



## STUDY OF VITAMIN D 3D EFFICIENCY IN GERIATRICS WITH AYURVEDIC PERSPECTIVE

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**ABSTRACT** In Ayurveda, the term used for geriatrics is Vriddha, Vardhakya & Jara. Jara derived from the root "Jrush Vayohani". Accordingly to Gurubala Prabodhika, commentary on Amarkosha, "Jeeryanti Anayo Angani Iti Jara", conveying the meaning of degeneration of bodily organ.

**Objectives**-This study has been designed to know the Hetu of Vitamin D3 deficiency, from the Ayurvedic point of view & study the Samprapti of Vitamin D3 deficiency.

**Method**-Retrospective observational study carried out through personal interview & examination of individual patient.

**Observations**-1) Aaharaj Hetu- Katu, Tikta & Kashaya Rasa Ati Sevan found in 73.33%, 63.33%, & 66.67% patients respectively. Excessive consumption of Cereals was found in 76.67% patients. 2) Viharaj Hetu - Exertion in 53.33% patients and sedentary work in 30% patients were found. Disturbed Sleep was found in 60% patients. 3) Manas Hetu- Shoka, Chinta were found in 46.67% patients. Krodha in 36.67% and Bhaya in 30% patient were found.

**KEYWORDS** : Vata Vyadhi, Vit.D3, Geriatrics.

#### INTRODUCTION

Geriatrics is a branch of medicine which deals with the health and care of old people. In Ayurveda, the term used for geriatrics is Vriddha, Vardhakya & Jara. Jara derived from the root "Jrush Vayohani". A deficiency in vitamin D can result from inadequate exposure to sunlight, inefficient production in the skin, inefficient vitamin D in your diet and health conditions that can affect it including, gastrointestinal disorders, renal diseases, and liver diseases these are the causes of Vitamin D deficiency. Vitamin D3 also known as cholecalciferol that comes from fortified foods, Animal foods (Fatty Fish, Cod liver oil, Eggs & Liver) supplements and can be made internally when your skin is exposed to ultraviolet (UV) radiations from the sun. The symptoms of vitamin D deficiencies are fatigue & tiredness, bone & back pain, depression, impaired wound healing, hair loss, muscle pain.

#### AIM:

To study vitamin D3 deficiency in geriatrics with Ayurvedic perspective.

#### OBJECTIVES:

- 1) To study Hetu of Vitamin D3 deficiency in geriatrics from Ayurvedic point of view.
- 2) To study Samprapti of Vitamin D3 deficiency in Geriatrics with possible nature of Dosha-Dushti dominance, Dosha-Doosha Avastha.

**METHODOLOGY:** Type of study:-Retrospective observational study. Diagnostic parameters are

- 1) Subjective Parameter: Patients have been diagnosed on the basis of Vitamin D3 deficiency Lakshanas.
- 2) Objective Parameters: The test is 25-hydroxy vitamin D written as 25(OH) D.

#### Inclusion Criteria:

Patients having serum vitamin D3 level below 20 ng/ml and age above 60 years. Patients irrespective of gender and socio-economic status.

#### Exclusion Criteria:

Patients below 60yr age and Skin cancer.

**Place Of Study:** Bharati Vidyapeeth (Deemed To Be University) College of Ayurved And Hospital, Dhankwadi, Pune 43.

#### OBSERVATIONS:

**Table No.1: Distribution Of Patient According To Age.**

Age	No.ofPatients	Percentage
60-65	12	40%
65-70	12	40%
>70	6	20%

**Table No.2 Distribution Of Patient According To Occupation**

Occupation	No.OfPatients	Percentage
Housewife	13	43%
Farmer	11	37%
Shopworker	05	17%
Watchman	01	3%

**Table No.3 Distribution Of Patient According To Vedana Vishesh**

Vedana Vishesh	No.ofPatients	Percentage
Shram	17	56.67%
PrushtaShool	21	70.00%
AsthiShool	19	63.33%
Vishad	11	36.67%
Bhram	10	33.33%
Khalitiya	18	60.00%
Urashool	18	60.00%
Snayushool	24	80.00%
Anidra	20	66.67%
Sandishool	23	76.67%

**Table No.4 Distribution Of Patient According To Strotas Dushti**

Srotas	No.of Patients	Percentage
Annavaahasrotas	11	36.67%
Rasavaahasrotas	14	46.67%
Mamsavaahasrotas	23	76.67%
Medovahasrotas	13	43.33%
Ashthivaha srotas	19	63.33%
Majjavahasrotas	23	76.67%
Mutravahasrotas	8	26.67%
Purishavahasrotas	20	66.67%
Swedvahasrotas	8	26.67%
Menovahasrotas	20	66.67%

**Table No.5 Distribution Of Patients According To Consumption Of Rasa**

AharRasa	No.ofPatients	Percentage
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Madhur	8	26.67%
Amla	8	26.67%
Lavan	7	23.33%
Katu	22	73.33%
Tikta	19	63.33%
Kashay	20	66.67%

