


Original Research Paper

## Tongue Conditions in Reproductive Disorders: Indicators of Qi Deficiency and Imbalance

Sri Kustiyati<sup>1\*</sup> , Arya Yoga Mintara<sup>2</sup>, Rita Riyanti Kusumadewi<sup>1</sup>

<sup>1</sup>Department of Midwifery, Universitas Aisyiyah Surakarta, Surakarta, Indonesia

<sup>2</sup>Chinese Medicine, Jiangxi University of Traditional Chinese Medicine, China

 [kustiyati77@aiska-university.ac.id](mailto:kustiyati77@aiska-university.ac.id)

Submitted: December 16, 2024

Revised: February 17, 2025

Accepted: March 26, 2025

### Abstract

Tongue diagnosis in Traditional Chinese Medicine (TCM) serves as a non-invasive diagnostic tool for assessing overall health by evaluating the tongue's color, shape, coating, and moisture. This study aims to analyze the tongue characteristics of patients with reproductive system disorders to explore potential diagnostic correlations. This study employs a quantitative descriptive research method with a descriptive observational design, involving 82 patients from the Holistic Consultation Group who sought treatment for reproductive health issues. Tongue assessments were conducted through direct visual observation, categorizing color, shape, coating, and moisture levels, followed by statistical analysis using frequency distribution. Tongue color: 59.8% (49 patients) had pale tongues, suggesting blood or energy deficiencies. Tongue shape: 79.3% (65 patients) had thick tongues, indicating digestive and metabolic issues. Tongue coating: 57% (47 patients) had thick coatings, associated with internal dampness or phlegm accumulation. Tongue moisture: 93.9% (77 patients) had moist tongues, suggesting excess fluids or weak digestion. The findings highlight a significant correlation between tongue characteristics and reproductive health disorders, reinforcing the potential of tongue diagnosis as a supplementary assessment tool in holistic healthcare. Further research integrating tongue analysis with biomedical diagnostics is recommended to enhance its clinical applicability.

**Keywords:** blood deficiency; phlegm; qi deficiency; reproductive disorders; tongue diagnosis

### 1. Introduction

Traditional Chinese Medicine (TCM) is a medical system that has evolved over thousands of years, integrating a holistic approach to health and disease prevention. Among the many diagnostic methods in TCM, tongue diagnosis holds a significant place as a non-invasive yet highly informative tool (Dali et al., 2024; Herawati et al., 2024). The tongue is regarded as a microcosm of the body, with its features reflecting the state of internal organs and the overall balance within the body. By observing the tongue's characteristics (such as shape, color, coating, moisture, and other features) TCM practitioners can identify imbalances and disorders, paving the way for effective treatment strategies (Fan et al., 2021; H. Zhang et al., 2022).

Tongue diagnosis is based on the core principles of TCM, including the theories of Yin-Yang, the Five Elements (Wu Xing), and the Zang-Fu system of organs and meridians (Matos et al., 2021b; S. Zhang et al., 2023). These foundational concepts offer a framework for understanding how internal health conditions manifest in visible changes on the tongue. For example, the color of the tongue may indicate heat or cold imbalances, while the coating can reflect the presence of dampness, phlegm, or dryness in the body. The condition of the tongue provides insights into the physiological and pathological states of the organs, aiding in disease diagnosis and monitoring the progression of conditions (Cecchin-Albertoni et al., 2024; Hsu et al., 2025).

The primary assumption of this research is that internal health conditions manifest as observable changes in the tongue. This aligns with classic TCM texts such as the *Huangdi Neijing* (Yellow Emperor's Inner Canon) and *Shang Han Lun*, which emphasize the interconnectedness of the tongue with internal organs through meridians. These texts form the legal and theoretical basis for TCM tongue diagnosis. Moreover, contemporary studies have corroborated the diagnostic value of tongue observation, demonstrating its relevance in modern medical research (Chung et al., 2023; Hsu et al., 2019; Wu et al., 2020).

The Five Elements (Wood, Fire, Earth, Metal, and Water) further elaborate the connections between the body and the natural world. Each element corresponds to specific organs and bodily functions. For example, the Wood element is associated with the liver and gallbladder, while the Water element corresponds to the kidneys and bladder. Changes in the tongue can signify imbalances in these elements. A greenish or pale tongue, for instance, might suggest issues with the Wood element, while a dark or purplish tongue could indicate stagnation or deficiency in the Water element (Ling, 2020).

