Awareness about Anti-microbial Applications of Ocimum sanctum Herb

Nithyanandham Masilamani, Dhanraj Ganapathy*
Department of Prosthodontics, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India

Article History:
Received on: 05 Jul 2020
Revised on: 05 Aug 2020
Accepted on: 13 Aug 2020

Keywords:
Awareness, Ocimum sanctum, dental students

ABSTRACT
Ocimum sanctum happens to be an aromatic shrub belonging to the basil family Lamiaceae. This herb has originated in central India and grown throughout the eastern part of the world. Ocimum sanctum is recommended as a treatment for a wide range of both infectious and non-infectious diseases. This survey was performed for assessing the awareness about antimicrobial applications of Ocimum sanctum herb. A cross-sectional study was done with a self-administered questionnaire with ten questions circulated among 100 dental students. The questionnaire assessed the awareness about Ocimum sanctum therapy in medical applications, their anti-microbial, anti-bacterial, anti-viral, anti-fungal, anti-parasitic and anti-ulcer activity. The responses were recorded and analysed. 83% of the respondents were not aware of antimicrobial applications of Ocimum sanctum therapy. 74% were not aware of anti-bacterial properties of Ocimum sanctum therapy. 85% were not aware of anti-fungal properties of Ocimum sanctum therapy. 69% were not aware of the anti-viral properties of Ocimum sanctum therapy. 73% were not aware of anti-parasitic activity Ocimum sanctum therapy. 76% were not aware of anti-ulcer activity of Ocimum sanctum. The awareness about the use of Ocimum sanctum therapy in antimicrobial 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 Ocimum sanctum therapy.

*Corresponding Author
Name: Dhanraj Ganapathy
Phone: 9841504523

ISSN: 0975-7538
DOI: https://doi.org/10.26452/ijrps.v11iSPL3.3013
Production and Hosted by Pharmascope.org © 2020 | All rights reserved.

INTRODUCTION
Ocimum sanctum happens to be an aromatic shrub belonging to the basil family Lamiaceae. This herb has originated in central India and grown throughout the eastern part of the world. Ocimum sanctum is recommended as a treatment for a wide range of both infectious and non-infectious diseases. In Ayurveda, it is revered as an “elixir of life” for both its therapeutic and spiritual properties. (Bast et al., 2014; Rani and Bast, 2019)

Ocimum sanctum is attributed with offering brilliance to the appearance, pleasantness to the voice and encouraging excellence, insight, endurance and a quiet, passionate mien. Notwithstanding these wellbeing advancing properties, Ocimum sanctum is suggested as a management for a scope of conditions including tension, hack, asthma, loose bowels, fever, diarrhea, joint pain, eye ailments, otalgia, acid reflux, hiccup, retching, gastric, heart and genitourinary issue, back torment, skin sicknesses, ringworm, snake and scorpion sting and malaria. (Mahanjan et al., 2013)

Ocimum sanctum has one of a unique mix of phar-
macological activities that advance prosperity and strength. As a herb that encourages with the adjustment to stretch and the advancement of homeostasis, isn’t generally utilized in Western medication, Western science has uncovered that Ocimum sanctum does to be sure have numerous pharmacological activities that satisfy this reason.

The medicinal properties of Ocimum sanctum have been concentrated in many logical investigations including in vitro, creature and human examinations. These examinations uncover that Ocimum sanctum has a special blend of activities that include: Antimicrobial, mosquito repellent, hostile to diarrheal, against oxidant, hostile to the waterfall, mitigating, chemopreventive, radioprotective, hepato-defensive, neuro-defensive, cardio-defensive, hostile to diabetic, against hypercholesterolemia, against hypertensive, hostile to cancer-causing, pain-relieving, against pyretic, hostile to unfavourably susceptible, immunomodulatory, focal sensory system depressant, memory upgrade, against asthmatic, hostile to tussive, diaphoretic, against the thyroid, against richness, against ulcer, against emetic, against fitful, against joint, adaptogenic, hostile to push, hostile to waterfall, against leukodermal and against coagulant activities. (verma et al., 2016; Pattanayak et al., 2010) These pharmacological activities help the body and brain adapt to a wide scope of compound, physical, irresistible and passionate anxieties and reestablish physiological and mental capacity. This survey was performed for assessing the awareness about anti-microbial applications of Ocimum sanctum herb.

MATERIALS AND METHODS

A cross-sectional survey was done with a self-administered questionnaire with ten questions circulated among 100 dental students. The questionnaire assessed the awareness about Ocimum sanctum therapy in medical applications, their antimicrobial properties, antibacterial properties. Antiviral activity, antifungal activity, antiparasitic activity and anti-ulcer activity. The responses were recorded and analysed.

RESULTS

83% of the respondents were not aware of antimicrobial applications of Ocimum sanctum therapy (Figure 1). 74% were not aware of anti-bacterial properties of Ocimum sanctum therapy (Figure 2). 85% were not aware of anti-fungal properties of Ocimum sanctum therapy (Figure 3). 69% were not aware of the anti-viral properties of Ocimum sanctum therapy (Figure 4). 73% were not aware of anti-parasitic activity Ocimum sanctum therapy (Figure 5). 76% were not aware of anti-ulcer activity of Ocimum sanctum. (Figure 6).

