

**REVIEW: SOURCE OF CALCIUM FROM AHARDRAVYA**Vd. Pradnya Bhagwan Wakode\*<sup>1</sup>, Vd. Jyotsna V. Kulkarni<sup>2</sup> and Dr. Aparna. M. Ghotankar<sup>3</sup><sup>1</sup>P.G. Scholar, <sup>2</sup>Reader P.G. Guide, <sup>3</sup>MD. PhD. HOD

Department of Dravyaguna, CSMSS Ayurved Mahavidyalaya, Kanchanwadi Aurangabad.

**\*Corresponding Author: Vd. Pradnya Bhagwan Wakode**

P.G. Scholar, Department of Dravyaguna, CSMSS Ayurved Mahavidyalaya, Kanchanwadi Aurangabad.

Article Received on 14/01/2020

Article Revised on 04/02/2020

Article Accepted on 25/02/2020

**ABSTRACT**

Ayurveda is science of life, it has its effect on every aspect of life like in healthy state or in diseased state. Acharya Charaka has explained everything about ahara i.e. diet for maintaining health and prevention for disease. Diet plays an important role in nourishment of body and nourishment of bone depends upon balanced diet. Calcium found in many ahardravya. Body needs calcium to maintain strong bones and to carry out many important function. All most all calcium is stored in bones and teeth, where it supports their structure and hardness.

**KEYWORDS:** Ahardravya, calcium, bone health.**INTRODUCTION**

Ayurveda is science of life, it has its effect on every aspect of life like in healthy state or in diseased state. Calcium is the most common mineral in the body. It supports skeletal integrity and dental health, nerve conduction, Heartbeat regulation, muscle contraction, and weight maintenance.

Eating calcium rich food helps to maintain overall health especially in childhood, lactating mother, old age people, post menopausal women and to prevent osteoporosis. For proper absorption and use of calcium body needs sufficient amount of other essential nutrients, specially vit D and vit K. Most of calcium rich food also contains these additional nutrients.

The process of ossification (formation of bones healing) is known as sandhankar karma in Ayurved and Dravya which perform sandhankar karma is enriched with calcium mineral. The word sandhankar refers for healing of asthidhatu and Disease related with asthidhatu is with deficiency of calcium or less formation of calcium mineral in body.

In Ayurveda Acharya Charaka explained all ahardravya in sutrasthana adhyay no 27. i.e. Annapanvidhi.<sup>[1]</sup> In that all dietary product are described under different category known as varga. Ahara (food) is an important tool in Ayurveda. Ahara itself act as an aushadha. And all varga contain the food which has high dietary value including calcium. And they play important role in maintaining strength of asthidhatu. Asthidhatu can be anatomically correlated to bones and teeth of body and 90% of bones composed of calcium. So calcium deficiency may directly

proportional to asthidhatu kshya. So balancing the calcium percentage is important in daily routine.

**AIM**

To calculate the percentage of calcium from ahardravya.

**OBJECTIVE**

To know the dietary value of ahardravya.

**Need of study**

From these we will get the option for medicinal intake as well as pathya in calcium deficiency disease. It will help as prevention from calcium deficiency disease, and supportive diet.

**MATERIAL AND METHOD**

Data collected from traditional textbook of Ayurveda and web search.

**OBSERVATION**

Calcium mineral is one of the most important factor for body balance. The daily intake of calcium depend upon age.

