Dioscorea Bulbifera Medicinal Plant: Phytochemistry and Salutary Potential

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ABSTRACT
Seventy percent of the world’s population is treated for a range of ailments using conventional primary healthcare. Globally, the use of herbal medications by pharmaceutical, cosmeceutical, and biopharmaceutical businesses is becoming more and more common. Out of 600 species, Dioscoreabulbifera is one of the the Dioscoreaceae family, which have been used globally in traditional medicine. It’s also recognised as parsnip yam, potato yam, air yam, cheeky yam, and bitter yam. Among Dioscoreabulbifera’s medicinal and preventative qualities against a range of illnesses, including diabetes, arthritis, and cancer. The plant’s potential for therapeutic use is due to the presence of bioactive chemicals. The current review emphasises current findings in toxicology, pharmacology, and ethnomedical applications. Dioscoreabulbifera bulbils are used to cure a variety of conditions, including cancer, diabetes, asthma, ulcers, leprosy, dysentery, and ulcers. It is one of the most popular yam species, particularly in the West, and is used as a raw material for contraceptives.South Africa. Regrettfuly, due to rising harvest for therapeutic use. The purpose of this review is to offer current information. Regarding its photochemistry, therapeutic advantages, state of conservation, and optimal strategies for preserving this plant for usage in the future. Search databases for literature was used, and the results show that although Dioscoreabulbifera is of Despite its many therapeutic and ethnomedical advantages, it is in danger of going extinct.

Key words: Dioscoreabulbifera; pharmacological activity; anti-cancerous activity, anti-diabetic activity, anti-inflammatory activity, anti-fungal activity, Anti-leishmanial activity, Antiviral activity

I. INTRODUCTION
Plants were used as a source for herbal remedies far before antiquity [1]. The first mention of using medicinal plants was found in the Rig Veda. Later, between 2,500 and 500 B.C., Ayurvedic medicine solidified the use of medicinal herbs. Therapeutic regimen[2]. There is widespread historic use of medicinal herbs for healing purposes. Recorded in the Unani, Mediterranean, and Ayurvedic traditions. They’ve made use of medicinal herbs in the form of conventional concoctions to address a range of medical conditions. In addition, there is proof that Chinese literature, Egyptian papyruses, and Unani writings have been treating themselves with herbs [1]. Medicinal herbs are an extremely abundant source of several phy-Multifaceted therapeutic potential of tochemicals [3]. They are round in shape and have a dark brown hue. Flowers are arranged in single, axillary, or hanging spikes [6]. The accomplice The flowers have a somewhat greenish-white colour. The capsules are in Seeds have two winged semicircular flat lobes [5]. “Air potatoes Chinese medicine has utilized Dioscoreabulbifera to treat problems with the kidneys, lungs, spleen, and also useful in numerous types of diarrhoea. Historically, these plants have been utilised to lower the glycemic index and provide longer-lasting energy and enhanced defence against obesity and diabetes [8]. It is reported that the yam species contains a high concentration of diosgenin, a steroid saponin, among other therapeutic compounds. It features preventive and Therapeutic potential against a range of illnesses, including cancer, Gastrointestinal issues, diabetes (also mentioned above), arthritis, Elevated cholesterol and inflammation [4]. In Indian traditional medicine, it is used for a variety of conditions, such as piles, ulcers, pain, and inflammation. Crushed tubers are used to treat sinus infections and ulcers. And decoction were combined to create oil. Often, it is utilised as a natural remedy for rectum carcinoma, stomach cancer, and goitre in Chinese and Indian phytomedicine. Toxins exist. Dried yam to dissolve it, and it is used to treat carbuncles, scrofula as well as purulent illnesses. It is used to treat dog bites in China. Food poisoning, snake stings, and hepatic fibrosis by preproviding for the liver [9]. One well-known bioactive component of synthetic birth
control tablets is diosgenin, also known as steroid saponin [4]. Moreover, it has been used to coagulate blood to stop bleeding and detoxify pollutants. Numerous investigations of phytoconstituents have verified the presence of Tuber phytochemical components that bear close resemblance to various therapeutic applications in various therapeutics [1]. This plant is unique because, as was previously mentioned, its rhizomes contain diosgenin, a phytoestrogen that converts into the chemical progesterone. Diosgenin is the reason why contraceptive pills are discouraged. Such as preventative medications and sexual hormones like testosterone and sup-Jocks use supplements to increase their testosterone levels. And build up your muscular strength. Diosgenin is also investigated To demonstrate the chemopreventive and regenerative effects on tumors of a few organs, further demonstrating the particle's great significance. As a potential agent against cancer. The amount of starch in Dioscorea rhizomes is 75% zomes. Their incredibly bitter flaw makes them inedible. Rhizomes contain the enzyme sapogenase. The glycosides and tubers are also rich in phenolic compounds [7]. It’s interesting to note that Dioscoreabulbifera formulation has been used to improve memory, prevent maturing, blockage, and fever, as well as Been used as a concoction to treat wounds and sores due to its high tannin organisation speeds up the healing of wounds in a burning membrane. Dioscoreabulbifera emits a subtle fragrance and a very strong flavor. When compared to, it has more health benefits. Other Dioscorea species with the highest calcium concentrations, Zinc, magnesium, and sodium are the three nutrients with the most upsides. B1, B3, C, and the protein content that is most notable. In spite of the remarkable medicinal use and wellbeing advantages of Dioscoreabulbifera, dietary preference is mostly determined by the sort of different species of sweet potatoes [10].

