

Bachelor of Pharmacy, a Literature Review Report Gujrat Technological University, Ahemdabad Formulation and evaluation of multiherbal tummy roll on for colic Abdominal pain

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I. INTRODUCTION

1.1.Introduction to tummy roll on colic abdominal pain.

A)PEPPERMINT OIL :



PEPPERMINT OIL(Figure no : 1) . BIOLOGICAL SOURCE^(1, 2,3,4,5) – Mentha ,

piperita

. FAMILT^(2,4,5)–lamiaceae

. HABITAT⁽⁶⁾ - Peppermint can be found over much of the world; indigenous to Europe and Asia, it has been naturalized in North America. In the United States Mentha x piperita can be found

practically everywhere, however; it is commonly found near streams and other wet areas.

.TAXONOMICAL CLASSIFICATION-^(1,4,5,3)

- . Class: magnoliopsida
- . Subclass: sprmatophyna
- . Division: Tracheoplyta
- . Superdivision: embriophyta
- . family: lamiaceae
- . Kingdom: plantae
- . Subkingdom: embriophyta
- . Oder: lamiales
- . Species: L. angustifolia Mill.
- . Synonym: peppermint gum , red gum

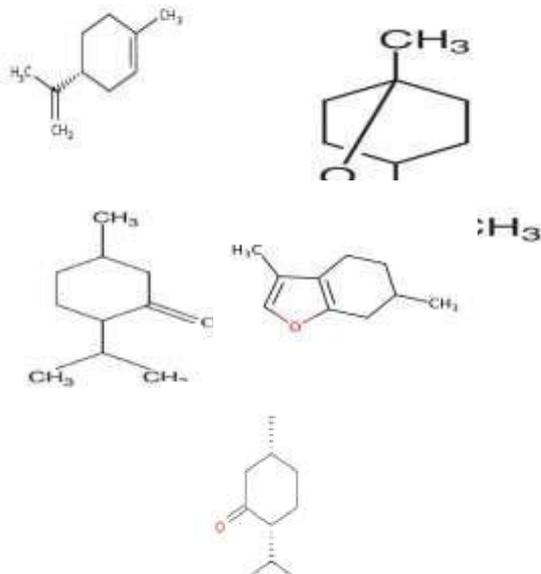
. VARNACULAR NAME –

- .Sankrit – puthea
- .English – corn mint
- . Bengali – pudina
- . Unani – pudinah
- . German – minze
- . Tamil – puthina

. CONSTITUENTS^(1, 2) –

Limonene , cineole , menthone , menthofuran , isomenthone , methyl acetat

OLIVE OIL(Figure no : 2)



Limonene cineole menthone
menthofuranisomnthonone

. BOTANICAL DESCRIPTN^(1,3,4,6) -

Extracted from the stem, leaves, and flowers of *Mentha piperita* L. plant, peppermint oil (*Mentha piperita*) is a popular essential oil used in aromatherapy for both external and internal use. *Mentha piperita* is a hybrid of spearmint (*Mentha spicata*) and water mint (*Mentha aquatica*)

.USES^(1,2,3,4)-

- .It reduces stress
- . It treats UTIS
- . It reduces pain
- . It improve digestion
- . It relieves headaches

B)OLIVE OIL :

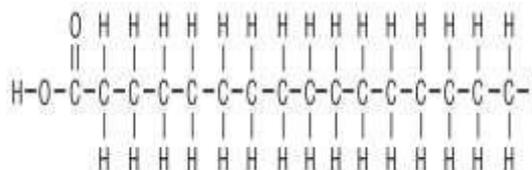
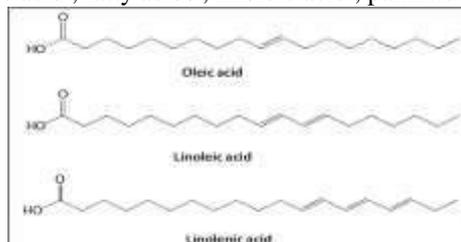


