

Crude Drugs

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What are CRUDE Drugs?

- Crude drugs are plant, animal or their parts which after collection are subjected only to drying or making them into transverse/longitudinal slices pieces or peeling them in some cases. They exist in natural form.
- The crude drugs are divided into different groups according to the chemical nature of their most important constituent present in the drug to which the pharmacological/therapeutic activity of drug is attributed.
- Certain drugs are found to contain alkaloids and glycosides (Cinchona), Fixed oil and volatile oil (Nutmeg) of equal importance together

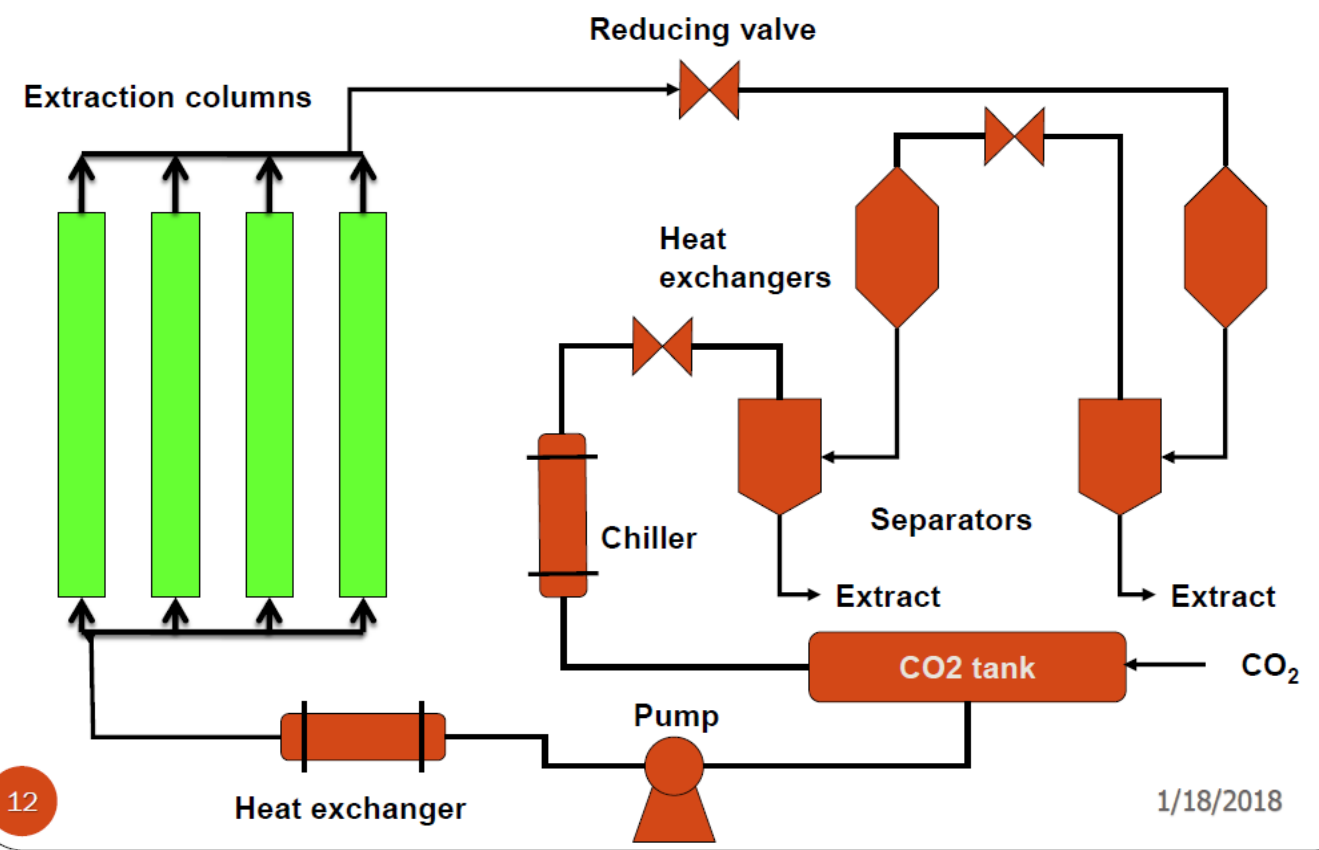
Standardized Extraction procedures for crude drugs

**CLASSES OF PREPARATIONS KNOWN AS
DECOCTIONS, INFUSIONS, FLUID EXTRACTS,**

**TINCTURES, PILULAR (SEMISOLID) EXTRACTS
AND POWDERED EXTRACTS**

SUPERCRITICAL FLUID EXTRACTION (SFE)

Supercritical CO₂ extraction flow chart



12

1/18/2018



JP XV

Clove Oil

Oleum Caryophylli

チョウジ油

Clove Oil is the volatile oil distilled with steam from the flower buds or leaves of *Syzygium aromaticum* Merrill et Perry (*Eugenia caryophyllata* Thunberg) (*Myrtaceae*).

