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TITLE

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ABSTRACT:

Prakriti is one's own constitution, which is individual specific means it is controlled by its own physiology. It is enumeration of body features, internal as well as external. Present study was designed to study the Asthi-majjakshaya according to different Dehaprakriti w.s.r to Bone Mineral density test. Total 90 patients visiting to Shalya O.P.D. of B.M.A.M. Nagpur were selected according to exclusion & inclusion criteria & divided into 3 groups of Vatapradhan, Pittapradhan & Kaphapradhan Prakriti equally i.e. 30 patients in each group. Then BMD test was performed. Score was analysed & compare statistically by the test of Analysis of Variance (ANOVA). The test result significantly showed that different body constitution having different BMD & it varies Prakritiwise. The study shows that Prakriti assessment is one of the guide line is direction of aahar-vihar for preventing troubles of osteoporosis.

KEY WORDS: Asthi, Bone-mass, Bone-Mineral density, Osteoporosis, Prakriti , Vatadosha

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INTRODUCTION

Ayurveda is one of the most ancient medical sciences of world. All the basic concept of health, diseases, patient & treatment are carefully elaborated in

compendia. *Prakriti* assessment is one of criteria applied for examination of patient. *Prakriti* is expression of healthy individuals in perspective of body functions, behavior, morphology & physiology. Individual variations, in their bone mass are due to their respective qualities of *Prakriti.*

Osteoporosis is an increasing problem now a day. Osteoporosis means the decrease in bone tissue. It is described in *Ayurveda* as *Ashti-Majjakshaya*. *Asthi-Kshaya* is "decrease in the bone tissue" & *Asthisaushirya* means "Porous bones".[1] Hemadri has commented on the word *"Saushirya"* as *"Sarandhratvam"* which means "with pores". This condition is explained in context of *Majjakshaya*. *Majja* is the next *Dhatu* of *Asthi*. Hence in the process of *Kshaya, Majjakshaya* also occurs[2].

The defining feature of osteoporosis is reduced bone mineral density which causes a micro-architectural deterioration of bone tissue and leads to an increased risk of fracture. The prevalence of osteoporosis increase with age, reflecting the fact that bone density declines with age, especially in women[3].

Osteoporosis has been operationally defined on the basis of bone mineral density (BMD) assessment According to the WHO Criteria, Osteoporosis is defined as BMD that lies-2.5 standard deviation or more below the average value for young healthy women (T Score f <-2.5). Measurements of BMD are necessary to make or executed the diagnosis of osteoporosis[4]

The present study was done to evaluate *Asthimajja Kshaya* i.e. osteoporosis according to different *Dehaprakriti* w.s.r. BMD test.

AIMS & OBJECTIVES

The present study was aimed to evaluate the osteoporosis according to different *Dehaprakriti* & to create awareness in the society about the selection of *Aahar-vihar* according to their respective *Dehaprakriti* preventing them from the troubles of osteoporosis.

MATERIALS & METHODS

The patients were selected randomly irrespective of their sex, caste, religion, occupation & socio-economic condition with the classical signs and symptoms of body ache, joint pain and general debility from *Shalya* O.P.D. of B.M.A.M. & hospital, Nagpur, Maharashtra, India.

Prakriti assessment was done by *Prakriti* assessment proforma firstly and then assessed 90 patients were divided in 3 groups. *Vataja, Pittaja* and *Kaphaja* as per the dominance of *Dosha,* each of 30.

Then BMD was done of each individual. Obtained data was analyzed & compare statistically by the test ANOVA.

INCLUSION CRIETERIA

- Individuals of age group 31-70 years were selected from either sex.
- Patients with presenting complaint of body ache, joint pain and general debility.
- Individuals below 31 yrs and above 70 yrs were rejected.
- Patients suffering from any acute, infectious, metabolites chronic diseases like rheumatoid arthritis, SLE, ankylosing- spondilitis, diabetes mellitus, Cushing syndrome, thyrotoxicosis, Addison's disease, tuberculosis of bone, hepatic & cardiac failure.

EXCLUSION CRITERIA

OBJECTIVE PARAMETER

Bone mineral density (t-score) means t- Score below :-2.6 - Osteoporosis

t- Score up to : -1 Normal

t- Score between : -1.1 to -2.5 - Osteopenia

OBSERVATIONS & RESULTS

Table 1: Sex of the patients

No. of Patients	No. of Males		No of Females	
90	28	31.11%	62	68.88%

Table 2: Age of the patients

Age Group	No. of Patients	
31-40	19	21.11%
41-50	21	23.33%
51-60	25	27.77%
61-70	25	27.77%

Table 3: Showing BMD remark distribution of 90 patients of 3 *Prakriti*

Sr. No.	BMD Remark	Group V		Group P		Group K	
1	Normal	3	10.00%	4	13.33%	13	43.33%
2	Osteopenia	10	33.33%	14	46.66%	11	36.66%
3	Osteoporosis	17	56.66%	12	40.00%	6	20.00%
	Total	30	100%	30	100%	30	100%