PLACE IN THE TAXONOMY [7]
Kingdom: Angiosperms; Clade: Plantae
Group: Monocots
Sequence: Dioscoreales
Discordance family
The Dioscorea genus
Kind: Bulbifera

Vernacular Names [36,37]
English: Potato Yam, Air potato
Sanskrit: Varahikanda, Aluka, Shukara
Hindi: Varahikanda, Kadu Kanda, Ratalu
Gujarati: Dukkarkan
Bengali: Ratalu, Ban Alu
Tamil: Kodikilanga, Kaattu-kaay-valli
Marathi: Manakund, Kadu-karaanda, Varahi
Kannada: Kuntagenasu
Konkani: Karamdo
Malayalam: Pannikizhangu, Kattukachil
Oriya: Pita Alu
Telugu: AdadiDumpan

Figure 1: life cycle of Dioscoreabulbifera plant

Morphology

Dioscoreabulbifera is a long-stemmed, furiously twining perennial vine with non-spiny stems that grow to a length of 20 metres or more and freely branch above; the internodes are rounded or slightly inclined. Anticlockwise, and they twine in a cross section. Plant has two. Kinds of organs for storage. In the leaf axis, the plant produces bulbils. Of the underground tubers and twining stems. Tubers are a similar to little, rectangular potatoes with a harsh flavour. Noticeable aerial Tubers, also known as bulbils, are whitish, globose to spherical, and up to D. Bulbifera’s inflorescence, which is 13 cm broad and gives it the popular Call it “air potato. The leaves have a heart-shaped shape, are arranged in an appealing pattern, and are joined by long petioles. Ovoid-suborbicular leaves, measuring 10–15 × 7.5–10 cm, with a deeply cordate base and an acuminate apex Short caudate, glabrous, membranous, with 9–11 ribs at the base; Up to a 20 cm long petiole. They are separated into lobes longitudinally. By striking veins that arch outward from a single point. Origin, the point on the leaf where the petiole affixes. Rarely, flowers Exist in D. Bulbifera; they are tiny, pale green when they do. And aromatic, emerging from the axils of leaves. Male flowers are thin. Panicked spikes, pendulous, up to 18 cm long, with bracteoles in the axilla Sharp and ovate [34,35]. Light green perianth; six biseriate, linear-oblong, 2.5 mm long lobes. Free stamens six. Female ovary triquetrous, 3-locular, ovules 2-per locule, spikes 1-3 together, staminodes 3; styles 3; Stigma 2-fid that is reflexive. Capsules, oblong, 1.5–2.3 x 1-1.5 cm, Three wings. The seeds are somewhat winged, and the fruit is a capsule. This species reproduces both vegetatively and sexually through seeds. By aerial and subterranean tubers (bulbils), which allow it to Expand quickly and take over whole forests in a single growing season Year. During the winter, air potato aerial stems wither away. However, underground tubers and bulbils are the source of resprouting. [34,35]

