

# Estimation of prakriti (body constitution) in women of Eastern Maharashtra tribal belt of central India featuring early and premature menopause

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## ABSTRACT

**Introduction:** *Prakriti* (body constitution) is the essential fundamental of Ayurveda. In female physiology, it plays a crucial role in determining the age of menarche and menopause. Recent research has shown that early menopause occurs in tribal women. Vagbhata states that a *kapha dosha pradhan prakriti* female has a longer menstrual life [i.e., reproductive period] compared to the *vata* and *pitta prakriti* females. This study was done to estimate *prakriti* in females who attain early and premature menopause in the tribal population to provide optimal care for tribal women through primary and whole health systems. **Materials and Methods:** This cross-sectional questionnaire survey study was carried out in four villages of Nagpur district territory of Eastern Maharashtra, the central zone of India after seeking permission from IEC. A multistage sampling technique was used to select the 80%, and above tribal people, 169 married women who attained early or premature menopause were included. Post-menopausal women were selected for the study, and females with hysterectomy, secondary amenorrhea, and other major illnesses were excluded from the study. Data were collected by survey method with the help of a pre-validated questionnaire. **Observation and Result:** Out of 169 females 57.98% of females were of *vata prakriti*, 24.85% of females were of *pitta prakriti*, and 17.15% of females were of *kapha prakriti*. The prevalence of early or premature menopause of *vata prakriti* females is 57.98. **Discussion:** *Vata dosha* characteristics such as *ruksha*, *laghu*, *sheeta*, and *khara* in *vata prakriti* females lead to early or premature menopause. To avoid early or premature menopause in tribal females, ghee (ghrit) and milk can be included in dietary habits, lifestyle modification, and awareness counseling may prove beneficial. **Conclusion:** Early or premature menopause is observed largely in *vata prakriti* females of Nagpur district, Eastern Maharashtra, tribal zone of Central India.

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## Introduction

Menopause is a physiological transitional process that ceases the reproductive capacity of women. Depletion of ovarian function causes menopause and results in cessation of menstruation. Hormonal changes after menopause lead to psychological and biological turmoil affecting women's health and degrading their quality of life. The age of natural menopause is 50–52 years. Premature menopause refers to that which occurs before the age of 40 years, and early menopause refers to that which occurs during 40–45 years. Premature menopause may occur due to genetic, metabolic, immunological, autoimmune factors, infections, surgery, smoking, drug addiction or could be iatrogenic.<sup>[1]</sup> Research reveals that depression may also trigger menopausal signs and symptoms; thus, depression is also a factor for early menopause.<sup>[2]</sup> Other research shows that early or premature menopause leads to long-term health issues such as cardiovascular disease, osteoporosis, neurological disorders, psychosexual dysfunctioning, and swing in the mood.<sup>[3]</sup> The international classification of diseases lists the natural phenomenon of menopause as a disease. Good management of menopausal transition leads to healthy aging of women.<sup>[4]</sup> Women experiencing early menopause and deprived of estrogen are now identified to be at higher risk of premature morbidity and mortality.<sup>[4]</sup> This is because of the protective effects of estrogen on the cardiovascular system and bone which disappears after menopause.<sup>[5]</sup>

Considering it as a prime health issue of tribal women, it needs to find out a proper solution. Treating menopausal conditions needs specialists. The unavailability of specialists at different levels in the health care system makes treatment issues very crucial, so to prevent and to increase the understanding of the health care system for menopausal and premenopausal women's empowering and sensitization of primary care. Physician at the first contact level plays a very crucial step to deliver primary care to tribal women segments.

The tribal population in every country always has almost no facilities. Even the basic necessities are not accomplished by concerned authorities leading to poor health status. 8.6% of the tribal population in India facing difficulty to bridge the gap exist in between the tribal and non-tribal populations regarding healthcare. The tribal population in Maharashtra is 9.35% of its total population.<sup>[6]</sup> It is quite a large group that always faces health issues at every stage. In the tribal population, it is found that the age of menopause is early.<sup>[7]</sup>

