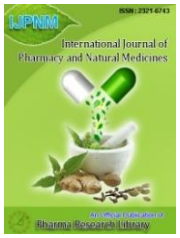


International Journal of Pharmacy and Natural Medicines
Journal Home Page: https://www.pharmaresearchlibrary.com/ijpnm
CODEN (USA): IJPNRC | ISSN: 2321-6743 | Publisher: Pharma Research Library
Int. J. Pharm. Natural Med., 2025, 13(1): 36-43
DOI: https://doi.org/10.30904/j.ijpnm.2025.4805

Exploring Natural Remedies for Foot Infections: A Study on Lifestyle Changes and Alternative Treatments for Corns

T Usha Kiran Reddy*[1], Madhu M[1], K. G. Rajyalakshmi[1], Divya B.J[2], Neeraja Reddy M[3], O.V.S Reddy[1]
[1]S V U College of Pharmaceutical Sciences, S V University, Tirupati, AP, India
[2]Department of Biochemistry, S V U College of Sciences, S V University, Tirupati, AP, India
[3]Department of Biotechnology, S V U College of Sciences, S V University, Tirupati, AP, India

A B S T R A C T
The current review is to explore about hectic lifestyle changes of people that lead to foot infections. Now-a-days most of the people are suffering with foot infections such as corns or callus, athlete's foot, cellulitis, toenail fungus, foot abscess and erythrasma etc. Epidemiological study states that 10-48% of adults are suffering out of which again 20% are men and the rest 40% are women are suffering with corns or calluses, even children of different ages are also get affected with this infection due to wearing of tight or ill-fitting shoes & sandals. Synthetically there is a proven method to overcome this infection by using salicylic acid plasters, ointments, patches which are available in the market, but there is no medication that can naturally overcome corns. Our aim is to exploit different natural ingredients which can be prepared as medicine to treat corns at the early stage itself, to avoid the synthetic usage.
Keywords: Corns, calluses, foot infections, natural medicine

A R T I C L E I N F O

***Corresponding Author**
T. Usha Kiran Reddy
S V U College of Pharmaceutical Sciences,
S V University,
Tirupati, AP, India

Article History:
Received 12 Mar 2025
Revised 31 Mar 2025
Accepted 24 April 2025
Published 12 May 2025

Citation: *T. Usha Kiran Reddy et al., Exploring Natural Remedies for Foot Infections: A Study on Lifestyle Changes and Alternative Treatments for Corns, Int. J. Pharm. Natural Med., 2025, 13(1): 36-43.*

C o n t e n t s

1. Introduction

Corns contain a central core that can be painful if it pushes against a nerve. They are brought on by pressure or friction over bony surfaces such as joints [1]. Most oftenly observed on hand fingers, probably beneath feet and toes. Corns and calluses are unsightly thick, hardened skin layers that develop when your skin tries to protect itself from pressure and friction. Diabetes and other conditions that affect blood flow to the feet increase the risk of corns and calluses. Corns and calluses fade just by removing the source of pressure or friction. [2]. It is difficult to distinguish between different kinds of keratotic lesions in many medical textbooks. Furthermore, rheumatologists, dermatologists, podiatrists, and American and British surgeons use diverse and somewhat confusing terminology. The following definitions of the terms represent their most commonly used usage [3]. Corns conical core serves as a defence mechanism against mechanical stress. The corn and callus are separated by its central core. Corn arises in response to pressure and friction just like callus. Unlike callus, corn has no papillary ridges and the surface is burnished smooth as the skin responds to pinpoint pressure against a bony prominence by a rapid increase in cell production. As a result, layers of immature cells emerge which never mature into a competent dead skin layer like a callus. The terms

heloma is sometimes used to denote a corn. There are five subtypes of corns that are tender when subjected to direct pressure, those includes: the hard corn (heloma durum), the soft corn (heloma molle), the vascular corns (heloma vasculare), the fibrous corn (heloma fascia) and the seed corn (heloma milliare) [6]. The pain from corns might be mild and uncomfortable or sharp and intense. Chiropodial surgical enucleation, protective shields, footwear modification, or surgical correction are possible forms of treatment. Applying keratolytic agents to the injured skin area specifically in the form of a paste, ointment and plaster may be employed when appropriate. These are applied either before or after surgery in clinical chiropody. Salicylic acid is the keratolytic ingredient included in a lot of over-the-counter corn products, as it increases endogenous hydration, most likely as a result of reducing pH, which causes the cornified epithelium to swell, soften, macerate ultimately desquamate, softening and destroying the stratum corneum. Salicylic acid can be used as collodions, plasters or ointments. The medicine might come into direct and extended contact with the corn using a plaster form. Spread on the proper backing material the plaster is a homogeneous solid or semi-solid adhesive mixture of salicylic acid in a suitable base. 20–40% w/w is the typical concentration used to treat hard corns [9].

