

An Investigation into the Knowledge of Trait Body Elements (*Dhātu Chao Ruean*) Based on Thai Traditional Medicine Theory

Pratya Phetkate¹, Somboon Kietinun², Chuntida Kamalashiran³,
Nunthiya Srikaew⁴ and Kusuma Sriyakul⁵

^{1,2,3,4,5} *Department of Integrative Medicine, Chulabhorn International College of Medicine,
Thammasat University, Pathum Thani 12120, Thailand*

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ABSTRACT *Dhātu Chao Ruean* is a diagnostic tool integral to the treatment and promotion of health, firmly grounded in the principles of Thai traditional medicine. The primary objective of this research was to aggregate, analyse, synthesise, and summarise knowledge related to *Dhātu Chao Ruean*. The study employed a qualitative research design, incorporating data collection in three methodological stages, that is, a literature review, in-depth interviews, and focus group discussions. The research findings revealed consistency in the qualitative results across all three methods, specifically pertaining to *Dhātu Chao Ruean*. The conclusions suggested that *Dhātu Chao Ruean* is subdivided into seven components, which can be further categorised into two groups based on determining factors and duration, namely, Innate *Dhātu Chao Ruean* (*Dhātu Chao Ruean Kerd*) and Current *Dhātu Chao Ruean* (*Dhātu Chao Ruean Patjuban*). This study provides foundational knowledge that can potentially spearhead the development of a standard diagnostic framework for *Dhātu Chao Ruean*.

INTRODUCTION

Traditional medicine, with its rich knowledge, skills and practices, has been cultivated and transmitted across generations in diverse cultures around the world. The World Health Organization (WHO) defines traditional medicine as including a wide range of theories, beliefs, and experiences that are unique to various cultures (World Health Organization 2013). These practices are designed to promote health, while also preventing, diagnosing, improving, or treating physical and mental illnesses. In recent times, there has been a resurgent interest in traditional and natural healing methods globally. This renewed attention has also spotlighted Thai traditional medicine (TTM), which served as the primary healthcare system in Thailand until the early 20th century (Chokevivat and Chuthaputti 2005). Rooted deeply in Ayurvedic principles and Buddhist teachings, TTM espouses a holistic approach to health and well-being. It

aims to foster balance and harmony within the human body (He 2015). This holistic approach addresses not only the physical body but also the mind, societal interactions, and spiritual well-being. The teachings of TTM, preserved in ancient Thai medical texts and scriptures, remain relevant today as they encapsulate the Thai traditional way of life and the coping mechanisms associated with birth, ageing, illness, and death (Suwankhong et al. 2011). TTM theory posits that the human body is composed of four elements or *Dhātu*, namely, earth or *Dhātu din*, water or *Dhātu nam*, wind or *Dhātu lom*, and fire or *Dhātu fai*. This theory explains that illnesses originate from irregularities among these elements. Individuals possess a dominant element, known as '*Dhātu Chao Ruean*' in Thai, which is reflective of their inherent character and personality from birth (He 2015). However, this dominant element may vary over time due to diverse upbringing and environmental factors. Health complications arise when an imbalance occurs among these elements (Lumlerdkij et al. 2018). The assessment of *Dhātu Chao Ruean* in TTM closely aligns with the Indian Ayurvedic theory of the five fundamental elements or *Panchamahabhuta*, which posits that everything in the world is composed of the five elements of earth, water, wind, fire and ether (Narayanasamy and Narayanasamy 2006; Parasuraman et al. 2014). In Ayurveda, every

Address for correspondence:

Pratya Phetkate
Chulabhorn International College of Medicine,
Thammasat University, 99 Moo.18 (Rangsit Campus),
Paholyothin Rd, Klong Nueng, Klong Luang,
Pathum Thani 12120, Thailand
Phone: +66 888929556
E-mail: pratya@tu.ac.th

individual is unique, and treatment is customised according to each person's constitution type (*Prakriti*), classified into three doshas (*Vata, Pitta and Kapha*) and their combinations (Rotti et al. 2014). This *prakriti* is determined at conception and manifests in various physical, psychological, immunological, and behavioural traits (Chopra and Doiphode 2002; Dey and Pahwa 2014). TTM employs *Dhātu Chao Ruean* as a tool for health status assessment and health recommendations. When a dominant element is in balance, it results in good health for an individual. Imbalances, on the other hand, can lead to health issues (Prachakit et al. 2023). Nevertheless, the analysis of *Dhātu Chao Ruean* remains inconsistent due to the lack of a standardised approach. Some Thai traditional practitioners rely on personal experience or incomplete ancient texts, leading to potential inconsistencies, misdiagnoses, or improper treatments. In light of this, there is an interest in conducting a comprehensive study of *Dhātu Chao Ruean* from various sources and relevant experts. This comprehensive study will lead to the development of a tool for consistent assessment of *Dhātu Chao Ruean*. Once established, this tool will provide Thai traditional practitioners with a reliable and precise method for evaluation. Consequently, this will support the formulation of treatment plans tailored to the specific needs of each patient, aligning with the principles of Thai traditional medicine.