It contains not less than 80.0 vol% of total eugenol.

Description Clove Oil is a colorless or light yellow-brown, clear liquid. It has a characteristic aroma and a burning taste.

It is miscible with ethanol (95) and with diethyl ether.

It is slightly soluble in water.

It acquires a brown color upon aging or by air.

Identification (1) To 5 drops of Clove Oil add 10 mL of calcium hydroxide TS, and shake vigorously; the oil forms a flocculent mass, and a white to light yellow color develops.

(2) Dissolve 2 drops of Clove Oil in 4 mL of ethanol (95), and add 1 to 2 drops of iron (III) chloride TS: a green color is

Crude Drugs / Cnidium Rhizome 1275

Description Elliptical cremocarp, often each mericarp separated; 2 - 3 mm in length, 1 - 2 mm in width; externally light brown to brown, each mericarp usually with five winged longitudinal ridges; inner surface of mericarp almost flat.

Odor, characteristic; it gives characteristic aroma, later a slight sensation of numbness on chewing.

Under a microscope <5.01>, a transverse section reveals one oil canal between longitudinal ridges, usually two oil canals in the inner part of mericarp facing to gynophore; longitudinal ridges composed of slightly lignified parenchymatous cells, with vascular bundles in the base; epidermal cells and parenchymatous cells of longitudinal ridges contain solitary crystals of calcium oxalate; parenchymatous cells of albumen contain oil drops and aleurone grains, and occasionally starch grains.

Identification To 1 g of pulverized *Cnidium* Monnierii Fruit add 10 mL of ethyl acetate, shake for 10 minutes, filter, and use the filtrate as the sample solution. Separately, dissolve 1 mg of osthole for thin-layer chromatography in 2 mL of methanol, and use this solution as the standard solution. Perform the test with these solutions as directed under Thin-layer Chromatography <2.03>. Spot 5 µL each of the sample so-



- Bitter - Quassia, Cinchona, Gentian
- Carminatives - Dill, Clove, Fennel, Coriander
- Emetics - Ipecac
- Anti-amoebic - Kurchi, Ipecac
- Bulk Laxatives - Agar, Isapgol
- Purgatives - Senna, Castor oil
- Expectorant - Liquorice, Vasaka, Ipecac
- Antitussive - Opium
- Bronchodilators - Ephedra, Tea
- Cardio-tonics - Digitalis, Squill, Stropanthus

