

# Kaal as a Determinant of Health and Disease: An Ayurvedic Review

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## ABSTRACT

**Background:** Time (*Kaal*) is an inevitable and uncontrollable factor influencing both nature and human life. *Ayurveda* regards *Kaal* as one of the nine *Karana Dravyas*, attributing it a pivotal role in health preservation and disease manifestation. It is considered eternal yet dynamic, governing birth, death, physiological functions, and pathological processes.

**Aim:** To critically explore the influence of *Kaal* on the human body with special reference to *Ayurvedic* literature.

**Objectives:** To evaluate the significance of *Kaal* in life activities and examine its role in health and disease.

**Methods:** Classical *Ayurvedic* texts including *Charaka Samhita* and *Sushruta Samhita* were reviewed. References were analyzed with emphasis on seasonal variations, diurnal cycles, digestion, disease causation, prognosis, and therapeutic applications of *Kaal*.

**Results:** *Ayurvedic* scriptures highlight that *Kaal* regulates *Dosha* dynamics in seasonal (*Ritucharya*) and daily (*Dinacharya*) cycles. It plays a role in *Ahara Parinama* (digestion), *Ashta Ahara Visheshha Ayatana* (dietary considerations), and *Samprapti* (pathogenesis). *Kaal* is also counted among *Trividha Roga Hetu* (threefold causes of disease), influencing prognosis (*Sukhasadhya*, *Yapya*, *Asadhya*) and therapeutic timing (*Aushadha Kaal*). In its normal aspect (*Prakriti*), it maintains *Dosha* balance, while in its abnormal state (*Vikriti*), it contributes to disease through *Shad Kriya Kala*, *Akala Mrityu*, and neglect of *Ritucharya*.

**Conclusion:** The *Ayurvedic* concept of *Kaal* extends beyond chronology, serving as a determinant of health and disease. Its relevance in prevention, diagnosis, prognosis, and therapy highlights its clinical significance. Correlating *Ayurvedic* insights with modern chronobiology and circadian rhythm research opens scope for integrative healthcare.

**Keywords:** *Kaal*, *Ritucharya*, *Aushadha Kaal*.

## INTRODUCTION

Time is an inevitable and uncontrollable factor in human life. Although modern technology may allow us to predict it, no one can alter or stop its progression. Time does not wait for anyone, yet its influence extends to every aspect of nature. Seasons, months, days, hours, minutes, seconds, and even nanoseconds are all divisions of time. Each of these divisions brings about changes in natural conditions, which in turn affect the internal environment of the human body.



When these changes are favorable, they support the body's normal functions and overall well-being. However, when they become unfavorable, time itself becomes a contributing factor in causing discomfort or disease. In *Ayurveda*, this ever-changing factor is referred to as *Parinama* or *Kaal*. It is recognized as one of the prime causes in the manifestation of diseases and is included under the *Trividha Hetu* (threefold causes of disease).

*Kaal* is regarded as one of the nine *Karana Dravyas*. Anything classified as *Dravya* must possess both qualities and actions. *Kaal*, therefore, is described with attributes such as *Samkhya* (number), *Parimana* (measurement), *Pruthaktva* (separateness), *Samyoga* (combination), and *Vibhaga* (disjunction). Its primary function is to govern the processes of birth and death in living beings, which makes *Kaal* a fundamental determinant of life. Because of its uncontrollable nature, classical texts even revere it as *Bhagavan*—a divine force or God itself [1].

*Kaal* is eternal, without beginning or end, and indestructible [2]. Phenomena such as flowering, fruit ripening, and leaf shedding in plants, as well as countless other natural events, are all influenced by *Kaal*. A physician is considered proficient when they understand the impact of *Kaal*, both in the manifestation of disease and in planning appropriate treatment. For this reason, the physician (*Bhishak*) is often honored with the title *Kalavith*—one who is well-versed in time.