Objective

The aim of this research was to collate, analyse, synthesise, and summarise knowledge of *Dhātu Chao Ruean* from relevant texts, scriptures, and expert opinions in the fields of Thai traditional medicine, Ayurvedic medicine, and conventional medicine.

METHODOLOGY

This research employed a qualitative study design to investigate the knowledge of trait body elements (*Dhātu Chao Ruean*) and to develop a diagnostic framework grounded in Thai traditional medicine theory. This research was carried out from June 2021 to May 2022 in Thailand and was divided into three methodological stages of literature review, in-depth interviews (IDIs), and focus group discussions (FGDs).

Participants

Following the literature review phase, the sample population was strategically partitioned into two subgroups. The first subgroup for IDIs consisted of ten specialists who held expertise in traditional body elements and Thai traditional medicine theory. These specialists included Thai traditional medicine teachers (with more than two years of teaching experience at a university or Thai traditional medicine school), folk healers, Thai traditional medicine doctors, practitioners of Ayurvedic medicine, and medical doctors. The second subgroup for FGDs subgroup consisted of a panel of five experts with relevant experience in traditional body elements. These individuals were chosen from the sample population that had participated in the IDIs. The study design and methodology received approval from the Human Research Ethics Committee of Thammasat University (Medicine). The study was conducted in accordance with the principles of the Helsinki Declaration, under approval number No.134/2564 (Full Board Review), as shown in Figure 1.

Procedures and Data Collection

The initial phase of the study involved a comprehensive review of existing literature on the principles of trait body elements in Thai traditional medicine theory, as well as parallel theories in other traditional medicine systems such as Ayurveda. Following the literature review, SSIs were designed to perform IDIs with individuals possessing substantial knowledge and experience in Thai traditional medicine and *Dhātu Chao Ruean*. Ten specialists in the field of traditional body elements or *Dhātu Chao Ruean* were interviewed for an hour each. These IDIs were devised to extract personal insights, experiences, and a deeper understanding of *Dhātu Chao Ruean* and its role in diagnostic procedures. The interviewees were selected through purposive sampling, a method designed to target participants with specific knowledge and expertise. The subsequent phase involved conducting FGDs. These discussions aimed to stimulate interactive dialogues among participants about *Dhātu Chao Ruean* and its utility in diagnostics. The FGDs provided an opportunity to gather a variety of perspectives, comprehend commonalities and differences in viewpoints, and assess collective knowledge. The FGDs was composed of five participants, who were selected from among