*Prakriti* [Basic constitution] is the most essential fundamental of Ayurveda, which plays a vital role in the susceptibility of *doshas*, prognosis of disease, therapeutic modalities for disease, and lifestyle regimen (*dinacharya*).<sup>[8]</sup> It is the expression of the person in terms of the morphological, physiological, and psychological facets. Ayurveda mentions seven types of *prakriti*, that is, *vataj*, *pittaj*, *kaphaj*, *vata-pittaj*, *vata-kaphaj*, *kapha-pittaj*, and *sannipatik*.<sup>[9]</sup> Among these, *prakritis* with an extreme constitution, like *vata*, *pitta*, and *kapha*, are more prone

to various diseases.<sup>[10]</sup> Menopause (*rajoniivrutti*) is one of the signs of aging (*jaru*) mentioned in Ayurveda.<sup>[11]</sup> Ayurveda mentions the age of menarche as 12 years and of menopause as 50 years.<sup>[11]</sup> In the female body, *prakriti* plays a vital role in both menarche and menopause stages. Vagbhatacharya has mentioned that in women of *kapha prakriti*, having a pleasant mindset and a habit of taking ghee, milk, can retain reproductive life and have the menstrual cycle (*artava pravrutti*) for a longer duration.<sup>[12]</sup>

The concept of *prakriti* facilitates us with details of one's morphological, physiological, and psychological aspects. It plays a vital role in the manifestation of several diseases in a person. It is possible to give probable solutions to avoid early or premature menopause with the help of knowledge of *prakriti*, as *prakriti* also plays a vital role in retaining the menstrual cycle for a long period. So, with an objective to determine the *prakriti* of tribal women who attained early or premature menopause, a study has been carried out.

## Materials and Methods

This cross-sectional survey study was conducted in four villages of the Nagpur zone, Eastern Maharashtra, a state in central India. A total no. of 169 participants were registered for the study, after seeking permission from IEC. Study participants were married women who attained early or premature menopause. Women with hysterectomy, oophorectomy, or secondary amenorrhea were excluded from the study. Menstrual history was collected by using proforma. Examination of the body constitution was done by using a pre validated questionnaire for the women of tribal area, Eastern Maharashtra, Central India. The duration of the study was 1 month (September 2022 to October 2022).

### Multistage sampling

Purposive sampling was done to select the Nagpur zone, from six zones of Maharashtra. Further with the multistage sampling

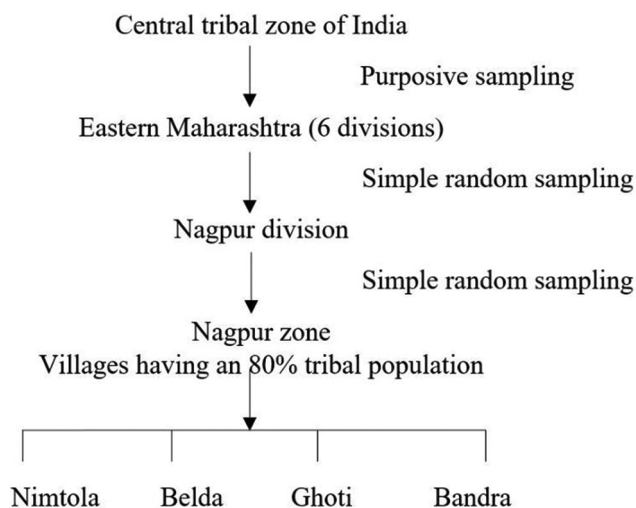


Figure 1: Multistage sampling of population

technique, four villages—Belda, Nimtola, Ghoti, and Bandra of Nagpur tribal zone having a tribal population of more than 80% were selected for the study. [Figure 1]

### Sample size calculation

As per government data, almost 300 women of menopausal age from the Nagpur zone were considered for sample size calculation. The sample size, 169, was calculated using the software OpenEpi with a confidence interval of 95%.<sup>[13]</sup>

### Operational definitions

- *Prakriti*—*prakriti* (phenotype-based Ayurveda body constitution) is an individual's uniqueness, and it deals with somatic and psychological development.<sup>[14]</sup>
- Menarche—menarche is defined as the appearance of the first menstrual period in a female adolescent.<sup>[15]</sup>
- Menopause—permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity. It is a point of time when the last and final menstruation occurs. The diagnosis of menopause is retrospective following a period of amenorrhea for 12 months.<sup>[16]</sup>
- Early menopause—early menopause refers to menopause that occurs at or before age 45 years.<sup>[1]</sup>
- Premature menopause/premature ovarian insufficiency—premature menopause refers to menopause that occurs before age 40 years.<sup>[17]</sup>

### Result

Among the total of 63 women of Belda villages, 35 attained early menopause and 28 had premature menopause, among 38 women of Ghoti village 21 showed early menopause and 17 showed premature menopause, among 38 women of Bandra village 26 showed early menopause and 12 showed premature menopause, and among 30 women of Nimtola villages 20 showed early menopause and 10 showed premature menopause. [Figure 2].