## AIM

To critically explore the influence of time on the human body, with special reference to *Kaal* as described in *Ayurvedic* literature.

## OBJECTIVES

1. To evaluate the significance of time in various life activities with reference to *Kaal*.
2. To examine the influence of time on both health and disease in relation to *Kaal*.

## METHODS

The concept of *Kaal* (time) is elaborately described in *Ayurvedic* literature. For this study, relevant references and descriptions have been reviewed and analyzed, with special emphasis on the role of time in maintaining health and in the manifestation of disease conditions.

## LITERATURE REVIEW

### Derivation of the Term

The word *Kaal* is derived from the combination of *Ka* and *La* of the term *Kaal*, along with *La* from the *Sanskrit* root *Lee Dhatu*. This etymological origin highlights its fundamental significance in *Ayurvedic* philosophy.

### Definition

*Kaal* is regarded as a divine principle, often equated with God. Its beginning, midpoint, and end remain indefinable. It is the fundamental cause behind the manifestation of tastes in substances and their constant transformations. *Kaal* governs the processes of life and death in human beings, functioning ceaselessly without interruption. It also provides the basis for the measurement and calculation of time [3].

*Kaal* is understood both as naturally occurring divisions of time—such as seconds, minutes, and hours—and as the temporal condition of a patient in relation to the onset and progression of a disease. In a broader

sense, *Kaal* is also perceived through larger natural divisions of time, including *Samvatsara* (year), *Uttarayana* (northern solstice or hot season), and *Dakshinayana* (southern solstice or cold season) [4]. The *Uttarayana Kaal* comprises three seasons: *Shishira* (late winter), *Vasanta* (spring), and *Grishma* (summer), during which the sun moves in a northern direction. The *Dakshinayana Kaal* also includes three seasons: *Varsha* (monsoon), *Sharada* (autumn), and *Hemanta* (early winter), marked by the sun's movement towards the south. Each *Ritu* (season) consists of two months. These seasonal variations directly influence the balance of the *Tridoshas*—*Vata*, *Pitta*, and *Kapha*. Hence, *Ayurveda* prescribes specific seasonal regimens (*Ritucharya*) to counteract the adverse effects of these *Doshic* fluctuations and to maintain health. Furthermore, *Kaal* is described as divisible on a scale ranging from the shortest span (*Akshinimesha*—the time taken to blink an eye) to the longest (*Varsha*—a full year or *Samvatsara*) [5].

**Table 1: Relation of Ayurvedic seasons with Indian and Western calendar months**

|                               |                            |                               |
|-------------------------------|----------------------------|-------------------------------|
| <i>Shishira</i> (Late Winter) | <i>Magha, Phalguna</i>     | Mid January to Mid March      |
| <i>Basanta</i> (Autumn)       | <i>Chaitra, Vaisakha</i>   | Mid March to Mid May          |
| <i>Greeshma</i> (Summer)      | <i>Jyeshtha, Ashada</i>    | Mid May to Mid July           |
| <i>Varsha</i> (Rainy)         | <i>Sravana, Bhadrapada</i> | Mid July to Mid September     |
| <i>Sharada</i> (Spring)       | <i>Ashyayuja, Kartika</i>  | Mid September to Mid November |
| <i>Hemanta</i> (Early Winter) | <i>Margashira, Pausha</i>  | Mid November to Mid January   |