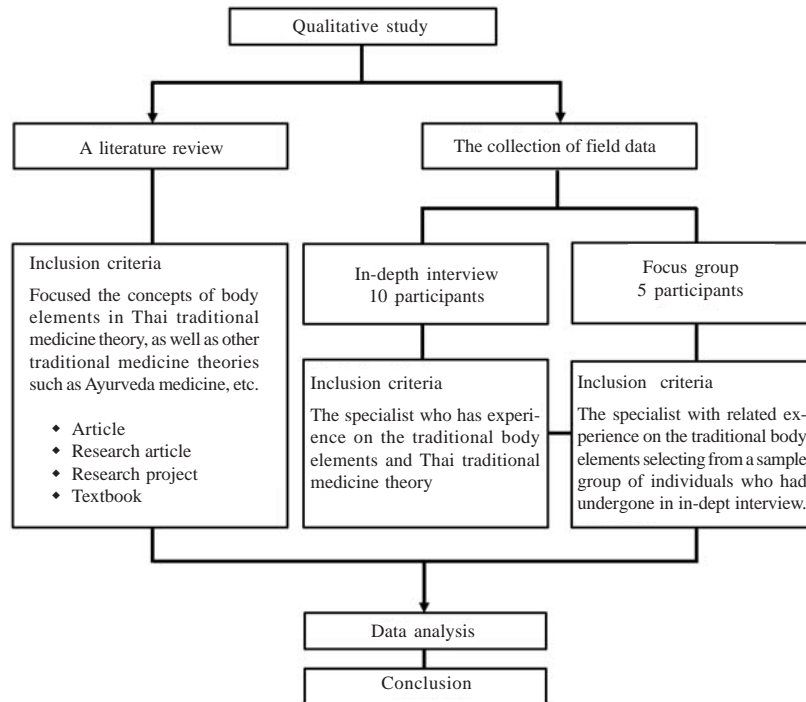


Fig. 1. Flow diagram of the study

the experts that participated in the IDIs. Data collected from the IDIs and FGDs were transcribed verbatim and analysed using a thematic analysis approach. This method facilitated the identification, analysis, and reporting of patterns or themes within the data. The study was conducted in adherence to ethical research practices, ensuring informed consent was obtained from all participants. The combination of a literature review, IDIs, and FGDs provided a comprehensive and nuanced understanding of *Dhātu Chao Ruean* and facilitated the development of a diagnostic framework based on Thai traditional medicine theory.

RESULTS

Part I: Literature Review

The literature review was undertaken using research databases, articles, and research papers from

PubMed, ScienceDirect, and Thai-Journal Citation Index Centre. The search keywords, in both Thai and English, included “*Dhātu Chao Ruean*”, “body elements”, “trait body elements”, and “traditional body elements”. Besides these online sources, hard copy resources such as research papers, textbooks, and Thai traditional medicine scriptures from university libraries and the National Library were also reviewed. The relevant documents are shown in Table 1. From these documents, key findings can be summarised as shown in Table 2.

Table 1: Number of documents from the literature review

Document type	Number of documents
Article	2 (in Thai)
Research article	4 (in Thai)
Full-text research project	1 (in Thai)
Textbook and scripture	8 (in Thai)

Table 2: Results of the literature review and the categorisation of *Dhātu Chao Ruean* according to related dimensions

S.No.	Dimension	Main idea	Clinical application
1	<i>Dhātu Chao Ruean</i> according to the day of birth	The impact of the four elements on both the human body and mind varies according to one's birth day. It considers a new day at the sunrise and considers the nighttime at the sunset according to the rotation of the eight planets in Thai traditional medicine theory.	In accordance with the principles of Thai traditional medicine, the following are the treatment goals: <ol style="list-style-type: none"> To treat and alleviate diseases and abnormalities. To restore the balance of the constituent elements. By utilising the patient's medical history and day of birth, a determination is made regarding the individual's inherent elemental affinity, whether it be earth, water, wind or fire, as well as the characteristics associated with that particular element. <i>Dhātu Chao Ruean</i> based on the month of birth is a complementary factor that enhances or diminishes the impact of <i>Dhātu Chao Ruean</i> based on the day of birth. For instance, individuals born on Sunday in March are likely to have a stronger influence of the fire element than those born on Sunday in September. Inquiring about the year of birth is a method for predicting the characteristics of the physical body as well as the psychological traits. This information is used in conjunction with the symptoms and severity of the disease, integrating with Thai astrology. According to its characteristics, <i>Dhātu Chao Ruean</i> is divided into three categories (<i>Tri-Dhātu</i>) in Thai. This involves conducting a medical history, physical and mental examination to assess the current physical condition of the patient, evaluating for the prominent characteristics of <i>Vāta</i> , <i>Pitta</i> and <i>Kapha</i> in accordance with the traits of <i>Tri-Dhātu</i> .
2	<i>Dhātu Chao Ruean</i> according to the month of birth	The influence of the four elements within the human (physical and mental) varies based on the month of birth, referencing the lunar calendar.	
3	<i>Dhātu Chao Ruean</i> according to Thai (year)	The influence of the four elements within the human (physical and mental) differ according to the year of birth based on the 12 years of the Thai zodiac.	
4	<i>Dhātu Chao Ruean</i> according to characteristic	Considering the properties of the elements at the present moment (standard properties, that is, one property (<i>Ek</i>), two properties (<i>Diwan</i>) or three properties (<i>Tri</i>), it is necessary to determine whether they are consistent with or divergent from the <i>Dhātu Chao Ruean</i> based on a person's birth day, month, or year.	
5	<i>Dhātu Chao Ruean</i> according to season	Seasonal changes, being external factors, determine the body's exposure to varying degrees of heat and cold. This fluctuation influences the body's metabolic processes, affecting the functionality of body elements. Specifically: <ol style="list-style-type: none"> In the summer season, the body experiences heat, affecting the <i>Pitta</i> system and leading to an imbalanced fire element. In the rainy season, the body is subjected to cold, impacting the <i>Vāta</i> system and resulting in an imbalanced wind element. In the winter season, the body endures coldness, influencing the <i>Kapha</i> system and causing an imbalanced water element. 	Evaluating the present environmental conditions, as well as those during the onset of illness, it is crucial to determine whether there is a correlation with the manifestation of abnormal symptoms. This can be analysed in two ways: <ol style="list-style-type: none"> The environment influences the severity of the illness, either aggravating or alleviating the condition. The environment has no impact on the illness.

