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Awareness on hyperthyroidism among dental students

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ABSTRACT

Thyroid disease is a global health issue and is amongst the most common endocrine disorders prevalent worldwide. The prevalence rate of thyroid diseases depends on the geographical location, age group, ethnicity, and most importantly, the iodine intake of the population Dentists should be aware of its oral manifestations prior to starting treatment. Hence there is a need to understand and bring about awareness regarding hyperthyroidism. To assess awareness on hyperthyroidism among dental students. An online survey with pretested and validated questionnaire consisting of 10 questions testing awareness of hyperthyroidism was circulated among 100 undergraduate dental students. The Questions regarding adverse effects and clinical tests and symptoms of hyperthyroidism and its awareness were included in the survey. Data was collected, analysed and tabulated. 83% consider TSH, T3 and T4 to be important in the diagnosis of hyperthyroidism. 33% of the volunteers were aware of TSH levels in hyperthyroidism. 50% felt hypothyroidism is evenly distributed between both genders. 17% consider osteoporosis of the jaws to be the major oral manifestation. It is found from this study that there is acceptable knowledge on hyperthyroidism amongst dental students however, there is need to increase the recognition and management of the condition. Dental treatment modifications may become necessary for patients who are under medical management for thyroid disorder and follow-up for a thyroid condition even though there are no direct life threatening condition.

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INTRODUCTION

Thyroid disease is a global health issue that is impacting the well-being of many (Taylor *et al.*, 2018). Thyroid diseases are amongst the most common endocrine disorders prevalent worldwide. According to reviews from various studies on thyroid disease, it has been approximated at about 42 million people in India suffering from thyroid diseases (Vanderpump *et al.*, 1995). The prevalence rate of thyroid diseases depends on the geographical location, age group, ethnicity, and most importantly, the iodine intake of the population (Tunbridge *et al.*, 1977). Thyroid disease can be broadly classified into two types hyperthyroidism and hypothyroidism. Both the mentioned conditions are a threat to human well being. Hypothyroidism is the more common type of thyroid dysfunction. It is defined as a failure of the thyroid gland to produce sufficient thyroid hormone to meet the metabolic demands of the body. It may be congenital or acquired, primary or secondary, chronic or transient. However, in this study, we focus on hyperthyroidism. As men-

tioned earlier hyperthyroidism is not as common as hypothyroidism and thus the importance to evaluate the current understanding in hyperthyroidism becomes necessary (Dutta *et al.*, 2008).

Hyperthyroidism is some of the time alluded to as thyrotoxicosis. It is described by hypermetabolism and rise of free thyroid hormones in the serum. There is expansion of the thyroid organ much of the time and exophthalmos (protruding eyes). The commonness of hyperthyroidism in network based examinations has been assessed at 2 percent for ladies and 0. 2 percent for men. Around 15 % of the instances of hyperthyroidism happen in patients more established than 60 years. which appears there is an expansion in chance with increment in age (Rangappa *et al.*, 2015)

More established patients frequently present with a scarcity of great signs and manifestations, which can make the conclusion more difficult (Srivastava *et al.*, 2014). Thyroid storm is an uncommon introduction of hyperthyroidism and is viewed as a crisis condition that may happen after a distressing disease in a patient with untreated or undertreated hyperthyroidism and is described by daze, serious tachycardia, fever, regurgitating, loose bowels, and dehydration (Mansourghanaie *et al.*, 2018).

In this investigation we center around the consciousness of hyperthyroidism among dental students. As dental specialists, we ought to know about the oral indications of these patients before beginning treatment of thyroid patients. This mindfulness is significant for two fundamental reasons: the dental specialist is in close contact with the patients and can analyze the beginning stage of the ailment or even undiscovered patients. Besides, and progressively significant it can forestall expected inconvenience during the treatment of such patients. Oral indications in thyroid patients are one approach to perceive undiscovered patients. Signs, for example, lichen planus, dry mouth, periodontal ailment and so forth is a marker of this condition and its chance (Rodríguez *et al.*, 2014; Solanki, 2014). The communication of the dental specialist and endocrinologist is fundamental and convenient follow up of such patients helps in the control of the potential intricacies during dental treatment (Klein, 1990; Vlad *et al.*, 2016).