- . **BIOLOGICAL NAME^(7, 8,9,10)**– *Olea europaea* L.
- . **family^(8,9)**–Oleaceae.
- . **HABITAT^(7,9,11)**- Spain , Morocco , Turkey , Greece , and Italy.
- . **TAXONOMICAL CLASSIFICATION^(7,8,9,12)**-
- . **Class** : Magnoliopsida
- . **Subclass** : Asreridae
- . **Division** : Magnoliophyts
- . **Superdivision**: Spermatophyta
- . **Family** : Oleaceae
- . **kingdom**: Green plants
- . **Subkingdom** : Tracheobionata
- . **Oder** : Scrophalariales
- . **Species** : Europa
- . **Synonym** : Sweet oil , oleum olival
- . **VARNACULAR NAME -**

- . French– olive
- . Greek – elia
- . Italian – oliva
- . Spanish– oliva
- . Turkish– zeytin

. CONSTITUENTS^(7,8,9) -

Oleic acid , fatty acids , linoleic acid , palmitic acid



**Oleic acid , linoleic acid
 palmitic acid**

. BOTANICAL DESCRIPTION^(9,10,12)-

The *Olea europaea* subsp. *guanchica* is a small tree evergreen that can reach 6 m in height or more often it has a shrub appearance. Generally, the trunk is pluricaulous, grey or whitish. Leaves are bright green, oblanceolate to narrowly elliptic, 2 - 3 to 7 - 8 cm long and 0.4 – 0.6 to 1.1 - 2.1 cm wide.

. USES^(10,11,12)–

- . Under eye treatment
- . Fight cancer
- . Helps in preventing stroke
- . Helps in strengthening bones.

Helps in relieving constipation

C) CARAWAY OIL:



CARAWAY OIL (Figure no : 3)

. BIOLOGICAL NAME^(13,14,15,16) – Carum carvi L.

. FAMILY^(14,15) – Apiaceae

. HABITAT^(15,16) – Asia , Europe , North Africa , Russia , Canada.

. TAXOLOGICAL CLASSIFICATION^(17,18) –

. Class : Magnoliopsida

. Subclass : Rosidae

. Division : Magnoliophyta

. superdivision: Spermatophyta

. Family : Apiaceae

. Kingdom : Plantae

. subkingdom : Tracheobionta

. Oder :

Apiales .

Species :

Carvi L.

. Synonym : Caraway seed

. VARNACULAR NAME^(13,14,15) –

.English – Caraway

. French – Cumin

. German – Kummel

. Russian – Tmin

. Spanish – Kummin

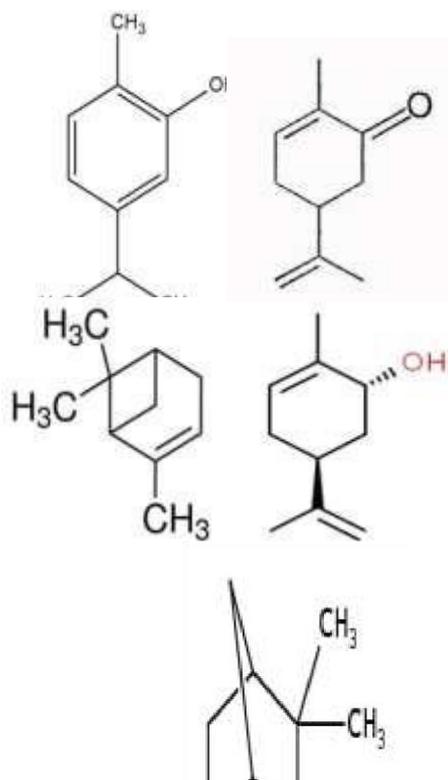
. Yiddish - Kiml

. CONSTITUENT^(16,17,18) – carvacrol,

carvone, α-pinene, limonene,

γterpinene, linalool, carvenone, and p-

cymene, carveol, camphene, fenchon.