Table 2: Contd...

S.No.	Dimension	Main idea	Clinical application
6	<i>Dhātu Chao Ruean</i> according to age	<p>Throughout various life stages, the functioning of the <i>Dhātu</i> systems exhibit distinct differences:</p> <ol style="list-style-type: none"> 1. In childhood, the water element predominates, driven mainly by the <i>Kapha</i> system. 2. In middle age (adulthood), the fire element takes precedence, steered predominantly by the <i>Pitta</i> system. 3. In old age (senior years), the wind element becomes most influential, guided primarily by the <i>Vāta</i> system. 	<p>It is essential to assess an individual's age to identify their life stages, that is, early, middle or late, and whether this correlates with the abnormal symptoms displayed, as well as the treatment planning implications.</p> <ol style="list-style-type: none"> 1. In treating patients in the early life stage, it is important to consider the balance of the water element, such as administering throat lozenges and fever-reducing medications. 2. In treating patients in the middle life stage, it is important to consider the balance of the fire element, such as administering supplements for the fire element and blood tonics. 3. In treating patients in the late life stage, it is important to consider the balance of the wind element, such as administering laxatives, aromatic medicines, and rejuvenating remedies. <p>Evaluating the current period as well as the time of the onset of the illness helps determine whether there is a correlation between the emergence of unusual symptoms and the illness's onset. This information also affects treatment planning.</p>
7	<i>Dhātu Chao Ruean</i> according to time	<p>The time-of-day influences both the external temperature of the body as well as the functioning of the body's metabolic processes, which vary according to the time of day. This is detailed as follows:</p> <p>Daytime</p> <p>06:00 AM - 10:00 AM: <i>Kapha</i> 10:00 AM - 02:00 PM: <i>Pitta</i> 02:00 PM - 06:00 PM: <i>Vāta</i></p> <p>Nighttime</p> <p>06:00 PM - 10:00 PM: <i>Kapha</i> 10:00 PM - 02:00 AM: <i>Pitta</i> 02:00 AM - 06:00 AM: <i>Vāta</i></p>	

Part II: In-Depth Interviews (IDIs)

From the recruitment of participants for the study, it was found that those participating in both the IDIs and FGDs met the inclusion criteria of the study, with their characteristics presented in Table 3.

Table 3: Characteristics of participants

Characteristics	N	%
<i>Gender</i>		
Male	8	80
Female	2	20
<i>Educational Status</i>		
Bachelor	7	70
Postgraduate	3	30
	Mean	SD
<i>Age (in year)</i>	48	13.29
<i>Experience Regarding Dhātu Chao Ruean</i>	18.3	6.68

Data were analysed by descriptive statistics.

The results of the IDIs were derived from the analysis of SSIs involving a total of 10 participants. The presentation of the results has been selectively exemplified by the distinct information provided by 6 individuals, and these were divided into individual key insights as follows:

The first interviewee, a Thai traditional medicine teacher with over 15 years of experience, emphasised the significance of *Dhātu Chao Ruean*, or traditional body elements, as per ancient medical textbooks. They discussed the scripture related to mothers and children (*Prathom-Chinda*) and the scriptures related to the ethics of Thai traditional medicine and fever symptoms (*Chanthasat*), which define *Dhātu Chao Ruean* based on the day of conception and birth, respectively. The premise is that humans, born of nature, are influenced by the season and time of their birth. These textbooks also guide disease diagnosis, exploring potential links between diseases and an individual's *Dhātu Chao Ruean*. The interviewee noted that "inherent body elements at birth could deviate from current personality traits due to growth, diet changes, and environmental influences". In Thai traditional medicine, both these inherent elements and current characteristics are critical for disease diagnosis and clinical result interpretation. This comprehensive approach allows for holistic understanding of symptoms and diseases, leading to holistic treatment recommendations.