TCM diagnosis is traditionally based on four main procedures: observation, smell or hearing, inquiry, and palpation. Tongue diagnosis is an integral part of the observation phase and plays a crucial role in distinguishing symptoms and determining the root cause of diseases. By examining the tongue, practitioners can assess the degree and progression of an illness. For example, the thickness of the tongue coating can provide clues about the severity of internal dampness or phlegm, while the tongue's color may reflect the presence of heat, cold, or blood stagnation (Xia et al., 2023; Yang et al., 2022).

Despite its importance, tongue diagnosis is not without challenges. Results can be influenced by subjective interpretation and external factors such as lighting, diet, and environmental conditions. To enhance its reliability, tongue diagnosis should be combined with other diagnostic methods and a comprehensive understanding of the patient's medical history (Odell, 2024).

In conducting this study, the researchers reviewed existing literature and identified a gap in research on tongue diagnosis in Indonesia. Similar studies have been conducted internationally, focusing on various health conditions such as breast cancer, kidney failure, and digestive disorders. These studies have explored the characteristics of the tongue in relation to gender and age, highlighting the diagnostic potential of tongue observation across different demographics.

However, there is a lack of published research specifically addressing tongue diagnosis in patients with reproductive system disorders in Indonesia. This research aims to fill that gap by analyzing the tongue characteristics of patients with reproductive health issues, taking into account the unique context of Indonesia. The study's novelty lies in its focus on reproductive system disorders, the use of a substantial sample size, and the specific geographical and cultural setting of the research.

Initial observations indicate that a significant proportion of patients with reproductive system disorders exhibit pale tongues. In TCM, a pale tongue is often associated with blood deficiency, poor circulation, or a lack of vital energy (qi). These conditions can lead to symptoms such as fatigue, dizziness, and weakness, which are commonly reported by patients with reproductive issues. Additionally, pale tongues may reflect dysfunction in the liver and spleen, organs that play vital roles in blood production and distribution according to TCM (Akrami et al., 2024; Park et al., 2022).

## 2. Research Methods

This study uses a descriptive quantitative method with an observational descriptive design. The study population was 82 patients with reproductive system disorders who consulted in the Holistic Consultation Group under the care of Master Pudji Hartanto in March–June 2024. The sampling technique used total sampling, with data collected through interviews, questionnaires, and literature studies. The data is processed using tabulation and frequency distribution. Tongue observation is carried out based on the principles of Traditional Chinese Medicine (TCM), including the color, shape,

membrane, and moisture of the tongue. Observations are made visually with sufficient lighting as well as photo documentation for further analysis.

This research has gone through an ethical clearance process published by the Research Ethics Commission of Aisyiyah University of Surakarta. Based on the certificate with Number 309/I/AUEC/2025, this research has been declared ethically feasible after going through a review process of the proposed research design.

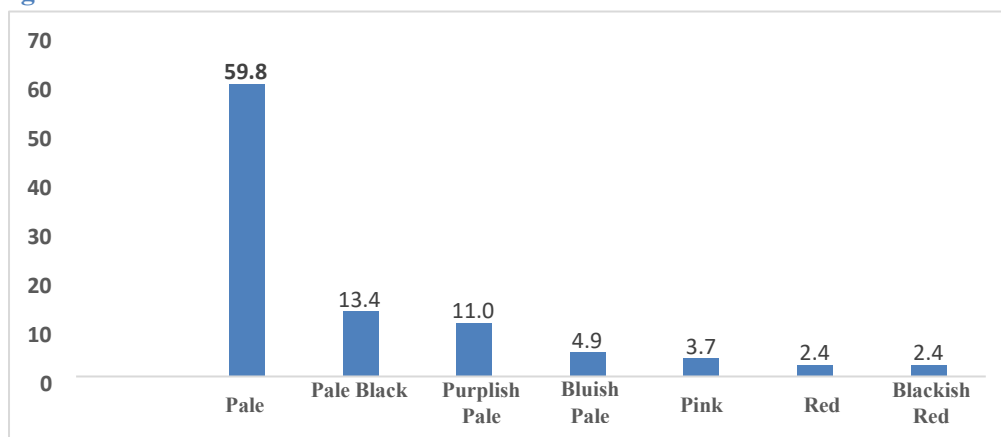
In the diagnosis of the tongue according to TCM, the thickness of the tongue indicates the condition of the body fluids and the balance of the internal organs. The tongue is categorized as thin or thick based on its size, volume, and how it looks in the oral cavity. The thin tongue looks small, does not fill the oral cavity, and is sometimes sunken in the middle. It indicates a deficiency of blood or Yin, often occurring in people with anemia or dehydration. In contrast, a thick tongue appears larger, often presses teeth to leave bite marks, and feels full. It signifies excess moisture or fluid retention, usually associated with indigestion or spleen dysfunction. In addition, thick tongues are often more moist, while thin tongues are drier.