Extract Types

Standardised Extracts

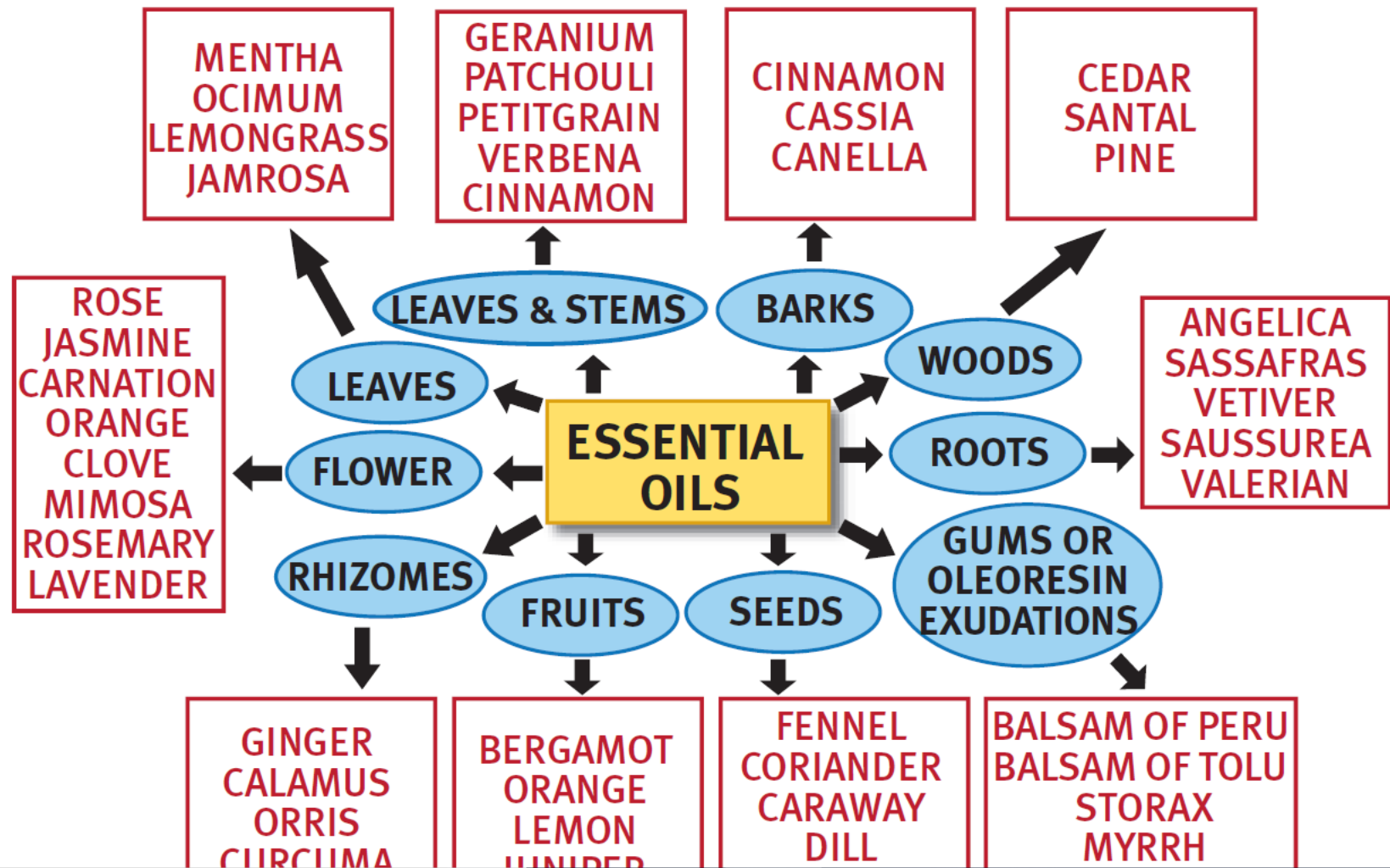
are adjusted within an acceptable tolerance to a given content of constituents with known therapeutic activity; standardization is achieved by adjustment of the extract with inert material or by blending batches of extracts.

Quantified Extracts

are adjusted to a defined range of constituents; adjustments are made by blending batches of extracts.

Other Extracts

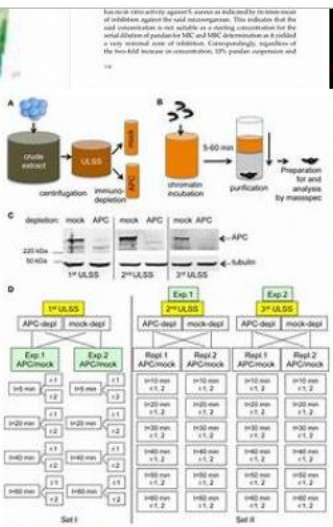
are essentially defined by their production process (state of the herbal drug or animal matter to be extracted, solvent, extraction conditions) and their specifications.



Evaluation of Crude Drugs

Means to identify and to determine quality, safety and purity.

1. It has to be certain of identity of the collected plant from proper source by matching to authentic plant sample
2. Preparation by proper cleaning, drying and garbling.
3. Proper preservation of cleaned, dried, pure drug against contamination.



Ethnopharmacology is the scientific study correlating ethnic groups, their health, and how it relates to their physical habits and methodology in creating and using medicines.