The second interviewee, a Thai traditional medicine doctor with over a decade of experience, explained the concept of "Trait body element" as an inherent trait people are born with and used to categorise individuals based on their unique characteristics. These elements, divided into earth, water, wind and fire, encompass distinctive physical appearances, personalities, and emotional characteristics. They serve as guidelines for advising patients on behavioural modifications. Dr. Pennapa Subcharoen's instrument is employed to analyse these trait body elements. This tool calculates trait body elements using a 100-year calendar and season of birth, aligning with trait body element analysis in Thai traditional medicine textbooks. For disease diagnosis, this analysis is combined with data on the patient's date of birth and personal characteristics, followed by counselling on behaviour and diet suitable for their trait body element. The trait body element concept also plays a role in health promotion, especially during mobile medical unit visits. Consultations include trait body element analysis, explanation, and health care documentation. Patients are specifically advised to follow a diet matching their trait body elements, promoting health maintenance and balance.

The third interviewee, an Ayurvedic medicine practitioner, who holds a Bachelor degree in Ayurvedic Medicine and Surgery from India, compares Ayurvedic and Thai traditional medicine regarding the concept of trait body elements. In Ayurveda, this is known as '*Prakriti*', which refers to an individual's constitution or the balance of the three '*doshas*' at conception. This idea aligns with Thai traditional medicine's theory that the elements present at conception shape an individual's four-element-based characteristics. In Ayurveda, there are three major types of *doshas*, each further divided into different combinations. Some individuals exhibit equal proportions of the three *doshas*, considered the ideal balance of trait body elements. This theory is applied in Ayurvedic medicine primarily to promote and maintain patients' health, often through lifestyle modifications. However, it is noteworthy that these elements are not the main focus of treatment but rather play a supplementary role in addressing health issues.

The fourth interviewee, a physician knowledgeable in Thai traditional medicine, emphasised the interpretative nature of the "*Dhātu Chao Ruean*" theory. The interviewee mentioned that "*Chao Ruen*" signifies the owner, while "*Dhātu Chao Ruean*" corresponds to the governing ele-

ments of the body at a given time, with these elements often related to diseases. The elements (earth, water, wind and fire) referred to as *Pathavi*, *Vayo*, *Arpo* and *Tejo* embody unique life qualities. These elements consist of inherent characteristics indicating current body properties and a functional aspect reflecting bodily functions, like *Pitta* or increased heat activity. The expert encouraged the use of this knowledge in integrative medicine, such as recommending foods based on trait body elements while considering their composition, the five food groups, and nutritional value.

The fifth interviewee, a folk healer with over two decades of experience, discussed the concept of “*Dhātu Chao Ruean*”, associating it with an individual’s constitution tied to karma. These elements, determined by a person’s birth date and time, form the foundation of their physical and mental being. The healer referred to the influences from external factors, such as illness from other elements, as a “guest”. If the host, or the individual, is strong enough, they can fend off these unwanted influences. The healer also connected these concepts with astrology, asserting that it could predict future events, including illnesses or potential dangers. For treatment, the healer examines the patient’s birth date, month, and year, utilising the lunar calendar and a 100-year calendar to analyse the corresponding elements. Subsequently, they devise a treatment plan based on these analyses.

The sixth interviewee, an independent scholar specialising in Thai traditional medicine, described the concept of elemental constitution as an evaluation of the characteristics of elements inherited from parental genetics, thus reflecting the original nature of a patient. The importance of these elements varies, with the element based on the day of birth being of primary significance, persisting from birth until death. Secondary to this is the element based on the month of birth, which either reinforces or weakens the primary element. The year of birth relates more to destiny and fate. The interviewee emphasised that deviations from the original elemental constitution due to external factors can lead to disease development, as per Thai traditional medicine theory. Therefore, understanding a patient’s elemental constitution is crucial to treat various diseases.

Part III: Focus Group Discussions (FGDs)

In the FGDs, content analysis was employed. From the qualitative data obtained from the group

conversation, six important issues can be grouped as follows:

