WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 8, 168-179. Review Article ISSN 2277–7105

ROLE OF CLINICAL EXAMINATION AND INVESTIGATION IN DIFFERENTIAL DIAGNOSIS

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Article Received on 16 March 2026,
Article Revised on 06 April 2026,
Article Published on 16 April 2026,

https://doi.org/10.5281/zenodo.19589300

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How to cite this Article: [1]*Dr. Kanika, [2]Prof. Dr. Ruby Rani Agarwal. (2026). Role Of Clinical Examination And Investigation In Differential Diagnosis. World Journal of Pharmaceutical Research, 15(8), 168–179.

ABSTRACT

Accurate diagnosis is the cornerstone of effective treatment in both *Ayurveda* and modern medicine. In *Ayurveda*, diagnosis is primarily based on the principles of *Trividha Pariksha*, *Ashtavidha Pariksha*, etc & *Nidana Panchaka* which help the physician to understand the nature of disease, involved *Doshas*, *Dhatus*, and the patient's *Prakriti*. Clinical examination provides direct observation of symptoms and patient characteristics, while modern investigations help to confirm the diagnosis and exclusion of diseases with similar manifestations. Clinical examination refers to a systematic evaluation through history taking & assessing the patient by inspection, palpation, percussion, auscultation while investigation includes laboratory tests, Diagnostic imaging that provides objective data to confirm diagnosis. Differential diagnosis is essential because many disorders present with overlapping symptoms. Thus, clinical examination and investigations are complementary components of differential diagnosis. Their combined application enables clinicians to identify diseases at an early stage, understand the pathophysiological basis of symptoms, and provide patient-centered treatment. This article reflects the significance of clinical examination and investigations in the differential diagnosis of diseases.

KEYWORDS: *Trividha Pariksha*, *Rogi Pariksha*, *Ashtavidha Pariksha*, Examination.

INTRODUCTION

Clinical examination and appropriate investigations play a crucial role in achieving an accurate diagnosis and guiding effective treatment. In *Ayurveda*, the diagnostic framework is mainly based on ***Roga Pariksha*** and ***Rogi Pariksha***. *Roga Pariksha* refers to the examination and analysis of the disease itself by *Nidan panchaka* that includes the causes, prodromal symptoms, symptoms, pathogenesis, whereas *Rogi Pariksha* focuses on the examination of the patient, including observation of clinical features, examination of body parts, and body functions. For *Rogi Pariksha*, classical Ayurvedic texts describe several examination methods such as *Trividha Pariksha, Chaturvidha Pariksha, Ashtavidha Pariksha***,** and *Shadvidha Pariksha*, Among these, *Trividha Pariksha—Darshana* (inspection), *Sparshana* (palpation), and *Prashan (*questioning)—forms the basis of clinical examination in *Ayurveda.* These methods help physicians to observe physical changes, assess tenderness and temperature, and collect information regarding symptoms. However, sometime only clinical findings is insufficient for definitive diagnosis. Modern diagnostic investigations such as hematological tests, biochemical assays, microbiological studies, and imaging techniques provide measurable evidence that supports clinical judgment.

MATERIAL AND METHODS

Differential diagnosis refers to the systematic method used to identify a disease by differentiating it from other conditions with similar clinical features. In *Ayurveda*, differential diagnosis can be done by analyzing

- *Dosha* predominance: *Sthan*a (location),*Atma Rupa*(cardinal symptoms), *Prakopa lakshana* (aggravated form).
- *Dushya* involvement: *Dushya* refers to the body tissues (*Dhatus)*, sub-tissues (*Upadhatus*), and waste products (*Malas*) that are afflicted by vitiated Doshas.
- *Srotas*: *Srotodushti Lakshana*(symptoms of vitiation of cellular channels)
- *Rogamarga: Sakha (periphery), Marma-Asthi-Sandhi (*vital tissue) and *Koshtha (*G.I.T)
- *Samprapti* (pathogenesis)

Role of clinical examination in differential diagnosis

Nidan panchaka is fundamental tool of *Roga pariksha*, that helps physicians to analyze disease by five component that is *Nidana* (etiological factors), *purvarup*a(prodromal symptoms), *Rupa*(clinical sympomts), *Upshaya*(releving factors*), Samprapti* (pathogenesis).