**Table No.6 Distribution Of Patients According To Consumption Of Cereals**

Cereals	No.ofPatients	Percentage
Makushta(Mataki)	23	76.67%
Greenpeas	15	50.00%
Chanak(Chana)	23	76.67%
Pavata	16	53.33%

**Table No.7 Distribution Of Patients According To Consumption Of Viruddhanna**

Viruddhanna	No.ofPatients	Percentage
Banana+milk	15	50.00%
Fruitsalad,Milkshake	4	13.33%
Waterbeforetea	15	50.00%
Tea+Toast	4	13.33%

**Table No.8 Distribution of Patient According To Diet and Meal timing**

Diet	No.of Patients	Percentage	Meal timings	No.of Patients	Percentage
Veg	22	73.33%	Irregular	19	63.33%
Non-veg mix	8	26.66%	Regular	11	36.67%

**Table No.9 Distribution Of Patients According Viharaj Hetu**

Viharaj Hetu	No. of Pt.	Percentage
Sedentary work	9	30%
Air condition	4	13.33%
Exertion	16	53.33%
Exposure to sunlight	3	10%
Travel	0	0

**Table No.10 Distribution Of Patients According To Sleep Pattern**

Pattern	No. Of Patients	Percentage
Clam	12	40.00%
Disturbed	18	60.00%

**Table No.11 Distribution Of Patient According To Manas Hetu**

Manas Hetu	No. of Pt.	Percentage
Krodha	11	36.67%
Shoka	14	46.67%
Chinta	14	46.67%
Bhaya	9	30.00%
Lobha	0	0.00%

**Table No.12 Distribution Of Patients According Dosha Dushti**

Dosha	No. of Patients	Percentage
Vata	17	56.66%
Pitta	8	26.66%
Kapha	5	16.66%

**Table No.13 Distribution Of Patients According Dhatu Kshaya**

Dhatu	No. of Patients	Percentage
Rasa Dhatu	12	40%
Rakta Dhatu	9	30%
Mamsa Dhatu	23	76.66%
Meda Dhatu	17	56.66%
Asthi Dhatu	20	66.66%
Majja Dhatu	15	50%

**Table No.14 Distribution Of Patients According To Agni**

Agni	No. of Patients	Percentage
Manda	22	73.3%
Vishama	5	16.7%
Tikshna	3	10%

**Table No.15 Distribution Of Patients According To Vyadhivinchaya**

Vyadhivinchaya	No. of Patients	Percentage
Aamvat	3	10.00%

Gradraasi	2	6.67%
KatigatVat	6	20.00%
Manyastambh	5	16.67%
SandhigatVat	14	46.67%

#### Vitamin D3 Deficiency Value:

Grading Of Vitamin D3 Deficiency	No. of Patients	Percentage
Severe(5-10ng/ml)	7	26.66%
Moderate(10-15 ng/ml)	12	40%
Mild(15-20 ng/ml)	11	36.66%

#### DISCUSSION

For "The study of Vitamine D3 Deficiency in Geriatrics with Ayurvedic Perspective" total 30 patients were taken. Each patient was observed thoroughly & the observations were recorded.

**Age:** Vitamin D3 deficiency was predominantly found in 60-65 years & 65-70 years age group i.e.40% patients. Due to effect of dietary habit, change in life style and stress this age group is more prone to Vitamin D3 deficiency.

**Occupation:** For the present study, Housewives were 50%, In housewives, improper & inadequate diets, Exertion are the causes for Vitamin D3 deficiency.

**Strotas<sup>(4)</sup>:** Majjavaha Strotas Dushti was observed in 76.66% patients. Due to Atiabhishyandi and Viruddha Aahar Sevan, Vitiation of Vata & Pitta Dosha and Majjavaha Strotas Dushti took place. The Asthi and Sandhi is the Mulsthan of Majjavaha Strotas. Thus Sandhishool, Asthishool and Parvashool symptoms were seen. Manovaha Strotas Dushti was observed in 66.66% patients. Due to Chinta vitiation of Vata Dosha took place. It leads to increase in Raja & Tama Guna. It leads to Nidranash. Ashthivaha Strotas Dushti was observed in 63.3% patients. Due to Ruksha, Laghu, Sheet Gunatmak & Katu, Tikta, Kashaya Rasatmak Aahar Sevan, vitiation of Vata Dosha took place. Due to this Dantapatan, Asthi Shool, Kesha Patan symptoms were seen. Mamsavaha Strotas Dushti was observed in 80% patients.

**Rasa<sup>(5)</sup>:** The Katu Rasa Sevan was seen in 73.3% patient, Tikta Ras in 63.3% & Kashay in 66.67%. These three Rasa's are responsible for Vata Prakop and Dhatu Kshay. It leads to Trushnadhikya, Bala Kshay, Murcha, Kamp, Kati-Prushta Pradeshi Shool.