Causes:

The pressure and friction from repeated movements leads to the development and growth of corns and calluses. Several causes of this friction and pressure include:

- **Wearing ill-fitting shoes.**
  Certain areas of the foot may become compressed by tight shoes and high heels. A foot that is too loose may rub against a seam or stitch inside the shoe, as well as regularly slide and grind against them.
- **Skipping socks**.
  If you wear sandals or shoes without socks, your feet may become irritated there by problems arises from improperly fitting socks.
- **Playing instruments or using hand tools.**
  It may occur due to repeated pressure like writing, using hand tools, or playing an instrument can cause calluses on your hands.
- Standing for long periods of time [1].
- Excessive pronation of the foot.
- High arches.
- Poor range of motion and mobility in joints.
- Previous trauma or surgery.
- Bony prominences like Bunions or Rheumatoid arthritis [1,2].

Signs and Symptoms;

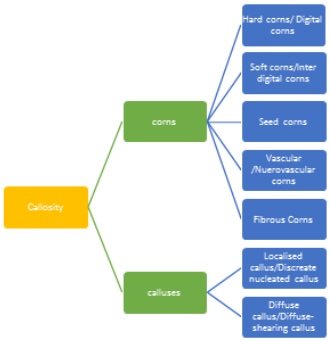
- A rough, thick area of skin.
- Pain under skin or tenderness.
- Flaky, waxy, or dry skin.
- They can be painful due to corn having a hard center. Sometimes may bleed.

2. Classification

Hard Corns

Hard corns are considered to be the most common type & can also be termed as classic corn or digital corn. The appearance of these corns is typically a dry, horny mass of mechanically caused hyperkeratosis with a hard core that gives the appearance of a shining, polished surface. It typically develops beneath the fifth toe or the dorsum of the interphalangeal joints of the lesser toes, as well as on the dorsolateral aspect of the toes and the plantar side of the foot, which covers the distal metatarsal heads. After the keratin surface surrounding the hard corn changes into a conical, deep, central core pointing towards the dermis, a semi-opaque thickening of the dead skin layer is observed [3,4,5,6,7].

Fig. 1 Hard corns on foot



Soft corns

Soft corns, which can grow interdigital between the fifth and fourth toes, are excruciatingly painful hyperkeratotic lesions. Soft corns are sometimes referred to as interdigital corns or "heloma mole," have a somewhat sour smell, a greyish-white appearance, and a soft texture to the touch. Corn must be able to absorb a significant quantity of moisture from sweat, which gives it a distinctive macerated look and can also result in secondary bacterial or fungal infections. An interdigital corn is a soft corn that can grow between any two toes, but it usually happens in the fourth interdigital region [3,4,5,6,7].

Fig.2 Soft corns on inter digital toes

Seed corns

Seed corns can be found alone or in groups of superficial plugs of porokeratosis cells that have a higher cholesterol content than healthy skin cells. This kind of corns can grow on the plantar surface of the foot in both weight-bearing and non-weight-bearing areas, although it usually shows up on the balls of the feet and the tips of the toes (most likely the fifth toe). Compared to other corns, the growth of seed corns takes longer time with less (or) occasionally painless. Numerous factors contribute to their development and distribution, are more common in those people with dry skin, heavily perspiring foot, moisture loss, and irregular shoe wear. These corns have a central core and resembles miniature corns [1,6].

Fig. 3 Seed corn on foot

Vascular /Neurovascular corns

Vascular corns are also known as heloma vascular & these corns comprise of both nerve fibres and blood vessels. The pinching or squeezing action of a mechanical stressor (such as foot wear) causes these blood vessels to grow into corn. It looks like a causing kind of “herniation” of the dermis layer of skin. (Dermis is underlying layer of a skin containing blood vessels, sweat glands, nerves etc). Vascular corns are extremely painful, frequently become inflamed, and bleed heavily if they are cut [1,6].