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Phytochemical Constituents</th>
<th>Class of Phytochemical</th>
<th>Part of the Plant</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diosgenin</td>
<td>Steroid</td>
<td>Corm, Bulb</td>
<td>Antidiabetic, Antibacterial</td>
</tr>
<tr>
<td>No.</td>
<td>Compound</td>
<td>Type</td>
<td>Source</td>
<td>Activities</td>
</tr>
<tr>
<td>-----</td>
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<td>------------------</td>
<td>--------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Dioscin</td>
<td>Steroid derivative</td>
<td>Rhizome</td>
<td>Hepatoprotective, Anti-obesity, Anti-tumor, Anti-fungal</td>
</tr>
<tr>
<td>3</td>
<td>Pennogenin</td>
<td>Steroid derivative</td>
<td>Rhizome</td>
<td>Antitumor, Antifungal</td>
</tr>
<tr>
<td>4</td>
<td>Stigmasterol</td>
<td>Steroid derivative</td>
<td>Tuber</td>
<td>Anti-Alzheimer’s</td>
</tr>
<tr>
<td>5</td>
<td>Daucosterol</td>
<td>Steroid</td>
<td>Rhizome</td>
<td>Anti-cancerous</td>
</tr>
<tr>
<td>6</td>
<td>Diosbulbin A, B, C</td>
<td>Naphthofurans</td>
<td>Tuber, stem, leaf</td>
<td>Emulsifier, Surfactant</td>
</tr>
<tr>
<td>7</td>
<td>Diosbulbin E, G</td>
<td>Naphthopyrans</td>
<td>Leaf, stem, rhizome</td>
<td>Emulsifier, Surfactant</td>
</tr>
<tr>
<td>8</td>
<td>Diosbulbin D</td>
<td>Carboxylic acids</td>
<td>Tuber, stem, leaf</td>
<td>Emulsifier, Surfactant</td>
</tr>
<tr>
<td>9</td>
<td>Diosbulbin F</td>
<td>Prenol lipid</td>
<td>Tuber, rhizome, leaf, stem</td>
<td>Emulsifier, Surfactant</td>
</tr>
<tr>
<td>10</td>
<td>Kaempferol-3,5-dimethylether</td>
<td>Flavonoid</td>
<td>Rhizome</td>
<td>Anti-tumorous</td>
</tr>
<tr>
<td>11</td>
<td>Kaempferol</td>
<td>Flavonoids</td>
<td>Rhizome</td>
<td>Anti-tumor</td>
</tr>
<tr>
<td>12</td>
<td>Caryatin</td>
<td>Flavonoids</td>
<td>Rhizome</td>
<td>Anti-tumorous</td>
</tr>
<tr>
<td>13</td>
<td>Myricetin</td>
<td>Flavonoids</td>
<td>Rhizome</td>
<td>Anti-tumorous</td>
</tr>
<tr>
<td>14</td>
<td>Hyperoside</td>
<td>Flavonoids</td>
<td>Rhizome</td>
<td>Anti-tumorous, Anti-inflammatory, Anti-oxidant, Anti-viral and Anti-fungal</td>
</tr>
<tr>
<td>15</td>
<td>Quercetin</td>
<td>Flavonoids</td>
<td>Tuber</td>
<td>Neuroprotective, Chemopreventive</td>
</tr>
<tr>
<td>16</td>
<td>Isorhamnetin</td>
<td>Flavonoids</td>
<td>Tuber</td>
<td>Anti-tumor, Anti-inflammatory</td>
</tr>
</tbody>
</table>
Table 1: Table showing phytochemical compounds present in Dioscoreabulbifera

<table>
<thead>
<tr>
<th>No.</th>
<th>Compound</th>
<th>Type</th>
<th>Origin</th>
<th>Medicinal Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Vanillic acid</td>
<td>Benzene derivatives</td>
<td>Rhizome</td>
<td>Anti-hypertension,</td>
</tr>
<tr>
<td>18</td>
<td>Protocatechuic acid</td>
<td>Benzene derivatives</td>
<td>Rhizome</td>
<td>Anti-cancerous, Cardioprotective</td>
</tr>
<tr>
<td>19</td>
<td>Palmitic acid</td>
<td>Fatty acid</td>
<td>Rhizome</td>
<td>Nutrition and Food</td>
</tr>
<tr>
<td>20</td>
<td>Bafoudiosbulbin</td>
<td>Diterpenoids</td>
<td>Tuber, bulbils</td>
<td>Anti-Salmonella</td>
</tr>
</tbody>
</table>