1. *Nidana*: *Nidana* is defined as the factors which disturbs the state of *doshic* equilibrium and cause the disease, in case of *Kasa* & *Rajayaksma* both have common sympomts like breathlessness, cough can be differentiated by *Nidana* as

Table 1: Showing Differential diagnosis based on *Nidana.*

S.No.	***Nidana* of *Rajayaksma***	***Nidana* of *Kasa***
1.	It occurs due to causes like *Vega-apadharana, Dhatu-ksaya, Sahasa,* and *Visamasana*	It mainly results from the entry of smoke **(***Dhoom***),**dust **(***Dhooli)* and other irritants through the mouth and nose, *Ruksya Anna* sewan
	Rheumatoid arthritis	**Osteoarthritis**
2	It occurs due to autoimmune reaction against synovial membrane.	It occurs due to aging, mechanical stress, wear & tear of articular cartilage

2. *PURVARUPA*: It is defined as *Avyakta Laksana* meaning milder symptoms of upcoming disease. Both *Prameha* and *Raktapitta* show yellowish or reddish discoloration of urine can be differentiate by *Purvarupa* as.

Table 2: Showing Differential diagnosis based on *Purvarupa.*

S.No	***Purvarupa* of *Prameha***	***Purvarupa of Raktpitta***
1	*Karapada Daha, Asya Madhurya, Visrashareera ganda, kaya updeha, anga daha*	*Angasada, Sheetakamita, lohagandhi shwasa, kasa*
	Migraine	**Cluster headache**
2	In **Migraine** prodromal symptoms like nausea, occur 24-48 hours of attack	In **cluster headache** prodromal symptoms like restlessness, occur minutes before the attack.

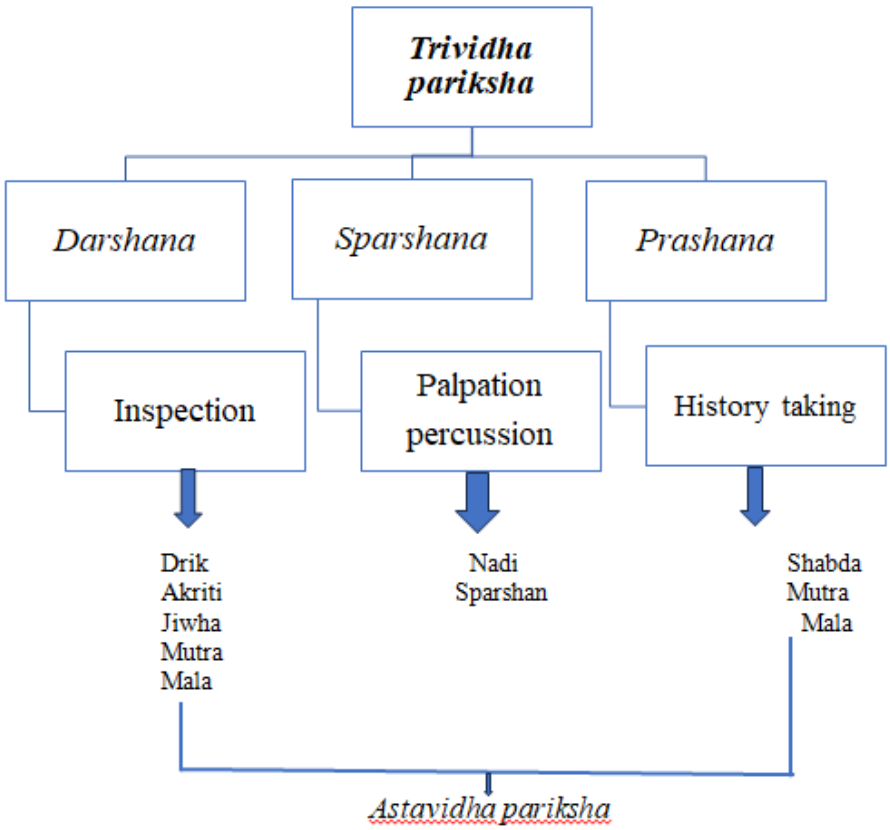
3. *Rupa*: It refers to clinical signs and symptoms of disease, which help to distinguishing between disease with some cardinal features.

S.no	***Vyadhi***	***Rupa***
1	***Anadravashula***	***Parinamashula***
	Abdominal pain becomes severe immediately after food intake	The pain becomes mild after eating or again increases during the digestive phase.
2	***Atisara***	***Pravahik*a**
	Large quantity of watery stool Strain during defecation is absent.	Stool quantity is small but very frequent defecation. Strain during defecation is present.
3.	**Rheumatoid Arthritis.**	**Osteoarthritis.**
	Inflammation in multiple joints, morning stiffness>30 minutes, poly articular joint involvement present in **Rheumatoid Arthritis.**	Pain and swelling on major weight bearing joints, crepitation, stiffness <30 minutes ,presentin case of **Osteoarthritis.**

4. *Upshaya*: Diagnosis can also be done by observing effect of *Upshaya* (relieving factor) and *Anupashaya*(aggravating factor. Example: to differentiate *Ajeerna* from *Amlapitta*, the patient given Shunthi churna, In *Ajeerna* digestion improves, while in *Amlapitta* symptoms increases. If a patient with chest painis given Omeprazole, there is reductuin in pain it suggests GERD but if pain does not reduce, suspect toward cardiac cause.

