

Effectiveness of Structured Teaching Programme on Knowledge Regarding Early Identification and Prevention of Thyroid Disorders among Women

Soumya G Hodlur^{1*}, Varesh G Chilapur², Deelip Somaninga Natekar³

¹Student, Dept. of Medical Surgical Nursing, Shri B.V.V.S Sajjalashree Institute of Nursing Sciences, Bagalkot, Karnataka, India

²Professor & HOD, Dept. of Medical Surgical Nursing, Shri B.V.V.S Sajjalashree Institute of Nursing Sciences, Bagalkot, Karnataka, India

³Principal, Dept. of Community Health Nursing, Shri B.V.V.S Sajjalashree Institute of Nursing Sciences, Bagalkot, Karnataka, India

***Address for Correspondence:** Ms. Soumya Hodlur, Student, Dept. of Medical Surgical Nursing, Shri B.V.V.S Sajjalashree Institute of Nursing Sciences, Navanagar, Bagalkot, Karnataka, India

E-mail: soumyahodlur13@gmail.com

Received: 26 Sep 2022 / Revised: 23 Nov 2022 / Accepted: 03 Jan 2023

ABSTRACT

Background: One of the utmost prominent illnesses in India is thyroid disease, and it has a significant impact on women of childbearing age. Various metabolic processes are regulated by the thyroid gland. Therefore, any abnormalities in this organ may cause those physiological functions to become dysfunctional. The postpartum period and pregnancy both frequently include thyroid problems.

Method: Total 50 women are included as the sample. A convenient sampling method was used. A structured knowledge questionnaire was used to gather information, and Chi-square analysis was used to uncover the relationship between knowledge about thyroid disorders with socio-demographic factors.

Result: The post-test results show that 50% of women were having good knowledge and 42% of women were having average knowledge. According to the pre-test, (68%) of women had inadequate knowledge and (32%), average knowledge. The computed knowledge t-value (14.05) for the degree of freedom 49 and 0.05% level of significance was considerably greater than the table value (1.96). As a result, the planned teaching method worked.

Conclusion: After evaluation of knowledge on the subject of thyroid disorders, it was found that most women had average knowledge regarding thyroid disorders. As a result, research has shown that STP was quite helpful in raising women's awareness of thyroid issues.

Key-words: Effectiveness, Hypothyroidism, Socio-demographic variables, Thyroid disorders

INTRODUCTION

One of the most typical endocrine conditions in India is thyroid disease, which is significant for its impact on reproductive women. The most common thyroid condition affecting women in this age category is

hypothyroidism and associated with symptoms including anaemia, constipation, delayed sexual development, pregnancy complications, and cardiac problems. ^[1] The thyroid gland aids in the control of many bodily processes. Hence, any problems in this organ may cause those physiological functions to become dysfunctional. When a thyroid condition occurs, it either shows as hypothyroidism, where in case the thyroid hormone production decreases, or hyperthyroidism, where in case the thyroid hormone production rises. People with hypothyroidism have reportedly been known to experience unexpected weight gain. ^[2] The postpartum

How to cite this article

Hodlur SG, Chilapur VG, Natekar DS. Effectiveness of Structured Teaching Programme on Knowledge Regarding Early Identification and Prevention of Thyroid Disorders among Women. SSR Inst. Int. J. Life Sci., 2023; 9(2): 3173-3179.



Access this article online

<https://ijls.com/>

period and pregnancy both typically involve thyroid problems.

After diabetes, thyroid disorder is the most frequent endocrine disorder that affects women of reproductive age. If they are not properly assessed and treated, the majority of these disorders are preventable and may have adverse effects on the mother and baby.^[3]

The thyroid gland can be affected by a wide range of disease processes, and changes in hormone production can lead to hypothyroidism or hyperthyroidism. The thyroid gland plays a role in autoimmune diseases like Graves' disease, autoimmune disorders like thyroiditis, and cancers.^[4]

Globally, the main contributing factor to hypothyroidism during pregnancy is iodine insufficiency, while autoimmune thyroiditis is the most frequent cause in places with adequate iodine levels. Congenital hypothyroidism, radioiodine treatment, and any other conditions affecting the hypothalamus or pituitary are other prevalent reasons.^[5]