Dioscoreabulbifera’s phytochemical study reveals a varying degree of variation based on the plant’s topography, individual components, and extraction solvent [9]. As an example, in a research extraction using soluble ethyl acetic acid derivation a portion of the Chinese Dioscoreabulbifera 75% ethanol concentration has proven that flavanolaglycones are present, particularly Caryatin, 5-dimethyl ether, catechin, and kaempferol-3-[10] Diosgenin, a chemical substance which is basically an glyceine found in Dioscoreabulbifera and are utilized commercially in drug industry. Aside from diosgenin, dioscin, dioscorin, and different types of alkaloids are additionally found in Dioscoreabulbifera. Roots of the herb contains alkaloids, tannin, some phytosterols, and rich wellspring of starch. Other organic and inorganic substance found are beta-carotene, ascorbic corrosive, debris, nia-cin, protein, riboflavin, thiamine, highest level of sodium, calcium, magnesium, zinc. Some extra organic substances present are- potassium, aluminium, chromium, cobalt, iron, manganese, selenium, silicone.[2,10]

**Therapeutic potential of Dioscoreabulbifera**

*Figure 3. Medicinal uses of D. Bulbifera*
<table>
<thead>
<tr>
<th>Place</th>
<th>Medicinal uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>It is a prime staple medicinal-food substitute for the majority of rural and local people of the state of India. The rural and local people who use them as food supplements make them edible by different traditional practices. Tubers are mostly soaked overnight in water or left overnight in stream and subjected to successive boiling to remove the bitterness. Tubers are roasted, cooked as vegetable. Shushruta mentioned it as Rasayana. Tuber powder prescribed with honey and milk for anti aging effect and causes cell and tissue rejuvenation. It improves sperm and semen quantity and used for impotency and infertility, as Male/female reproductive tonic. It also improves voice, digestion, strength and immunity with balancing Kapha and Vata. Tubers are used in leprosy, asthma, cough, cold, tuberculosis, contraceptive, constipation, indigestion, abdominal pain, muscular pain, bone fracture, dysentery, sore throat, struma, wounds, boils, cuts, injury, carbuncle, tumour and also used as refrigerant to reduce body heat during summer. Tubers are also used for the treatment of purgative, deflatulent, aphrodisiac, rejuvenating and tonic anthelmintic, haemorrhoids, scrofula, worm infestations, general debility and polyuric. Fresh tuber decoction cures laryngitis in children, insect bite, ring worm, goitre, and fever. Root powder is used as component of local medicine for tuberculosis. It maintains kidney function. Also used in diseases of lungs, spleen, diarrhoea, improving digestion and metabolism. Bulbils cure typhoid of children.</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Tubers are used for treatment of leprosy and tumours</td>
</tr>
<tr>
<td>China</td>
<td>Tubers are used for sore throat, struma, dog bites, snake bites, food poisoning, hepatic fibrosis, gastric cancer and carcinoma of rectum, and goiter.</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Tubers are applied on cuts and sores as infusion</td>
</tr>
<tr>
<td>Java, Brazil</td>
<td>Tubers are used in dysentery, diarrhoea and syphilis</td>
</tr>
<tr>
<td>Latin America</td>
<td>Tubers are used treat diarrhoea, dysentery, conjunctivitis, fatigue and depression among other ailments.</td>
</tr>
<tr>
<td>Africa</td>
<td>Bulbils as hunting poison and tubers as fishing poison. External application as a medication for skin disease, boils and ulcers as well as lice and rheumatism.</td>
</tr>
<tr>
<td>Zaire</td>
<td>Apply a grilled leaf with little palm oil to an infected wound</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Tubers are used leaves for eye steam bath.</td>
</tr>
</tbody>
</table>
Table 2. Traditional uses

<table>
<thead>
<tr>
<th>Country</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congo</td>
<td>Plant juice is drunk as a medication for snakebite and suppuring eye inflammation.</td>
</tr>
<tr>
<td>Benin</td>
<td>The leaf juice is give orally in case of difficult birth.</td>
</tr>
<tr>
<td>Cameroon</td>
<td>Decoctions of pseudobulbs are used for hookworm and mawwarm and the scrapping of bulbils as a poultice for treatment of abscesses, boils and wound infections.</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Pulp of pounded bulbils for treatment of abscesses, boils and wound infections</td>
</tr>
</tbody>
</table>