### 3. Results and Discussion

#### 3.2.Result

The results of visual observations of the tongues of patients with reproductive disorders in the Holistic Consultation Group were carried out in March-June 2024 with a sample size of 82 respondents.

##### 3.2.1. Tongue Color



**Figure 1. Tongue Color in Patients with Reproductive Disorders**

Based on [Figure 1](#), the majority of patients with reproductive system disorders have a mostly pale tongue color (59.8%) of 82 respondents (49 respondents).

In Traditional Chinese Medicine (TCM), the color of the tongue reflects the condition of the internal organs, including those that affect reproductive health. A pale tongue indicates a deficiency of blood and Qi, which can lead to irregular periods and infertility. A dark red or purple tongue signals blood stagnation, often associated with menstrual pain, endometriosis, and PCOS. If the tongue is reddish with a yellow coating, this indicates heat and humidity, which can trigger a reproductive infection. Meanwhile, a bluish or blackish tongue indicates impaired blood circulation to the uterus, causing infertility or miscarriage. Tongue analysis aids in the diagnosis and treatment of reproductive disorders in TCM ([Jia et al., 2022](#); [H. Zhang et al., 2022](#)).

Different tongue colors have distinct meanings in TCM and are closely associated with specific health conditions. A pale tongue, for instance, often indicates a deficiency in blood, qi (vital energy), or both. This deficiency can manifest as symptoms like weakness, dizziness, and fatigue. A pale tongue

may also point to functional issues with internal organs, such as the liver or spleen, and may suggest poor blood circulation or insufficient energy to sustain the body's needs. On the other hand, a dusky pallor can indicate blood stasis or problems with circulation, while bluish pallor may be a sign of severe blood deficiency or circulatory stagnation (Akrami et al., 2024; Park et al., 2022).

Tongue colors like pink, red, and purplish red also carry specific diagnostic meanings. A pink tongue often suggests the presence of heat in the body, while a red tongue indicates a more intense or pathological heat condition, possibly due to inflammation or infection. A blackish red tongue can signal trapped blood within an organ, while a purplish red tongue may highlight issues with the heart or lungs, often related to stagnation or excess heat. These nuanced interpretations of tongue color help TCM practitioners pinpoint the nature of imbalances and devise targeted treatments (Hsu et al., 2021; Rostami-Moez et al., 2023).

The research presented in Picture 1 highlights the prevalence of pale tongue color among patients with reproductive system disorders. Out of 82 respondents, 59.8% (49 individuals) exhibited a pale tongue. This observation aligns with TCM's interpretation of a pale tongue, which is commonly associated with blood deficiency, poor blood circulation, or a lack of vital energy. Such conditions are often linked to reproductive health issues, as optimal blood flow and energy are essential for the proper functioning of reproductive organs (Akrami et al., 2024).

A pale tongue in these patients may also reflect underlying organ dysfunction, particularly involving the liver and spleen. According to TCM, the liver plays a crucial role in ensuring the smooth flow of qi and blood, while the spleen is responsible for transforming food into qi and blood. Dysfunction in these organs can lead to the systemic imbalances observed in patients with reproductive system disorders. Additionally, a pale tongue may accompany symptoms such as fatigue, dizziness, and general weakness, further supporting the diagnosis of blood and energy deficiencies (Jiang et al., 2021; Yang et al., 2022).

This research underscores the importance of tongue diagnosis in identifying health imbalances and guiding treatment. The findings suggest that the majority of patients with reproductive system disorders face issues related to blood circulation and vital energy deficiency, which can be addressed through TCM therapies. Treatments may include herbal medicine, acupuncture, and dietary adjustments aimed at strengthening the blood, improving circulation, and replenishing qi to restore balance and enhance overall reproductive health. By integrating tongue analysis with other diagnostic tools, TCM offers a comprehensive and holistic approach to understanding and treating health conditions (Kustiyati, 2024).