Fig. 4 Vascular corn

Fibrous corns

Fibrous corns are also known as heloma fascia, as it develops from an untreated, long standing, and chronic corn firmly attached to the deeper tissues than any other type of corn, which grows and buries itself deeper into the tissues of the foot. So, it becomes more attached to the foot and appears as more fibrous in nature. These corns are painful [1,6].

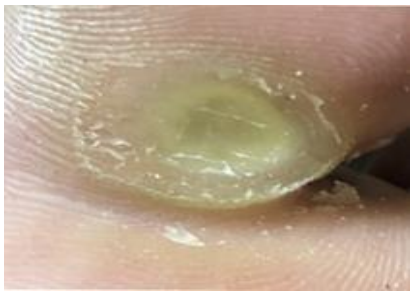


Fig. 5 Fibrous corn

Callus

Callus is likely located beneath the metatarsal heads at a point of pressure, friction. and irritation. It resembles a wide, distributed area of hyperkeratosis with a fairly uniform thickness. A callus is less circumscribed than a corn as it is usually larger which doesn’t have a central core, and may or may not be painful. Other names for the calluses include keratoma, clavus, tyloma, and heloma. The calluses are divided into two types based on the traumatic hyperkeratosis that occur on the sole of the foot. Which are as follows;

1. Localised callus or Discreate nucleated callus.
2. Diffuse callus or Diffuse -shearing callus.

Localised callus

A discreate nucleated callus is a painful, localised lesion with a central plug. It is sometimes mistaken for a plantar wart and is called "plantar corn" because? to the central keratin plug. These lesions found beneath the tibial sesamoid or a sharp projection of the fibular condyle of a metatarsal head. The term "focal intractable plantar keratosis" is typically preferred by American authors.

Fig. 6 Localised callus

Diffuse callus

A diffuse shearing callus is a lesion that is more than 1 cm across and is caused by a misaligned metatarsal head; it does not have a keratin plug inside. It was referred to as diffuse intractable plantar keratosis by American authors [3,4,6,7,8].

Fig.7 Diffuse callus

Table-1: Corn Caps and Ointments

SL.No.	Marketed Product	Keratolytic agent	Activity
1	Dr foot corn caps	40 % w/w salicylic acid	Soften skin and may help soothe pain in the related area.
2	Leeford cornex corn caps	40% w/w salicylic acid	Effective corn removal with soothing effect.
3	Compeed Active corn Bandage	Compeed plaster acts like a second skin to support the natural moisture balance.	Protect and cushion against rubbing and pressure.
4	Decorn corn caps	Narmalic amal-45%w/w Gonda biroja-5%w/w	Quick acting, long lasting relief.
5	Hansaplast corn removal plaster	Narmalic amal-50%w/w	Relieves pressure and pain.
6	Agarwal's corn caps	Normalic amal	Normalic amal supports corn removal.
7	Buy Tya foot corn removal	Salicylic acid, vitamin-c, tea tree oil, aloe vera.	Fast-acting, Pain free corn &callus remover.
8	Salicure 12% ointment	Salicylic acid -12%w/w Urea-10%w/w	Manages hyperkeratotic lesions & manage corns &warts.

Table-2: Shoe sole pads

Sl. No	Marketed product	Activity Reported
1	Dr Scholl's moleskin padding	Soft corn padding protects feet from painful shoe friction and pressure.
2	Fovera gel metatarsal pads	Foot cushion for metatarsalgia pain relief.
3	Purastep gel metatarsal pads	Provides relief for metatarsalgia, mortan's Neuroma, calluses, and other foot pain.
4	Aegon forefoot pads	Provides relief for metatarsalgia, mortan's Neuroma, calluses, and other foot pain.