Carvacrol

carveol

carvone

camphene

α – pinene

. BOTANICAL DESCRIPTION^(15,16) -

The main flower stem is 40–60 cm (16–24 in) tall, with small white or pink flowers in umbels. Caraway fruits, commonly (erroneously) called seeds, are crescent-shaped achenes, around 2 mm (0.08 in) long, with five pale ridges.

. USES^(17,18) – .

Prevent heart ailments . Hepls

to cure

depression and

fatigue

. Reduce spasms of respiratory system

. Increase milk production for lactating mothers

. Gives relief from coughs and effects of histamine

D)CAROM OIL :



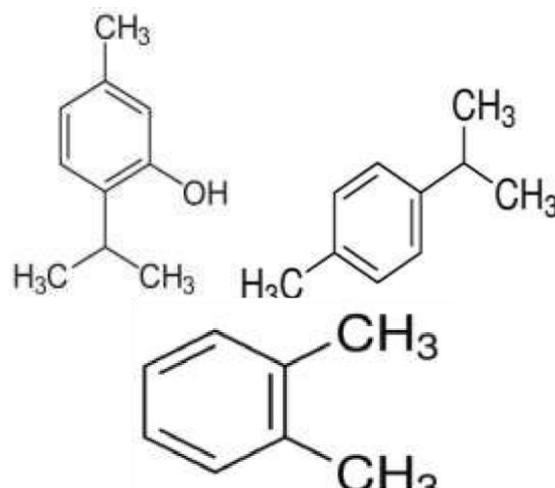
CAROM OIL (Figure no : 4)

- . **BIOLOGICAL NAME**^(19,20,21,22) – Ajwain
- . **FAMILY**^(23,24) – Apiaceae
- . **HABITAT**^(20,21) - India , iran , North Africa
- . **TAXONOMICAL NAME**^(22,23) –
- . **Class** : Magnoliopsida
- . **Subclass** : Rosidae
- . **Division** : Magnoliophyta
- . **Superdivision**: Embryophyta
- . **Family** : Apiaceae
- . **Kingdom** : Plantae
- . **Subkingdom** :Tracheobinota
- . **Oder** :Apiales
- . **Species** :Ammi
- . **Synonym** : Glance , Skim , Graze
- . **VARNACULAR NAME**^(19,20,21,22) – .

Hindi – Ajwain

- . **French** – Ajowan
- . **Bengali** – joyan
- . **Gujarati** – Ajmo
- . **Spanish** – Ajowan
- . **Tamil** – Oman
- . **CONSTITUENTS**^(22,23,24) –

Thymol , oleic acid , linoleic acid , Y-terpinene ,
pcymene , palmitic acid and xylene.



Thymol p-cymene xylene

- . **BOTANICAL DESCRIPTION**^(23,24) – Ajwain ,
ajowan , or Trachyspermum ammi – also known as
ajowan caraway , bishops weed , or carom -is an
annual herb in the family apiaceae.
- . **USES**^(22,23) -
- . Improve digestive health
- . Relief from ear and toothache
- . Relief from arthritis pain
- . Helps in curing common cold
- . Lessen greying of hairs

E)ASAFOETIDA OIL

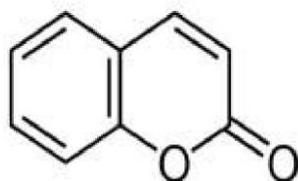
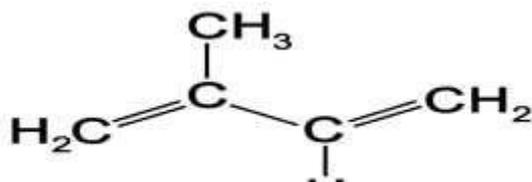


ASAFOETIDA OIL (Figure no : 5)

- . **BIOLOGICAL NAME**^(25,26,27,28)–
FerulaAsafoetida
- . **FAMILY**^(28,29,30)–umbelliferae
- . **HABITAT**^(26,27) - Asia , Iran , Afghanistan
- . **TAXONOMICAL CLASSIFICATION**^(27,28,29) –
- . **Class** :Magnoliopsida
- . **Division** : Magnoliophyta

