



Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai Approved by Pharmacy Council of India, New Delhi.

Coimbatore -641035

COURSE NAME: PHARMACOGNOSY

D.PHARM/ I YEAR

TOPIC 4:

SCOPE AND EVALUATION OF PHARMACOGNOSY



Design Thinking in Pharmacognosy

1. Empathize

Understand the challenges in studying and applying natural compounds like alkaloids, terpenoids, glycosides, volatile oils, tannins, and resins.

2. Define

Synthesize insights to define core issues, such as standardizing isolation protocols.

3. Ideate

Brainstorm innovative solutions, such as advanced extraction methods, biotechnological production, and novel therapeutic applications for these natural compounds.

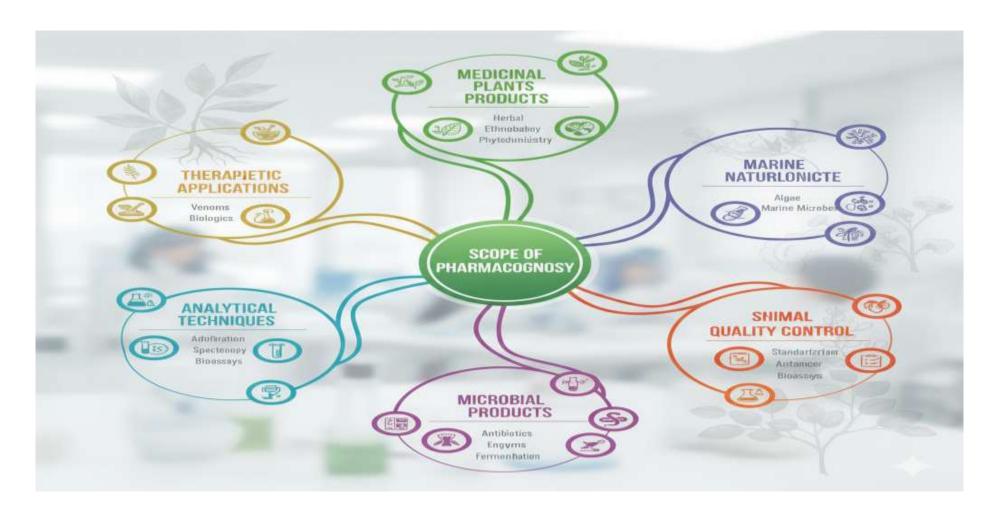
4. Prototype

Develop models for testing and evaluating these compounds, including analytical techniques for

identification and formulations for therapeutic use.