5. *Samprapti:* *Samprapti* helps in differential diagnosis by explaining how disese develops, which dosha is involved, the site of disease, the sequence of events through which disease develops.

Example: In *Amavata*, *Ama* combines with *Vata* and gets deposited in *sandhi*, causing stiffness, inflammation, & symptoms like heaviness, loss of appetite mainly due to *Ama*, while in *Sandhivat*a joint pain is caused by aggravated *Vata* dosha due to ageing, excessive exercise, post-injury.



Although auscultation primarily involves hearing, it is included under Sparsana Parikṣha as it requires contact with the patient's body.

1. Role of *Darshan pariksha(Inspection)*in Differential diagnosis

Darshan pariksha give the information of Colour, shape, measurement, complexion, gait, posture, skin abnormalities like discoloration, scars, dilated veins, rashes. In today context radiological examination: X-rays, CT -scan, Sonography, ECG included in *Darshan pariksha* as that are observed by examiner visually included in *Darshan p*ariksha.

Example

1	In pandu(Anaemia) *Shoona gandakshikoot* & Panduta(pallor) is seen	In jaundice yellowish discoloration of sclera is seen
2	Koilonychia : Soft, thin, brittle, spoon shaped nail seen in long standing case of iron deficieny.	Leuconychia that is opaque white nail may seen in chronic liver disease & hypoalbuminaemia.
3	In patient of parkinsonian propulsive gait is seen i.e short, shuffling steps	Walding gait i.e duck like walk common in muscular dystrophy patients.

2. Role of *Sparsan pariksha* (palpation, percussion) in Differential diagnosis: Presence of any abnormal mass, rigidity, pain, organomegaly, guarding, rigidity, referred pain examined by this.

Example

1.	In jalodara on examination there is the abdomen feel like a pot filled with water	In *Vataudara* abdomen feel like pot filled with air.
2.	In ascites there is dullness in flank	In large ovarian cyst resonant felt in flank
3.	Enlargement of liver is found in Hepatitis.	Spleen enlargement is seen in malaria.
5.	In appendicitis there is pain and tenderness present in lower right abdomen(Mc Burneys point)	In cholecystitis pain occurs when right upper quadrant is palpated, patient is asked to take deep breathe there is sudden pause of breathe due to pain.

3. Role of *Prasan Pariksha*: Involves detail questioning regarding the history of present illness, past medical history, diets, habits to understand the patient, it gives the information of following aspects: *Desh, kala*, jati, *Vedana, Bala, Agni*, frequency of urination, consistency of stool.

Example

- In *prashan pariksa* by asking family history one can reach in differential diagnosis as the patient has a family history of *prameha*, and has the symptoms like frequent urination and thrist so the patient are more likely suspected to *Prameha* (type 2 diabetes) rather than urinary disorders.
- By Asking the patient about the nature of headache as it was the worst headache ever and start extremely suddenly like a blow on head may suggest subarachnoid Hemorrhage, and

in case of chest if patient describes pain as a weight pressing on chest it suggest cardiac origin of chest pain.

ROLE OF INVESTIGATION IN DIFFERENTIAL DIAGNOSIS

Although clinical examination provides preliminary information about patient ‘s condition, laboratory and imaging investigation like MRI, CT-scan, Ultrasonography provides objective evidence that helps clinician to make final diagnosis. The investigation helps to differentiate the disease can be understand by following examples.

- Prehepatic jaundice: unconjugated type of Serum bilirubin is mainly increased, in urine bilirubin is absent, urobilinogen is increased, low haptoglobin, low hemoglobin level.
- Hepatocellular jaundice: In this, both unconjugated and conjugated serum bilirubin levels are increased due to impaired hepatic uptake and excretion. Urinary urobilinogen is present and may show variable levels, while liver enzymes—especially serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST)—show a marked elevation indicating hepatocellular injury.
- In post-hepatic jaundice, conjugated bilirubin predominates (>50%), urine bilirubin is present, urinary urobilinogen is decreased or absent, and serum ALP shows a marked rise (>3× normal), suggesting biliary obstruction.
- Primary hyperthyroidism shows low TSH with high free T4 and may have positive TSH-receptor antibodies, whereas secondary hyperthyroidism shows normal or high TSH with elevated free T4 and negative TSH-receptor antibodies.[15]