When all is said in done hyperthyroidism isn't as basic of the two thyroid issue and consequently its mindfulness and acknowledgement may end up being moving attributable to the numerous undiscovered cases. This demonstrates the need to comprehend this condition and realize mindfulness with respect to hyperthyroidism. This study was done with the aim to assess the awareness on hyperthyroidism among dental students.

MATERIALS AND METHODS

Sample size of the respondents were 100 dental students. No bias was done in choosing volunteers for this study. Method: This is a questionnaire based study. An online survey website was used to distribute the survey. Pretested and validated questionnaire consisted of 10 questions testing awareness on hyperthyroidism amongst dental students.

The Questions regarding recognition of the condition, adverse effects and prevalence rate were included in the survey. Data was collected, analysed and tabulated. Before any positive impact has to be brought about, the current situation has to be assessed in order to visualise the severity of the problem, hence this study is aimed at determining the Awareness of dental students in relation to hyperthyroidism.

RESULTS AND DISCUSSION

This study was done to assess the current understanding of hyperthyroidism in a dental setup. It is important to be able to recognize the symptoms of hyperthyroidism as a number of people go undiagnosed with the condition and the complication if present is difficult to handle. This study looked at various aspects of hyperthyroidism mainly its prevalence, recognition, emergency condition and practices during treatment.

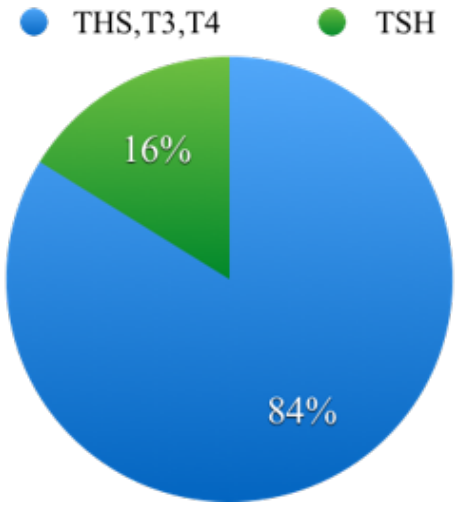

Chart 1: Chart shows the test for diagnosis of hyperthyroidism as perceived by dental students

The responses have been collected and analyzed.

From Chart 1, it can be understood that a majority of the students 83% consider TSH, T3 and T4 to

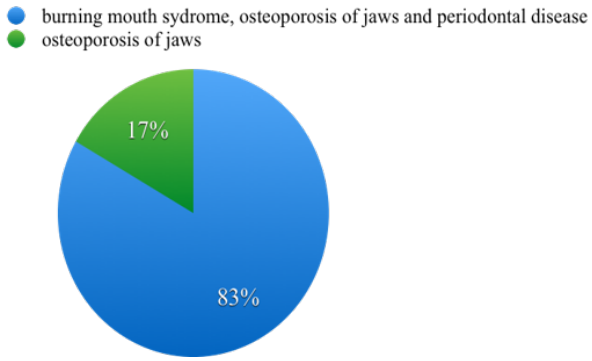

Chart 2: Chart shows the oral manifestations caused by hyperthyroidism as perceived by dental students

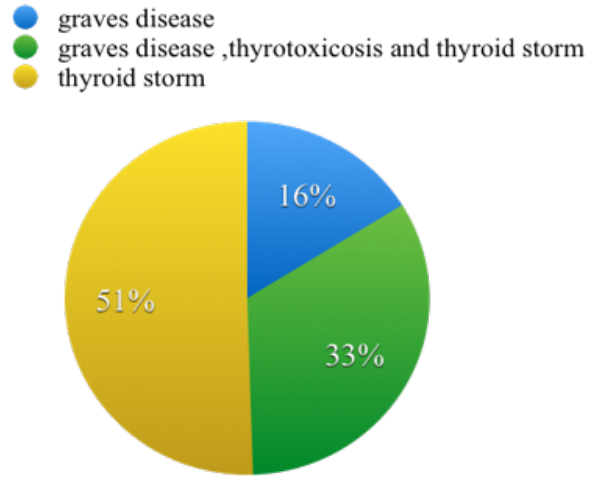

Chart 3: Chart shows the emergency condition caused by hyperthyroidism as perceived by dental students

