St. Ann's college for women

DEPARTMENT OF NUTRITION

A Study of Prevalence on Hypothyroidism And It's Awareness Among College Going Girls

Project submitted by
M. Avani & Hajera Samreen
under the guidance of

Mrs. Meena Kumari (HOD – Nutrition).

Contributors:

Abeer, Wafa, Sheryl, Sara Maliha, Avani, Amina, Hajera

Sayyeeda Sadiya, Madiha

A study of prevalence on hypothyroidism and its awareness among college going girls – A case study

Abstract:

According to a recent Thyroid Epidemiological (EPI) Study [1] conducted across eight urban cities in India, one in 10 adults in India are affected by hypothyroidism and women are three times more likely to be affected than men.. They are generally prone to develop hypothyroidism during puberty, first menstruation, pregnancy, within first six months after giving birth and during menopause[5.] Taking this factor into consideration, a study has been carried out among the students of St. Ann's college for women in Hyderabad

Introduction and Review

The thyroid gland, or simply the thyroid is an endocrine gland in the neck, consisting of two lobes connected by an isthmus. It is found at the front of the neck, below the Adam's apple. The thyroid gland secretes thyroid hormones, which primarily influence the metabolic rate and protein synthesis. The hormones also have many other effects including those on development. The thyroid hormones triiodothyronine (T3) and thyroxine (T4) are created from iodine and tyrosine. The thyroid also produces the hormone calcitonin, which plays a role in calcium homeostasis.[1]

Hormonal output from the thyroid is regulated by thyroid-stimulating hormone (TSH) secreted from the anterior pituitary gland, which itself is regulated by thyrotropin-releasing hormone (TRH) produced by the hypothalamus.[2] The thyroid may be affected by several diseases. Hyperthyroidism occurs when the gland produces excessive amounts of thyroid hormones, the most common cause being Graves' disease — an autoimmune disorder. In contrast, hypothyroidism is a state of insufficient thyroid hormone production. Worldwide, the most common cause is iodine deficiency. Thyroid hormones are important for development, and hypothyroidism secondary to iodine deficiency remains the leading cause of preventable intellectual disability.[3] In iodine-sufficient regions, the most common cause of hypothyroidism is Hashimoto's thyroiditis—also an autoimmune disease. In addition, the thyroid gland may also develop several types of nodules and cancer. Thyroid disorders are most popular disorders observed among the women in India. The prevalence of hypo thyroidism[1] is the most common type of thyroid disfunction[2] in the world and it is ranging from 4-5 % in developed world. Thyroid disorders continue to be common but most under-diagonised and neglected chronic health conditions[4]. Women are generally prone to develop hypothyroidism during puberty, first mensuration, Pregnancy within first six months after giving birth and during menopause . Taking that factor into consideration, a study has been carried out among the students of St. Ann's college for women. The thyroid weighs 25 grams

in adults,[4] with each lobe being about 5 cm long, 3 cm wide and 2 cm thick, and the isthmus about 1.25 cm in height and width.[4] The gland is usually larger in women, and increases in size in pregnancy.[4][5]

Objectives , Materials and Methods:

A cross sectional study has been carried among the students of St. Ann's College for Women, Mehdipatnam in twin cities of Hyderabad using a random sampling technique. Written consent forms were taken from the students.

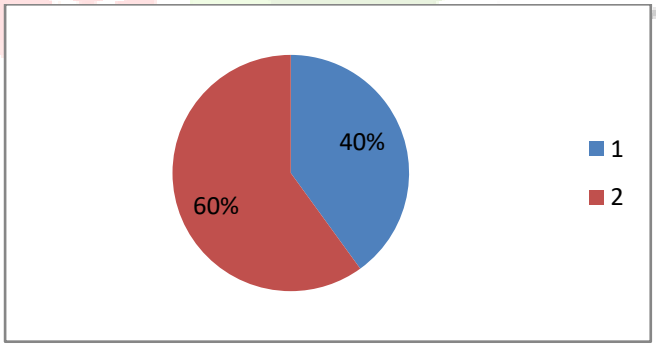
A semi structured questionnaire was used to collect information on social-demographics, thyroid disorder knowledge and health literacy. The study was conducted during 2015-16.

The data collected were analysed and data was presented in different types of graphs.