Table-3: Natural remedies

Sl. no	Ingredients	How to use
1	Ginger juice + Clear lime	Ginger juice + clear lime (1:1/ equal ratio's). Applied 3 times a day results in removal of foot corns.
2	*Calotropis gigantea*	*Calotropis gigantea* juice should be rubbed on the corn for one week, it gives better results.
3	Egg white + hot copper sulphate	Egg white + hot copper sulphate rubbed for 2 weeks on corn reduces its size& pain.
4	Rice boiled water+ Rock salt	Rice boiled water can be combined with Rock salt and it applied regularly to the corns. This will remove corns.
5	Cashew nuts outer shell	Outer shell of cashew nuts oozes oil upon heating, applying this oil gives better results in corn reduction.
6	Turmeric+ *Terminalia chebula* + Coconut oil	Turmeric+ *Terminalia chebula* +Coconut oil (1:1:2), Mixing of these 3 ingredients converts into paste & it can rubbed on corn for one week.
7	Ripe Fig	Fig of ripe fruit is grinded. It is applied to the corns /cover it completely. The same procedure should be followed thrice a day for 1 week. This will get rid of corns.
8	Plumbago Roots	The roots of plant plumbago are grinded, to make into a paste. The paste is rubbed on the corns during night time, helps in remove corns.
9	Castor oil	Castor oil is applied to the corns as it softens, ultimately corns are disappeared. It should be applied thrice a day. Castor oil is not preferred to the skin with cracks.
10	Coconut oil	Coconut oil is applied to the corns thrice a day by gently massage.
11	Onion slice	Onion slice is placed on the corns & covered it with gauze, leaving it

		overnight and removed next morning. It is repeated daily for one week to observe changes.
12	Pineapple slice	Bromelain enzyme from pineapple helps to cure corns. A fresh slice of pineapple /its juice can be placed on corns and leaving it for overnight with the help of bandage. It gives better results.
13	Papaya juice	Papaya shows healing property due to the presence of an enzyme papain. A piece of papaya is placed on the corns overnight or fresh papaya juice is rubbed on the corns every night till corn falls off.
14	Lemon juice	Take a lemon and squeeze out some lemon juice apply gently on corns. Repeat this procedure until centre of the corn hardens and ultimately falls out.
15	Garlic cloves	Garlic cloves are grinded and make it into a paste, applied to the corns surface by keeping it overnight and removing next morning. Garlic has an antioxidant that help to fight bacterial and fungal infections. It treats corns from the root.
16	Pumice stone	Pumice stone is used to remove corn dead skin. The essential oils incorporated in pumice stone like castor oil & coconut oil are used to rub on the corns. Sometimes soak the hand or feet in warm water for about 5-7 minutes. Now gently rub on corns with pumice stone for about 2-3 minutes. Repeat these everyday corns heal faster.

3. Preventions

1. To avoid your toes rubbing against the shoe or other toes, make sure your shoes are comfortable and fit correctly.
2. In order to avoid bunching under your feet, socks should be worn with shoes.
3. Wearing cushioned gloves is recommended when handling heavy or rough objects that could cut your hands or fingers.
4. Make use of padded or cushioned insoles, these inserts can balance the weight bearing pressures on the bottom of foot.
5. Examine and wash your feet daily with warm or soapy water to promote smooth and soft skin.
6. Trimming of toenails.

Table 4: Herbs used in the treatment of corns& calluses

Sl No	Plant Name/ Botanical Name	Family	Chemical Constituents	Uses	References
1	*Lantana camera*	Verbenaceae	Glycosides, flavonoids, monosaccharides, alkaloids, polysaccharides, terpenes, and saponins, trans-caryophyllene, alpha-pinene, alpha-curcumene, bicycle germacrene, and oxygenated monoterpenes.	Corns and calluses, anti-microbial, anti- fungal, anti-tumour, anti- inflammatory, cancer, leprosy.	[5,7, 25]
2	*Moringa oleifera*	Moringaceae	moringine, pterygospermin, niazinin A and B, compesterol, amino acids, 9-octadecenoic acid, 4-hydro 4-methyl-2-pentanone, ascorbicacid, 3,4-epoxy ethanone, 1,2 benzene dicarboxylic acid, octadecamethyl-cyclo-Penta siloxane, 2,6-dihexadecanoate, benzene ethamin.	Corns and calluses, anti-inflammatory, anti- tumour, anti- oxidant, hypotensive, bowel disorders, arthritis.	[5,7, 15,16,17,18]
3	*Tecoma capensis*	Bignoniaceae	terpenes, sterols, tannins, flavonoids, sugars, saps, carbohydrates, saponins, glycosides, alkaloids, phlobatannins.	Corns and calluses, anti-inflammatory, anti- ulcer, analgesic, activity, pain and insomnia, wounds, traumas.	[5,7, 19, 20, 21, 22]