The following chart shows the daily needs of calcium in mg.<sup>[2]</sup>

Age	Required calcium per day
1. birth to 6 month	200mg
2. infant 7 to 12 month	260mg
3. child 1 to 3 year	700mg
4. child 4 to 8 year	1000mg
5. child 9 to 13 year	1300mg
6. teens 14 to 18 year	1300mg
7. adult 19 to 50 year	1000mg
8. adult men 51 to 70 year	1000mg
9. adult female 51 to 70 year	1200mg
10. adult 71 and older	1200mg
11. pregnant and breast feeding women	1300mg

As per above chart from all of these the demand of calcium in body is mostly high in lactating mother and pregnant women. In India where is large population and due to poverty they can not afford expensive treatment during pregnancy and after delivery. So these ahardravaya which are described in Charaka sutrasthana are easily available in market and reasonable in price so every one can afford, and due to interference of digestion, amount of calcium is not get absorbed, so to fulfill this we can advice calcium rich diet so that daily need of calcium fulfilled. it is always better to take in the form of diet rather than medication acharya charaka has explained ahardravaya in 27<sup>th</sup> adhyay i.e. annapanvidhi with different varga like shook dhanya, shami dhanya, aharyogi Dravya, phal varga, shak varga, harita varga.

### Shook dhanya<sup>[3]</sup>

Acharya charaka described different variety of rice. It includes raktshali, mothi shal, shakunhrut, trunak, dirghshooka, gour dhanya, panduka, langula, basmati, lohawal, sariva, pramodak, tapniya. from all these we use rice in our daily diet but nowadays we used to polished rice which is cause for loss of mineral in that.

### Shami varga<sup>[4]</sup>

Shami dhanya include different pulses, like moong, udad, rajmash, kulitha, mataki, harbhara, and tila. calcium percentage of these shami dhanya are as follow.

Shami dhanya	Calcium percentage per 100gm
1. Mudg ( moong)	13.5mg
2. Mash (Udid)	138mg
3. Rajmash (rajma)	5.3mg
4. Kulitha	287mg
5. Makushtha (Mataki)	15mg
6. Chanaka (Harbhara)	10mg
7. Tila	97mg

### Phala varga<sup>[5]</sup>

Phala varga contains the all fruits, ripe fruits, raw fruits, dry fruits. like draksha, khajoor, raw mango etc.

The calcium percentage from these varga are as follow.

Phala varga	Calcium percentage per 100gm
1. mudvika ( manuka)	1%
2. kharjoor( khajoor)	76%
3. falgu (anjir)	3%
4. Apakva amra (kairi)	5.1%
5. Badar (bor)	2%
6. Narikel ( naral)	5%
7. amalki (awala )	4.50%
8. dadim ( dalimb, anar)	1%
9. narangi (santri )	72%
10. amlika ( chinch )	9%
11. Vatam ( badam)	8%
12. Akhshod( akhrod)	20%

### Shak varga<sup>[6]</sup>

Shak varga includes green leafy vegetable. Like patha, changeri, dudhi bhopala. And many more.

The calcium percentage in shak varga are as follow.

Shak varga	Calcium percentage of shak varga in 100gm
1. Patha	4.2%
2. Changeri	36%
3. Kakamachi	8%
4. Dudhibhopla	6%
5. Matar	2%
6. Ambatchuka	44%
7. Tandulaja	276 mg
8. ratali ( sweet potato)	31%
9. kardai	215 mg
10. kakdi	14%
11. sarshap shak (mohari patra)	155mg
12. kobi (cauliflower)	626 mg

### Harita varga<sup>[7]</sup>

It includes adrak, mula, nimbu like Dravya.

The calcium percentage in harita Dravya are as follow.

Harita varga	Calcium percentage in 100gm
1. adraka (adrak)	11%
2. jambir (nimbu)	2%
3. Mulaka (mula)	2%
4. Suras (tulas )	4%
5. Yawani (ajwain)	0%
6. Rajika (mohair)	266mg
7. Dhanyak (kothimbir)	5%
8. Grujjan (gajar)	3%
9. Palandu (kanda )	2%
10. rason ( lasun),	5%
11. tomato	13%
12. Mashroom	2.9%

**Aharyogi Dravya<sup>[8]</sup>**

In ahardravya it includes the different type of oils, like kardai taila, mohari taila, etc. and spices like mire, hinga.

The calcium percentage in aharyogi Dravya are as follow.