1. Origin and meaning of *Dhātu Chao Ruean*, which is a term found in ancient Thai medical scriptures, including the *Prathom-Chinda* scripture. It analyses *Dhātu Chao Ruean* based on the mother’s lunar month and the individual’s birth month. It also analyses *Dhātu Chao Ruean* through personal characteristics using the elemental substances of *Vata*, *Pitta*, and *Kapha* found in that scripture, and Ayurvedic textbooks. *Dhātu Chao Ruean* refers to the elemental substances present in the body at a specific time, and imbalances can lead to diseases.
2. For objectives of using *Dhātu Chao Ruean*, based on the group conversation, the majority agreed that *Dhātu Chao Ruean* is one component used to analyse health status. According to Thai traditional medicine theory, if the trait body elements are in balance and not affected since birth, *Dhātu Chao Ruean* remains balanced. However, changes in the environment, upbringing, and individual behaviour inconsistent with *Dhātu Chao Ruean* can lead to imbalances. Therefore, the analysis of *Dhātu Chao Ruean* reflects a person’s health and behaviour. It is commonly used in disease diagnosis and health promotion, for instance, the evaluation of *Dhātu Chao Ruean* is used to guide behavioural adjustments in line with an individual’s specific *Dhātu Chao Ruean*, including dietary habits. Factors such as seasonal changes, weather conditions, age, and country also influence *Dhātu Chao Ruean*. For example, during the elderly stage, the dominant elemental substance in the body changes, with *Vata* becoming prominent. However, it is necessary to consider these factors to ensure *Dhātu Chao Ruean* analysis aligns with the observed symptoms in patients.
3. The use of *Dhātu Chao Ruean* in disease diagnosis and treatment planning, during the group conversation, it was noted that there are challenges in using *Dhātu Chao Ruean* for disease diagnosis. According to Thai traditional medicine, the human body consists of four elements of earth, water, air and fire. The *Tri-Dhātu* controls bodily functions. Imbalances in the *Dhātu* can result from ab-

normalities in bodily functions, affecting one or multiple elements. While analysing *Dhātu Chao Ruean* may not directly correspond to bodily abnormalities, it is still used in treatment planning, prescribing medication, and providing health advice. For example, if a patient has a wind element imbalance, the prescribed medication should promote or reduce wind elemental activities without disturbing the balance of the main elements.

4. Tools, textbooks, and scriptures used in *Dhātu Chao Ruean* analysis, during the group conversation, the majority mentioned the circular chart of *Dhātu Chao Ruean* developed by Dr. Phennapa Subcharoen, which is widely used in various universities in Thailand. However, some participants had different opinions due to limitations in using the circular chart. Alternatively, direct interpretation can be done using the *Prathom-Chinda* scripture, which interprets *Dhātu Chao Ruean* based on the mother's lunar month and the individual's birth month. The *Chanthasat* scripture also analyses *Dhātu Chao Ruean* based on the individual's birth date. Another type of *Dhātu Chao Ruean* analysis involves analysing personal characteristics using *Tri-Dhātu*, which includes *Vata*, *Pitta*, and *Kapha*, as found in various ancient textbooks and Ayurvedic medicine.
5. Regarding problems and challenges in using *Dhātu Chao Ruean*, during the group conversation, it was found that there are some issues with using *Dhātu Chao Ruean*. For example, *Dhātu Chao Ruean* analysis may not align with personal characteristics. However, it is important to clarify whether *Dhātu Chao Ruean* primarily pertains to the physical or mental aspects. Understanding the true meaning and workings of *Dhātu* is crucial, as well as identifying which aspect of a person's balance is affected by a disease or illness. Even if *Dhātu Chao Ruean* may not directly indicate the specific imbalance caused by a disease, it is still necessary to restore the affected balance before considering *Dhātu Chao Ruean*. It is important to maintain the original balance and ensure that treatments do not interfere with the natural state of a person.

6. Preservation and future application of knowledge, according to the group conversation, the majority agreed that *Dhātu Chao Ruean* is valuable knowledge in Thai traditional medicine that should be preserved. All Thai medical students should learn about *Dhātu Chao Ruean*, its origins in Thai medical scriptures, and its relation to the body and mind. It is believed that *Dhātu Chao Ruean* is beneficial in promoting health, especially in terms of dietary habits aligned with *Dhātu Chao Ruean* and adjusting behaviour to prevent imbalances. When treating patients, understanding their *Dhātu Chao Ruean* is important to avoid medications that may disrupt their balance. For future applications, more research is needed to validate the accuracy and effectiveness of *Dhātu Chao Ruean* in health analysis. Although there is limited research currently, there are studies in Ayurvedic medicine relating to nature (*prakriti*) that explore the correlation between *Dhātu Chao Ruean* and specific diseases. Promoting the learning of *Dhātu Chao Ruean* and encouraging research will lead to a clearer and more universally accepted understanding of *Dhātu Chao Ruean* within the field of Thai traditional medicine.