**Viruddhanna:** In Viruddha Anna, Water before tea consumption was seen in 50% patients, banana + milk in 50% patients. The Viruddha Anna is responsible for Vata Prakop and Agnimandya is also responsible for partial obstruction in channels of Dosha, Dhatu & Strotas.

**Diet<sup>(6)</sup>:** The 73% patients were taking vegetarian diet. The cod liver oil, eggs & fish is the main source of Vitamin D3 but less consumption of Dairy products & Nonveg diet were seen in this study.

**Meal Timing:** In 63.33% patients, meal timing was irregular. It leads to Agnimandya and Amotpatti.

**Viharaj Hetu<sup>(7)</sup>:** Exertion was observed in 53.3% patients which is responsible for Vata Prakop. Sedentary work was observed in 30% patients which responsible for Kapha Prakop and Medovaha Strotas Dushti.

**Sleep Pattern:** Disturbed Sleep was seen in 60% patients which is responsible for Vat prakop.

**Manas Hetu<sup>(8)</sup>:** Chinta was seen in 46.67% patient which causes Vata Prakopa & Rasa Dhatu Kshay. Bhaya was seen in 30% of patients. Krodha was seen in 36.67% patients which causes Pitta Prakopa.

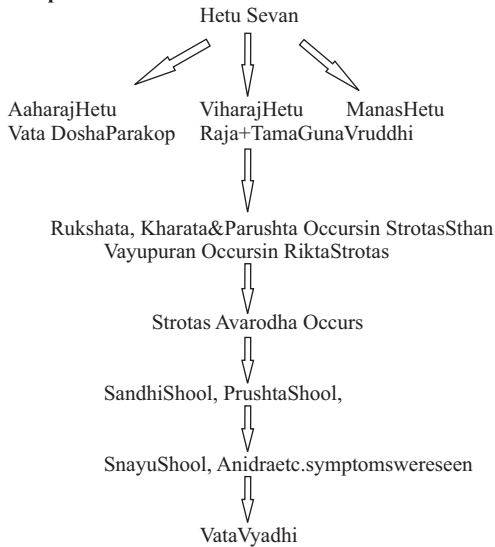
**Dosha<sup>(9)</sup>:** Due to Vishmashan & Katu, Tikta, Kashaya Aahar Sevan vitiation of Vata Dosha took place. Vata Dosha Vruddhi was seen in 56.66% patients. Due to consumption of Outside food, Paruyushit Ahar Pitta Dosha Dushti Occurs. Pitta Dosha Vruddhi was seen in 26.66% Patients. Due sedentary life style Kapha Dosha Dushti Occurs. Kapha Dosha Vruddhi was seen in 16.66% patients.

**Dhatu:** Asthi Shool & Kesh Patan was seen in patients due to Asthi Dhatu Kshaya. The Asthi Dhatu Kshaya was seen in 66.66% patients. Rasa Dhatu Kshaya was seen in 40% patients. Due to Rasa Dhatu Kshaya Twakrukshta was seen in the patients. Mamsa Dhatu Kshaya seen in 76.66% patients. Due to Mansa Dhatu Kshaya Sandhi Shool was seen in the patients. Majja Dhatu Kshaya was seen in 50% patients. Due to Majja Dhatu Kshaya Prushtha Shool was seen in the patients. Rakta Dhatu Kshaya was seen in 30% patients.

**Agni<sup>(10)</sup>:** Due to Viruddha Aahar, Vishamashan, Ati Ruksha Aahar Sevan, Paryushit Aahar Sevan Agnimandya took place. Mandagni was seen in 73.33% patients.

**Distribution Of Patients According To Vyadhivinchaya :** Sandhigat Vata was seen in 46.66% patients, Katigat Vata in 20% patients, Manyasthambha in 16.67% patients, Aamvata in 10% patients and Grudhrusi in 6.67% patients.

**Samprati<sup>(11)</sup> :**



- Samprapti Ghatak Involved Were-
  - a)Dosha- Vata (Vrudhhi), Kapha (Kshaya)
  - b)Dushya –Asthi, Rasa, Meda.
  - c)Strotas - Mamsavaha, Ashthivaha, Manovaha, Purishavaha.
  - d)Agni - Mandagni.
  - e)Mala – Purisha.

## CONCLUSION:

Vitamin D3 Deficiency was predominantly seen in 60-70 years of age. Occupation wise Vitamin D3 deficiency was predominantly seen in Housewife & Farmers. Vitamin D3 deficiency was seen due to Aaharaj Hetu like Katu, Tikta, Kashaya Rasa Atisevan, Viruddha Aahar, Paryushit Anna, Cereals and Veg diet consumption. Disturbed sleep, sedentary life style, exertion, Diwaswap was the Viharaj Hetu's of vitamin D3 deficiency. Shoka, Chinta were the Manas Hetu of Vitamin D3 deficiency. The Symptoms was seen due to Vitamin D3 Deficiency are Snayushool, Sandhishool, Prushtashool, Anidra, Khalitya and Bhrama. Vitamin D3 deficiency was predominantly seen in Sandhigat Vata Vyadhi patients.

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