Aharyogi dravya	Calcium percentage in 100gm
1. sarshap taila (mohari taila)	0%
2. Mire	454mg
3. Hinga	690mg
4. ajaji (jira)	93%
5. Methi	17%
6. dhanya (dhane)	55mg
7. suryafula taila	35.8%

**Other daily intake of food**

The all above varga are explained in charak samhita by acharya charaka. The explained classification of these ahardravya as per ancient time. Now a days no one is taking food as like ancient rule. So maintaning the balance of health we need to arrange daily diet as per current condition. so here are summary of daily diet which mostly taken on daily basis.

The calcium percentage of other daily diet are as follow<sup>[9]</sup>

Other daily diet	Calcium percentage in 100gm
1. milk	300mg /cup
2. pohe	33mg/ cup
3. sprouts	13.5 mg/ cup
4. wheat	34 mg
5. jowar	1%
6. bajari	1%
7. Nachani	344mg
8. Ahaliva	266.5 mg
9. Pulses	3.3mg
10. Ground nuts	92mg
11. Rice	11 mg
12. Masoor	2%
13. Spinach	99mg
14. Butter	24mg
15. Curd	83mg
16. potato	12mg.

**DISCUSSION**

The lack of calcium is known as Hypocalcemia. Many people are at an increased risk for calcium deficiency as the growing age. This deficiency may be due to various factors, such as poor calcium intake over a long period of time, especially in childhood and vitamin D deficiency. Medications that may decresase calcium absorption, dietary intolerance to foods rich in calcium, hormonal changes, especially in women, certain genetic factors.

Women need to increase their calcium intake earlier in life than men, starting In middle age. In menopause

condition, calcium requirement increased. During menopause, women should also increase their calcium intake to reduce the risk of osteoporosis and calcium deficiency disease. Other causes of hypocalcemia include malnutrition and malabsorption, low level of vitamin D.

As per collected data and observation Nachani has highest source of calcium and second one is ahaliva, mohari and milk stands on 3<sup>rd</sup> highest source of calcium which we can include in daily intake, so to prevent the loss of asthidhatu and post menopausal condition, we can use these ahardravya in daily intake of food,

The requirement chart shows us that the adult female, lactating mother, pregnant women, children need more calcium i.e. 1000mg per day. For child, teens, adult and lactating mother need 1300mg per day. So with the help of ahardravya mentioned by acharya charaka we can protect our body from deficiency of calcium. Calcium deficiency disease can prevent by including calcium in your diet every day.

Day by day with busy schedule of every one, no one is taking seriously loss of minerals in their body but neglecting these things leads for osteoporosis in old age and may results in fracture, severe backpain.

When we go with modern medicine i.e. tablet form of calcium, it is harmful for kidney, the excretion of our body may disturbed. And using tablet form of calcium on daily basis is not possible and also not affordable for poor people. hence using ahardravya like Nachani, milk, ahaliva, kulitha, tandulja spices like mohari, hinga, dhane, jira and oil like kardai taila, suryafula taila, etc . which are easily available and without any side effect on human body we can manage balance of calcium in our body and fulfill the daily requirement and stop the complication which due to happen with medication. Along with these ahardravya suggest itself indirectly pathya for kidney stones and other kidney disorders.

**REFERENCES**

1. Acharya Shukla V., Dr. Tripathi R.D. charaksamhita purvardha adhyay no 27<sup>th</sup>. annapavidhi choukhmba prakashan Varanasi.
2. <https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/>
3. Acharya Shukla V., Dr. Tripathi R.D. charaksamhita purvardha adhyay no 27<sup>th</sup>. annapavidhi choukhmba prakashan Varanasi
4. <https://nutritiondata.self.com>
5. <https://nutritiondata.self.com/facts.nuts>
6. <https://nutritiondata.self.com/facts/vegetables-and-vegetablesproduct>
7. <https://www.verywellfit.com/mustard-nutritional-facts>
8. <https://www.verywellfit.com/kardaitel.nutritional-facts>
9. <https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/>