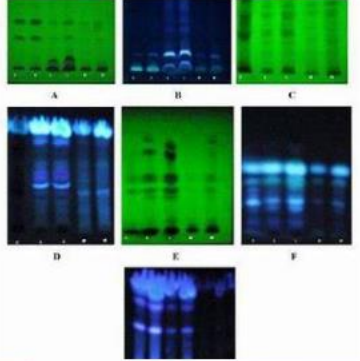
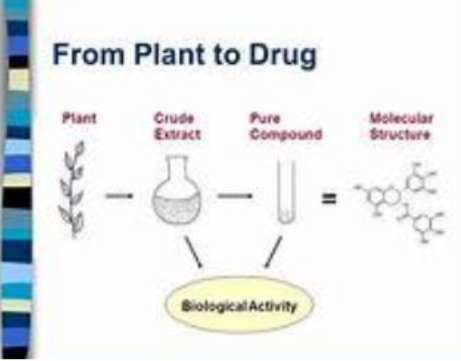
Phytochemical analysis is the study of the chemical constituents of plants and their parts. It is a branch of analytical chemistry that deals with the identification and quantification of the chemical constituents of plants and their parts.

To perform Cell Culture and Cytotoxicity Assay (MTT Assay) by using crude extracts.

Extractive values:

- In crude drugs, sometimes the active chemical constituents cannot be determined by normal procedures.
- In such cases, water, alcohol or other soluble extractive values are determined for evaluation of such drugs.

Example: Water soluble extracts like Aloe vera
Alcohol soluble like Ginger



Background

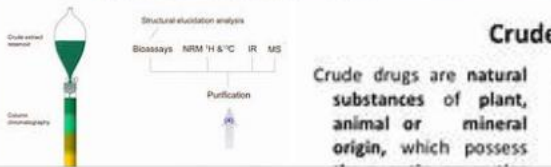
- The majority of the small holder farmers keep small numbers (5-20) per households.
- A number of medicinal plant preparations are commonly used by smallholder farmers to control Newcastle disease.
- It was however noted that scientific validation of the effectiveness of the crude extracts of *Capsicum annum* in Uganda and particularly SWAEZ of Uganda is unknown.
- The study aims to evaluate the effectiveness of crude extracts of *Capsicum annum* in indigenous Chicken affected by the Newcastle disease.



- Question bank**
1. Define crude drug 2 marks
 2. Name the various methods of classification of crude drugs. 2 marks
 3. What do you mean by organised (Cellular) and unorganised (Acellular) crude drugs give examples 5 marks
 4. Describe morphological classification of crude drugs with examples 5 marks
 5. Explain chemical classification of crude drugs with examples 5 marks
 6. Explain chemical classification of crude drugs with examples 5 marks

Crude Drugs

Definition :
They are vegetable or animal drugs that consist of natural substances that have undergone only the processes of collection and drying.



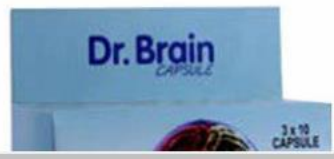
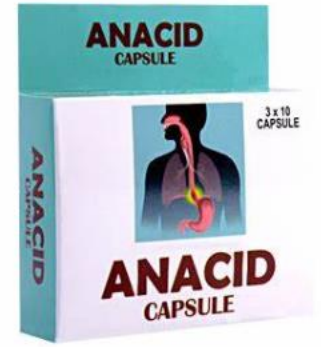
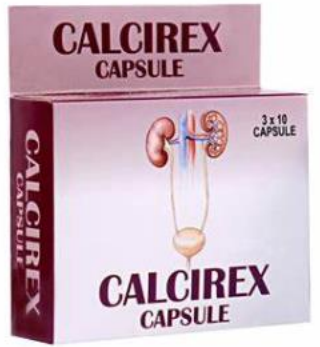
REGULATORY APPROVALS

GMP Certification

License to manufacture crude drugs

Process know-how

Quality Control



Medicinal plants (crude drugs) have a wide array of applications including medicine, food, cosmetics, insect repellent, colouring, fragrance, bath products, etc.

Medicinal Applications

- Illegal to sell crude drug or extracts of *Digitalis* (bacterial contamination of the leaves)
- Digitalization is usually required
- Drug monitoring through radioimmunoassay using specific antibodies
- Sheep derived digoxin-specific antibody fragments for Rx of digoxin overdose
- Digitoxin is highly lipid soluble, completely absorbed from GI tract (95%); half-life time :7days
- Digoxin less lipid soluble, GI absorption 75%; half-life time:1.5 days
- Polarity of cardiac glycosides↑, oral absorption↓

Application of vacuum distillation

Following are the some important uses of vacuum distillation:

- 1- Various impure liquids are purified by this process without decomposition.
- 2- This vacuum distillation is used for the separation of (Thermolabile, heat sensitive) substances.
- 3- Extracts or crude drugs are prepared by this process.