Anti-cancerous activity

Scientists and researchers are finding that using steroidal chemicals to treat cancer is a compelling possibility; multiple active molecules have shown this effect. The native people in Dioscoreabulbifera is used in Northern Queensland’s Tully district. Mixture as a skin cancer treatment. In traditional Chinese, it’s also used. Drug therapy for cancer. The compounds’ anticancer properties On mouse epidermal cells, kaempferol, caryatin, myricetin, and quercetin Cell lines JB6 were reported. Diosgenin is also being researched for its anti-carcinogenic activity against cancers of different organs, which has led to the development of the molecule’s significance as a possible anticancer drug [9,7,18].

Anti-diabetic activity

Dioscoreabulbifera has traditionally been used to lower the Sugar levels in people suffering with diabetes [9]. Dioscoreabulbifera, which is widely used in Chinese and Indian conventional Healers for its anticancer, antioxidant, analgesic, and anti-inflammatory properties, was found to have anti-diabetic characteristics. In studies [12]. Numerous studies have demonstrated that sources of food that included the Diosgenin, such as fenugreek and yam rhizome, have anti-diabetic impacts in preclinical animals. Diosgenin Significantly reduced glucose concentration in stz-induced diabetic Rats when compared to certain other diabetic controls. The steroid Present in Dioscoreabulbifera leads to activation of key enzymes Involved in glucose metabolism, which is significantly changed by Diabetes [7,8]. Diabetes sufferers have long employed Dioscoreabulbifera to reduce their blood sugar levels [9]. Dioscoreabulbifera, commonly utilised in traditional Chinese and Indian medicine Healers for its anti-inflammatory, anti-cancer, and antioxidant properties.It was discovered to possess anti-diabetic effects. In research [12]. Several investigations have shown that sources Some foods like fenugreek and yam rhizome that contained the Diosgenin, when applied to preclinical animals, has anti-diabetic effects. Dimensin Much lower glucose levels in diabetic mice produced by stzRats in contrast to a few other diabetic reference cases. The hormone Found in Dioscoreabulbifera causes important enzymes to be activated Engaged in the metabolism of glucose, which is profoundly altered by Insulin [7,8].
Anti-inflammatory and analgesic activity

D. bulbifera is commonly used in China to treat inflammation linked to hernias, stress fractures, multiple injuries, displacement of “lumps,” and inflammatory disorders of the testicles [3]. Bulbil Dios Aterpenoid called B that comes from D. Bulbifera has also been demonstrated to have anti-inflammatory effects in severe and subacute inflammation that is both severe and acute [18]. The water extract of Dioscoreabulbifera bulbils in ous and methanol has analgesic actions that are so potent against chemical pain and discomfort and fortified by formalin or acetic acid against pressure-induced mechanical discomfort. These raw materials additionally produced notable anti-inflammatory effects in severe and acute inflammation brought on by formalin, histamine, carrageenan, and serotonin, as well as formalin-induced persistent oedema [19].

Antifungal and Antiviral activities

Figure 4.

Figure 5.
Plant extracts, in particular the phytochemical found in Dioscoreabulbifera, offer a fresh supply of bioactive compounds that may be utilised to create novel antifungal and antibacterial treatments. How effective Anethanolic peel extract from Dioscoreabulbifera with antiviral properties Was additionally created [20]. Its fluid concentration demonstrated superior While ethanol extraction was being observed, action was taken against Escherichia coli. Equally effective against Staphylococcus aureus and Candida albicans [9].

Contraceptive Properties
Diosgenin is utilised in the manufacture of sex hormones, cortisteroids, and contraceptive medications [24], as well as Dioscreine and Diosgenin is a key component in the synthesis of Medication for control.[25,26]

Cytotoxic Properties
There have been some reports of DB poisoning instances in patients in recent years. It has been observed that both in vivo and in vitro liver damage can result from prolonged usage of higher dosages of DB. Research. It’s been shown that database extracts have Possibility for hepatotoxicity.54 Nonclerodane Diosbulbin-D Diterpene) shows direct damage to hepatocytes. It is Increases the release of hepatic enzymes, including alanine Aspartate aminotransferase and aminotransferase These characteristics dictate diosbulbin’s harmful action. D. (27)