Untreated overt hypothyroidism during pregnancy is related to pregnancy complications such as prenatal hypertension, abruption placenta, anaemia, gestational diabetes, and postpartum haemorrhage. Unexpected abortion, low birth weight, preterm delivery, neonatal discomfort, and stillbirth are often seen as birth outcomes.^[5]

The incidence of thyroid dysfunction is influenced by factors including sex, age, ethnicity, location, and most significantly iodine consumption. Thyroid Research and Practice advocated for thyroid diseases to be included in the list of non-communicable diseases of public health relevance to draw attention to the underfunding of thyroid problems.^[6] Insufficient thyroid hormone throughout the prenatal and postnatal periods in humans may result in neurological abnormalities and permanent mental retardation.^[7]

MATERIALS AND METHODS

A pre-experimental design with a one-group pre-test and post-test was used to assess the impact of a Structured teaching programme (STP) in the early identification and prevention of thyroid disorders among Women in HSK hospital, Bagalkot. The data was collected using a knowledge-structured questionnaire, and descriptive and inferential statistics were used to arrange and evaluate the results.

Study design- The pre-experimental pre-test, post-test without a control group designed chosen for this investigation. Here, a single experimental group of clients was chosen with a convenient sampling method. Women are pre-tested using a structured questionnaire on thyroid problems. The intervention took the form of a structured teaching programme (STP) that focused on educating women on the early detection and prevention of thyroid diseases.

Setting of the study- The research was done at HSK Hospital and Research Centre in Bagalkot's medical outpatient department, a hospital situated in the Karnataka state's Bagalkot District.

Participants- In the present study, participants were women between the ages of 18-46 years and above. The sample consisted of 50 women selected by convenient sampling technique.

Instruments- The study was performed using of a structured, closed-ended knowledge questionnaire. Information was gathered with a structured, closed-ended knowledge questionnaire that was self-administered. It comprises 30 thyroid-related knowledge elements. These were multiple-choice, closed-ended questions. For each accurate response, a score of one is awarded, and for each incorrect response, a score of zero. 30 is the final score.

Description of data collection instruments

Section 1: Socio-Demographic Performa- Comprised of 8 items to assess the socio-demographic factors of women.

Section 2: Structured questionnaire to assess the knowledge regarding thyroid disorders- It comprised 30 items. Each item was followed with 4 options. The '1' mark was given for selecting the correct option and the '0' mark was given for selecting the wrong option.

The main study was conducted between 10/8/2022 to 24/08/2022 at HSK Hospital and Research Centre, Navanagar, Bagalkot, India. Data were collected from women through the self-report method. Before enrolment of subjects and data collection, formal authorization was obtained from the principal of the nursing institution. The study was explained to participants and on paper, consent was taken from them. A structured questionnaire was given to participants, who can read and write.

Variables under study

Dependent variable- Knowledge about early identification and prevention of thyroid disorders.

Research variables- Age, Educational status, Occupational status, monthly income of the family, type of family, source of knowledge, marital status, and family history of thyroid disorder.

Statistical Analysis- Information was analyzed using SPSS 18. Data were entered in an MS excel sheet and then

RESULTS

A sample of 50 women, who was regularly visit the medicine outpatient department at the HSK Hospital and Research Centre in Bagalkot was chosen to participate in the study.

Percentage-wise distribution of women according to their age group reveals that the majority of women (38%) belong to the age group of 26 to 35 years. 36% of

transferred to SPSS. Data was organized and explained using descriptive and inferential analysis to find out the association between variables.

Ethical consideration- A certificate of ethical permission was obtained from the ethical committee of the institution. Each participant signed a written consent before taking part.

women had degrees and above. 36% of women are private employees. 30% of women had an income below Rs.10,000. 48% of women got knowledge from health workers. 84% of Women belong to the nuclear family. 80% of women were married and 76% of women were not having any family history of thyroid disorder (Table 1).

