

AWARENESS OF MEDICINAL APPLICATIONS OF PIPER NIGRUM AMONG DENTAL STUDENTS

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Abstract

Black pepper includes the many commonly used ingredients upon this planet, remarkable for some of its potent component piperine. White pepper is made with closely related species, while black pepper is prepared by fast processing and wind drying of underripe natural products, white pepper is made from dried, regular and ready-mixed seeds. Piperine has been the conventional biologically active conjugate of Piper nigrum and Piper longum, having been taken into consideration for therapeutic effects. The purpose of this survey was for assessing the awareness of medicinal applications of Piper nigrum amongst dental students. A cross sectional survey was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Piper nigrum therapy in medical applications, their immunomodulatory properties, anti pyretic properties, anti spasmodic activity, anti inflammatory activity, and its mechanism of action and side effects. The responses were recorded and analysed. 16% of the respondents were aware of the medical applications of Piper nigrum therapy. 11% were aware of the anti immunomodulatory activity of Piper nigrum therapy. 9% were aware of anti pyretic properties of Piper nigrum therapy. 13% were aware of anti spasmodic properties of Piper nigrum therapy. 10% were aware of anti inflammatory properties of Piper nigrum therapy. 6% were aware mechanism of action and side effects of Piper nigrum therapy. The awareness about the use of Piper nigrum 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 Piper nigrum therapy.

Keywords: Awareness, Piper nigrum, dental students

Introduction

Black pepper includes the many commonly used ingredients upon this planet, remarkable for some of its potent component piperine. White pepper is made with closely related species, while black pepper is prepared by fast processing and wind drying of underripe natural products, white pepper is made from dried, regular and ready-mixed seeds. (Dyer & Palmer, 2004) Piperine has been the conventional biologically active conjugate of Piper

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nigrum and Piper longum, having been taken into consideration for therapeutic effects for having immune modulating, anti-cancer, antiasthmatic, hepatoprotective, anti-inflammatory , antimicrobial , and anti-ulcer activities .(Bai & Xu, 2000; Darshan & Doreswamy, 2004)

It also has antioxidant and biotransformation effects and has been shown to improve the absorption of drugs such as rifampicin, sulphadiazine, tetracycline and phenytoin. In the ancient asian clinical setting of Ayurveda, both kinds of peppers were used to control diabetes and to stimulate the CNS, such as antispasmodics, tonics related to the stomach, haematopurifiers, and antipyretics. Pepper is known for some popular formulations designed to boost the potency of other bioactive mixtures, such as vasicine and curcumin. .(Lee et al., 2001; Yang et al., 2002)The purpose of this survey was for assessing the awareness of medicinal applications of Piper nigrum amongst dental students.

Materials and method

A cross sectional survey was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Piper nigrumtherapy in medical applications ,their immunomodulatory properties, anti pyretic properties,.anti spasmodic activity,anti inflammatory activity, and its mechanism of action and side effects. The responses were recorded and analysed.

Results

16% of the respondents were aware of the medical applications of Piper nigrum therapy (Fig 1).11 % were aware of the anti immunomodulatory activity of Piper nigrum therapy (Fig 2).9 % were aware of anti pyretic properties of Piper nigrum therapy (Fig 3).13 % were aware of anti spasmodic properties of Piper nigrum therapy (Fig 4), 10 % were aware of anti inflammatory properties of Piper nigrum therapy (Fig 5), 6 % were aware mechanism of action and side effects of Piper nigrum therapy (Fig 6).