### 3.2.2. Tongue Shape

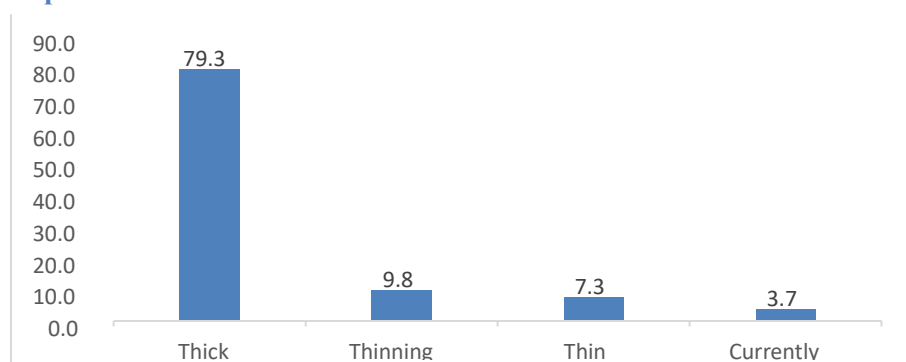


Figure 2. Tongue Shape of Patients with Reproductive Disorders

Based on Figure 2, it is known that the majority of patients with reproductive system disorders have thick tongues, namely 79.3% of the 82 respondents (65 respondents). In Traditional Chinese

Medicine (TCM) Theory, the shape of the tongue is considered a very useful indication for diagnosing various diseases that a person may experience. The shape of the tongue can reflect the condition of the organs in the body, and can clearly show changes that occur in a person's body. This theory is a very important basis for analyzing a person's health condition, which is considered an important part that cannot be ignored in TCM medical practice. Thick, thin, or medium tongue each has a different interpretation of health according to the principles in TCM.

A very thick tongue can be an indication of the influence of excessive heat in the body. A very thick tongue is also often accompanied by a darker color, as well as an uncomfortable feeling felt in the mouth. These symptoms generally indicate problems with the digestive system and body metabolism (Matos et al., 2021a). Based on the research results in picture 2, it is known that the majority of patients have thick tongues, namely 79.3% of 82 respondents (65 respondents). This means that the majority of patients with reproductive system disorders experience problems with the digestive system and body metabolism (Farahi et al., 2021).

Thinning of the tongue is a condition in which the patient's tongue looks smaller than normal. According to Traditional Chinese science, thinning of the tongue can be a sign of a lack of blood or vital energy in the body which affects the natural balance. Patients with thinning tongues may experience symptoms such as weakness, lethargy, and feeling tired easily for no apparent reason. This could be an indication of a more serious health problem, such as anemia, chronic fatigue, or problems with the digestive system (Park et al., 2022).

A thin tongue can indicate a significant deficiency of vital energy in the body. Additionally, a tongue that has less thickness can also indicate potentially general kidney weakness and a marked lack of blood. Patients who have a thin tongue in quite extreme circumstances may experience disturbing symptoms such as chronic fatigue, frequent shortness of breath, or even persistent sleep problems (Akrami et al., 2024).

A moderately shaped tongue indicates excellent balance in the human body. A tongue of normal size and shape indicates that the patient has a very stable health condition. However, special attention still needs to be paid to other conditions, such as the color and softness of the tongue. Although a moderately shaped tongue indicates excellent health, changes in the color or softness of the tongue can also indicate an imbalance in the body that needs to be addressed seriously and immediately (Jia et al., 2022).

Careful and detailed scientific research on tongue shape has been carried out by experts to identify a clear correlation between tongue shape and general health conditions. In several studies that have been carried out, the results show that different tongue shapes can be a very useful indicator in determining a person's health condition, including the quality of the health of the digestive system and their emotional condition. As has been observed in various studies, one interesting finding is that a significantly enlarged tongue can be a sign of serious problems with the heart or lungs. This provides important clues for medical professionals in carrying out further diagnosis of their patients (Fuzimoto & Brigo, 2020).

### 3.2.3. Coating of the Tongue

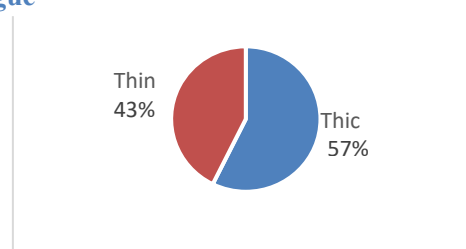


Figure 3. Tongue Covers in Patients with Reproductive Disorders

The results of the research shown in [Figure 3](#) show that some patients with reproductive system disorders have thick tongue membranes, namely 57% of the 82 respondents (47 respondents). This means that most patients with reproductive system disorders have excess mucus in the body and experience a hot-cold (yin-yang) imbalance in their body.