DISCUSSION

In a scholarly analysis of *Dhātu Chao Ruean*, a comprehensive review of the literature and relevant textbooks was conducted, aligning with the principles of Thai traditional medicine. This study included IDIs and FGDs with experts in the field, leading to the same main conclusions. *Dhātu Chao Ruean* can be analysed and discussed through seven dimensions, with the first dimension being *Dhātu Chao Ruean* from the day of birth, each day of birth corresponds to a unique *Dhātu Chao Ruean*, influenced by the perceived celestial bodies during that time. Historical context reveals the establishment of days based on the observable seven celestial bodies during the era, which correspond to the week's days. The concept of a seven-day week originated with the Babylonians, who organised their week around the seven celestial bodies visible to the naked eye, that is, the Sun, the Moon, Mars, Mercury, Jupiter, Venus, and Saturn (Tanret 2004). A review of scientific literature

offers limited evidence suggesting a strong link between an individual's birth day and their health, behaviour, and personality traits, except in the field of astrology, which uses the day as a component in predicting destiny (Bultrighini 2021). However, in Thai traditional medicine, it is believed that each week day significantly affects the elemental composition within a human body.

The second component in the elemental analysis of the horoscope is related to considering the birth month of each individual. Consideration of birth month can be categorised into two types based on the lunar calendar and the solar calendar. The lunar calendar follows the moon's orbit, resulting in a year shorter than the solar year by approximately 10 days. This leads to the addition of an extra month when the accumulated days reach around 29.5 days. Conversely, the solar calendar corresponds with the sun's decline and seasons, closely mirroring the seasonal year (Gislén 2018; Gislén and Eade 2019). In the context of Thai traditional medicine, the lunar calendar serves as the reference for determining the birth month. A review of existing literature reveals a relationship between the birth month and the risk of disease. A study comprising 1.75 million patients ascertained that individuals born in certain months bear a higher risk of contracting specific diseases. This intimates that one's lifetime risk of disease could be influenced by their birth month (Boland et al. 2015).

The third component of the *Dhātu Chao Ruean* analysis is the *Dhātu Chao Ruean* according to the zodiac signs. In Thai traditional medicine textbooks, the zodiac is mentioned to correspond with the Chinese zodiac signs (Grech 2015; Jayathavaj 2018). The Chinese zodiac operates on a 12-year cycle that is associated with different animals like a dog, dragon, goat, horse, monkey, ox, pig, rabbit, rat, rooster, snake, and tiger. Each animal possesses unique attributes, with some being desirable and others not so much (Yu-thing 2011). Thai traditional medicine and astrology texts discuss the relationship between *Dhātu* and the zodiac signs, stating that an individual's birth sign determines which *Dhātu* governs their constitution and predisposes them to certain health conditions. For example, those born under the Aries sign are governed by the fire element, which is associated with specific illnesses or an increased likelihood of fire-related imbalances. Furthermore, there

have been studies examining the correlation between patients' birth dates and their zodiac signs in a hospital setting. Findings suggest that those born under the Sagittarius sign are associated with fire-element disabilities, while those under the Gemini sign exhibit wind-element imbalances. High blood pressure is less prevalent among individuals born under the Cancer sign, characterised by water-element imbalances. Similarly, diabetes is less common among those born under the Leo sign, which is associated with weakened fire elements (Jayathavaj et al. 2019).

The fourth component in the *Dhātu Chao Ruean* analysis is the *Dhātu Chao Ruean* according to characteristics. This aspect relies on current traits and certain behaviours to assist in determining the governing element. The severity of illness symptoms and difficulty in treatment can be influenced by the alignment of the disease's *Dhātu* with the *Dhātu Chao Ruean*. It is essential to address the original *Dhātu* before recovery can be achieved (Mahajaroensiri et al. 2017). This approach aligns with Ayurveda's examination of human constitution or nature (*prakriti*), which signifies a balance of cosmic intelligence, ego and self-consciousness. Ayurvedic practices aim to maintain this balance for optimal health. *Prakriti*, comprising physical, psychological, and functional attributes, remains constant throughout life (Mishra et al. 2001). Furthermore, research exploring the correlation between *Tri-Dhātu* (a characteristic-based *Dhātu Chao Ruean* analysis method) and diabetes found a higher tendency towards diabetes in *Kapha* and *Vata* constitutions compared to *Pitta*, as per *Tri-Dhātu* characteristics (Amorndoljai and Thongsa 2020).

