in the signs and symptoms; Moderate improvement: 51% to 75% improvement in the signs and symptoms; Mild improvement: 26% to 50% improvement in the signs and symptoms; Unchanged: <25% improvement in the signs and symptoms.

Result

On Hamilton Anxiety Rating Scale

The majority of patients had normal mental

health, but tension (21.66%), depression (7.5%) and anxiety (1.66%) were observed in some considerable number of patients. Maximum improvement was found in somatic-muscular (100%) followed by GIT symptoms (76.92%), respiratory symptoms (66.66%), genitor-urinary symptoms (55.55%), depressed mood (39.58%), insomnia (38%), autonomic symptoms (37.5%) tension (32.5%) and anxious mood (8.33%) in decreasing manner. The improvement of tension, insomnia, depressed mood, respiratory symptoms and GIT symptoms was statistically highly significant ($p < 0.001$) (Table 2). Totally, AR showed moderate improvement on HARS in 28.13% patients, whereas mild improvement in 40.62% patients, and 31.25% patients were unchanged. None of the patient was reported with marked improvement or cured.

On Hamilton Depression Rating Scale

AR showed improvements in somatic-GIT (83.33%), anxiety-psyche (50%), anxiety-somatic (50%), depressed mood (39.58%), insomnia (38%), work interest (25%), hypochondriasis (25%) and somatic-general

Table 1: Effect of AR on Abnormal Manasa Bhava of Premature Ageing Patients

Manasa bhava	Mean Score		% improvement	SD	't'	P
	BT	AT				
Raja	1.20	1.00	10	0.45	1.00	>0.05
Shoka	1.00	0.75	0	0.50	1.00	>0.05
Chinta	1.17	0.91	25	0.45	2.79	<0.01
Dhairya	1.00	0.50	23.91	0.71	1.00	>0.05
Harsha	1.67	1.00	50	0.58	2.00	>0.05
Priti	1.00	0.00	44.44	0.00	(+ inf)	<0.001
Mana	1.00	1.00	50	0.00	0.00	>0.05
Dhriti	1.50	1.00	0	0.71	1.00	>0.05
Medha	1.25	1.00	25	0.50	1.00	>0.05
Smriti	1.24	1.12	50	0.33	1.46	>0.05
Vishada	1.00	0.58	12.5	0.51	2.80	<0.01

Table 2: Effect of AR on HARS of Premature Ageing Patients

HARS	Mean Score		% impro:	S.D	S.E	't'	P
	BT	AT					
Anxious mood	1.00	0.92	8.33	0.29	0.083	1.00	>0.05
Tension	1.25	0.80	32.5	0.51	0.11	3.94	<0.001
Insomnia	1.16	0.72	38	0.50	0.10	4.34	<0.001
Con: & memory	1.33	1.33	0.00	0.00	0.00	0.00	>0.05
Depressed Mood	1.21	0.71	39.58	0.51	0.10	4.79	<0.001
Res:Symptoms	1.67	0.67	100	0.00	0.00	(+ inf)	<0.001
GIT Sym ptoms	1.23	0.38	66.66	0.38	0.10	8.12	<0.001
GUT Symptoms	1.67	0.67	76.92	1.00	0.57	1.73	>0.05
Auto: Symptoms	1.50	1.00	55.55	0.58	0.29	1.73	>0.05

Table 3: Effect of AR on HDRS of Patients of Premature Ageing Patients (Paired-t Test)

HDRS	Mean Score		S.D	S.E	't'	P
	BT	AT				
Depressed Mood	1.21	0.71	0.51	0.10	4.79	<0.001
Insomnia/initial	1.16	0.72	0.51	0.10	4.34	<0.001
Work interest	1.00	0.75	0.50	0.25	1.00	>0.05
Retardation	1.00	1.00	0.00	0.00	0.00	>0.05
Agitation	1.00	1.00	0.00	0.00	0.00	>0.05
Anxiety (Psyche)	1.00	0.50	0.58	0.29	1.73	>0.05
Anxiety (Somatic)	1.40	0.70	0.67	0.21	3.28	<0.01
Somatic General	1.33	1.00	0.58	0.33	1.00	>0.05
Somatic (GIT)	1.00	0.17	0.41	0.17	5.00	<0.001
Hypochondriasis	1.00	0.75	0.50	0.25	1.00	>0.05
Loss of Weight	1.25	1.25	0.00	0.00	0.00	>0.05
Worthlessness	1.00	1.00	0.00	0.00	0.00	>0.05

(16.66%), whereas agitation, loss of weight and worthlessness are unchanged. Depressed mood, insomnia and somatic-GIT were improved in statistically highly significant manner ($p < 0.001$), whereas anxiety-somatic in significant manner ($p < 0.01$) (Table 3). Totally, AR showed moderate and mild improvement in 19.35% patients and 35.48% patients respectively.