Results:

I. Regarding testing of thyroid

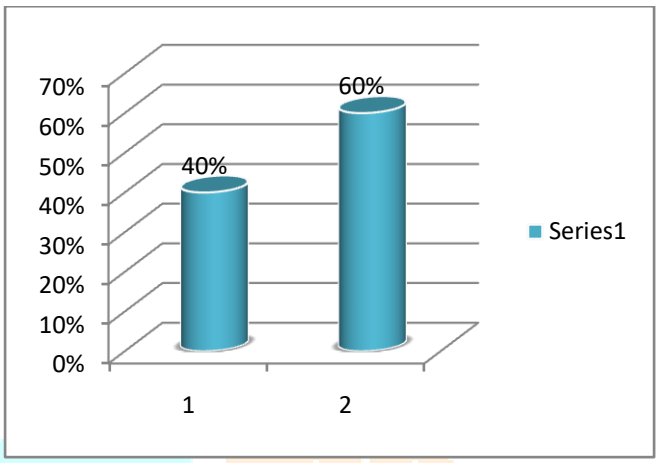
1. Family history of Thyroid yes/No



From the survey conducted in St. Ann's college for women 40%.of sampled population have thyroid history and 60% do not have thyroid family history. From this study we cannot conclude that these adolescents do not have thyroid problem. This survey helps only to understand the relationship between family history and physical examination. Many researchers suggested(6-7) that mere physical examination are not sensitive or specific for thyroid disease diagnosis but these can

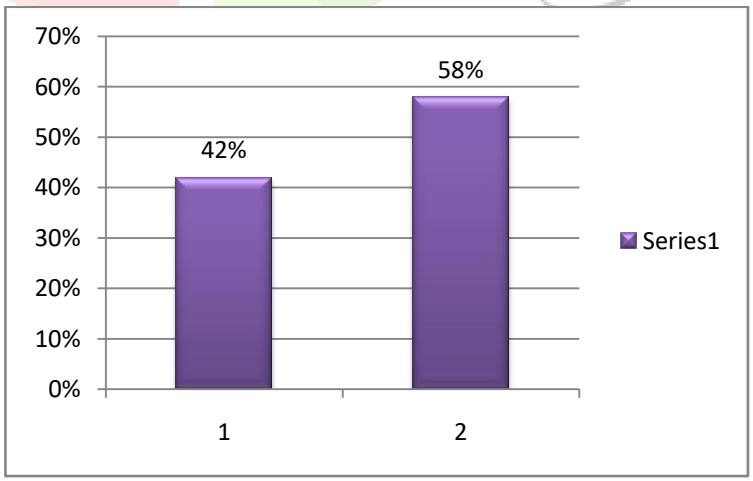
be analysed in different perspective when you are analysing risk groups about aged 50 years or women facing infertility problem or women facing infertility problem.

2. Knowledge about facing thyroid Yes/No.



The survey showed that 40% of the people had knowledge about facing thyroid and the rest are unaware about thyroid.

3. Family history Opt1 as diabetes anemia opt2: rheumatoid arthiritis.

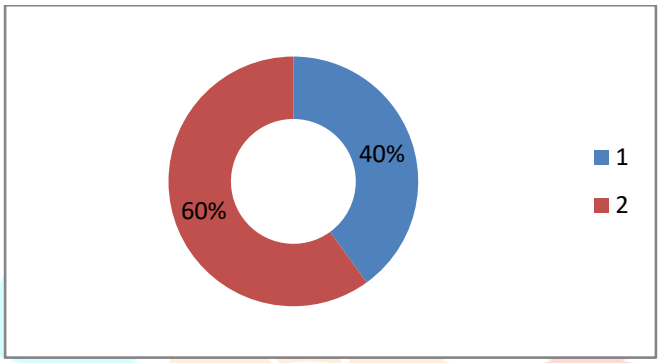


The survey showed that 42% of students' family were facing diabetes, anaemia or rheumatoid arthritis. So it shows that there are chances of family people who have diabetes anaemia or rheumatoid arthritis may get thyroid. Their children also have

chances of getting thyroid. 58% of the people are healthy without diabetes, anaemia or rheumatoid arthritis.

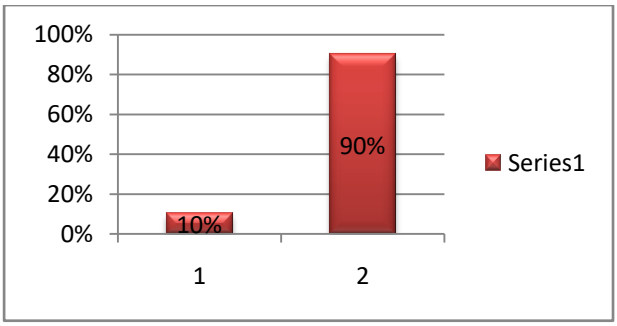
II. Knowledge about Thyroid

1. Unexpected weight gain/ or difficult in losing weight



The survey shows that 42%are suffering from unexpected weight gain and 58 % are unable to lose their weight. Thyroid hormones regulate the cell that use energy and regulates the metabolism. It regulates calorie consumption and weight gain is observed only in hypothyroid people. In some cases it may be in border line but the clinical help is needed as they will prescribe supplements such as Selenium to regulate metabolism and give a meal plan to control the hypothyroidism. The clinical tests like, TSH is a sensitive marker for assessing thyroid deficiency.(7)