- . **Family** :Umbelliferae
- . **Kingdom** :Plantae
- . **Species** :Foetida
- . **Synonym** :Hing
- . **VARNACULAR NAME** ^(28,29,30) – .Sanskrit
- Ramatha
- . **English** – Asafoetida
- . **Hindi** – Hing
- . **Gujarati** - Hing
- . **Punjabi** – Hing
- . **kannada** – Hingu

. **CONSTITUTENTS** ^(26,27,28) – resin (40–64%), gum (25%) and essential oil (10– 17%). The resin fraction contains ferulic acid and its esters, coumarins, sesquiterpene coumarins and other terpenoids.



Terpenoids

Coumarins

. **BOTANICAL DESCRIPTION** ^(28,29,27,26) – The spice asafoetida is the dried latex (gum oleoresin) exuded from the living underground rhizome or tap root of several species of *Ferula* (three of which grow in India), which is a perennial herb (1 to 1.5 m high). It is greyish-white when fresh, darkening with age to yellow, red and eventually brown.

. **USES** ^(29,30) –

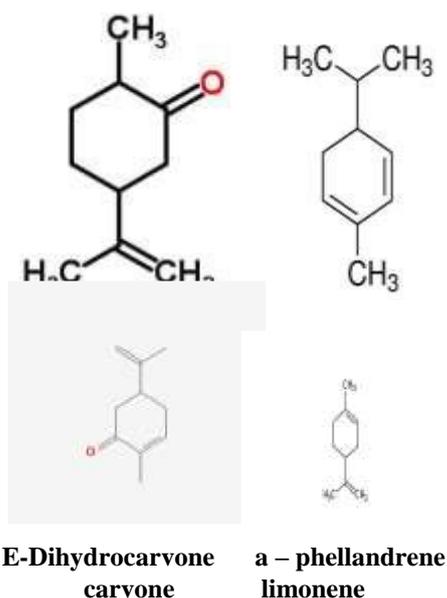
- .Relief from Respiratory Infection
- . Used as a hair conditioner
- . Cure for epilepsy
- .Anti depressive benefits
- . Cure for stomach problems

F)DILL OIL



DILL OIL (Figure no : 6)

- . **BIOLOGICAL**
- . **NAME** ^(31,32,33,34,35)–Anethum graveolens L. .
- . **FAMILY** ^(33,34,35) –Apiaceae
- . **HABITAT** ^(35,36)– Europe , india , North America
- . **TAXONOMICAL CLASSIFICATION** ^(33,34,35) –
- . **Class** : Magnoliopsida
- . **Division** :Tracheophyta
- . **Subdivision** :Spermatophytina
- . **Family** :Apiaceae
- . **Kingdom** :Plantae
- . **Superkingdom** :Viridiplantae
- . **Oder** :Apiales
- . **Species** : Anethum graveolens L.
- . **Synonym** : Dill fruit oil , Dill herb oil
- . **VARNACULAR NAME** ^(31,32,33) –
- . **Hindi** - Soyo
- . **Bengali** - Saluka
- . **Gujarati** - Suva
- . **French** - Aneth odorant
- . **Marathi** - Shepu
- . **Tamil** - Satakuppi
- . **CONSTITUENTS** ^(34,35,36)– (+)-Limonene , (+)Carvone , (E)-Dihydrocarvone , a-Phellandrene , (Z)-Dihydrocarvone.



. BOTANICAL DESCRIPTOR^(32,33,36) –

Anethum graveolens L. is the sole species of the genus Anethum, though classified by some botanists in the related genus Peucedanum as Peucedanum graveolens (L.).^[5] A variant called east Indian dill or Sowa (Anethum graveolens var sowa Roxb. ex, Flem.) occurs in India and is cultivated for its foliage as a cold weather crop throughout the Indian sub-continent, Malaysian archipelago and Japan.