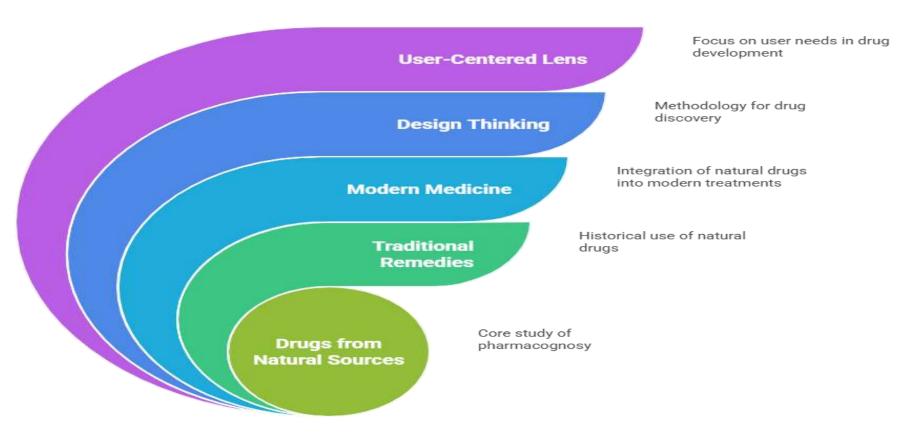
MINDMAP







Pharmacognosy Study



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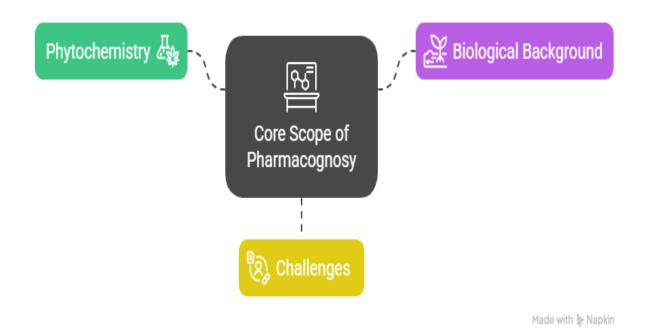
Understanding Pharmacognosy

Patient Empathy Understanding patient needs and experiences Healthcare User Needs Provider Insights Addressing natural Gathering perspectives remedies for chronic from healthcare diseases professionals Mineral and **Cultural Contexts** Microbial Sources Considering cultural Exploring minerals and microbes for medicinal influences on healthcare practices purposes **Animal Sources** Plant Sources Extracting hormones Utilizing plants like and enzymes from digitalis and opium animals

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Core Scope of Pharmacognosy





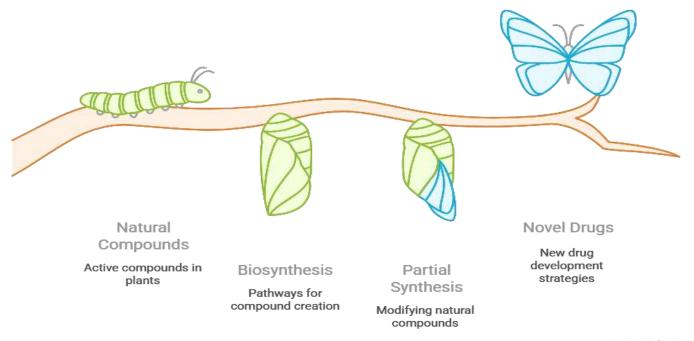
Responsible Cultivation: Where Quality Meets Sustainability



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Biosynthetic Pathways to Drugs



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Natural Compounds to Synthetic Drugs

Natural Compound Template

Untapped potential for drug design Study Structure-Activity

Analyze natural compound relationships

Synthesize Analogs

Create synthetic drug candidates

Accelerated Drug Discovery

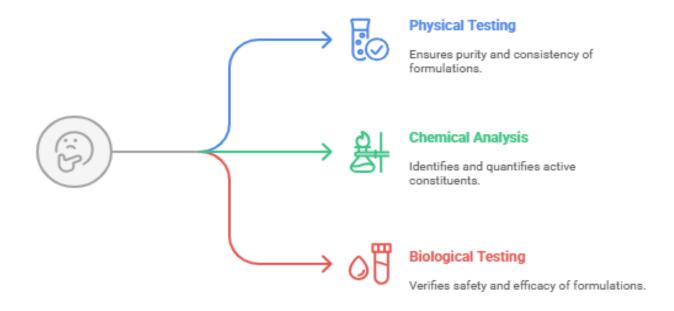
Efficient development of new drugs



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How to ensure quality and efficacy of herbal formulations?



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How to evaluate crude drugs?

Ensure Identity

Verifying the correct species and origin of the drug is essential to prevent substitution.





Determine Potency

Measuring the active compounds ensures therapeutic efficacy.

Check Purity

Ensuring the absence of adulterants or contaminants is crucial for safety.



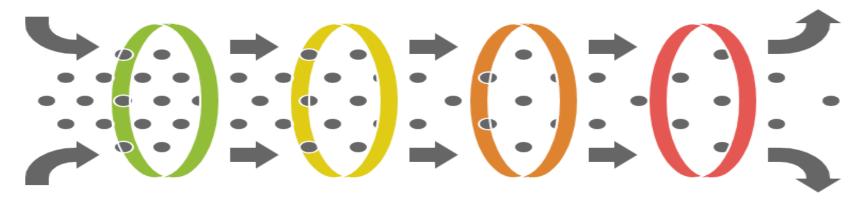
Assess Quality

Evaluating the physical and chemical properties ensures consistency.