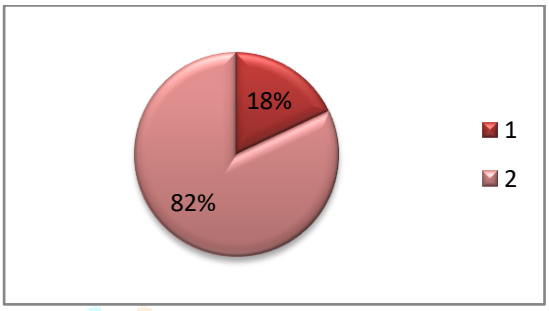
2. Enlarged gland/under ADAMS apple/hoarseness



From the survey 10% have enlarged gland /adams apple/hoarseness/sensitive lump and 90% people do not face it. This is quite big number. This disease progresses slowly over many years and it may get un noticed. The Larynak is made of two lobes

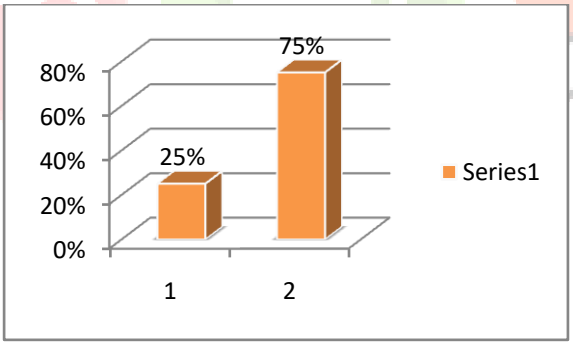
and produces hormones and it becomes sluggish and un reactive. This large goite interferes with breathing and swallowing.

3. Rough pale skin



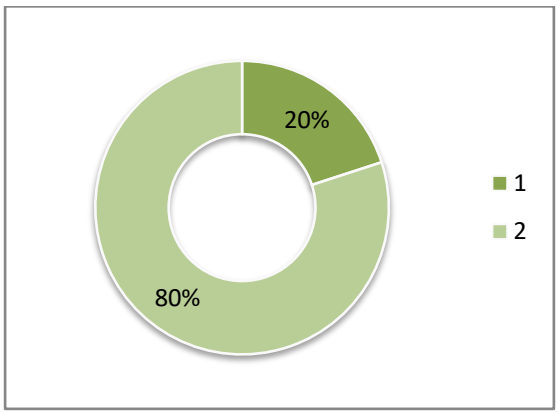
Thyroid hormone is an important regulator of epidermal homeostasis. The skin is rough and coarse with fine scales and extensor extremities. T3 has shown to stimulate growth of epidermal kerotinocyetes and dermal fibroblasts. From survey it is found that a small percentage of sample are suffering from the pale and rough skin problem.

4. Course dry hair



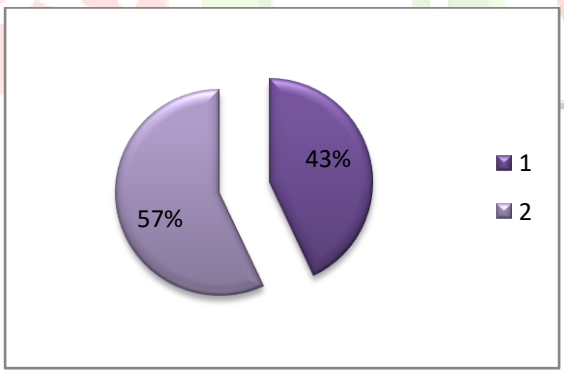
The survey shows that 24% sample is having coarse dry hair problem which may be related to other health problems may not be due to Thyroid problems . But it is seen that it is a symptom of thyroid.

5. Constipation



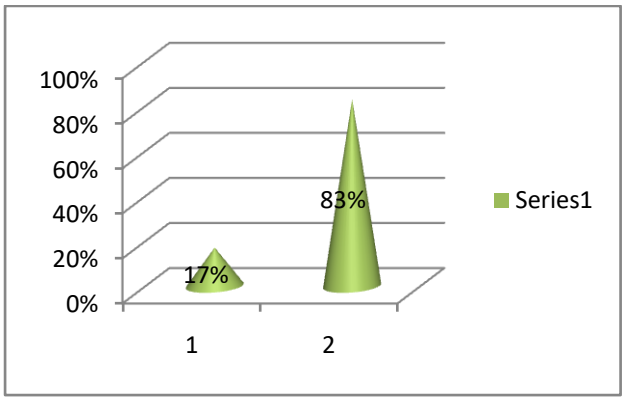
20% only suffer from constipation and maybe due to hypothyroidism or other health problems. Constipation is one of the important sign of hypothyroidism. Many of the body's functions slow down due to hypothyroidism. Hypothyroidism slows the action of the digestive tract that causes constipation. The hyperthyroidism weakens contraction of muscles of diagnostic tract of small and large intestine causing the stool to pass slowly.