The fifth component of *Dhātu Chao Ruean* analysis considers the influence of seasons, an essential factor in the changes of *Dhātu* in the body according to Thai traditional medicine. The type of *Dhātu Chao Ruean* is also determined by seasonal effects. Thailand's climate, close to the equator, is hot and humid with three distinct seasons of summer, monsoon and winter (Chaiongkarn and Sojisuporn 2012; Tongnunui et al. 2023). The *Dhātu Chao Ruean* of an individual is impacted by their birth season, and the environmental conditions at the time of illness can further affect it. From a scientific perspective, the birth season might influence health due to environmental, nutritional, and solar factors. Although no direct relationship

has been reported between birth season and health, some researches have shown seasons' potential impact on health. For instance, vitamin D synthesis, primarily triggered by sunlight, varies by season. Women are particularly more susceptible to a deficiency during autumn and winter (Heidari and Haji 2012). Additionally, allergen exposure varies seasonally, increasing the risk of allergies and asthma, with births during high pollen periods potentially elevating the risk of seasonal allergies (Baxi and Phipatanakul 2010).

The sixth component of the *Dhātu Chao Ruean* analysis is its association with different age groups. Each age category demonstrates unique *Dhātu* attributes, a principle derived from the Thai traditional medical theory that links distinct elements to each life phase, which aligns with the diverse ailments prevalent at each age stage according to contemporary medicine. During early childhood, the element of water predominates, often leading to prevalent illnesses such as respiratory and gastrointestinal infections, as well as allergies (Simon et al. 2015). Middle age exhibits a connection with the fire element, a period characterised by an escalated risk of chronic diseases such as cardiovascular diseases, diabetes, and cancers, frequently linked to lifestyle conditions (Mozaffarian 2016). Lastly, in the elderly stage, *Dhātu Chao Ruean* is connected with the wind element, which mirrors common health issues like heart disease, chronic respiratory illnesses, and neurological disorders (Prince et al. 2013). The analysis indicates that health issues and the body's functionality alter throughout life in sync with the prevalent *Dhātu Chao Ruean*, reflecting insights from modern medicine.

The final component in the current analysis of *Dhātu Chao Ruean* is its correlation with time, specifically the changes that occur throughout the day. The influence of the environment and its impact on the body lead to variations in different *Dhātu*. Each *Dhātu* experiences distinct influences and effects during various periods of the day. This consideration of the changing influence of time on the body may be related to the concept of the biological clock. The biological clock signifies the internal timekeeping mechanism that oversees the body's functionalities and affects a multitude of physiological processes throughout the organism (Vitaterna et al. 2001). When circadian rhythms are disrupted or misaligned, often due to lifestyle

factors, it can lead to adverse health outcomes and increase the risk of conditions such as cancer, cardiovascular diseases, and metabolic disorders (Ruan et al. 2021). These effects influence *Dhātu Chao Ruean* at varying intervals in both patients and healthy individuals. Therefore, maintaining a lifestyle aligned with these time periods promotes the balanced functioning of *Dhātu Chao Ruean*.

CONCLUSION

Considering the seven components in the analysis of *Dhātu Chao Ruean*, they can be divided into two categories based on factors and duration, that is, Innate *Dhātu Chao Ruean* (*Dhātu Chao Ruean Kerd*) and Current *Dhātu Chao Ruean* (*Dhātu Chao Ruean Patjuban*). Innate *Dhātu Chao Ruean* consists of *Dhātu Chao Ruean* according to birth day, birth month (lunar month analysis), and the zodiac year. The other category, Current *Dhātu Chao Ruean*, comprises *Dhātu Chao Ruean* according to characteristics, *Dhātu Chao Ruean* according to the season, *Dhātu Chao Ruean* according to age, and *Dhātu Chao Ruean* according to time. These seven components are utilised together in the assessment, promotion, treatment, and rehabilitation of health.

RECOMMENDATIONS

Although *Dhātu Chao Ruean* is an instrumental tool in health analysis and promotion, it does not always yield a hundred percent correspondence with health issues. Consequently, it should be used only as a supplement to other methods of health problem analysis, aiming to confirm accuracy and precision. This combined approach will not only enhance the effectiveness of health care planning and treatment but also ensure they are appropriate and increasingly advantageous.

LIMITATIONS

This study is an aggregation, analysis, synthesis, and summary of knowledge related to *Dhātu Chao Ruean*. It provides merely a guideline for diagnosing *Dhātu Chao Ruean*, derived from qualitative research. It is essential to develop these findings into a diagnostic tool for *Dhātu Chao Ruean*, and subsequently, apply this tool to relevant population groups for further study.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare no conflict of interests.

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