On Abnormal Manasa Bhava

AR improved shraddha, priti and dhairyra (each 50%) maximum followed by harsha (44.44%), vishada (41.66%), shoka (25%), dhriti (25%), chinta (23.91%), medha (12.5%), raja (10%), and smriti (5.8%). AR improves priti in statistically highly significant manner ($p < 0.001$), whereas chinta and vishada in significant manner ($p < 0.01$) (Table 1). AR showed mild improvement in 34.48% patients, whereas the 65.51% patients remain unchanged. No moderate or marked improvement or cured patients were reported.

Discussion

Mental health plays a vital role in health, disease and premature ageing. Charaka mentioned that psychological factors cause bodily disorders vice versa.[15] Again Charaka mentioned that keeping body and mind under control, following moral code of conducts and living spiritual life would itself bring the rasayana effects and prevent ageing.[16]

AR has better effect on the parameters of

HARS in total. AR along with honey and ghee is a combination of potent rasayana, vrishya, balakari, agnidipaka, tridosha-shamaka and above all medhya drugs. While normalizing the physiology of the body by pacifying tridosha, correcting digestion and metabolism and nourishing the sapta-dhatu in proper way, AR releases its medhya properties to correct the mental health. In other similar clinical study on Amalakyadi rasayana, significant improvement was reported in medha and anxiety scale.[17] In an experimental study on guduchi, it is proved to have anti stress and adaptogenic activity.[18] Madukaparni is proved to have efficacy to prevent cognitive impairment, to improve anxiety and relieve mental fatigue.[19] Satavari has been proven for its anti-stress activity.[20] All other drugs in AR are also having medhya properties. Therefore, it is evident that being a formulation of above well-known medhya and rasayana drugs AR has efficacy to correct stress and anxiety level to achieve healthy mental state.

The improvement of some parameters of anxiety rating scale may be due to rasayana, medhya, nootropic and adaptogenic activities[21] of AR. Most ingredients of AR have adaptogenic activity and memory enhancing properties which may be the reason to provide satisfactory result on the parameters of HDRS. Ayurveda accepts the fact that body and mind are the entities that attached inseparably and derangements of them affect vice-versa. The various parameters were also used as subjective criteria to assess the results in this study. AR has better results on priti, vishada and chinta. Ingredients of AR i.e.

Haritaki, Guduchi, Amalaki, Satavari, Mandukaparni, Madhu, and Ghee are well known drugs having medhya and rasayana properties. Honey is praised best drug to have kapha and pitta shamaka properties; ghee for its vata-pitta shamaka and rasayana properties; amalaki[22,23] for its anti-ageing properties; and haritaki for its srotas-shodhaka properties.[24] All these drugs are well known to have antioxidant[25], adaptogenic[26], immune modulatory[27], and memory enhancing[28] properties. Therefore, in addition to its rasayana effect, AR has a clear effect on manasa bhava. In the experimental study, AR and combination of ghee and honey showed marked adaptogenic effect in Charles Foster albino rats which supports the positive effect on abnormal manasa bahava. The phytochemical study revealed that AR contains alkaloids, flavonoids, steroids, tannin, and phenolic compounds. AR possesses antioxidant properties that can scavenge free radicals; a widely accepted cause of ageing. AR has better effect on the parameters of HARS in total. Percentage improvement of all the symptoms except anxious mood is better in AR confirming the fact that AR possesses remarkable effect on mental health. AR along with honey and ghee is a combination of potent rasayana, vrishya, balakari, agnidipaka, tridosha-shamaka and above all medhya drugs. While normalizing the body's physiology by pacifying tridosha, correcting agni (digestion and metabolism) and nourishing the sapta-dhatu in proper way, AR releases its medhya properties to correct the mental health. Mana is deeply associated with body. Every change in mana leads to the changes in the body. The relation of manasa bhava and dosha is well known. The assault of emotions may bring about changes in the hormonal level. The Anger, Fear etc increases the stress in the person leading to the pathological changes of ageing.

Conclusion

Premature ageing is accelerated version of ageing, which create untimely symptoms of

ageing and age related diseases depending upon its rate determining by various factors. The main objective of rasayana is to improve nutritional state of body by which healthy youthfulness and longevity is expected. For this purpose a numerous formulations are being used from time memorable. Amalakayas Rasayana was selected for the clinical study of premature ageing. It contains well known rasayana plants such as amalaki, guduchi, haritaki, jivanti and mandukaparni etc. AR prescribed with honey and ghee unequal amount. These entire ingredients possess rasayana, balya, agni dipana, srotas shodhana and tridosha shamaka properties. All most all the ingredients in AR has antioxidants, free radical scavenging activity, adaptogenic activity, immune modulatory activity and enhance production of endogenous antioxidant enzymes. Keeping all these facts in view, it can be concluded that observed result in subjective parameters of HARS and HDRS is due to anti stress and adaptogenic activity and also due to medhya effect of Amalakayas Rasayana.

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