6. Fatigue or tired



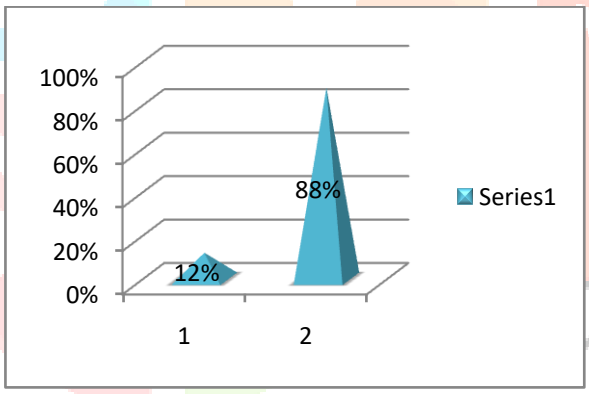
Above 40% shows the symptoms of fatigue /tired at very young age. Thyroid fatigue is different from other types of fatigue. When women are suffering due to thyroid fatigue some more enquires has to made. Generally the hypothyroid patients gets tired during the time of exercise and they avoid exercise. They get tired in afternoons and heads will become heavy during the afternoons. They fall asleep as they sit for few minutes.

7. Cold intolerable



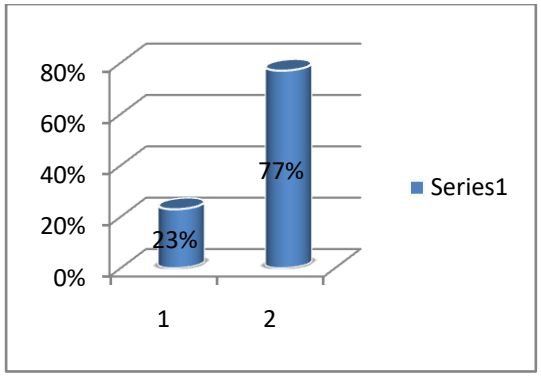
15% suffer due to hyperthyroidism. Cold weather is intolerable in the thyroid suffering people. As very few are suffering it may not be taken as symptom of thyroid.

8. Pain in eyes/swelling/Protrusion of eyes



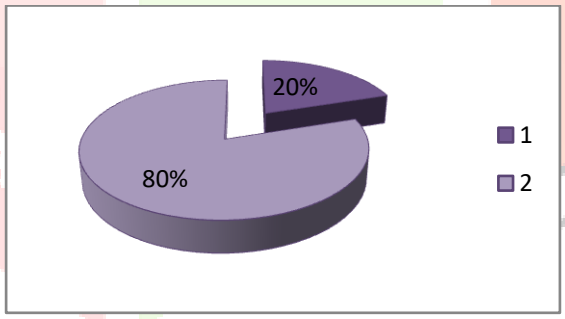
11% only suffer due to eye problems which need not be correlated with hyperthyroidism.

9. Irregular or heavy menstrual problems



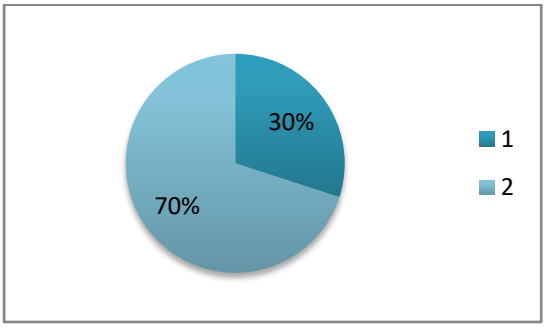
Irregular and heavy menstrual problems are observed in only few people. In younger women it is difficult to conceive because of the problems due to ovulation. It is one of the symptoms of thyroid. But it is to be considered that whoever is facing irregular or heavy menstrual cycles may or may not have thyroid.

10. Mentally sluggish/unfocused/forgetful:



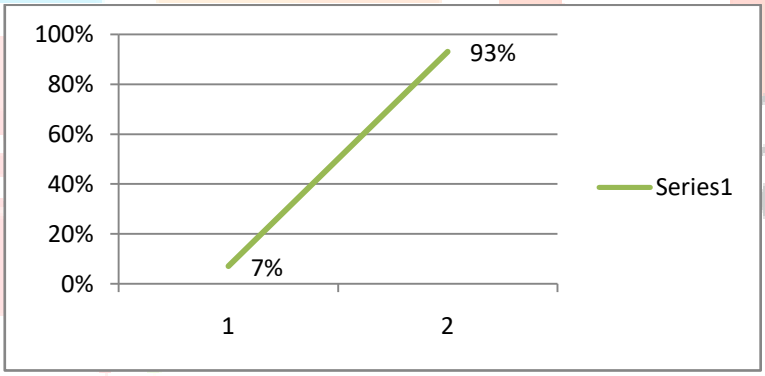
The survey shows that 20% people of the sample are suffering from mental sluggishness which may not be related to thyroidism. It is just a symptom of thyroid.

