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Awareness of medicinal applications of alternanthera sessilis among dental students

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ABSTRACT

Alternanthera sessilis is a yearly or perpetual prostate weed, found all through the more smoking piece of India, climbing to a height of 1200 m. The plant has been scientifically demonstrated to comprise of substance constituents like α-and β-spinasterols, lupeal disconnected from roots. The aim of the study was to assess the awareness of medicinal applications of Alternanthera sessilis among dental students. A cross-sectional study was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Alternanthera sessilis therapy in medical applications, their wound healing properties, anti glycemic applications, memory enhancement applications, anti-ulcer, diahorreal and anti-inflammatory activity. The responses were recorded and analysed. 91% of the respondents were not aware of medicinal applications of Alternanthera sessilis therapy. 85% were not aware of the wound healing properties of Alternanthera sessilis therapy. 87% were not aware of the anti glycaemic properties of Alternanthera sessilis therapy. 85% were not aware of memory enhancement properties of Alternanthera sessilis therapy. 89% were not aware of the anti-ulcer properties of Alternanthera sessilis therapy. 83% were not aware of ant diahorreal of Alternanthera sessilis therapy. 89% were not aware of the anti-inflammatory properties of Alternanthera sessilis therapy. The awareness about the use of Alternanthera sessilis therapy in medical applications is low among dental students. Increased awareness programs and sensitization and continuing dental education programs along with greater importance to the curricular modifications can further enhance knowledge and awareness about Alternanthera sessilis therapy.

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INTRODUCTION

Current utilisation of revitalizing plants and phytocompounds worldwide and our logical information on them involves the advanced field of the "phytosciences." The field is one of a kind among the biomedical sciences in that as opposed to testing a theory, in the phytosciences analysts attempt to decide if plants regularly utilized in customary medication brings benefits for well being and, assuming this is the case, what their systems of activity are.

In spite of the basic conviction that phytocompounds are sheltered, they all have natural dangers simply like manufactured mixes. Consequently, it

is inside the extent of the phytosciences to clarify symptoms, proper portions, distinguish bioactive phytocompounds and methods of extraction and protection. Other than these, legitimate viewpoints in regards to guideline of the remedy and business offer of therapeutic plants involve banter all around the globe (Dhawan and Rastogi, 2017).

Alternanthera sessilis is a yearly or enduring prostate weed in India, growing at an altitude of 1200 m (Harborne, 1987). The plant has been scientifically demonstrated to comprise of concoction constituents like α-and β-spinasterols, lupeal separated from roots (Kinghorn, 2004). Apart from the abovementioned, plant additionally contains stigmasterol β-sitosterol, etc. (Sinha *et al.*, 1986). The herb has been accounted for as chologague, galactagogue, abortifacient, and febrifuge. It is likewise supposed to be utilized in indigestion. The leaves are utilized in eye infections, treating wounds, antitoxin and skin diseases. Hence this study was done with aim to assess the awareness of medical applications of Alternanthera sessilis among dental students.

MATERIALS AND METHODS

A cross-sectional study was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Alternanthera sessilis therapy in medicinal applications, their wound healing properties, anti glycemic applications, memory enhancement applications, anti-ulcer, diahorreal and anti-inflammatory activity. The responses were recorded and analysed.

RESULTS AND DISCUSSION

91% of the respondents were not aware of medicinal applications of Alternanthera sessilis therapy (Figure 1). 85% were not aware of the wound healing properties of Alternanthera sessilis therapy (Figure 2). 87% were not aware of anti glycaemic properties of Alternanthera sessilis therapy (Figure 3). 85% were not aware of memory enhancement properties of Alternanthera sessilis therapy (Figure 4). 89% were not aware of anti-ulcer properties of Alternanthera sessilis therapy (Figure 5). 83% were not aware of ant diahorreal of Alternanthera sessilis therapy (Figure 6). 89% were not aware of the anti-inflammatory properties of Alternanthera sessilis therapy (Figure 7).