Group V – *Vata Prakriti*

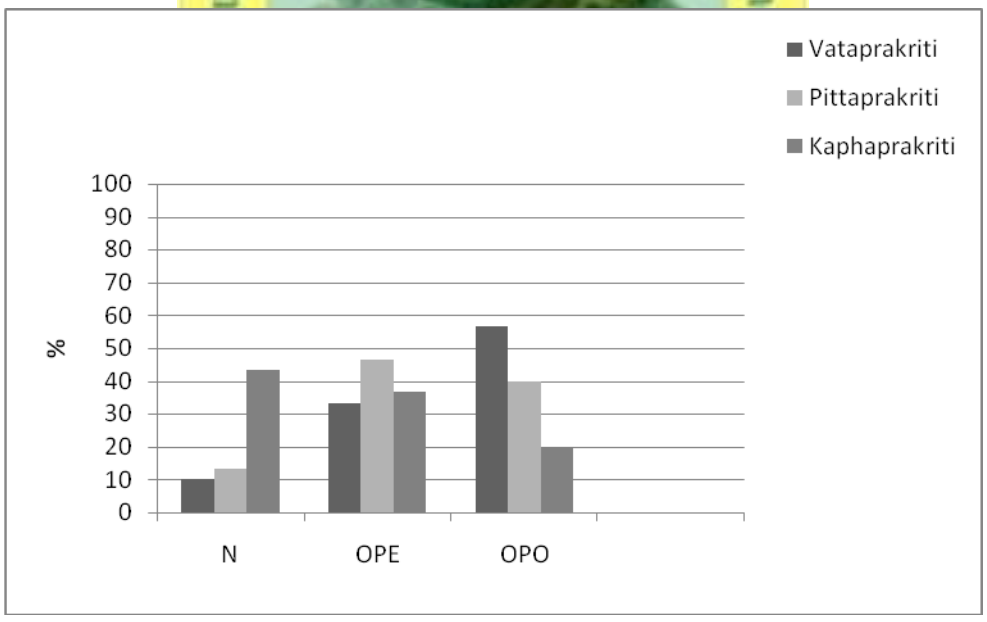
Group K – *Kapha Prakriti*

Group P – *Pitta Prakriti*

Table 4 : Showing analysis of variance (ANOVA) Table

Square of variance	df	sum of square	Mean sum of square	F.ratio
Between the classes	3-1=2	10.52	5.26	7.51
Within the classes	89-2=87	60.97	0.70	
Total	90-1=89	71.49		

Since the computed F-ratio is 7.51 that is greater than the table F-ratio (3.07), the osteoporosis according to *Dehaprakriti* differs significantly.



Graph 1 : Showing BMD Remarks distribution of 90 patients of 3 *Prakriti*

N – Normal

OPE – Osteopenia

OPO – Osteoporosis

DISCUSSION

In the present study 31.11% were males & 68.88% were females 21.11% patients belongs to 31-40 yr. age group. 23.33% patients belong to 41-50 yr. age group. 25.55% patients belong to 51-60 yr. age group while 61-70 yr. age group had 25.55% patients.

In group V i.e. *Vata* or *Vata* dominant *Prakriti*, 10% patients were normal, 33.33% patients were Osteopenic and 56.66% patients were Osteoporotic. Group P i.e. *Pitta* or *Pitta*-dominant *Prakriti* shows 13.33% belongs to normal BMD, 46.66% patients were found in. Osteopenic group, 40% patients were found in Osteoporotic group. In group K i.e. *Kapha* or *Kapha* dominant *Prakriti* 43.33% patients belongs to normal BMD, 36.66% patients having Osteopenia and 20% patients belong to Osteoporosis.

Vataprakriti person shows crackling joints. His joints & bones are observed unsteady. *Pittaprakriti* person shows loosened & lean joints. In *Kaphaprakriti*, firmess, compactness & stability of the body must be maintained. He possesses unctuous & well knit joints. This variation of bones & joints are due to the qualities of that dominant *dosha*.

Vata & *Asthi* both are having the *Ashraya-ashrayi bhava*. In *Vata Prakriti* person, the *Vatal Aahar-vihar* easily provoked the *Vata* which in further stage may degenerate the *Ashthi-dhatu* due to its qualities[6]. Osteoporosis is characterized by a reduction of bone mass per unit volume with normal ratio of bone matrix & minerals i.e. their occurs loss of both bone matrix & mineral component.

Osteoporosis of immobilization occurs if bones are not subjected to the stress of walking. Weight bearing is essential for maintenance of bone mass.

The present study shows that the osteoporotic problem is most in *Vataprakriti*, more in *Pittaprakriti* & less in *Kaphaprakriti*. From table 4 since the computed F-ratio is 7.51 that were greater than the table F-ratio (3.07), the *Asthi-majjakshaya* (ie. Osteoporosis) according to *Dehaprakriti* differs significantly.

CONCLUSION

The problem of *Asthi-Majjakshaya* (i.e. Osteoporosis) differs significantly according to *Dehaprakriti* i.e. most of *Vataprakriti*, more in *Pittaprakriti* & less in *Kaphaprakrit.*

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