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A PHYTOMEDICINE: ALOE BARBADENSIS (ALOVEVERA)

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ABSTRACT:-

Aloevera is very important and effective plant with so many health application that scarely any part of human body remain uninfluenced by its healing medicinal use.It act as a natural fighter against all class of infection an important effective anti oxidant ,helps to treating the all type of digestion problem ,heart burn ,stress ,kidney stone,diabetes ,rheumatism ,pain,asthama,cancer ,AIDs.it is a herbal medicines with a long traditional use in different cultures ,the main limitation of the current clinical knowledge about aloevera gel is small clinical studies that often lack rigorous methodo-logy ,it also act as Laxative ,Beuty enhancer and produced effect on lowering blood sugar level.

INTRODUCTION:-

Aloevera is a home grown plant as like numerous other plant .It gives numerous restorative and pharmacological impact for human creatures.Alovera is utilise for testrative action completely different frame work in our societies.[1] The term aloe came from the arabic word "Alloeh"or Herbrew"Halal"implies heightening sparkly (shining bitter substance)and vera is latin term means true.course of action of pharmac-ceutical system like Ayurveda ,Siddha ,Unaniand Homeopathy[2].Today the aloevera plant has been used for various purposes in dermatology.The aloevera is most vutal and valueable plant within the home grown drugs fabricating and other detailing gives valyeable and proffitable compounds.

KEY WORD's:- Introduction**,**Taxonomy,Morphology,Biological source ,pharmacoligical activity.

TAXONOMY:-[3]

Kingdome :- Plantae Class:- Monocytyledoneae

Family :- Liliaceae Genus:- Aloe

Order :- Asperagalis Species:-Barbadensis mill.

Division :- Spermatophyte

Sub division :- Angiospermae

SYNONYMS:-Aloe,Musabbar Ghritkumari

MORPHOLOGY:-[4]

Taste :- Bitter

Odour :- Charecterstic

Size :-60-100cm

Shape :-Lance shaped

Colour :-leaves are green to grey -green

Flower :-Yellow tubular in 25-35cm in slender statements

Root :-Root fibres that can reach 30-40cm in length.

BIOLOGICAL SOURCE:-Aloe is dried latexof leaves of various species of Aloes ,namely[5]:-

- Aloe barbadensis miller(Curacao Aloe)
- Aloe ferox miller(cape Aloe)
- Aloe perryi Baker (SocotrineAloe)
- Aloe Africana miller
- Aloe spicata Baker

CULTIVATION:-

There are more than 250 species of aloe mature around over in the world .Be that as it may ,just two species are developed today idustrially ,with aloe barbadensis miller and aloe aborescence being the most prevalent .the alovera plant is grown in warm tropical territories and can not survive solidifying temperature .It can not grow in shade ,it require dry or claimy soil and can endure spell [6]

CHEMICAL CONSTITUENTS OF ALOE VERA PLANT:-

The most criyical dynamic active constituents of aloevera are the three isomeric of Aloins ,Barboloin and Isobarboloin Emodin and Aloe-emodin.Barbaloin are present in all varities of aloevera.it is marginally yellow shaded ,severe water dissolveable crystalline substance present in caracao aloe and in follow sum in cape aloe and present in socortrine and zanibar aloe .The central constituents of socortrine and zanibarn aloe are barbaloin .The principal bunch complex sugars are inside the leaves gel and have an insusceptible empowering activity .lastly are a few substances with a wide cluster of activiyies for exàmples **-Mineral,Vitamin,semi vital Amino acid ,Natural acid ,Phospho- lipid ,Proteins,Lignin and saponines.**

- **Vitamins:** It contains vitamins A (beta-carotene), C and E, which are cancer prevention agents. It moreover contains vitamin B12, folic corrosive, and choline. Antioxidant neutralizes free radicals.

- **Enzymes**: It contains 8 chemicals: aliiase, antacid phosphatase, amylase, bradykinase, carboxypeptidase, catalase, cellulase, lipase, and peroxidase. Bradykinase makes a difference to diminish over the top irritation when connected to the skin topically, whereas others offer assistance within the breakdown of sugars and fats.

- **Minerals:** It gives calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium and zinc. They 10 are fundamental for the correct functioning of different chemical frameworks in numerous metabolic pathways and few are antioxidants.

- **Sugars:** It gives monosaccharide's (glucose and fructose) and polysaccharides: (glucomannans/polymannose). These are determined from the mucilage layer of the plant and are known as mucopolysaccharides. The foremost conspicuous monosaccharide is mannose-6-phosphate, and the foremost common polysaccharides are called glucomannans [beta-(1,4)-acetylated mannan]. Acemannan, a unmistakable glucomannan has too been found. As of late, a glycoprotein with antiallergic properties, called alprogen and novel anti -inflammatory compound, C-glucosyl chromone, has been confined from Aloe Vera gel. [7,8]

BIOLOGICAL AND PHARMACOLOGICAL ACTION OF ALOEVERA GEL:-

A number of investigations have attempted to relate thechemical constituents in the gel to specific biological effects:-