Dyslipidemic Properties
A metabolic disease known as dyslipidemia causes low levels of HDL and high levels of LDL and total cholesterol. Reducing the elevated cholesterol in the Serum HDL and LDL levels are crucial components of Diosmin. Diosgenin from Dioscoreabulbifera [28,29] Causes the breakdown of cholesterol without interfering The protein Neimann-Pick C1-Like 1 is a regulator of Absorption of cholesterol) of the intestine apical membrane of Absorbent intestinal cells. [30]

Antioxidant and Scavenging Properties

Because of the constant metabolic activities occurring in our bodies, free radicals are produced, which have a negative impact on proteins, cell membranes, and nucleic acids. And so forth. This damage is what causes ageing and cardiac Cancer and issues. [31] Antioxidants are therefore helpful in protecting us against a variety of serious illnesses. These free radicals can be decreased by antioxidant molecules by Processes for scavenging, reduction, and chelating. DB Contains an abundance of antioxidants (carotenoids, phenols, and Calcium, etc.). A. D.
Bholay [33]. Employed DPPH in [32] Test to determine the percentage of DB scavenging activity. Extract from various sections at varying concentrations.

**Immune system effects**

Mice’s immune responses were examined following oral administration of D. Bulbifera decoction (1000, 490, and 240 g/kg). For a period of fifteen days. Findings indicated that at high doses Group was able to considerably reduce the phagocytosis activity of Solitary nucleated macrophages. But the group receiving a medium dose Significantly increased natural killer cell activity, the B cell antibody production as well as the number and growth of T cells in the spleen. This study showed that elevated dosages Of D. Bulbifera may inhibit mics’ immunological system. Although immunological function may be enhanced by medium dosages [43] Polysaccharides from Dioscoreabulbifera (100 or 150 mg/kg) decreased CD4+/CD8+ ratio of the peripheral blood T-cell subpopulation, and Polysaccharides from Dioscoreabulbifera with cyclophosphamide Combination reduced the lifting effect of cyclophosphamide Ratio of CD4+/CD8+ [44].

**Thyroid gland effects**

It has been observed that D. Bulbifera is effective in treating subacute thyroiditis [47]. Another study found that thyroxine (T4) Concentration and the degree of triiodothyronine (T3) absorption dropped In sodium levothyroxine-treated Sprague-Dawley (SD) rats (160 lg/kg for five days) and D. Bulbifera extract (0.75 or 1.5 g/kg). According to the findings, D. Bulbifera reduced excess thyroid Hormone and accelerated metabolic rate, leading to enhancement [48]. Of the hyperthyroid condition.

**Antiviral Instance**

D. bulbifera alcohol extract (0.017–0.034 mg/ml) has been shown to block RNA transcription and destroy DNA viruses. Viral in studies involving direct or indirect inhibition. From various Portions of the D. Bulbifera ethanol extracts (butanol fraction, The inhibition of the ethyl acetate, acetone, and ether fractions Impact of ethyl acetate and butanol fraction on Coxackie B I–VI Virus was superior to the two other sections. Yet, their Herpes simplex virus affects I was almost the same. Upon Removing the virus, the cells can still proliferate and become Subcultured, suggesting that the substance is safe. And successful. However, the D. Bulbifera decoction exhibited no inhibiting Impact on diverse viral species [49].

**II. CONCLUSION**

In summary, Dioscoreabulbifera has long been employed in traditional medicine to treat a range of medical ailments. Sentiments across the globe. The enormous health advantages As said in this assessment, of Dioscoreabulbifera is a representation of its Vast potential for global restorative use. Several pharmaceutical Activities based on reasoning have shown that Dioscoreabulbifera Possesses global therapeutic potential [18]. As stated by the Results show that Dioscoreabulbifera has a wide range of phytochemicals. Or secondary metabolites such as diosgenin, saponin, and flavonoids, Dioscorin, quercetin, and other important components. Such Substances have a variety of effects, including as antidiabetic, an-Anti-inflammatory, antibacterial, anti-tumor, and many more (7) D. Bulbifera exhibits significant resistance to both pure α-glucosidase and swine pancreatic amylase as well as rough murine glucosidase. This could be beneficial therapeutically for the treatment of type-2 Diabetes and might be used as a potent herbal remedy in Combinatorial treatment, which can be investigated further. Statements [22]

**REFERENCES**