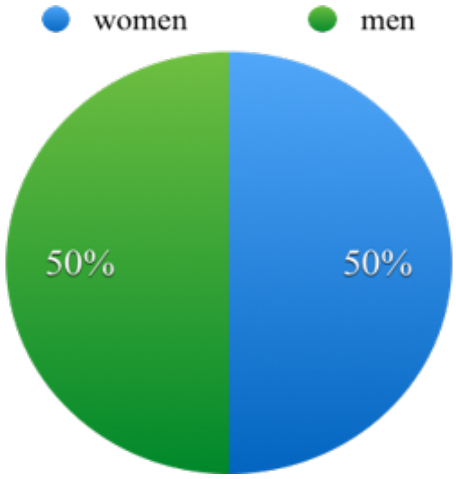

Chart 4: Chart shows the distribution of hyperthyroidism as perceived by dental students, which is 50% men and 50% women

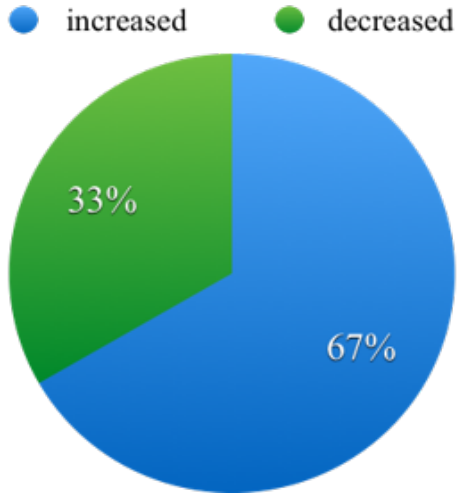

Chart 5: graph showing the percentage of TSH levels in hyperthyroidism as perceive by dental students

be important in the diagnosis of hyperthyroidism. Although this is true to the most part, TSH alone can also be used as an indicator. As mentioned earlier in the study hyperthyroidism is not as common as hypothyroidism and thus its awareness is effected, and difficulty in its diagnosis persists amongst the dental community, dentists may come across hyperthyroid patients who are not aware of the condition themselves and thus dentists can play a major role in helping patients get diagnosed and manage their condition by referring them to a specialist.

Thyroid storm is when there is excessive amounts of thyroid hormone in the body leading to severe complications. Although not ideal a good percentage of dentìst are aware of the emergency complication and awareness is necessary amongst the dental students community. Lastly looking at the oral complications of hyperthyroidism a significant majority 83. 3% consider osteoporosis of the jaws, burning mouth syndrome and periodontal disease to be among the major complications of hyperthyroidism which is correct, however a minority of 17% consider osteoporosis of the jaws to be the major oral manifestation Chart 2, this shows the need for awareness of the relationship between thyroid disorder and periodontal disease which is significant.

Volunteers were asked about the emergency complication that can occur in hyperthyroid patients, majority of them 50% answered correctly, Thyroid storm as shown in Chart 3.

Hyperthyroidism is more common in women as established by various studies, however half the volunteers of this study consider men to be more affected with this condition as shown in Chart 4. As a dentist, it is important we know to recognize this

condition in order to prevent its complications that could be induced by us as health care workers.

Hyperthyroidism is when there are too many thyroid hormones in the body causing an imbalance thus leading to the complications. To counteract this imbalance the pituitary gland reduces the production of TSH in order to contain the production of T3 and T4. Thus hyperthyroid patients often present with low levels of TSH. The Chart 5 shows that only 33% of the volunteers were aware of this.

This study shows that there is acceptable knowledge on hyperthyroidism amongst dental students however there is need to increase the recognition and management of the condition.

Dental treatment modifications may become necessary for patients who are under medical management for thyroid disorder and follow-up for a thyroid condition even though there are no direct life threatening condition. Stress reduction is necessary as hyperthyroid patients are often highly anxious, awareness of drug side effects or interactions, and a keen eye for presence of signs or symptoms of hormone toxicity are among the responsibilities of the oral health care provider (Rodríguez *et al.*, 2014; Srivastava *et al.*, 2014). Whenever dental care is being provided to a patient with thyroid imbalance, the aim is to have therapeutic strategies which are compatible with the patient's physical and emotional ability to avoid any complications during the dental treatment procedures being planned in the dental office.

CONCLUSION

It is found from this study that there is acceptable knowledge on hyperthyroidism amongst dental students however there is need to increase the recognition and management of the condition. Dental treatment modifications may become necessary for patients who are under medical management for thyroid disorder and follow-up for a thyroid condition even though there are no direct life threatening condition.

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Conflict of Interest

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

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