Among the total of 63 women of Belda village, 31 showed *vata* predominant *prakriti*, 23 showed *pitta* predominant *prakriti* and nine showed *kapha* predominant *prakriti*, among 38 women of Ghoti village, 25 showed *vata* predominant *prakriti*, 6 showed *pitta* predominant *prakriti*, and 7 showed *kapha* predominant *prakriti*, among 38 women of Bandra village, 25 showed *vata* predominant *prakriti*, eight showed *pitta* predominant *prakriti*, and six showed *kapha* predominant *prakriti*, among 30 women of Nimtola village 17 showed *vata* predominant *prakriti*, six showed *pitta* predominant *prakriti*, and seven showed *kapha* predominant *prakriti* [Figure 3].

In the present study, 98 (57.98%) women were of *vata prakriti*, 42 (24.85%) were of *pitta prakriti*, and 29 (17.15%) were of *kapha prakriti* [Figure 4].

After applying the Kruskal–Wallis test on three groups of *prakriti*, it shows a test value (6.7308), with a significant difference, whereas the *P*-value is 0.0345 with 0.05 alpha level. [Table 1].

### Discussion

Healthy women are the backbone of a healthy society and ultimately of the community. Menopause is an unavoidable physiological phenomenon that occurs in the female body. Normally, menopause occurs at the age of 50–52 years. In Ayurveda, this stage is considered the beginning of old age. During the menopausal stage excessive sweating, hot flushes, sleep disturbances, dryness of the vagina, and irritability are the common symptoms noted generally. All these symptoms are representative of *pitta dosha's* predominance in menopausal conditions. But in the *vata prakriti*, female *vata dosha* is predominantly present having

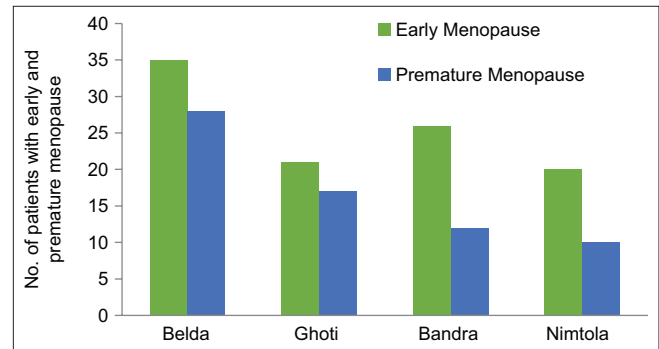


Figure 2: Village-wise distribution of women with early and premature menopause

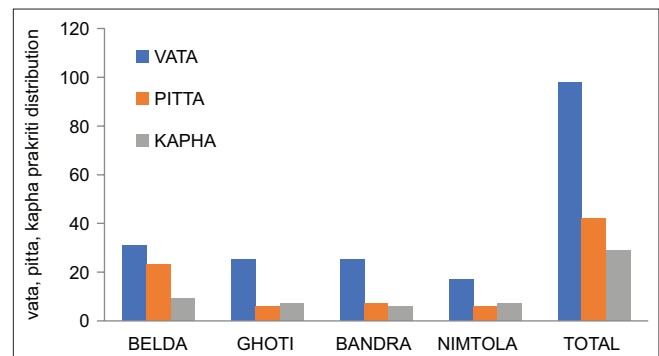


Figure 3: Prakriti-wise distribution of women in different villages

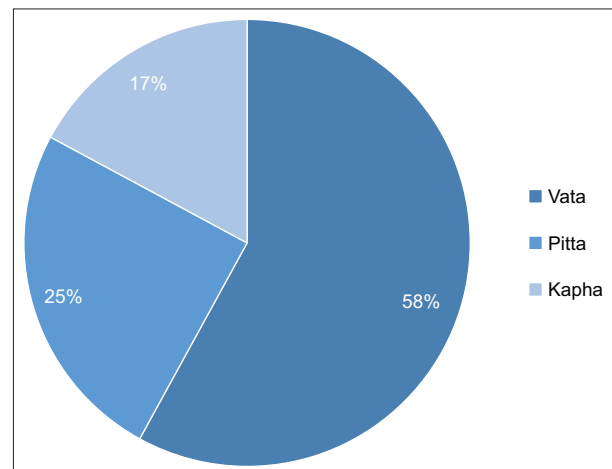


Figure 4: Total prakriti-wise distribution of women in tribal population

**Table 1: Comparison between three groups of Prakriti by Kruskal-Wallis test**

	Mean	SD	ks value	P	Significance
Vata	24.5	4.9749	6.7308	0.0345	Significant
Pitta	10.5	7.2284			
Kapha	7.25	1.0897			

properties *ruksha* (dryness), *laghu* (lightness), *sheeta* (coldness), *khar* (roughness), *sukshma* (minuteness), and *chala* (movement).<sup>[18]</sup> A probable reason to occur early or premature menopause is the subsiding of *pitta dosha* by the predominant *vata dosha* of *vata prakriti* female. If we think about the whole pathophysiology of this process *shita* guna of *vata* subsides the *ushna* guna of *pitta*, likewise, *ruksha* guna of *vata* prohibits the functions of *snigdha* guna of *pitta*.