In the perspective of Traditional Chinese Medicine (TCM), the lining of the tongue is considered a mirror of body health. TCM experts believe that through examining the lining of the tongue, they can assess a person's health condition, including the organs in the body. The lining of the tongue is also thought to have a close relationship with the flow of energy in the body, which then influences a person's physical and emotional condition.

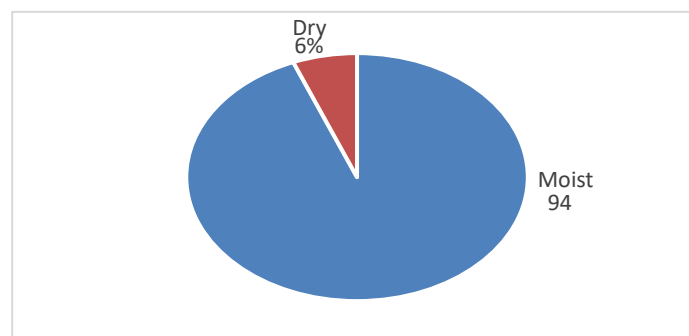
The lining of the tongue has several important functions in the body according to Traditional Chinese Medicine (TCM). Among them is as a tool to taste the food we consume every day beautifully and satisfyingly. Apart from that, the lining of the tongue also plays an important role in the process of efficient and optimal digestion of food. This tongue membrane has the ability to produce digestive enzymes that help break down food into nutrients that can be absorbed by our body. Not only that, the lining of the tongue is also an indicator of health for an individual. In TCM, the lining of the tongue is considered a mirror of the organs in the body and can provide clues about a person's holistic health ([Alspaugh et al., 2021](#); [Xia et al., 2023](#)).

Interpretation of the color and shape of the tongue coating is an important part of diagnosis in Traditional Chinese Medicine (TCM). The color of the tongue coating can provide a more detailed indication of a person's general health condition, such as excess heat or excess cold in the body. Apart from that, TCM practitioners also pay close attention to the shape of the tongue coating, where a thin or thick tongue coating can indicate the presence of certain health problems that need to be addressed. For example, a very thick tongue coating can indicate an excessive buildup of mucus in the body, while a very thin tongue coating can indicate a lack of blood or vital energy that requires more attention.

A thick layer of the tongue can be a sign of excess mucus in the body according to TCM science. This excess mucus can be caused by an unhealthy diet, consumption of high-fat foods or excessive consumption of dairy products. In addition, excess mucus can also be caused by certain disease conditions in the body. A thick layer of the tongue can also be an indication of a hot-cold imbalance in the body. To overcome this problem, dietary changes and healthy lifestyle can help reduce excess mucus in the body ([Farahi et al., 2021](#)).

The thin membrane on the surface of the tongue can provide important clues about a person's health condition according to Traditional Chinese Medicine (TCM). The presence of a thin coating on the tongue can be an indication that a person has a blood deficiency or lacks nutrients that are important for the body. Apart from that, a thin membrane can also indicate a disturbance in the digestive tract or a metabolic imbalance in the body ([Park et al., 2022](#)).

### 3.2.4. Humidity



**Figure 4.** Tongue Moisture in Patients with Reproductive Disorders



Based on [Figure 4](#), it is known that the majority of patients with reproductive system disorders have moist tongues, namely 93.9% of 82 respondents (77 respondents).

In Traditional Chinese Medicine (TCM), moisture is one of the five main elements along with wood, fire, earth, and metal. Humidity affects the body physically, emotionally, and mentally. If overdone, it can lead to health problems. In the concept of five elements, moisture interacts with other elements, such as water that gives softness or soil that becomes sticky when wet. The balance of moisture in the body is important for health. If there is too much, the body can feel heavy and lethargic. Therefore, maintaining a balance of moisture in the body is essential in the principles of TCM ([Ling, 2020](#)).

Moisture is associated with organs in the body such as the spleen and lungs. Excess moisture in the body can disrupt the health of these organs, causing various health problems. Moisture balance in the body is considered important to prevent health problems caused by excess or lack of moisture ([Hsu et al., 2021](#); [Wu et al., 2020](#)).