The wound curative attribute of Alternanthera sessilis is ascribed to the phyto compounds in the herb (Nayak *et al.*, 2007). Sterols are the evi-

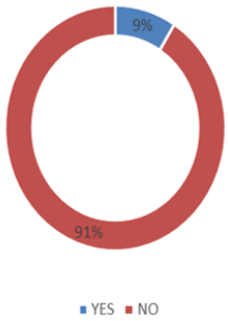

Figure 1: Awareness of Alternanthera sessilis therapy

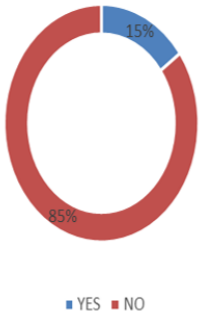

Figure 2: Awareness of wound healing properties of Alternanthera sessilis therapy

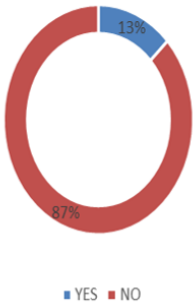

Figure 3: Awareness of anti glycaemic properties of Alternanthera sessilis therapy

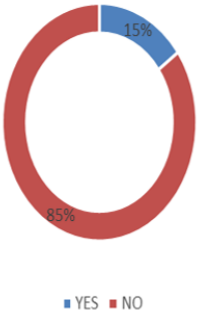

Figure 4: Awareness of memory enhanced properties of Alternanthera sessilis therapy

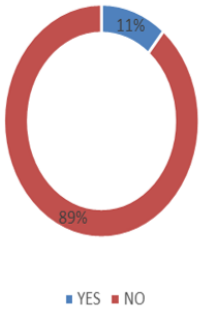

Figure 5: Awareness of anti-ulcer properties of Alternanthera sessilis therapy

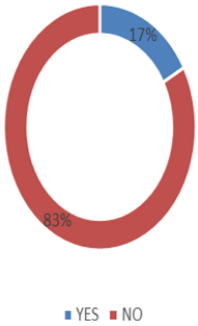

Figure 6: Awareness of anti diahorreal properties of Alternanthera sessilis therapy

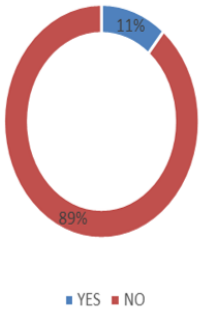

Figure 7: Awareness of anti-inflammatory properties of Alternanthera sessilis therapy

dentiary components of chloroform extract during phytochemical exam and sterols are responsible for wound curative activity (Jalalpure *et al.*, 2008). Sterols build collagen essence and level of collagen cross-link inside the wound advances cell division and the development of fibro-osseous tissues (Douglas, 2010).

Hostile to bacterial action and conceivable cytotoxicity as showed by brackish water shrimp lethality examine been accounted for A. sessilis (Abbiw, 1990). Ethyl acetic acid derivation division of A. sessilis Red has been accounted for to decrease glucose, triglyceride, and free unsaturated fat level when regulated to corpulent sort 2 diabetic rodents incited by high-fat eating regimen and streptozotocin (Tan and Kim, 2013). Hostile to the hypersensitive impact of ethanolic concentrate of the plant has additionally been depicted (Rayees *et al.*, 2013; Tan and Kim, 2013).

The watched non-opiate pain-relieving movement of AS can be because of its capacity to square prostaglandin union through restraint of lipooxygenase. Additionally, cyclooxygenase activates alkaloids, flavonoids, and tannins present for the pain-relieving impact.