Fig 1: Awareness of medical applications of Piper nigrum

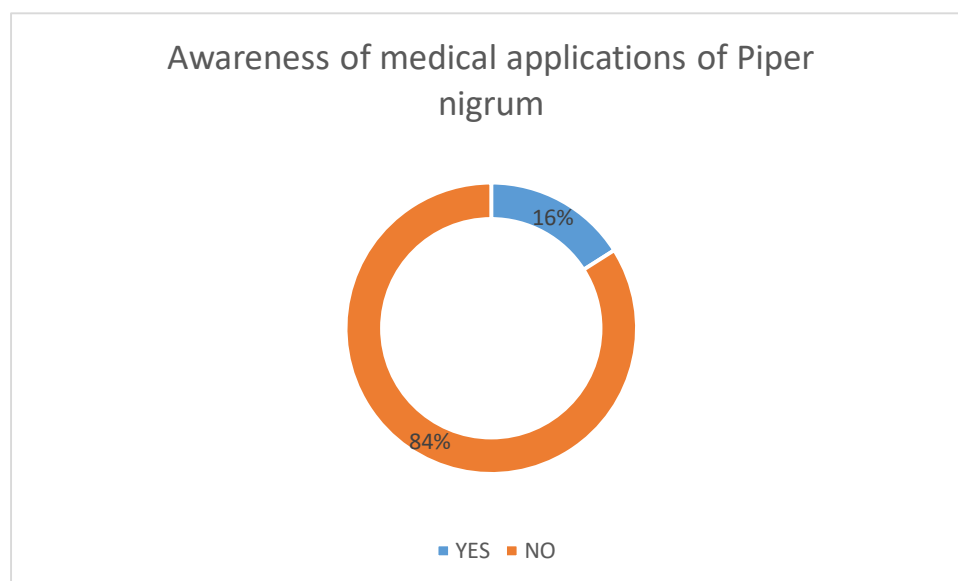


Fig 2: Awareness of immunomodulatory properties of Piper nigrum

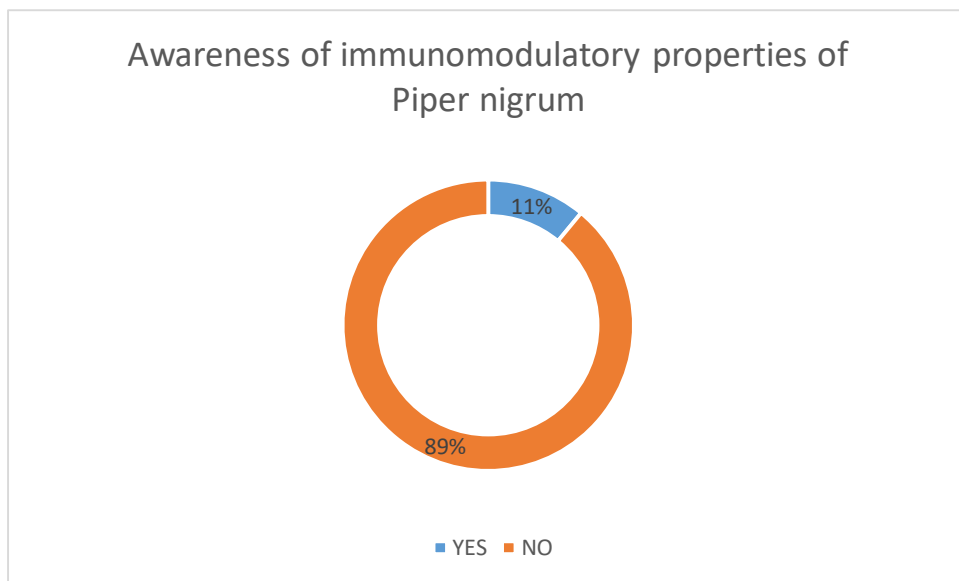


Fig 3: Awareness of anti pyretic properties of Piper nigrum