- **Wound healing effect:-**. Different mechanisms have been proposed for the wound-healing effects of Aloe gel, which include keeping the wound moist, increasing epithelial cell migration, more rapid maturation of collagen, and reduction in inflammation [9]. A 1996 study reported that a high molecular weight polypeptide constituent from the gel demonstrated a healing effect on excisional wounds in rats [10]. Glucomannan, a mannose-rich polysaccharide, and gibberellin, a growth hormone, interact with growth factor receptor on the fibroblast, thereby stimulating its activity and proliferation, which in turn increases collagen synthesis after topical and oral application [11].Yagi et al. reported that Aloe vera gel contains a glycoprotein with cell proliferating-promoting activity, while Davis et al. noted that Aloe vera gel improved wound healing by increasing blood supply (angiogenesis), which increased oxygenation as a result [12,13]. Angiogenesis is the growth of new blood capillaries and is a part of tissue regeneration.A 1993 study showed that topical application of Aloe vera gel reestablished vascularity of burn tissue for a guineapig, although no specific constituents were identified [14].The Aloe vera gel polysaccharide acemannan was shown to activate macrophages, an effect that improved wound healing in a rat model [15, 16]. Two years later, Davis et al. reported that the low molecular weight component of freeze-dried Aloe vera gel stimulated blood vessel formation in a chick chorioallantoic membrane (i.e., a vascular membrane derived from developing chicken eggs); in addition, a methanol soluble fraction of the gel which contains a glycoprotein with mainly cell proliferating-promoting activity stimulated the proliferation of artery endothelial cells in an in vitro assay and induced them to invade a collagen substrate [17].

- **Anti inflammatory effect**s:- It inhibits the cyclooxygenase pathway and reduces prostaglandin E2. Recently, the novel anti-inflammatory compound called C-glucosyl chromone was isolated from gel extracts . In addition, the peptidase bradykinase was isolated from Aloe and shown to break down the bradykinin, an inflammatory substance that induces pain[18].

- **Anti-Tumour Activity**:-Different glycoproteins are available in Aloe Vera. in this manner keeping the arrangement of possibly disease starting benzopyrene-DNA adducts In the provoking of glutathione s-transferase and an impediment of the tumor-promating effects of phorbol myristic acidic corrosive deduction has in like manner been represented which propos possible favorable circumstances of using aloe gel as a piece of cancer'[19]

- **Antiseptic effect**:-Aloe Vera contains 6 sterile specialists: Lupeol, salicylic corrosive, urea nitrogen, cinnamonic corrosive, phenols and sulfur. They all have inhibitory activity on organisms, microbes and viruses. [20]

- **Anti-Diabetic:** The five Phytosterols of Aloe Vera, lophenol, 24-methyl-lophenol, 24-ethyl-lophenol, cycloartanol and 24methy-lenecycloartanol illustrated unfriendly to diabetic impacts in sort 2 diabetic mice. Aloe Vera contains polysaccharides which grow the affront level and appear hypoglycaemia Properties. [21]

- **Anti-bacterial Activity:-**Aloe vera gel was bactericidal against pseudomonas aeruginosa and acemannan kept it from holding fast to human lungs epithelial cells in a monolayer society. A took care of Aloe vera gel prepration ruined the improvement of development Candida albicans. The gel contains 99.3%of water, the staying 0.7%is made up of solid with starches constituting for a sweeping parts. concentrated concentrates of Aloe leaves are used as diuretic and as a haemorrhoid treatment. Aloe gel can fortify the body's resistant framework Glucomannan and acemannan have been exhibited to revive wound recuperating, actiuating macrophages. ,bracing safe structure additionally antibacterial and antiviral effects.The preliminary phytochemistry revealed closeness of terpenoids ,flavonoids and tannins . Aloe secundiflora could be a rich wellspring of antimicrobial agenstsand its utilization by the neighborhood individuals of need victroria district of Kenyas.

USES :-

- Aloe Vera is anthelmintic, cathartic, carminative, deobstuent, depurative, diuretic, stomachic, and emmenagoge. Juice is utilized as a portion of sound skin medicine, dyspepsia, amenorrhea, smolders, colic, hyperdenosis, hepatopathy, splenopathy, hindrance, run, menorrhea, stomach, tumors, dropsy carbunles, sciatica, lumbago and tooting. Aloe Vera gel is exceptionally valuable in ulcerative colitis and weight ulcers. [22]
  > Mild to moderate burns.
  > Erythema.
  > Genital herpes.
  > Seborrheic dermatitis.
  > Psoriasis vulgaris.
  > Skin moisturizer.
  > Type 2 diabetes.
  > Oral lichen planus infections.
  > Angina pectoris.
  > Ulcerative colitis.

USE NOT RECCOMONDED:-

▪ People with intestinal problems, heart disease, hemorrhoids, kidney problems, or electrolyte imbalances should not take aloe. People with diabetes should use caution if taking aloe vera, and check blood glucose levels regularly.

▪ **Liver toxicity and hepatitis:-**A report of liver toxicity and hepatitis has led many people to question the safety of aloe supplements.

▪ **Bleeding:-**Aloe Vera may increase the risk of bleeding. Alert is promoted in people with bleeding disorders or taking drugs that may increase the risk of bleeding.

▪ Aloe may cause increased risk of irregular heartbeat, kidney failure, thyroid dysfunction, urinary stones, and uterine contractions. Due to aloe contains estrogen-like substance chemicals, this may alter the effects of other agents believed to have estrogen-like properties.[23]

CONCLUSION:- was studied about the too much information of herbal plant i.e Aloe Vera. It is a specific plant, it show various types of activities in medical era .so it play an important role in pharmaceutical field. Aloe Vera and its preparation have been widely used as a medicine since ancient times. Various researches have been conducted to prove the efficacy of aloe Vera in various health problems. The active ingredient hidden in its succulent leaves have the power to soothe human life and health in a myriad ways. Aloe Vera as the wonder plant is multiple from being an antiseptic, ant-inflammatory agent, helps in relieving like cancer and diabetes, and being a cosmetic field

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