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Awareness of Medicinal Applications of Rice Bran Oil among Dental Students

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ABSTRACT

In the process of polishing rice, a specific vegetable oil high in antioxidant is generated first from the outermost surface of rice designated Rice Bran Oil (RBO). Experiments across the world have verified the antilipidemic activity owing to the presence of special nutritional supplement in this oil recognized as oryzanol or tocotrienols. Raw rice bran product is usually made up of glycerides phospho and glycolipids as well as free fatty acids. The purpose of this survey was for assessing the awareness of medicinal applications of Rice bran oil among dental students. A cross-sectional study was performed with a self-administered questionnaire with 10 queries circulated among 100 dental students. The questionnaire assessed the awareness about Rice bran oil therapy in medical applications, their anti lipidemia properties, antioxidant applications, hormone regulation applications and immune enhancement activity. The responses were recorded, and analysed. 94% of the respondents were not aware of medicinal applications of Rice bran oil therapy. 87% were not aware of anti lipidemia properties of Rice bran oil therapy. 85% were not aware of the antioxidant properties of Rice bran oil therapy. 84% were not aware of hormone regulation properties of Rice bran oil therapy. 89% were not aware of immune enhancements properties of Rice bran oil therapy. The awareness about the use of Rice bran oil 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 Rice bran oil therapy.

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INTRODUCTION

In the process of polishing rice, a specific vegetable oil high in antioxidant is generated first from the outermost surface of rice designated Rice Bran Oil (RBO). An Experiments across the world have verified the antilipidemic activity owing to the presence of special nutritional supplement in this oil recognized as oryzanol or tocotrienols. Raw rice bran product is usually made up of glycerides phospho and glycolipids as well as free fatty acids, free unsaturated fats and waxes are likewise present in less amount (Hussain and Singh, 2015; Prabhakar and Venkatesh, 1986). RBO is broadly utilized as premium consumable oil in the greater part of the Asian

nations (Hu *et al.*, 1996; Nayik *et al.*, 2015; Saunders, 1985).

RBO is a great source of vitamins, especially bioactive compounds oryzanols, tocopherols and tocotrienols, that also contribute to larger oxidative reliability as well as a lengthier time period of broad utilization than most other digestible oils. Even though implied by current investigations, the oxidative safety of RBO is 2.5-multiple times higher than those of groundnut oil. RBO is also a suitable high in good monounsaturated cholesterol, and it has been successful in reducing LDL by 7-10 percent (Weststrate and Meijer, 1998). The high smoking point (213C) prevents a monosaturated fat breakdown at elevated temperatures that keep its cancer prevention agent stable. Rice Bran Oil also contains a special phytocompound called oryzanol.

Oryzanol is recognized because of its cholesterol-decreasing properties by rising bile outflow (Ha *et al.*, 2005). This also helps to minimize triglycerides and increases the proportion of high cholesterol to moderate cholesterol (HDL / LDL) which again is important for the well-being of the heart (Rukmini, 1988). Rice Bran Oil has an appropriate unsaturated fat account as proposed by the World Health Organization (WHO). American heart affiliation's (AHA), the National Institute of Nutrition (NIN) and the Indian Council of Medical Research (ICMR) Gamma-oryzanol, tocotrienol, tocopherol, squalene and various phytosterols in rice bran oil also have high anti-free radical potential anticancer agents. Experiments have shown that gamma oryzanol is often more persuasive than tocopherols in mitochondrial oxidation (Rukmini, 1987). The purpose of this survey was for assessing the awareness of medicinal applications of Rice bran oil among dental students.

MATERIALS AND METHODS

A cross-sectional study was performed with a self-administered questionnaire with 10 queries circulated among 100 dental students. The questionnaire assessed the awareness about Rice bran oil therapy in medical applications, their anti lipidemia properties, antioxidant applications, hormone regulation applications and immune enhancement activity. The responses were recorded and analysed.

RESULTS AND DISCUSSION

94% of the respondents were not aware of medicinal applications of Rice bran oil therapy (Figure 1). 87% were not aware of anti lipidemia properties of Rice bran oil therapy (Figure 2). 85% were not aware of antioxidant properties of Rice bran oil therapy (Figure 3). 84% were not aware of hormone regulation properties of Rice bran oil therapy (Figure 4). 89% were not aware of immune enhancements properties of Rice bran oil therapy (Figure 5).