11. Feel utterly exhausted by evening and still have difficulty in sleeping



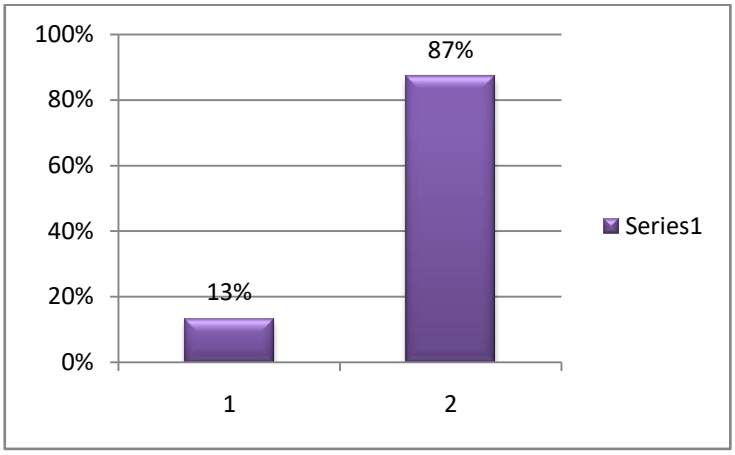
The survey shows that 30% of people feel utterly exhausted by evening but still have difficulty in sleeping. It may be one of the causes for thyroid. It is also seen that the person is restless and irritated.

12.Pain whiplash or neck injuries



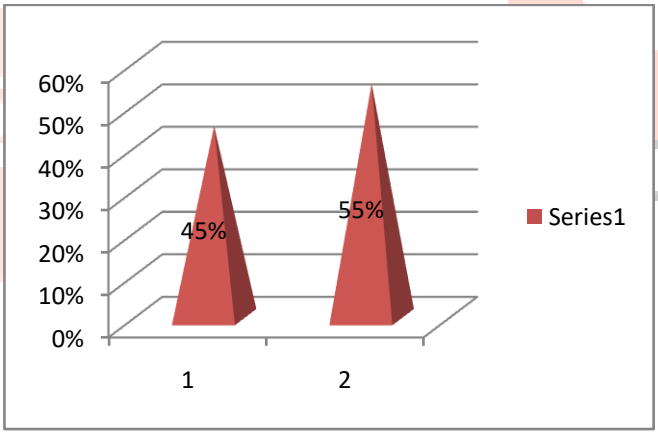
According to survey done it is seen that 7% of the students have pain whiplash or neck injuries. But it is to be considered as a symptom. These all may not be facing thyroid.

13.Pain stiffness/swelling in joints/or muscle cramp



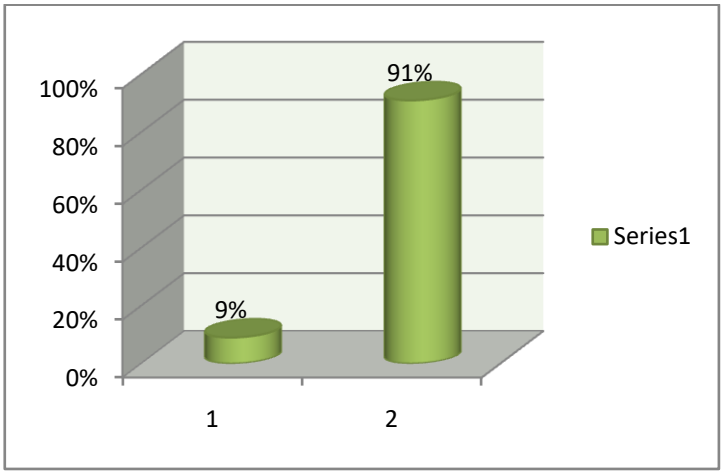
As 10% of the sample are suffering from the pain /stiffness and muscle cramps it may not related to thyroid problems.

14.Headaches/migraines



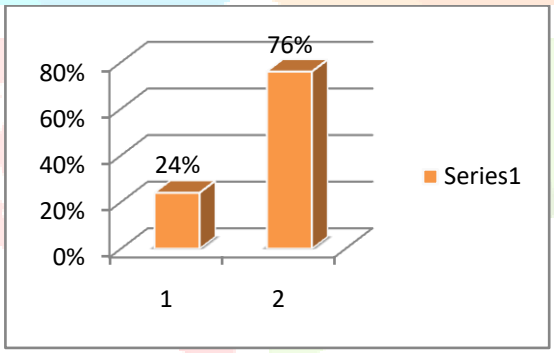
Above 48% are suffering from the headaches/migraines it has to be correlated to hyperthyroidism and it has to be checked. It is seen that headache and migrane are one of the main symptoms of thyroid. So people facing it should have a continuous check to prevent thyroid.