**Table 2: Divisions of Kaal within a year and their equivalent terms**

| <b><i>Kaal Vibhaga</i>: Classification of Time</b> | <b>Related terms</b>                 |
|----------------------------------------------------|--------------------------------------|
| 1 <i>Akshinimesha</i>                              | 1 <i>Maatra</i>                      |
| 15 <i>Akshinimesha</i>                             | 1 <i>Kaashta</i>                     |
| 20 <i>Kaashta</i>                                  | 1 <i>Kaal</i>                        |
| 20 + 1/10 <i>Kaala</i>                             | 1 <i>Naadika</i>                     |
| 2 <i>Naadika</i>                                   | 1 <i>Muhoorta</i>                    |
| 3 ¾ <i>Muhoorta</i>                                | 1 <i>Yaama</i>                       |
| 30 <i>Muhoorta</i> (8 <i>Yaama</i> )               | 1 <i>Ahoraatri</i>                   |
| 15 <i>Ahoraatra</i>                                | 1 <i>Paksha</i>                      |
| 2 <i>Paksha</i>                                    | 1 <i>Maasa</i>                       |
| 2 <i>Maasa</i>                                     | 1 <i>Ritu</i>                        |
| 3 <i>Ritu</i>                                      | 1 <i>Ayana</i>                       |
| 2 <i>Ayana</i>                                     | 1 <i>Samvatsara</i> or <i>Varsha</i> |

*Kaal* (time) is classified under *Dravya* and is recognized as one of the nine *Karana Dravyas* described in Indian philosophy and *Ayurveda* [6]. It is considered an *Amoorta Dravya* (formless and without shape) and a *Nitya Dravya* (eternal and indestructible). The importance of the time factor is elaborated with great clarity in the concept of *Kalachakra*, as described in the *Sushruta Samhita* [7].

## RESULTS:

*Ayurvedic* scriptures clearly emphasize the pivotal role of *Kaal* (time) in both the preservation of health and the management of disease. The impact of seasonal variations (*Ritu*) on the *Tridosha*, along with the characteristic features of each *Ritu* within the daily cycle, are evident and self-explanatory.

**Table 3 : Correlation Between *Ritu* and *Dosha* Fluctuations**

| <i>Dosha</i> | <i>Sanchaya</i> (accumulation) | <i>Prakopa</i> (Vitiation) |
|--------------|--------------------------------|----------------------------|
| <i>Vata</i>  | <i>Greeshma</i>                | <i>Pravrita</i>            |
| <i>Pitta</i> | <i>Varsha</i>                  | <i>Sharada</i>             |
| <i>Kapha</i> | <i>Shishir</i>                 | <i>Basanta</i>             |

**Table 4 : Correlation of *Ritu* with Diurnal Divisions**

| <i>Dinabheda</i>   | <i>Bhava</i>    |
|--------------------|-----------------|
| <i>Poorvahna</i>   | <i>Vasanta</i>  |
| <i>Madhyahna</i>   | <i>Greeshma</i> |
| <i>Aparahna</i>    | <i>Pravrit</i>  |
| <i>Pradosha</i>    | <i>Varsha</i>   |
| <i>Ardharatri</i>  | <i>Sarat</i>    |
| <i>Pratyushasi</i> | <i>Hemanta</i>  |

In *Ahara Parinama* (the process of digestion of food), *Kaal* plays a vital role along with other factors such as *Ooshma* (digestive fire/heat), *Vayu* (movement), *Kleda* (moisture), and *Samyoga* (combination), as explained in *Charaka Samhita*, *Sharira Sthana* [8]. Similarly, in *Ashta Ahara Visheshha Ayatana* (eight considerations related to food intake), *Kaal* is regarded as one among the eight factors, along with *Prakriti* (nature), *Karana* (processing), *Samyoga* (combination), *Rasi* (quantity), *Desha* (habitat), *Upayogasamstha* (rules of use), and *Upayokta* (the consumer), as described in *Charaka Samhita*, *Vimana Sthana* [9]. Furthermore, *Kaal* holds significant importance in understanding disease manifestation (*Samprapti*), where it is considered among the *Trividha Roga Hetu* (three primary causes of disease) [10]. It also plays a role in prognosis, such as in *Nava* (newly manifested diseases that are easily curable – *Sukhasadhyā*), in *Yapya* conditions where lifespan is sustained (*Seshatvat Ayusho*), and in *Anupakrama* (incurable conditions marked by *Drishtarishta*) [11]. The importance of *Kaal* is also noted in specific pathological conditions, such as *Garbha Kaal Vyatikrama* in *Raktagulma* [12] and *Kalanuparatniti* in *Arishta Sthana*, where it is considered under *Prakriti Arishta Bheda* [13]. Additionally, in therapeutic applications, *Kaal* is emphasized in relation to medication timing with food intake (*Aushadha Kala*) [14].