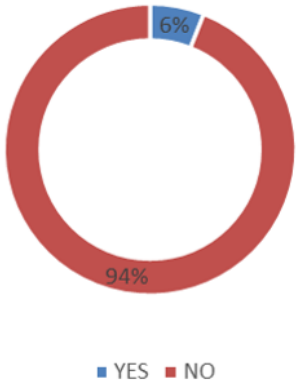

Figure 1: Awareness on medicinal applications of Rice bran therapy

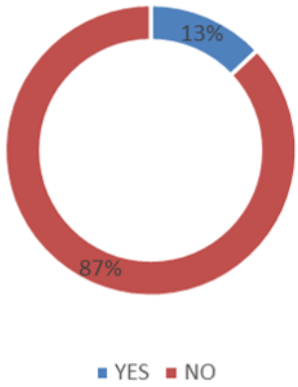

Figure 2: Awareness of anti lipidaemic properties of Rice bran therapy

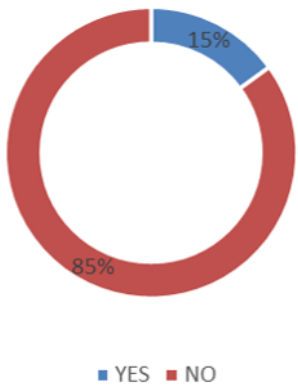

Figure 3: Awareness of antioxidant properties of Rice bran therapy

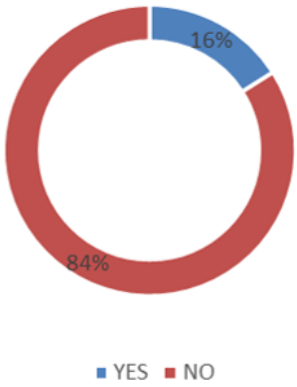

Figure 4: Awareness on hormone enhancement properties of Rice bran therapy

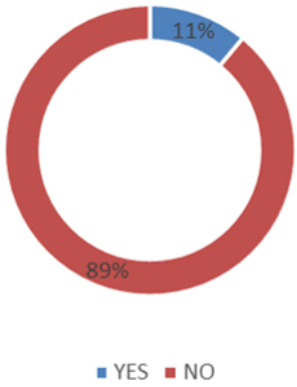

Figure 5: Awareness of immune enhancement properties of Rice bran therapy

Rice bran oil fills in as a significant practical food and has numerous wellbeing benefit. The nearness of squalene along with tocotrienols in rice bran oil aids in skin mellowing and skin fix. The RBO additionally ensures against hurtful UV beams, thus are utilized in sunscreens. Upgrades the resistant framework Being a rich wellspring of gamma-oryzanol and different phytosterols, RBO has ended up being powerful in improving insusceptible framework action, consequently shielding the body from illness. RBO is utilized in sports supplements for weight lifters and competitors for muscle advancement. Forestalls malignancy The high cancer prevention agent movement of RBO is because of the nearness of gamma oryzanol with ferulic corrosive like structure (Ha *et al.*, 2005). Oryzanol controls the malignant growth causing free radicals along these lines diminishing disease hazard.

Vitamin E occurring in RBO helps improve the neurological functioning and balance of hormone production. In hypothyroid states, gamma oryzanol has been shown to be wonderful in the reduction of thyroid-stimulating hormone (TSH). Gamma oryzanol also has been active in the reduction of menopausal symptoms problems in women.

Despite the fact that RBO is novel consumable oil with various medical advantages, yet it has a significant burden which can exceed its advantages. The nonappearance of omega-3-unsaturated fats is the main serious issue worried about RBO. In spite of the fact that RBO lessens cholesterol level yet the nearness of high abundance of omega-6-unsaturated fats could be impeding to health (Ali and Devarajan, 2017; Ha *et al.*, 2005; Tsuji *et al.*, 2000).

High utilization of omega-6-unsaturated fats may increase both breast malignancy and prostate disease. Rice bran itself may be intense in arsenic, and this is another amount of concern that requires further investigation. Similarly, there are scarcely any interactions of RBO, such as nausea, toothing, stomach discomfort. RBO has also been shown to reduce blood calcium throughout the body, that is a well-being problem for patients with hypocalcemia (Singanusong and Garba, 2019; Wang, 2019)

CONCLUSION

The awareness about the usage of Rice bran oil 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 Rice bran oil 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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