15.Elevated blood cholesterol levels



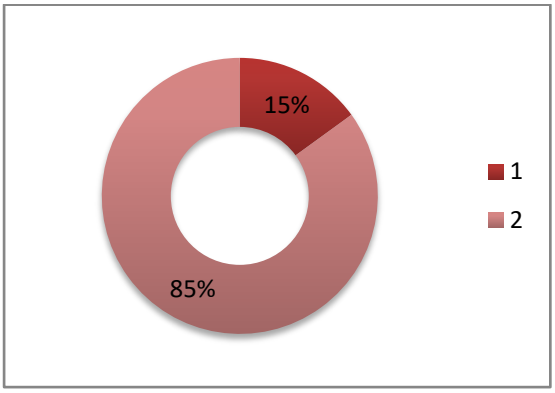
9% of sample has the problem of cholesterol and so it can also be negligible.

16.Facing depression



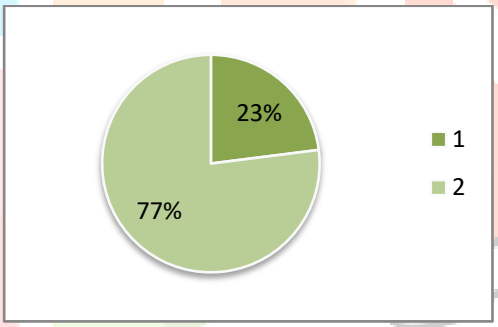
22% of younger generation is facing the problem of depression. Clinical studies have to be carried out for such people in order to screen the hypothyroidism. Hyperthyroidism and depression are related to one another. The people with hyperthyroidism suffer with dysphoria and it is often interpreted as clinical depression. Depression is the common problem observed in adolescence when they have family history of hypothyroidism. Thyroid medications are combined with antidepressant treatment to improve mood even when thyroid function is normal. Clinicians recommend lithothyronineS (T3 Hormone) to augment antidepressant therapy.

17.Premature white hair



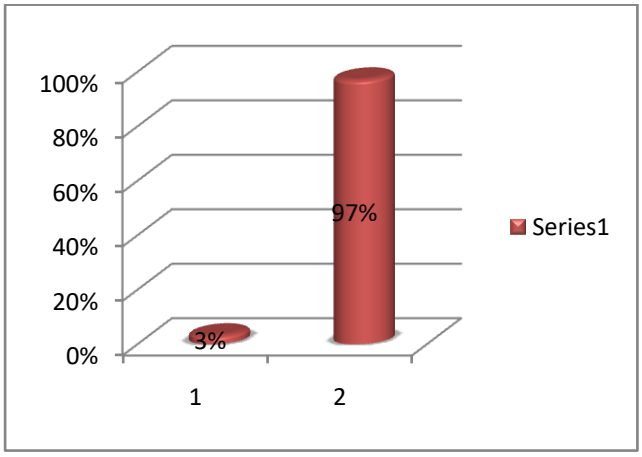
15% of them are also facing premature white hair and shows that they are facing hypothyroidism as it is one of the symptoms.

18.Problems with digestion/allergies



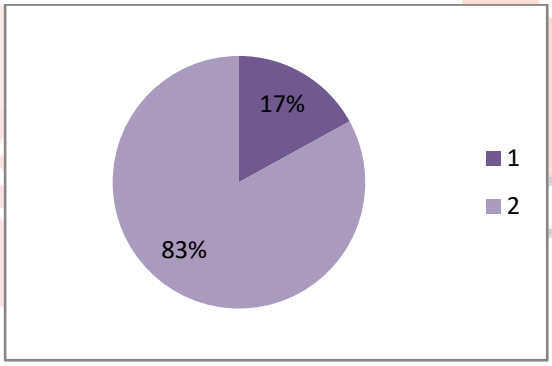
The survey shows that 23% of them have allergies or digestion problems which shows that they are facing thyroid problem.

19.Frequently exposed to Cl^-, F^- and Br^-



As 3% is affected by halogen ions and they are effected by thyroid problem due to industrial pollution hazard.

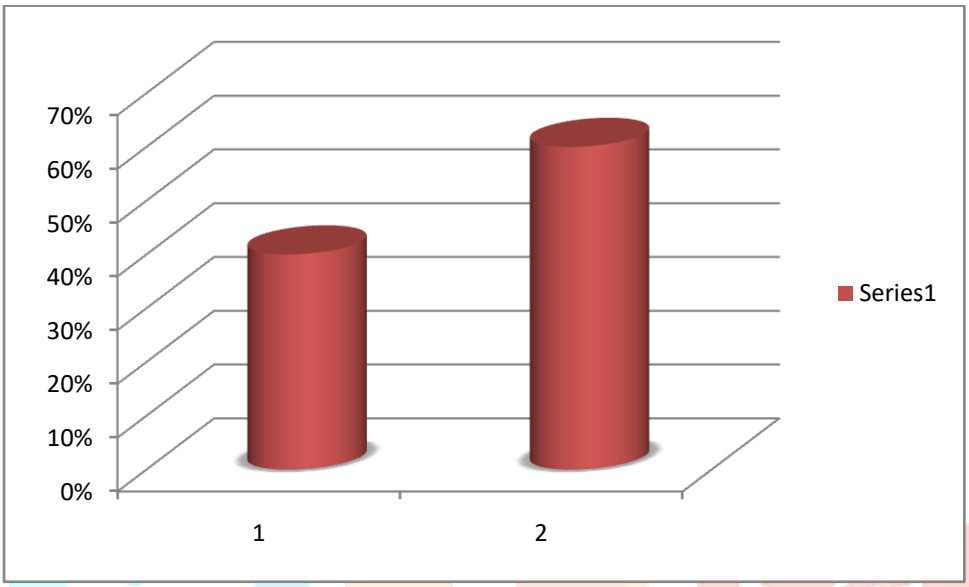
20. Finger nails crack, split or peel off