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Ensuring Quality and Safety of Crude Drugs



Quality Assurance

Verifying the integrity of herbal products

Safety Verification

Identifying potential health risks

Active Compound Identification

Pinpointing beneficial components

Standardization Support

Establishing consistent formulations

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Which method should be used for crude drug evaluation?

Physical Evaluation

Assesses physical properties like solubility and melting point.

Microscopic **Evaluation**

Reveals cellular and structural details of the drug.

Organoleptic **Evaluation**

Provides sensory information about the drug's appearance, odor, and taste.



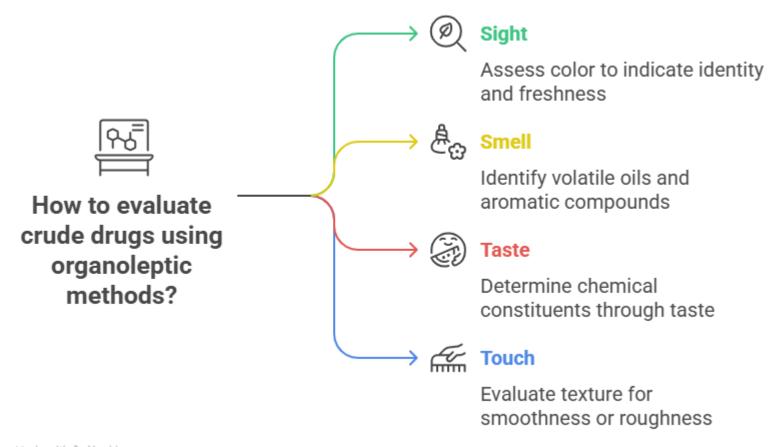
quantities.

Determines the drug's biological activity and effects.



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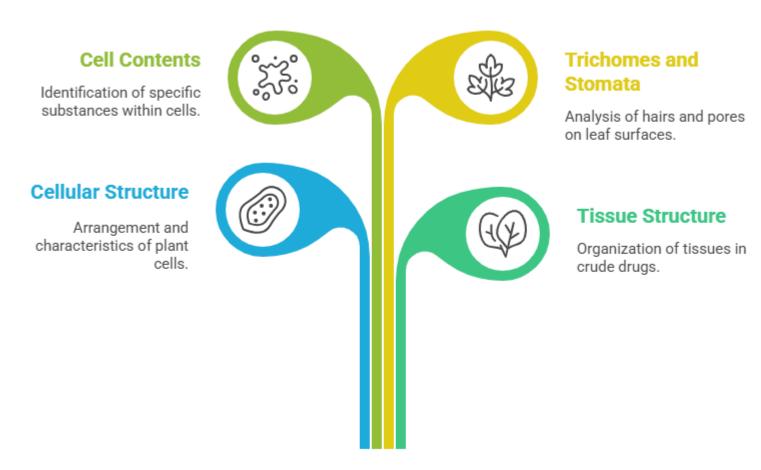




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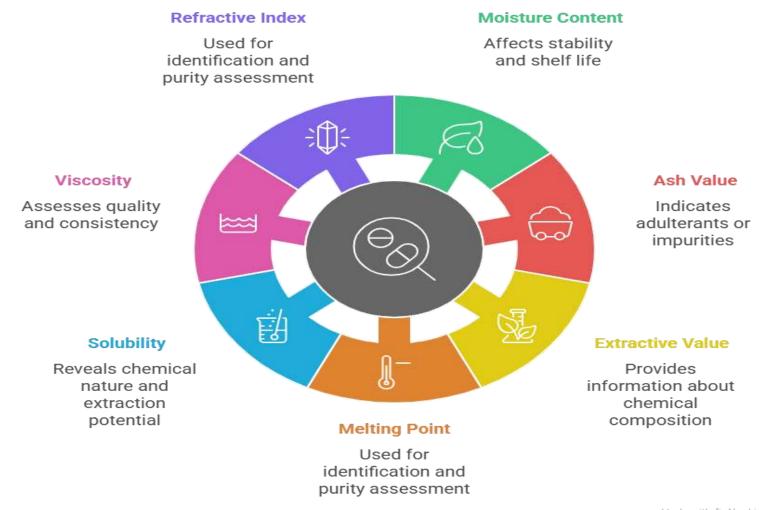
Exploring Microscopic Features of Crude Drugs