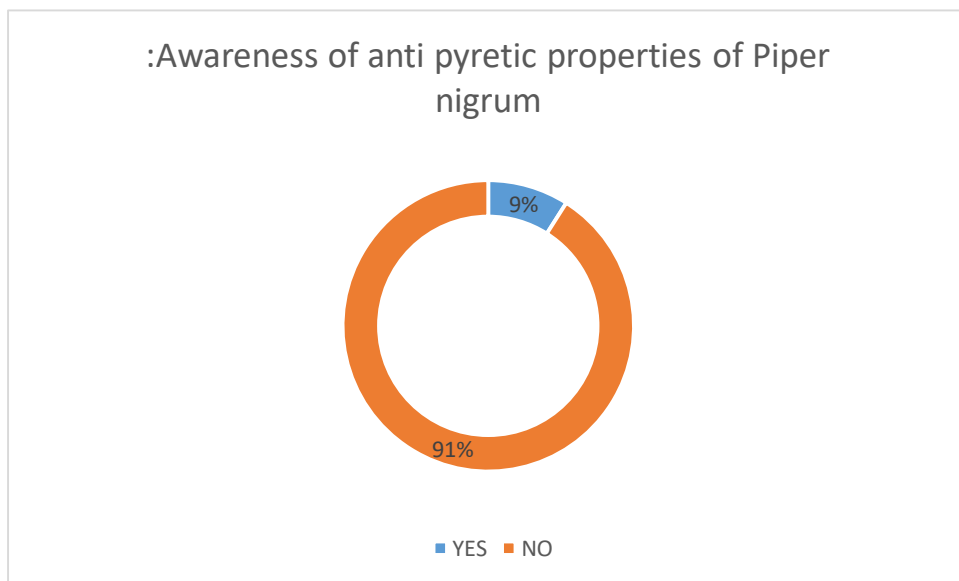


Fig 4: Awareness of anti spasmodic properties of Piper nigrum

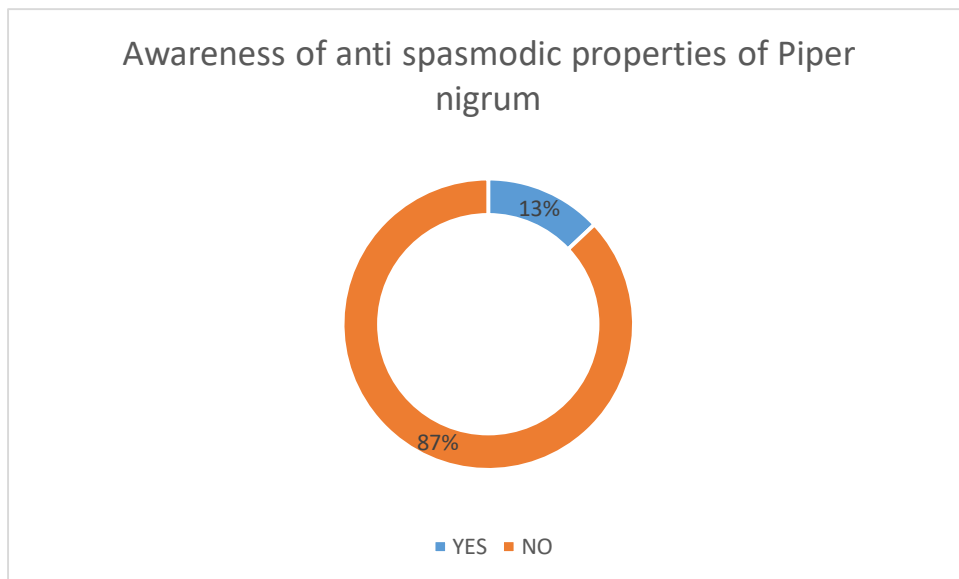


Fig 5: Awareness of anti inflammatory properties of Piper nigrum

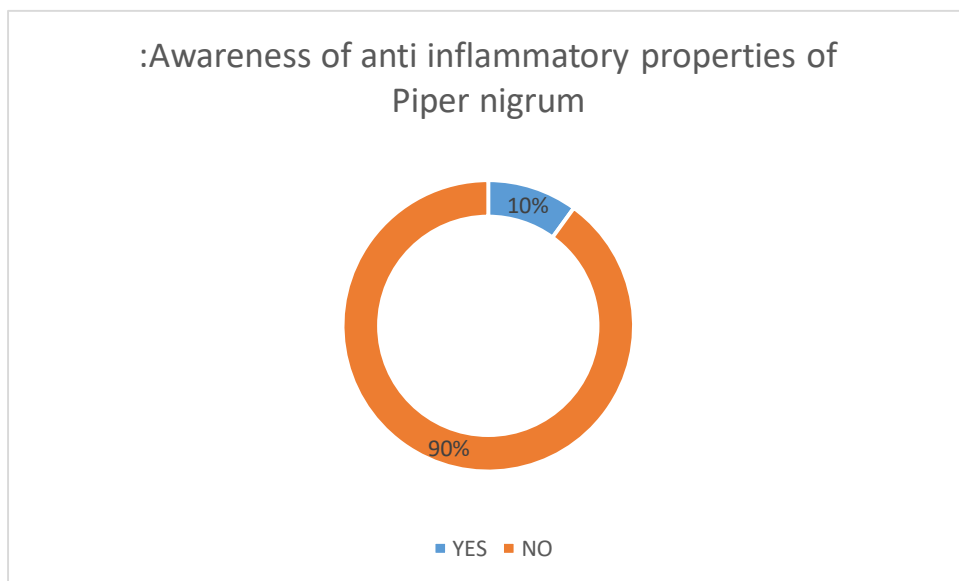
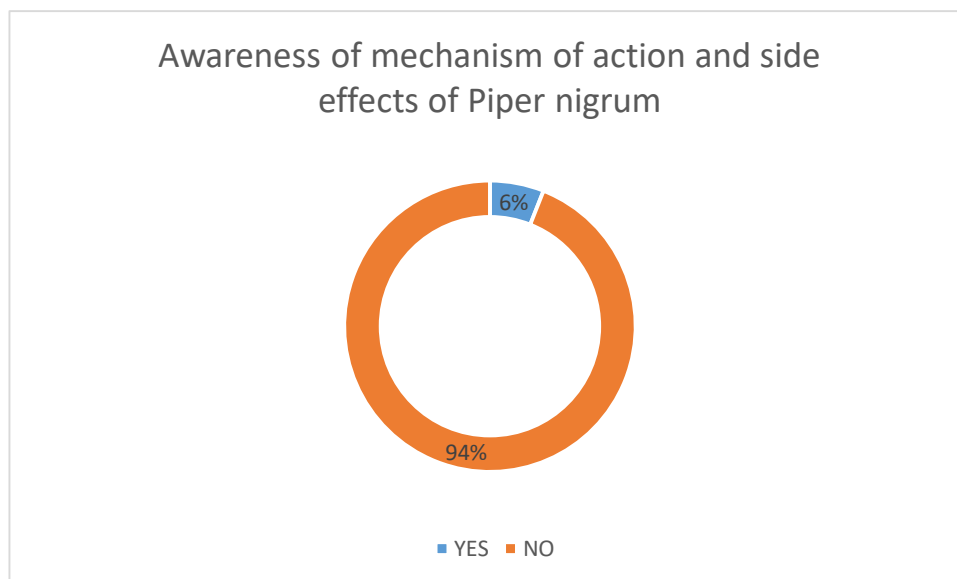