. **USES^(35,36)** – .Helps with Allergies

- .Reduces inflammation
- .Control muscle spasms
- .Reduces bloating
- .Relaxing sleep aid

1.2 . DISEASE INTRODUCTION

The sensation of having gas accumulated in in the digestive system is a very common one for many people.

People may experience gas and gas pains occasionally or even frequently in a single day.

Bloating is the sensation of excess stomach gas that has not yet been released and is stuck, causing discomfort. The bloating, burping and passing of gas are natural functions of the body and are usually caused by swallowed air or in the process of breakdown of food through digestion.

If you suffer from painful gas, bloating and the embarrassment of persistent and foul smelling

flatulence then you need to find a solution to minimize the gas and discomfort.

The Common Causes Of Gas Are:

1. Eating too fast and too much – gulping too much food or drink makes us take in a lot of air along with the food which could lead to gas. 6
2. Gas is often created by certain types of foods and aerated drinks. Rich, fat laden, greasy foods and sodas increase the chances of gas.¹
3. Research shows that certain food components in the normal diet, such as resistant starch, oligosaccharides and plant fibers, are incompletely absorbed are believed to cause gas and other stomach discomforts.⁴
4. Poor digestion is a major cause for gas as it produces a more unstable microbial community² in the gut.

Steps To Control Gastric Problem :

1. Avoid foods that trigger gas. It is seen that diet influences flatulence and avoiding certain foods as well as maintaining a healthy gut by including probiotic foods in order to maintain a healthy microbiota in the gut could be helpful.⁴
2. Keep a food journal/diary. If you record your food intake it will be easier for you to check on the items that lead to gas and you can easily limit or control their intake. Limit rich and calorie-laden food. The yummy delicacies that whet your taste buds and make you crave for more are also the reason that makes you bloat up with gas. High fat content in food is one of the triggers of gas. Eat small portions.³
3. Drink lots water could help balance your system.
4. Eat and drink slowly as there is a direct correlation between chewing food and digestive health.⁵ Certain traditional herbs have been known to help release the gas. Over the counter medicines could also provide intermediate relief.
5. Maintain a healthy lifestyle and try to eat healthy as well. Smaller meals with shorter intervals will ensure you do not have gas due to an empty stomach or too much tea or coffee intake.

These simple changes done slowly over a period of time will help you cope with the problem of gas and indigestion. One may not be able to eliminate gas completely but controlling the triggers for gas will lead to less discomfort and inconvenience. Gas can be easily minimized to ensure a happy eating experience!

II. CHAPTER-3

Aim and Objectives



. AIM & OBJECTIVE :

Hing is definitely an old age remedy for gas, flatulence, constipation and colic baby. But a handy tummy roll on for colic relief is a new age solution when in trouble. Also it contains 100% Ayurvedic ingredients like Hing and saunf oil. Relieving the Colic pain through ayurvedic solution is always preferred by mothers. Mother Sparsh Ayurvedic Tummy Roll-on takes away all stomach related worries of a child such as colic, constipation, indigestion & Gas problems.

III. CHAPTER – 4

. METHODOLOGY :- . STANDARDIZATION OF ALL DRUGS :

Plan of study :

1 Collection & Authentication of herb

2 Pharmacognostic evaluation

A. Macroscopic evaluation

B. Microscopic evaluation

C. Powder microscopy

D. Quantitative microscopy

3. Physicochemical parameters

A. Determination of Ash value

B. Determination of Extractive value

C. Determination of Foreign matter

D. Determination of Moisture content (Loss on drying)

4. Phytochemical evaluation

I. Preliminary phytochemical screening

A. Successive solvent extraction

B. General chemical tests of Phytoconstituents (Qualitative phytochemical evaluation)

C. Chromatographic studies: TLC and HPTLC of extract

II. Determination of

- A. Total Phenolic Content
- B. Total Flavonoid Content
- C. Total Tannin Content (for Astringent Potency)
- D. Swelling Index E. Foaming Index
- F. Bitterness Value

. METHOD OF PREPARATION :

. PEPPERMINT OIL:-

Herein the therapeutic application of volatile oil of peppermint is discussed and also chemical descriptors are calculated to determine the electron parameters of peppermint active constituents to search for biological activities of the compounds.