EXTRACTION

- Easy formulation
 - Tableting of crude material may not be possible.
 - Preparation of the drug are more easily formulated, more stable, palatable and elegant after extraction
- Different route of drug administration
 - Injection of crude material may be undesirable and dangerous
- Storage and transport feasibility
 - Extracts are less bulky and covers less space
 - Smaller bulk facilitates storage and transport.

General Methods of Extraction of Medicinal Plants

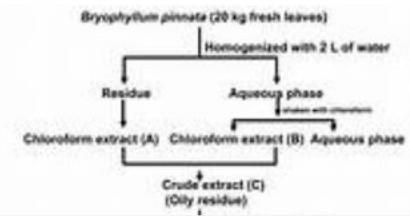
1.Maceration:
 In this process, the whole or powdered crude drug is placed in a container with the solvent and allowed to stand at room temperature for a period of at least 3

Introduction

- Definition**
- Plant anatomy –the study of the internal structure of various parts of the plant
- Applications of plant anatomy**
- Taxonomic application

Medicinal Use of Anthraquinones

- Purgatives
- Pure compounds are rarely prescribed
- Mostly used as simple extracts of crude drugs
- Sugar moiety increases solubility & facilitates transport to the site of action
- Aglycone is active part
- Anthrone is the most effective form
- Normal flora in colon liberates aglycone to stimulate peristalsis
- Too much anthrones in crude drugs are not suitable for use (frangula bark storing to allow (O) to anthraquinone)



ADVANTAGES OF CULTIVATION

- It ensures quality and purity of medicinal plants.
- Collection of crude drugs from cultivated plants gives a better yield and therapeutic quality.
- Cultivation ensures regular supply of a crude drug.
- The cultivation of medicinal and aromatic plants also leads

Production of xylanes by Aspergill using alternative carbon sources: application of the crude extract on cellulose pulp bleaching

Abstract: The ability of cellulases secreted by Aspergillus niger ATCC 26455 to produce the bleaching of cellulose pulp was investigated. The crude extract of the fungus was used as a source of cellulase activity. The effect of the crude extract on the bleaching of cellulose pulp was studied. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity. The crude extract was used as a source of cellulase activity for the bleaching of cellulose pulp. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity.

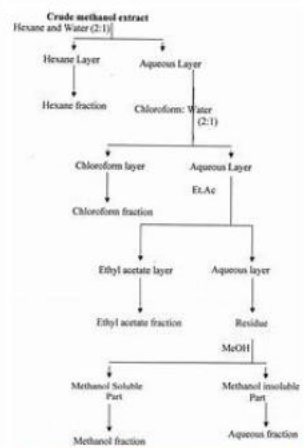
Keywords: Aspergillus niger, cellulase, cellulose pulp, bleaching, crude extract.

Introduction: The ability of cellulases secreted by Aspergillus niger ATCC 26455 to produce the bleaching of cellulose pulp was investigated. The crude extract of the fungus was used as a source of cellulase activity. The effect of the crude extract on the bleaching of cellulose pulp was studied. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity.

Materials and Methods: The crude extract of the fungus was used as a source of cellulase activity. The effect of the crude extract on the bleaching of cellulose pulp was studied. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity.

Results and Discussion: The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity. The crude extract was used as a source of cellulase activity for the bleaching of cellulose pulp. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity.

Conclusion: The crude extract of the fungus was able to produce a significant amount of cellulase activity. The crude extract was used as a source of cellulase activity for the bleaching of cellulose pulp. The results showed that the crude extract of the fungus was able to produce a significant amount of cellulase activity.



China, the world's largest producer of crude drugs, supplies 80% of the crude drugs used in **Japan**.

With **Chinese crude drugs** prices expected to log double-digit increases over the coming years, **Japanese drug makers** are increasingly desperate to find new sources.