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Physical Evaluation of Crude Drugs



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Chemical Evaluation Techniques

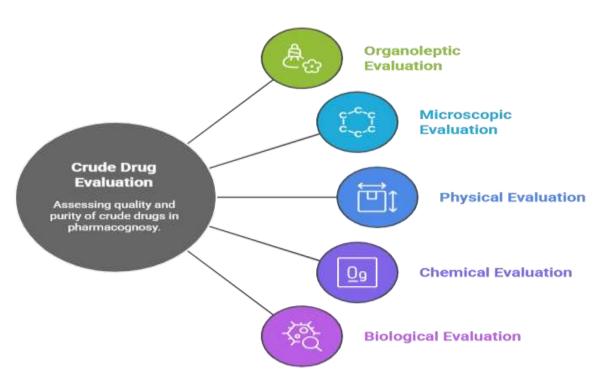


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SUMMARY

Unveiling the Dimensions of Crude Drug Evaluation



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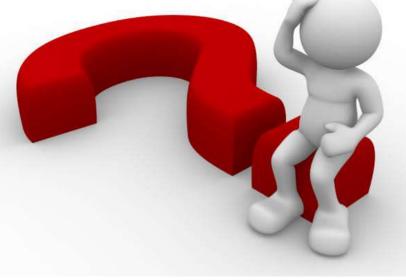




ASSESSMENT

1. What is the primary definition of pharmacognosy?



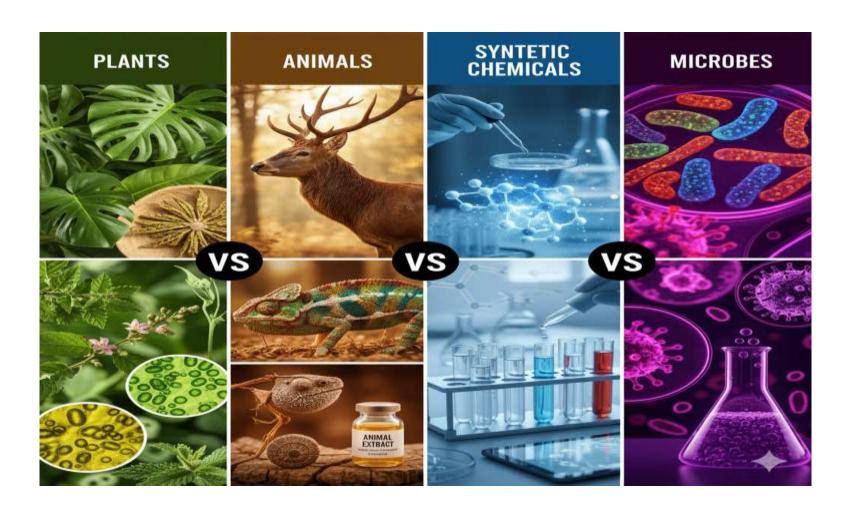


2. Which of the following best describes the relevance of pharmacognosy?





3. Which is NOT listed as a source of crude drugs?



REFERENCES

- ➤ Trease and Evans Pharmacognosy by WC Evans.
- ➤ Textbook of Pharmacognosy by CK Kokate.
- ➤ https://en.wikipedia.org/wiki/Pharmacognosy
- https://www.slideshare.net/slideshow/introduction-historyscope-and-

present-status-of-pharmacognosypptx/263669985

➤ https://www.pharmacognosy.us/what-is-pharmacognosy/