Nitric oxide assumes a significant job in different inflammatory procedures; however, the overproduction of nitric oxide adds to different sicknesses. The harmfulness of NO increments incredibly when it responds with superoxide radical, framing the exceptionally receptive peroxynitrite anion 20. The plant removes rival oxygen to respond with NO along these lines repressing the arrangement of nitrite. Based on results got, it might be reasoned that Alternanthera sessilis demonstrated the intense radicals rummaging movement and metal particle chelating activity. The distinction in the cancer prevention agent action in various concentrate might be because of the diverse phytochemical constituents present at the various percentage (Lin *et al.*, 1994).

The nootropic impacts of the leaves of Alternanthera sessilis are observed. Methanol concentrates of leaves Alternanthera sessilis impact on obtaining, maintenance and recovery of spatial acknowledgement and memory. The higher portions evoked more prominent reactions mice models contemplated and were equivalent to that accomplished with the standard medication.

Lin *et al.* (1994) announced the hepatoprotective impacts of Alternanthera sessilis with the decrease in rising of serum glutamate oxaloacetic transaminase (SGOT) and glutamate pyruvic transaminase (SGPT) levels could be seen at 24 h after the organization of hepatotoxins. These serological perceptions were likewise affirmed by microscopic assessments and showed hepatic protection.

The hematinic action of Alternanthera sessilis was explored by observing the adjustment in serum ferritin and hemoglobin levels of mice. Guinea pigs were prompted of pallor after which various portions of test were directed orally for 14 days. The standard medication utilized as ferrous sulphate, as the positive control and water as the negative control. Aftereffects of the examination demonstrated a huge increment in serum ferritin and haemoglobin levels.

The invivo antiulcer movement of the chloroform insoluble ethanolic concentrate of entire plant of A. sessilis utilizing various models of ulceration in rodents, viz. pylorus ligature, headache medicine actuated and cold-restriction stress-initiated gastric injuries in rodents. Boundaries taken to evaluate antiulcer movement were volume of gastric discharge, pH, free causticity, complete acridity, ulcer list and % hindrance of gastric ulcers in pylorus ligature model. While in ibuprofen and cold safe pressure-actuated models, ulcer record and % restraint of gastric ulcers was resolved. Famotidine (20mg/kg) was utilized as a source of perspective medication and displayed noteworthy results (Jain *et al.*, 2016).

Anti-diabeticAnti-diabetic action of the herb Alternanthera sessilis exhibited that alcoholic and fluid concentrates demonstrated a critical decrease in blood glucose levels of STZ incited diabetic rodents and the action of both the concentrates was very noteworthy and empowering. The Anti-diabeticAnti-diabetic action of A. sessilis can be ascribed to the nearness triterpenoids, phytosterols and glycosides. The outcomes likewise further uncovered that the fluid concentrate is somewhat less compelling when contrasted and alcoholic concentrate.

Researchers uncovered the counter diarrhoeal development of the liquid concentrate of dried entire plant material of Alternanthera sessilis Linn. The diahorrea was impelled in mice by the association of 0.3 ml of castor oil, with the benchmark bunch tolerating water. The liquid concentrate of A. sessilis showed essential antidiarrhoeal activity against castor oil incited the runs in mice in light of its inhibitory effect both on gastrointestinal driving force and fluid secretion (Lohumi *et al.*, 2017).

The calming activity of ethanolic and watery concentrates of Alternanthera sessilis at doses of 200 and 400mg/kg body weight using carrageenan incited rat paw edema model was observed. It suggested that the arrangement of action of Alternanthera sessilis may be related to the prostaglandin amalgamation obstruction, as portrayed for the alleviating instrument of Indomethacin in the restriction of the ignitable methodology impelled by means of carrageenan. This seeing showed up and considered as used in therapeutics for rewarding inflammation (Lin *et al.*, 1994).

CONCLUSION

The awareness about the use of Alternanthera sessilis therapy in medicinal applications is low among dental students. Increased awareness programs and sensitization and continuing dental education programs along with greater importance to the curricular modifications can further enhance knowledge and awareness about Alternanthera sessilis therapy.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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