It was observed that tribal women of the Nagpur zone are mostly taking an inadequate diet with insufficient nutritional value. Most of the women had a habit of chewing tobacco. Some had a history of alcohol addiction. Personal history revealed that the nature of work is excessive and heavy which is majorly affecting general health. Earning daily leads them to a pool of stress worrying for the next day. Author Meher suggests that the factors for premature menopause in India are due to lack of education regarding menstrual hygiene, place of residence, wealth index, age at first birth, sterilization, use of hormonal contraception, body mass index, and smoking status.<sup>[19]</sup>

Acharya mentions the age of conception in females is 16.<sup>[20]</sup> If women conceive before the age of 16 years, there is a chance of *vata vikruti* and the predominance of *vata* vitiates menstrual health which can cause early menopause. So, conceiving at the proper age is a very essential factor. More children lead to more stress on the reproductive system which increases *vata dosha* and causes early menopause. Hormonal contraception contains hormones like progesterone and estrogen which disturb the normal physiology of menstruation. This leads to *vata dosha* vitiation. Increased *vata* ceases the flow of menstruation and conditions like *alpartava* (oligomenorrhea) and *anartava* (amenorrhea) occur and ultimately it leads to early or premature menopause.

It was found that a tribal person has a higher percentage of nutritional deficiency which is the main cause of anemia. High nutritional anemia leads to the vitiation of the *rakta dosha* which in turn hampers the normal *rajpravrutti*. This ultimately causes early menopause. Low and high BMI have a direct impact on the health of the female reproductive system. Low BMI causes nutritional deficiency pathology, whereas high BMI causes obstructive physiology which ultimately leads to early or premature menopause. The low economic condition brings various diseases like anemia, nutritional deficiency, malnutrition, and communicable diseases which affect human health, and in women, it tends to be the wholesome reason for early menopause.

Ayurveda has given many solutions for delaying the process of aging and other phenomena related to aging like early menopause. Some of them are the use of *rasayana* therapy, *vayasthapan gana* changes in lifestyle, and diet according to the *prakriti*, etc.<sup>[21]</sup> If a woman with *vata prakriti* takes milk and *ghrita* throughout her life, such a diet can prevent early or premature menopause.<sup>[12]</sup> As ghee and milk are not affordable to everyone, substitutes like *laghubanchamool siddha* which have the same properties can be given. It is cheap and easily available. Few lifestyle modifications can be done to maintain and enhance women's physical and psychological health. Awareness counseling regarding diet, rest in the menstrual period, and avoiding addictions like tobacco and alcohol can be helpful in the prevention of early menopause. It can be done by improving their *satva* (psyche) to *pravara satva* so that resultant psychosomatic effects and hormonal imbalance can be reduced and ultimately prevent them from early menopause.<sup>[22]</sup>

As we know from the study that *vata pitta prakriti* women are more prone to early menopause. It is recommended that *pitta shamak* medicines can regulate menopause. One study suggested that *pitta shamak* dravya like *ashokarishta*, *ashwagandha churna*, and *praval pishti* are effective in menopausal symptoms.<sup>[23]</sup> *Pitta-vat shamak ahar* (diet) can be advised to balance *pitta* and *vata*. Other dietary changes like the use of amalaki, Manuka (raisins) can be implemented. In rural places, milk and ghee are easily accessible, so we can advise them to take milk and ghee as it pacifies *vata*. Another intervention is yoga. Some studies suggested that yoga, aasanas, pranayama, and sudarshan kriya are the best alternative for hormone replacement therapies in menopause.<sup>[24]</sup> Even practicing short-course yoga therapies have good results on menopause-related stress and psychosomatic symptoms.<sup>[25]</sup> By using these tools, physicians and primary health providers can easily help the women of rural areas to regulate menopause.

## Conclusion

Early or premature menopause is observed largely in *vata prakriti* females of Nagpur district, Eastern Maharashtra, tribal zone of Central India.

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## Conflicts of interest

There are no conflicts of interest.

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