Use of *Shadvidha Pariksha* in Differential Diagnosis

Shadvidha Pariksha consists of *Shabda*, *Sparsha*, *Drik*, *Rasa*, *Gandha* and *Prashna Pariksha*. The first five are examined through the Indriyas, hence called *Shrotra indriya*, *Sparsan indriya*, *Chakshur indriya*, *Rasan indriya* and *Ghraana indriya*, while *Prashna Pariksha* is done by questioning the patient. *Shabda*, *Sparsha*, *Drik*, *Prashna Pariksha* are already explain above within *Trividha pariksha.*

***Rasan indriya* (*Jihva Pariksha*)**	*Shweta picchila jihva* indicates *Kapha* predominance, while *Rakta* or *shyama jihva* suggests *Pitta* involvement.
Ghranaa Indriya (Gandha Pariksha):	*Gatra daurgandhya* is associated with *Medoroga* while *loha Matsya Gandha* is associated with *Raktapitta.*

Astavidha pariksha*: Astavidha pariksha* is an eight fold clinical diagnostic method described by Acharya yogratnakar it includes the examination of: Pulse (Nadi), Urine (Mutra), Stool

(Mala), tongue *(Jihwa*) speech (Shabda), touch (*Sparsha*), eyes (*Drik*), and general appearance (*Akriti*).

***NADI PARIKSHA*:** Pulsus alternans shows alternating strong and weak beats and is usually associated with left ventricular failure, while paradoxical pulse is characterized by a decrease in pulse amplitude during inspiration may be seen in pericardial tamponade or severe asthma.
DRIKA PARIKSHA: Prominent bulging eyes may suggest thyrotoxicosis, and a white ring around the iris may indicate joint degeneration such as arthritis.
MUTRA PARIKSHA: Rice water like urine is observed in *Ajeerna* while smoky urine in *Nava Jwara*.
JIHWA PARIKSHA: The smooth and sore tongue without papillae indicates atrophic glossitis, while softening and cracking of the skin at the angles of the mouth indicate angular stomatii.
***MALA PARIKSHA*:** Hard & dry stool is seen in *Vata* disorder, while in *Pitta* disorder green, yellowish stool is seen. if fecal specimen is black it suggests bleeding from upper GIT wheras red bleeding is suggestive of large instestinal bleeding.
SHABDA PARIKSHA: Wheezing (high -pitched) typically heard in Asthma, COPD, while Rhochii low pitched sound, heard in bronchitis
SPARSHA PARIKSHA: *Sparsha Pariksha c*an be compare with palpation and percussion. Ex: Abnormal dryness of skin may be found in dehydration, hypothyroidism, scurvy etc
AKRITI PARIKSHA: It includes Diagnosis of hair, nails and gait that reveal many signs which point towards different diseases. Ex: Spastic Gait: Hemiplegia, Shuffling Gait: Parkinson's disease

DISCUSSION

Establishing an accurate diagnosis requires the ability to distinguish between disorders that manifest with comparable clinical features. A thorough clinical evaluation remains fundamental in this process, as it allows the physician to assess symptom patterns, disease progression, and associated systemic findings. In Ayurvedic practice, detailed assessment through *Trividha Pariksha* provides essential clinical insights by evaluating observable signs, tactile findings, and patient-reported complaints. Therefore, a comprehensive diagnostic approach that integrates classical clinical evaluation with modern investigative enhances the reliability of differential diagnosis. Thus integrative approach reduces chances of misdiagnosis.

CONCLUSION

Clinical examination is the first step in differential diagnosis as it helps the physician to identify signs and symptoms through methods like inspection, palpation, percussion, auscultation. In ayurveda by *Trividha pariksha, Shadvidha pariksha, Astavidha pariksha. Ashtavidha Pariksha* can be understood within *Trividha Pariksha*, as *Drika, Akriti, Mutra,*

Mala and Jiwha are mainly examined through *Darshana pariksha. Nadi and Sparsha are assessed through Sparshana Pariksha, and Shabda* along with information related to the patient's complaints, habits and history are obtained through *Prashana. In a* similar way, *Shadvidha Pariksha* evaluates the patient through *Shabda, Sparsha, Chaksu, Rasa, Gandha* and *Prashana* using respective *indriya.* However, many disease present with similar clinical features, making diagnosis difficult by examination alone. In such cases, laboratory and imaging investigation help to reach in final diagnosis. Thus clinical examination and investigation together reduces chances of misdiagnosis.

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