The survey shows that 17% of this age group finger nails crack , split or peel off. This is one of the symptom which shows that people are facing thyroid but it doesn't confirm that people have thyroid.

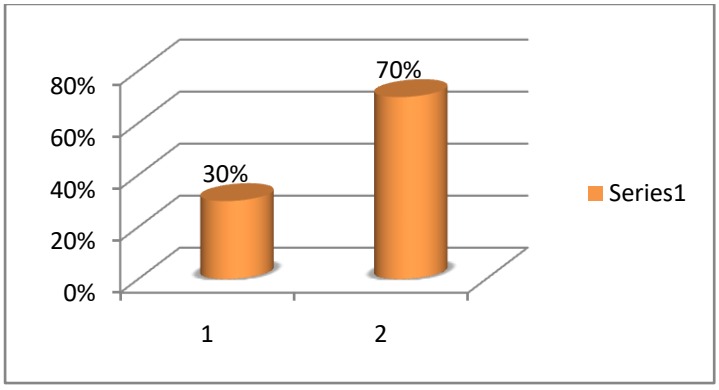
Regarding diagnosis and medication

1. When were you diagnosed with thyroid? Treatment history



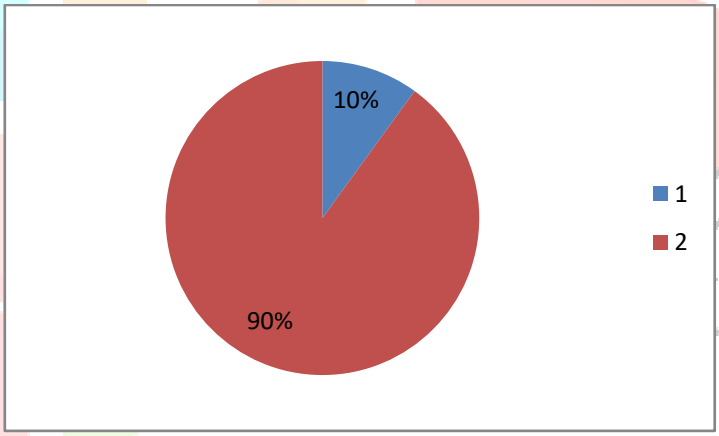
40% of the younger generation are diagnosed thyroid and 60% of them are not diagnosed and the survey also shows that most of the people are having symptoms but are unaware that they are facing this disease. Early diagnosis can cure any disease and thyroid can also be treated easily. Doctor's measure hormones secreted by the thyroid itself, as well as thyroid-stimulating hormone (TSH), a chemical released by the pituitary gland that triggers hormone production in the thyroid. When you are hypothyroid, higher quantities of TSH are circulating in your blood as your body attempts to increase production of thyroid hormones. The reverse is true with hyperthyroidism, in which TSH levels are below normal and circulating thyroid-hormone levels are high.

2. Medicines Prescribed for thyroid



30% of this group are on medication for the treatment of hypothyroidism.

3. Diet Pattern



10% of this survey are following specific diet pattern.

SUMMARY AND CONCLUSION

- This study helps to understand the relationship between prevalence of thyroid problem and family history which suggests clinical examination.
- The survey suggests 40% students are aware of thyroid problem and its disorders.
- The survey shows that 42% are suffering from unexpected weight gain and 58 % are unable to lose their weight. Thyroid hormones regulate the cell that use energy and regulates the metabolism. It regulates calorie consumption and weight gain is observed only in hypothyroid people. In some cases it may be in border line but the clinical help is needed as they will prescribe supplements such as Selenium to regulate metabolism and give a meal plan to control the hypothyroidism. The clinical tests like, TSH is a sensitive marker for assessing thyroid deficiency.
- Constipation is one of the important sign of hypothyroidism. Many of the body's functions slow down due to hypothyroidism. Hypothyroidism slows the action of the digestive tract that causes constipation. The hyperthyroidism weakens contraction of muscles of diagnostic tract of small and large intestine causing the stool to pass slowly
- Enlarged gland /adams apple/hoarseness/sensitive lump quite big number. This disease progresses slowly over many years and it may go unnoticed. This large goitre interferes with breathing and swallowing.