4	*Barleria prionitis*	Acantheceae	6-hydroxy flavone, glycosides, shanzhiside methyl ester, 6-otrans-p-coumaryl-8-o acetyl barlerin, 7-methoxydiderroside, and lupilinoside, phenylethanoid glycoside, barlerinoside.	Corns and calluses, treatment of toothaches, joint pains, fever, respiratory illness, wound healing and used in herbal cosmetics and hair products.	[5,7,23,24]
5	*Eugenia caryophyllus or Clove*	Myrtaceae	Eugenol, eugeny acetate, volatile oil, methyl and dimethyl furfural, and caryophyllene, beta-caryophyllene, alpha-humulene.	Corns and calluses, anti-fungal, anti- bacterial, anti-inflammatory, anti- oxidant, effective in treating athletes' foot and nail fungus.	[5, 26,27,28]
6	*Allium sativam or Garlic*	Liliaceae	carbohydrates, proteins, fibre, free amino acids, and sulphur, vitamins A, B, and C, enzyme Alliinase.	Corns and calluses, wound healing, viral infections.	[5, 29,30,31,32]
7	*Aloe barbadensis or Aloe vera*	Asphodelaceae/ Liliaceae	vitamins, lipids, sterols, glucomannans, and amino acids, anthraquinone and glycosides, proteins and carbohydrates, aloin, emodin, saponins, Beta- sisosterol, lupeol, cholesterol, campesterol.	Corns and calluses, collagen synthesis in wound healing.	[5,33,34,35, 36]
8	*Anas comosus or Pineapple*	Bromeliaceae	calcium, magnesium, potassium, fibre, and vitamin C. Vitamins B1 and B6, copper, it contains a proteolytic digestive enzyme called bromelain.	Corns and calluses, strengthens bones, lower cholesterol, joint pains, muscle pain, cold and cough.	[11]
9	*Curcuma longa or Turmeric*	Zingiberaceae	curcumin-1, curcumin-2 (desmethoxy curcumin), and curcumin-3 (bisdemethoxy curcumin). sesquiterpenoids, turmerone, curlone.	Treatment of corns, calluses and wounds, anti-inflammatory.	[37,38,39]
10	*Ficus carica or Fig*	Moraceae	Organic acids, amino acids, fatty acids, lupeol, alpha-caryophyllene, alpha-pinene, beta-pinene, flavonoids, and phytosterols. Renin, protease, diastase, esterase, lipase enzymes found in Ficus latex.	Corns and calluses, anti-bacterial, anti- diabetic, anti- parasitic, anti- oxidant.	[10,11]
11	*Allium cepa or Onion*	Amaryllidaceae	Proteins minerals, fat, fibre, carbohydrates, vitamin-c, iron, calcium, sulfur, Allyl propyl disulphide, chromium, alipropyl disulphide, thiocynate, thiopropionoaldehyde,	Treatment of corns and calluses, bunions, anthelmintic, anti-inflammatory, anti- septic, diuretic.	[13]
12	*Carica papaya or Papaya*	Caricaceae	Papain, chymopapain, carotenoids, corposide, glycosylates, benzyl isothiocyanate, papaya oil,	Treatment of corns and calluses, warts, sinusitis, dermatitis, blood pressure, glandular tumours,	[14]

			linalool, 4-terpinol, myricetin, kaemferol, carpinine, carpain, and vitamins C and E	dyspepsia, warm expulsion, amenorrhoea.	
13	*Zingiber officinale or ginger*	Zingiberaceae	Gingerols they are 6-gingerol, 8-gingerol, and 10-gingerol, phenolic compounds, including 6-dehydrogingerdione, zingerone, quercetin, and gingerenone-A. Additionally, ginger contains a number of terpene components, including β-bisabolene, zingiberene, α-farnesene, and β-sesquiphellandrene	Treatment of corns and calluses, GI issues like morning sickness, colic, upset stomach, gas, bloating, heartburn, flatulence, diarrhoea, loss of appetite, and dyspepsia, anti- oxidant, anti- obesity etc	[40]
14	*Citrus limon or Lemon*	Rutaceae	Polyphenols and terpenes are present in lemons. As with other citrus fruits, they are highly concentrated in citric acid, Lemons contain various phytochemical substances, including polyphenols and terpenes. Essential oil of complicated structure: limonene, flavonoids, vitamin C, carotenoids, mucilages, calcium oxalates, citric, citrain, terpineol, camhenium, fellander. Pectin, sugar, citric acid, malic acid and flavonoids are abundant.	Treatment of corns and calluses, Anti-migraine, diuretic effect, Astringent effect, treat acne and canker sores, cold and flu, eczema, fight fatigue, reduces cholesterol, anti-inflammatory, anti-microbial, anti-fungal.	[41]