Fig 6: Awareness of mechanism of action and side effects of Piper nigrum



Discussion

Pepper is a loaded source of various organically dynamic constituents, monoterpenes, sesquiterpenes, and other unpredictable mixes. The different wellbeing gainful utilizations and uses of *P. nigrum* have been perceived by testing on cell, creature, and human subjects. They have numerous potential restorative applications as immune modulator, energizers, hepatoprotective agent, anti-inflammatory agent, anti-oxidant, antiamebic, anti-cancer-causing, anti-ulcer, antibacterial, antifungal, antihyperlipidemic, and antiasthmatic. They additionally found to have upgraded bioavailability of food, drug, anti-cancer-causing agent, and phytochemical just as to advance effects on drug-utilizing catalysts. They biotransform the metabolite and lessen food development and ingestion time and furthermore do lipid digestion speeding up and lipid peroxidation. (Meghwal & Goswami, 2013; Reddy et al., 2004)

Current science has indicated the atomic reason for the pharmacological attribute of black pepper against human infections, and some clinical preliminaries have shown the security and viability of pepper in human subject. Piperine is the major impactful alkaloid existing in *P. nigrum* L., along with chavicine, its stereoisomer, which is gradually changed to piperine on capacity, prompting a misfortune in sharpness. (Srinivasan, 2007) Pepper and its resin are valued fixings in prepared nourishments as they have helpful seasoning properties and forestall microbial defilement and biodeterioration. Gas chromatography (GC)- mass spectrometry and refining extraction investigation of *P. nigrum* indicated that vinyl mixes are the most predominant volatiles present in pepper. (Jagella & Grosch, 1999)

Customary utilizations *P. nigrum* is utilized in the treatment of help with discomfort, chills, ailment, influenza, strong hurts, colds, weariness, fevers, nerve soother, to build dissemination of blood, increment the progression of salivation, animate hunger, and to support peristalsis. (Tucker, 2001) Black pepper along with ginger, are elements of 'Trikatu', a significant old Ayurvedic recipe despite everything utilized for stomach related purposes. (Chen et al., 2011; Lianzhong et al., 1998)

The impact long pepper are for the most part because of the nearness of piperine, a diuretic,carminative,sialagogue, anti-asthmaticand energizer. It additionally has a wide range antimicrobial action (Jin et al., 2009). Remotely, the oil is utilized as anti-rheumatic,rubefacient and lozenges for sore throat. A portion of these utilizations have been bolstered by exploratory outcomes, however present day research is currently progressively focussed on the utilization of pepper as medicaments and anti-oxidants for the avoidance of degenerative issue and as bioaccessibility enhancer for different home grown drugs.(Jin et al., 2009; Sarnaizul et al., 2013)

Conclusion

The awareness about the use of Piper nigrum 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 Piper nigrum therapy.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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