Conclusion: Even as hypothyroidism continues to grow significantly in the country, particularly among women, awareness about the disease and its diagnosis remains shockingly low. There is a significant need for us to reach out and make people aware of the causes, symptoms, treatment and importance of testing for thyroid problems. Young women are a key audience because there is a higher incidence of thyroid disorders amongst women than men.

This paper was presented at a national conference on **"Food and nutrition priorities- From evidence to action"** organised by dept of food and nutrition at Maharaja Sayajiro university of Baroda, Varodra by Mrs. Meena Patangay(Dean of administration of St.Ann's and HoD of nutrition dept)

NATIONAL CONFERENCE ON " FOOD AND NUTRITION PRIORITIES – FROM EVIDENCE TO ACTION"

Organized by: The Departm ent of Foods and Nutrition, The Maharaja Sayajirao University of Baroda, UGC DSA-SAP III Program on 2nd & 3rd Septem ber, 2016 Jointly W ith:

UNICEF(Gujarat), Foods and Nutrition Alumni Association (MSUFNAA).

Indian Dietetic Association (Gujarat Chapter), Nutrition Society of India (Vadodara Chapter),

A STUDY ON PREVALENCE OF HYPOTHYROIDISM AND ITS AWARENESS AMONG COLLEGE GOING GIRLS

Meena Kumari - HOD, Dept of Nutrition; Dr.Sirisha D - Dept of Chemistry,
Students: Avani M and Hajera Samrin
St.Ann's College for Women, Mehdipatnam, Hyderabad-28.
Email: meena.patangay@gmail.com

ABSTRACT:
According to a recent Thyroid Epidemiological (EPI) Study conducted across eight urban cities in India, one in 10 adults in India are affected by hypothyroidism and women are three times more likely to be affected than men. They are generally prone to develop hypothyroidism during puberty, first menstruation, pregnancy, within first six months after giving birth and during menopause Taking this factor into consideration, a study has been carried out among the students of St. Ann's college for women in Hyderabad. A semi structured questionnaire was used to collect information on family history of hypothyroidism, self reporting of previously diagnosed hypothyroidism, to assess the extent of presence of symptoms of hypothyroidism and awareness of thyroid disorder symptoms in the sample group. The survey results indicated that 32% of sampled population reported thyroid history among their mothers. About 12% self reported previously diagnosed hypothyroidism, and the age at which they were diagnosed ranged between 15-16 years. 40% of the sample were aware of the thyroid disease. The study revealed presence of more than five physical symptoms of hypothyroidism in 18% of the sample group. Even as hypothyroidism continues to grow significantly in the country, particularly among women, awareness about the disease and its diagnosis remains shockingly low. There is a significant need for us to reach out and make people aware of the causes, symptoms, treatment and importance of testing for thyroid problems. Young women are a key audience because there is a higher incidence of thyroid disorders amongst women than men.

INTRODUCTION:
Thyroid disorders are most popular disorders observed among the women in India. The prevalence of hypo thyroidism is the most common type of thyroid dysfunction in the world and it is ranging from 4-5 % in developed world. Thyroid disorders continue to be common but most under- diagnosed and neglected chronic health conditions. Women are generally prone to develop hypothyroidism during puberty, first menstruation, Pregnancy within first six months after giving birth and during menopause. Taking that factor into consideration, a study has been carried out among the students of St. Ann's college for women.

OBJECTIVES:
The objective of the project was to study the prevalence of hypothyroidism and awareness of the symptoms of the disease.
A cross sectional study was carried among 400 students of age 18-22yrs from St. Ann's College for Women, Hyderabad using a random sampling technique.

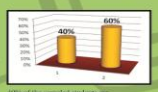
METHODS & MATERIALS:
A semi structured questionnaire was used to collect information on family history of hypothyroidism, self reporting of previously diagnosed hypothyroidism, to assess the extent of presence of symptoms of hypothyroidism and awareness of thyroid disorder symptoms in the sample group. A cross sectional study was carried among 400 students of age 18-22yrs from St. Ann's College for Women, Hyderabad using a random sampling technique.

RESULTS &DISCUSSIONS:

1. Relationship between Hypothyroidism and Family history

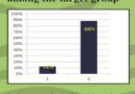
32% of girls among college students have family history of hypothyroidism.

2.Awareness about thyroid and its disorders among college students



40% of the sampled students are aware about thyroid and its disorders

3.Prevalence of hypothyroidism among the target group



In the survey done 12% of the girls were previously diagnosed with hypothyroidism and have self reported this during the survey

4.Physical symptoms of hypothyroid prevalent in college students

- This study helps to understand the relationship between prevalence of thyroid problem and family history which suggests clinical examination.
- The survey suggests 40% students are aware of thyroid problem and its disorders.
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