4. Conclusion

In this review, we undertaken to prepare corn treating formulation by using natural keratolytic property having herbal plant parts. Phytoconstituents present in herbal plants like alkaloids, steroids, tannins, minerals, organic acids etc.. the secondary metabolites and other products produced by phytochemicals have beneficial effects on wound healing and corns management. Many herbs have either curative or preventive use of active compound to improve the wound healing. Our main goal in this review was focus on indigenous knowledge of medicinal plants to develop novel medicine for treatment of corns and calluses.

5. References

[1] Rajendra Kumar Dixit et al., 2019 Treatment and Prevention of foot Corn;wjpmr,5(7), 37-38

[2] Singh, D et al. "Callosities, corns, and calluses." BMJ *(*Clinical research ed.*)* vol. 312,7043 (1996): 1403-6.

[3] Freeman, Denise B. "Corns and calluses resulting from mechanical hyperkeratosis." American family physician vol. 65,11 (2002): 2277-80.

[4] Grouios G. Corns and calluses in athletes' feet: a cause for concern. The Foot. 2004 Dec 1; 14(4): 175-84.

[5] Lang LM, Simmonite N, West SG, Day S. Salicylic acid in the treatment of corns. The Foot. 1994 Sep 1;4(3):145-50.

[6] Pourmorad F, Honary S, Azadbakht M, Asgarirad H, Golmohammadzadeh G. Separation of proteolytic components of Iran ficus carica latex by column chromatography and electrophoresis and latex anticorn activity. International Journal of Pharmaceutical Sciences Review and Reasearch. 2011, 1(7): 83-5.

[7] Shamkant B. Badgujar, Vainav V. Patel, Atmaram H. Bandivdekar & Raghunath T. Mahajan (2014) Traditional uses, phytochemistry and pharmacology of Ficus carica: A review, Pharmaceutical Biology, 52:11, 1487-1503, DOI: 10.3109/13880209.2014.89251

[8] Prasenjit Debnath PD, Prasanta Dey PD, Abhijit Chanda AC, Tejendra Bhakta TB. A survey on pineapple and its medicinal value.

[9] Allium cepa: A traditional medicinal herb and its health benefits K. P. Sampath Kumar, Debjit Bhowmik, Chiranjib , Biswajit and Pankaj Tiwari

[10] Aravind G, Bhowmik D, Duraivel S, Harish G. Traditional and medicinal uses of Carica papaya. Journal of medicinal plants studies. 2013, 1(1): 7-15.

[11] Rathi Bs, Bodhankar SL, Baheti AM. Evaluation of aqueous extract of Moringa olifera for wound healing in albino rats, Indian Journal of Experimental Biology, 2006, 44: 898-901.