. ASAFOETIDA OIL :- Animals

:

Male albino mice (25-30 g), 6 to 8 weeks old, bred in animalhouse of Medical School of Shahid Sadoghi University of medicalsciences were selected. Animals were housed at controlled temperature (22C + 2C) with a 12-hour light/dark cycle and with standard lab chow and tap water ad libitum. The experiments reported in this study were carried out in accordance with current ethical guidelines for the investigation of experimental pain in conscious animals.¹⁸ The numbers of animals and intensities of noxious stimuli used were the minimum necessary to demonstrate the consistent effects of the drug treatments (n ¼ 6).

Plant Oleo Gum Resin :

Asafetida was collected from Tabas region (Yazd province, Iran) during the summer and its dried powder was dissolved in distilled water overnight at room temperature and the yielded suspension was used intraperitoneally. Concentrations and dosages of the extract were expressed as crude amount of the dried oleo gum resin used in preparing the stock solution.

Drugs Administration :

Morphine sulfate (8 mg/kg) and sodium diclofenac (30 mg/kg) were used as positive control drugs. Intraperitoneal injection of naloxone (5 mg/kg), theophylline (5 mg/kg), yohimbine (5 mg/kg), methysergide (5 mg/kg), haloperidol (1 mg/kg), and gelibenclamide (2 mg/kg) were used for evaluating the mechanism of action of asafetida. Intradermal injection of carrageenin was used to induce paw edema. . CAROM OIL :-

Test insects:

Insects were collected from local market, found adhering in stored grains. It was known that these insects remain alive in closed system for months together. They were stored in a container under observation at room temperature until applying for insecticidal tests.

Extraction materials:

The fresh seeds of Carom trees were collected from latitude and longitude 19.0269° N, 72.8553° E, Maharashtra, Mumbai, India. Seeds were sunlight dried prior to extraction for a few hours. After drying, seeds were stored away from moisture until extraction of oil. The essential oil of different plants possesses high pesticides property. Similar is the case with Carom oil. Hence, these essential oils were selected as natural pesticides for further research work.

Isolation of essential oil :

The isolation of Carom oil was done by using hydro distillation method. Cleaning of seeds was done to remove the external foreign material such as soil particles, dust, etc. Raw materials were ground to ease the operation of hydro-distillation and to increase the yield. Further 100 grams of ground raw materials were subjected to distillation i.e. hydro distillation using Clevenger apparatus. After completion of extraction, heating was stopped immediately to avoid excessive heating. Then sufficient cooling time was allowed to avoid the loss of essential oil in the form of vapors. Oil and water formed two separate layers in Clevenger tube based on density difference and accordingly separation of oil was carried out. Collected oil was further dried using anhydrous sodium sulphate to remove traces of moisture. Batches were carried out in atmospheric pressure. The ratio of sample to water was maintained at 1:10.

. CARAWAY OIL:-

Study Design and Study Population. The clinical study reported was a randomized, triple blind, placebo-controlled, clinical trial, with a duration of three months, and was designed and conducted to evaluate the weight-lowering effect of the caraway seed extract (CE) compared with placebo. Obese and overweight women with a BMI (body mass index) of 25–39.9 kg/m² and ages between 20 and 55 years were eligible for this study. Volunteers were recruited at a fitness centre in Yazd, Iran, and were doing moderate aerobics

training for 180 minutes/week, with an estimated energy expenditure of 1000–1200 kcal/week. Preparation of Herbal Extract and Placebo. The CE samples obtained from the Baharan Company, Yazd, Iran (Industrial Ministry License no. 28/1232 and Health Ministry License no. 35/10500) were extracted from the seeds of caraway through steam distillation. From each 1 kg of caraway seeds, 10 litres of caraway water extract was produced. Consequently, the amount of caraway in terms of w/v was 0.1 (10%). The analysis of the CE sample used in the study is described below. The placebo was prepared by dissolving edible caraway essence (Givaudan Flavours Co., Kempthal, Switzerland) in drinking water (1% g/L) which was identical with CE in appearance and flavour. Subjects were provided with measured bottles and were asked to dissolve 30 mL of the placebo or CE with 30 mL of water. Subjects were provided with brochures with written instructions.