In general, the interpretation of tongue moisture in Traditional Chinese Medicine (TCM) is very important in treatment. The condition of the tongue's moisture can indicate the health condition of our body. When the tongue looks moist, this indicates excess moisture in the body, and this can be related to dysfunction of certain organs such as the lungs, spleen, and kidneys. On the other hand, if the tongue looks dry, this could indicate a lack of moisture in our body, which may be related to problems with the heart and intestines ([Park et al., 2022](#)).

By paying attention to the state of the tongue, we can determine the energetic balance in our body. If the tongue appears excessively moist, this may indicate excess yin, or cold energy, associated with the previously mentioned organs. Meanwhile, a tongue that looks dry can indicate a lack of yin or heat energy, which can be related to problems with the heart and intestines. In TCM medicine, the benchmark for interpreting tongue moisture is not only based on the physical appearance of the tongue, but also observations along with other symptoms experienced by the patient, such as skin moisture, urine, and emotional state ([Matos et al., 2021a](#); [Yang et al., 2022](#)).

A moist tongue is a sign of mucus buildup or excessive moisture, which could be caused by internal factors such as indigestion or Qi deficiency. Apart from that, there are external factors such as humid weather, exposure to a humid environment, or cold and damp food and drinks that can cause moisture on our tongue. Meanwhile, a dry tongue in traditional TCM medicine indicates an imbalance of moisture in the body. This can be caused by various factors, such as a lack of daily fluid consumption, kidney problems that affect the body's fluid production, or disorders that result in moisture not being distributed properly by the body. Apart from that, very dry weather can also cause the tongue to become very dry. In holistic TCM medicine, a dry tongue is interpreted as a sign of deficiency and imbalance which can be overcome by adjusting a healthy and nutritious diet, using certain herbs with gentle properties that are able to hydrate and provide moisture to the body ([Chung et al., 2023](#); [Wu et al., 2018](#)).

The results of the research in picture 4 show that the majority of patients with reproductive system disorders have moist tongues, namely 93.9% of 82 respondents (77 respondents). This means that the majority of patients with reproductive system disorders have a buildup of mucus or excessive moisture, which could be caused by internal factors such as digestive disorders or Qi deficiency.

Internal factors that can cause tongue moisture include the impact of eating too much oily, spicy and sweet food, as well as consuming alcoholic drinks. Dysfunction of organs in the body such as the stomach and kidneys can also play a role in creating tongue moisture. Apart from that, TCM also links tongue moisture with emotional imbalances such as stress, anxiety, or anger which can affect overall body health ([Hoare & Khan, 2020](#); [Wang et al., 2020](#)).

## 4. Conclusion

Tongue diagnosis is a valuable diagnostic tool in TCM, offering a non-invasive method to assess internal health and detect imbalances. By examining the tongue's features, practitioners can identify patterns indicative of specific organ dysfunctions and elemental imbalances.

Research shows that the majority of patients with reproductive disorders have tongue characteristics that reflect imbalances in the body according to Traditional Chinese Medicine (TCM). As many as 93.9% had a damp tongue, which was associated with excess moisture due to indigestion or environmental factors. In addition, 59.8% had a pale tongue, signifying a deficiency of blood and qi, which is associated with poor circulation as well as liver and spleen disorders. As many as 79.3% had a thick tongue, indicating metabolic problems, while 57% had a thick layer of tongue, indicating excess mucus and yin-yang imbalance.

In Traditional Chinese Medicine (TCM), the condition of the tongue can reflect imbalances in the body, including disorders of the reproductive system. Most patients with reproductive disorders have a pale tongue, which indicates blood circulation problems and a lack of vital energy (Qi). A thick tongue indicates indigestion and metabolism of the body. The thick membrane of the tongue signifies excess mucus as well as a hot-cold (yin-yang) imbalance. In addition, a moist tongue indicates moisture buildup due to indigestion or Qi deficiency. Further studies are needed to understand the mechanisms of this imbalance, as well as the influence of cultural and geographical factors in the manifestation of reproductive disorders in the perspective of TCM.

## Acknowledgements

We would like to extend our heartfelt gratitude to Aisyiyah University Surakarta for their unwavering support and provision of essential resources that made this research activity possible. Our sincere appreciation goes to Master Pudji Hartanto, whose invaluable expertise and guidance as a consultant in the Holistic Consultation Group 1 significantly enhanced the quality and depth of our study. Additionally, we are deeply thankful to Mr. Eko Budi Suprpto for his dedicated assistance in meticulously identifying and evaluating the tongue conditions of the patients who participated as respondents in this study. Their collective contributions have been instrumental in the successful completion of our research.

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