[12] Padayachee B, Baijnath H. An overview of the medicinal importance of Moringaceae. J. Med. Plants Res. 2012, 6: 5831-5839.
[13] Chumark P, Khunawat P, Sanvarinda Y, Phornchirasilp S, Morales NP, Phivthong-ngam LP et al. Pongrapeeporn, The in vitro and ex vivo antioxidant properties, hypolipidaemic and antiatherosclerotic activities of water extract of Moringa oleifera Lam. leaves, J. Ethnopharmacol. 2008; 116:439-446.
[14] Mensah JK, Ikhajiagbe B, Edema NE, Emokhor J. Phytochemical, nutritional and antibacterial properties of dried leaf powder of Moringa oleifera (Lam.) from Edo Central Province, Nigeria. J Nat. Prod. Plant Resour 2012;2:107-112.
[15] Saini NK, Singhal M, Srivastava B. Evaluation of wound healing activity of Tecomaria capensis leaves Chinese Journal of Natural Medicines. 2012;10(2):138-141.
[16] Kameshwaran S, Senthilkumar R, Thenmozhi S, Dhanalakshmi M. Wound Healing Potential of Ethanolic Extract of Tecoma stans Flowers in Rats. Pharmacologia 2014; 5:215-221.
[17] Padmaja K, Seru G, Panda J, Sulakshna M. Antioxidant, anti-inflammatory and antimicrobial activity of whole plant of Tecoma capensis Thumb. Int J Pharmacognosy 2018;5(2):103-12.
[18] Jothi ET, Ravichandiran V, Durga P, Srikanth V, Subha V. Hepatoprotective activity of different leaf extracts of Tecomaria capensis. International Journal of Pharmacyand Pharmaceutical Sciences 2012;4(3):252-56.
[19] Shukla P et al. In vitro propagation of Barleria prionitis and its Antibacterial activity. International J of Pharm Professionals Research 2011, 2(1):198-200.
[20] Patil SB, Naikwade NS, Kondawar MS, Magdum CS and Awalel VB: Traditional uses of plants for wound healing in the Sangli district, Maharashtra. International Journal of Pharm Tech Research 2009; 1(3): 876-878.
[21] Nayak BS, Raju SS and Ramsubhag A: Investigation of wound healing activity of Lantana camara Linn. Sprague dawley rats using a burn wound model: International Journal of Applied Research in Natural Products 2008; 1(1): 15-19.
[22] Pradny Nilesh Jagtap et al., Role of clove in medicine and Dentistry-An Interesting Review Article. RRIJM 2019,04(11)
[23] Rana IS, Rana AS, Rajak RC. Evaluation of antifungal activity in essential oil of the Syzygium aeomaticum (L.) by extraction, purification and analysis of its main Component eugenol. Braz J Microbiology. 2011,42(4):1169-1277.
[24] Narayanan CR, Natu AA. Triterpenes acids of Indian Clove buds. Phytochemistry. 1974; 13(9): 1999-2000.
[25] Gebreselema Gebreyohannes et al., Medicinal values of garlic: A review Int. J Med. Sci. 402-408.
[26] Dehghani F, Merata A, Panjehshahin, Handjani F. Healing effects of garlic extract on warts and corns. Int J Dermatol. 2005; 44:612-5.
[27] Boj SG, Svensson A. Contact allergy to garlic used for wound healing, contact Dermatitis. 1988, 18: 179-81.
[28] Ejaz S, Chekarova I, Cho Jw et al., Effect of aged garlic extract on wound healing: a new frontier in wound management. Drug Chen Toxicol 2009, 32:191- 203
[29] Atherton P. Aloevera revisited. Br J Phytother. 1998, 4: 76-83
[30] Atherton P. The essential Aloevera: The actions and the evidence. 2nd Ed, 1997.
[31] Hitter JA, Salman M, Stavinoha WB, Satsangi N, Williams RF, Streepee RT et al., Antiinflammatory Cglucosyl Chromone from Aloe barbadensis. J Nat prod.1996, 59: 541-3.
[32] Chithra R, Sajithlal GB, Chandrakasan G. Influence of Aloevera on collagen characteristics in healing dermal wounds in rats. Mol cell Biochem. 1998, 181:71-6.
[33] Li W, Wang S, Feng J, Xiao Y, Xue X, Zhang H, Wang Y, and Liang X: Structure elucidation and NMR assignments for curcuminoids from the rhizomes of Curcuma longa. Magn Reson Chem 2009, 10: 902-908.
[34] Aggarwal BB, Sundaram, C, Malani, N and Ichikawa, H ();. Curcumin: The Indian solid gold. Adv. Exp. Med. Biol. 2007 595: 1–75
[35] Gong C, Wu Q, Wang Y, Zhang D, Luo F, Zhao X, Wei Y, Qian Z: A biodegradable hydrogel system containing curcumin encapsulated in micelles for cutaneous wound healing. Biomaterials 2013; 34: 6377-6387.
[36] Shital Umakant Darekar, Dr. Sudarshan Narayan Nagrale, Dr. Vishal Bharat Babar and Amit Pondkule. Review on ginger: Chemical constituents & biological effects. J Pharmacogn Phytochem 2023,12(6): 267-271.
[37] Al-Qudah TS, Zahra U, Rehman R, Majeed MI, Sadique S, Nisar S, Tahtamouni R, Tahtamouni RW. Lemon as a source of functional and medicinal ingredient: A review. Int. J. Chem. Biochem. Sci. 2018, 14: 55-61.