. DILL OIL:-

Search criteria :

Original articles and research papers in published journals and in Pubmed central on in relation to gynecological diseases were studied out and related articles and papers were taken into consideration Ayurveda literature including and related to was also studied. Information regarding gynaecological disorders was collected from modern and Ayurveda literature. All the literature was especially studied for medicinal use of in gynaecological diseases and taken in to consideration. More emphasis has been given on clinical trials carried out on . Finally results were obtained from all the data and literatures studied.

In present review it is observed that other variant of () was used in the research study of Clinical efficacy of Ayurveda treatment regimen on Subfertility with Poly Cystic Ovarian Syndrome (PCOS).

. PLANT DESCRIPTION :

The Plant is a glabrous (hairless) aromatic annual herb, hallow finely grooved stem, Strip dark green and white with bluish spots; leaves compound, 2-3 pinnate, bluish green, segments filiform, leaf sheath surrounds the stem, flowers yellow, in flat compound umbels, fruits narrowly winged, vittae large and conspicuous.

. OLIVE OIL:-

Origin of olives and production of the oil:

The data set included numerous samples of monovarietal oils obtained from the following olive cultivars grown in various Italian regions: Abruzzo, cv Dritta, 17 samples; Puglia, cv Coratina, 12 samples; cv Provenzale, 6 samples; Sardegna, cv Bosana, 9 samples; Toscana, cv Frantoio, 12 samples; cv Moraiolo, 7 samples. Olives were harvested in the period November – December of the 1996 season. The numerous representatives of the cultivars examined were collected at well-separated sites covering a large area of each geographical region under examination. Olive batches of 3-5 kg were crushed in a small hammer metal mill at the Pescara Institute. The olive paste underwent malaxation for 20 min at 28 °C. The oil was separated by a vertical centrifuge with gravitational discharge through the base. The yields were in a wide range, 6-10%.

. Determination of unsaponifiables:

Long-chain fatty alcohols and polycyclic triterpenes were obtained in a one-step reaction. The determination of the composition of the unsaponifiable fraction, without prior TLC separation, into classes of compounds was performed by gas chromatography with a polar column of high thermal stability as reported in the literature [29, 30]. In the gas chromatographic analysis of long-chain fatty alcohols and cyclic triterpenes only the major components were identified and quantitatively evaluated.

. EVALUATION PARAMETERS:

IV.CHAPTER – 5 . SUMMARY

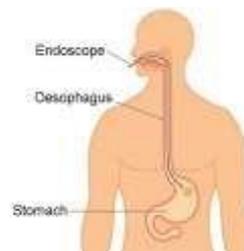
, CONCLUSION AND FUTURE SCOPE:

. SUMMARY:

When presented with a horse in acute abdominal distress the practitioner must choose between various medical or surgical treatments. This decision should be based on the patient's history, the results of a thorough systemic examination, clinical pathology findings, and the response to various treatments. The ability to evaluate and use this data to institute the proper regimen of therapy early in the course of the disease will help to increase the chances of recovery.

. FUTURE SCOPE:

1. Gastroscopy:



A gastroscopy checks your food pipe, stomach and upper part of the small intestine for abnormalities. This minimally invasive procedure uses a thin, flexible camera, which is inserted through your mouth into your stomach and duodenum, to diagnose problems and take tissue samples.

2. Colonoscopy:



A colonoscopy checks your lower intestine for any abnormality or disease. During the procedure, your doctor will gently guide a thin, lighted camera through your rectum into your colon to check your lower intestine.

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