Crude Drug India

- Vinod Kumar Wadhwa
- Vishal Drug Pharma
- Kapil Enterprises
- Madan Mohan Gupta
- Uni Pharma India

[View Data](#)

Crude Drug India Import

- ZIZIPHUS (UNAB) (CRUDE DRUGS)
- ZIZIPHUS (UNAB) (CRUDE DRUGS)
- LONG PEPPER (CRUDE DRUGS)
- LONG PEPPER (CRUDE DRUGS)
- LONG PEPPER (CRUDE DRUGS)

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Exporting Crude Drugs to Japan

Technology, Medicinal Plant extracts, crude drugs, Company Profile, Buyers, Japanese Market

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Information @ a Glance

- Medicinal plants (crude drugs) have a wide array of applications in Japan including medicine, food, cosmetics, insect repellent, colouring, fragrance, bath products, etc.
- 97% of the 150 most frequently used crude drugs in Japan for medicine and food in 2002 relied on importation
- In Japan, traditional medicines

Contents on the CD ROM

Crude Drugs

- Crude Drugs
- Crude Drug Components
- Japan's drug makers look beyond China for Chinese medicine

Japanese Industry Scenario

Global Companies

- Company - Hong Kong
- Company - Shanghai
- List of Companies

Associations - Japan

- Pharmaceutical Manufacturers

We offer the data base
http://www.primaryinfo.com/market/exporting-crude-drugs-Japan.htm

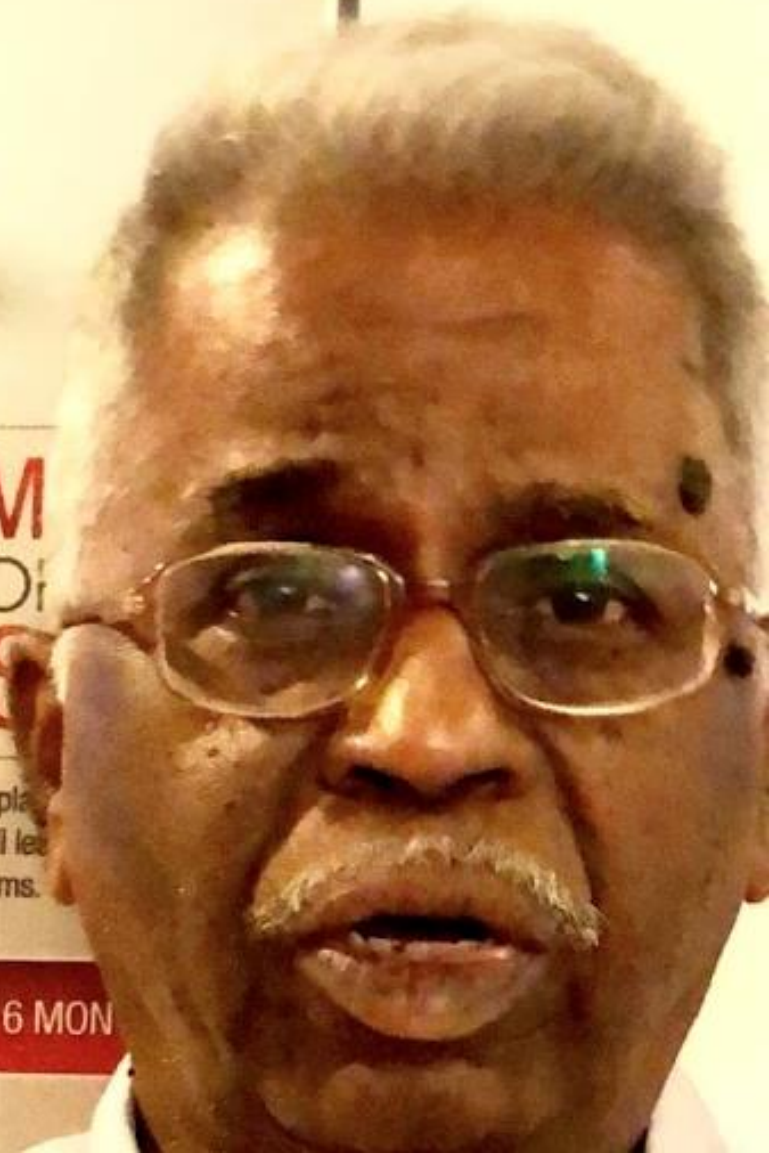


BLEEDING GUM CAN BE A SIGN OF GUM DISEASE

Bleeding gums are mainly due to inadequate plaque removal from the teeth at the gum line. This will lead to a condition called gingivitis, or inflamed gums.

VISIT THE DENTIST ATLEAST ONCE EVERY 6 MONTHS

FOR PLAQUE REMOVAL



QUESTIONS ?

<mailto:primaryinfo@gmail.com>