## DISCUSSION

The concept of *Kaal* (time) can be interpreted in two broad dimensions—*Prakriti* (normalcy) and *Vikriti* (abnormality).

In its normal aspect (*Prakriti*), *Kala* is reflected in the stages of *Chaya* (initiation), *Prakopa* (aggravation), and *Prasama* (subsidence) of *Doshas*. It is also recognized as a factor beyond *Janapadodhvasa* (epidemics), as *Kaal Mrityu* (natural death), as the divisions of time such as *Kshana* (moment) and other units, and in the regular seasonal functions of *Kaal* observed during each *Ritu* (season).

In its abnormal aspect (*Vikriti*), *Kaal* is understood through the framework of *Shad Kriya Kaal* (six stages of disease manifestation), as *Dooshita Kaal* (vitiated time) leading to *Janapadodhvamsa*, as *Akala Mrityu* (untimely or accidental death), and as *Vyadhi Avastha* (various stages of disease progression). Moreover, imbalance in *Kaal* arises through *Atiyoga* (excessive use), *Mithyayoga* (improper use), or *Ayoga* (non-use) of time [15], along with neglect of *Ritucharya* (seasonal regimens), which ultimately predisposes to disease.

**Table 5: Role of *Kaal* in Physiological and Pathological Conditions**

| Sr. No | <i>Kaal as Prakriti</i>           | <i>Kaal as Vikriti</i>                                           |
|--------|-----------------------------------|------------------------------------------------------------------|
| 1      | <i>Chaya, Prakopa, Prashama</i>   | <i>Sanchaya, Prakopa, Prasara, Sthanasamsraya, Vyakti, Bheda</i> |
| 2      | <i>Adooshita Kaal</i>             | <i>Dooshita Kaal as Janapadodgvamsaka factor</i>                 |
| 3      | <i>Kaal Mrityu</i>                | <i>Akala Mrityu</i>                                              |
| 4      | <i>Kshanadi divisions</i>         | <i>Vyadhyavastha or Atiyoga, Mithyayoga, Ayoga</i>               |
| 5      | Normal action in each <i>Ritu</i> | Not following <i>Ritucharya</i> causing <i>Rogavastha</i>        |

## CONCLUSION

### Summary of Findings

The concept of *Kaal* (time) is deeply embedded in *Ayurvedic* philosophy as one of the nine *Karana Dravyas*. It functions as both an eternal principle and a dynamic factor influencing every aspect of life, from physiological activities to disease processes. Classical texts highlight its role in seasonal variations, daily cycles, digestion, food intake, disease manifestation, prognosis, and therapeutic interventions.

### Clinical Implications

Understanding *Kaal* allows physicians to interpret the natural fluctuations of *Doshas* in relation to seasons and diurnal cycles, thereby supporting preventive health measures such as *Ritucharya* and *Dinacharya*. In pathology, *Kaal* provides the framework for understanding disease progression through *Shad Kriya Kaal*, determining prognosis, and identifying critical factors in treatment, including the timing of medicine administration (*Aushadha Kaal*). Thus, *Kaal* bridges preventive, diagnostic, and therapeutic dimensions of *Ayurveda*.

### Future Scope

In contemporary practice, where lifestyle disorders and environmental challenges are on the rise, integrating the concept of *Kaal* with modern medical insights may offer new pathways for preventive and personalized healthcare. Future research can focus on correlating *Ayurvedic* principles of *Kaal* with chronobiology, circadian rhythms, and seasonal epidemiology to establish stronger scientific validation.

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