DISCUSSION

Present day investigations have uncovered that Ocimum sanctum possesses antiviral anti-bacterial, and as anti-parasitic movement that incorporates action unfavourable to numerous pathogens liable for human illness. Ocimum sanctum has
additionally been postulated to support guards against infections by upgrading resistant reactions in humans. While no human preliminaries have been apportioned, there is substantial proof that Ocimum sanctum may aid in the management of various human bacterial infectious pathosis involving the urinary tract, skin and wound contaminations, typhoid, cholera, resistant tuberculosis, gonorrhea, skin ulcers, herpes simplex, leishmaniasis, various pneumonias and parasitic diseases, dengue, jungle fever and filariasis. (Mediratta et al., 2002; Singh et al., 1996)

Ocimum sanctum has additionally been demonstrated to be dynamic against numerous creature pathogens, and this has prompted Ocimum sanctum being utilized in creature raising to decrease diseases in bovines, birds, sheep, fish and silkworms. Ocimum sanctum’s action against water and foodborne pathogens further recommend that it very well may be utilized in the safeguarding of food and for water purification and also as hand sanitizer. (Kumar et al., 2013)

Ocimum sanctum’s broad-spectrum function, which incorporates action against Streptococcus mutans, pathogen liable for tooth decay, further recommends that it very well may be utilized as a mouth wash for controlling awful halitosis, gum disease and mouth ulcers. This has been affirmed in clinical preliminaries that have shown that flushing with Ocimum sanctum is as successful as 0.2% Chlorhexidine and as well as Listerine in lessening the levels of Streptococcus mutans and that mouthwash that incorporates Ocimum sanctum is preferred for its taste and convenience. (Agarwal and Nagesh, 2011; Ahmed et al., 2017; Kumar et al., 2013)

Ocimum sanctum’s interesting blend of antibacterial, anti-inflammatory, analgesics and antioxidant activity, additionally makes it helpful in wound mending. This is bolstered by exploratory proof that has demonstrated that Ocimum sanctum effectuates wound healing. Ocimum sanctum has anti-ulcer and ulcer-recuperating action that has been seen in a wide range of animal models. This anti-ulcer action is attributed to different mechanisms including the repression of hostile factors, for example, corrosive pepsin emission and lipid peroxidation and the melioration of much discharge and life span of the alimentary mucosal cells. (Goel et al., 2010; Sharma et al., 2011)

CONCLUSIONS

Awareness about the usage of Ocimum sanctum therapy in antimicrobial 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 Ocimum sanctum therapy.

Conflict of interest

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

Funding support

The authors declare that they have no funding support for this study.
REFERENCES

Agarwal, P., Nagesh, L. 2011. Comparative evaluation of efficacy of 0.2% Chlorhexidine, Listerine and Tulsi extract mouth rinses on salivary Streptococcus mutans count of high school children—RCT. *Contemporary Clinical Trials*, 32(6):802–808.

Ahmed, S., Reddy, V. S., Sudhir, K., Kumar, R., Srinivasulu, G. 2017. Effect of tulsi extract and honey mouthrinses on salivary Streptococcus mutans count in comparison with 0.2% of chlorhexidine: A randomized controlled trial. *Journal of Indian Association of Public Health Dentistry*, 15(4):306–306.

Bast, F., Rani, P., Meena, D. 2014. Chloroplast DNA Phylogeography of Holy Basil (Ocimum tenuiflorum) in Indian Subcontinent. *The Scientific World Journal*, 2014:1–6.

Goel, A., Singh, D. K., Kumar, S., Bhatia, A. K. 2010. Immunomodulating property of Ocimum sanctum by regulating the IL-2 production and its mRNA expression using rat’s splenocytes. *Asian Pacific Journal of Tropical Medicine*, 3(1):8–12.

Kumar, A., Dubey, N. K., Srivastava, S. 2013. Antifungal evaluation of Ocimum sanctum essential oil against fungal deterioration of raw materials of Rauvolfia serpentina during storage. *Industrial Crops and Products*, 45:30–35.

Mahajan, N., Rawal, S., Verma, M., Poddar, M., Alok, S. 2013. A phytopharmacological overview on Ocimum species with special emphasis on Ocimum sanctum. *Biomedicine & Preventive Nutrition*, 3(2):185–192.

Mediratta, P. K., Sharma, K. K., Singh, S. 2002. Evaluation of immunomodulatory potential of Ocimum sanctum seed oil and its possible mechanism of action. *Journal of Ethnopharmacology*, 80(1):19–26.

Pattanayak, P., Behera, P., Das, D., Panda, S. 2010. Ocimum sanctum Linn. A reservoir plant for therapeutic applications: An overview. *Pharmacognosy Reviews*, 4(7):95–95.

Rani, P., Bast, F. 2019. First Report of Ulva sapora (Ulvales, Chlorophyta) from Indian Subcontinent. *International Journal of Plant and Environment*, 5(01).

Sharma, R., Kumar, B. V. 2011. Isolation characterization and antioxidant potential of endophytic fungi of Ocimum sanctum Linn. (Lamiaceae). *Indian Journal of Applied Research*, 3(7):5–10.

Singh, S., Majumdar, D. K., Rehan, H. M. S. 1996. Evaluation of anti-inflammatory potential of fixed oil of Ocimum sanctum (Holybasil) and its possible mechanism of action. *Journal of Ethnopharmacology*, 54(1):19–26.

verma, A., Pragya, S., Singh, V. N. 2016. Reversible Anti-Fertility Effects of Aqueous Leaf Extract of Ocimum Sanctum (Linn.) in Male Mice. *International Journal of Life-Sciences Scientific Research*, 2(4).