Table 1: Distribution of women based on socio-demographic characteristics

S. No.	Socio-demographic factors	Characters	Subjects	
			Frequency (f)	Percentage (%)
1	Age	16-25 Y	9	18
		26-35 Y	19	38
		36-45 Y	11	22
		Above 46Y	11	22
2	Educational status	No formal education	11	22
		Primary	4	8
		S S L C	10	20
		P U C	7	14
		Degree & above	18	36
3	Occupational status	Housewife	12	24
		Private employee	18	36
		Government employee	4	8
		Farmer	9	18
4	Family income per month	Business	7	14
		Below 10,000/M	15	30
		10,001-15,000/M	14	28
		15,001-20,000/M	11	22
5	Type of family	More than 20,000/M	10	20
		Nuclear	42	84
		Joint family	8	16
6	Source of knowledge	Social media	15	30

		Guidance from health workers	24	48
		Books & magazines	6	12
		Any others source	5	10
7	Marital status	Married	40	80
		Unmarried	10	20
8	Family history of thyroid disorder	Yes	12	24
		No	38	76

In the pre-test, no one had excellent, good, or very bad knowledge about the early identification and prevention of thyroid problems, with the highest number of women (68%) having poor knowledge, and the average percentage of women (32%) having average knowledge.

Following the Structured Teaching Programme (STP), a post-test revealed, out of 50 Women, (50%) had good knowledge, followed by (42%) with average knowledge, and (8%) with excellent knowledge. No women have poor or very bad knowledge about the early identification and prevention of thyroid disorders (Table 2).

Table 2: Percentage-wise distribution of women to a level of knowledge in pre-test and post-test

Level of knowledge	Pre-test		Post-test	
	No of respondent	Percentage (%)	No of respondent	Percentage (%)
Excellent	0	0	4	8
Good	0	0	25	50
Average	16	32	21	42
Poor	34	68	0	0
Very poor	0	0	0	0
Total	50	100	50	100

Since a determined 't' value (14.05) for the hypothesis is significantly greater than table 't' value (1.96): H₁: There is a significant difference between pre-test and post-test knowledge scores of women regarding early

identification and prevention of thyroid disorders. Results showed a substantial change between pre-test and post-test knowledge levels, as a result, structured teaching programme was successful (Table 3).

Table 3: Significant difference between the pre-test knowledge and post-test knowledge scores of women

Test	Mean	Mean Diff	SD Diff	Paired 't-test value	Table value
Pre-test (O ₁)	11.6				
Post-test (O ₂)	19.3	7.72	1.27	14.05	1.96

The result shows, there was no correlation between women's post-test knowledge scores and their age, educational level, occupation, family income, knowledge

source, type of family, marital status, or family history of thyroid disease (Table 4).

Table 4: Association between knowledge score of Women using their research variables

S.No	Socio-demographic variables	DF	Chi-square	Table value	P-value	Association
1	Age	1	0.193	3.84	0.05	NS
2	Educational status	1	1.129	3.84	0.05	NS
3	Occupational status	1	0.054	3.84	0.05	NS
4	Family income per month	1	1.601	3.84	0.05	NS
5	Source of knowledge	1	2.850	3.84	0.05	NS
6	Type of family	1	2.113	3.84	0.05	NS
7	Marital status	1	1.483	3.84	0.05	NS
8	Family history of thyroid disorder	1	0.414	3.84	0.05	NS

$p \leq 0.05$ Two-tailed; NS-Not significant; DF- Degree of freedom

DISCUSSION

The main conclusions of the study are covered in this chapter, along with comparisons to other studies' findings. The present research was conducted to evaluate the impact of the structured teaching programme on knowledge about the early identification and prevention of thyroid disorders among Women. Pre-experimental one group pre-test post-test without control group proposal with the quantitative evaluative technique was used to fulfil the goals of the current investigation. The sample was chosen using a convenient sampling approach. Data was gathered from the 50 women before and after the STP administration.

The pre-test result shows that, out of 50 Women, the majority (68%) of Women had poor knowledge, 32% have average knowledge, and neither got excellent knowledge, good knowledge, and very bad knowledge.

Post-test results show that 50% of Women had good knowledge, 42% of Women had average knowledge, 8% of Women with excellent knowledge. No Women had poor and very poor knowledge. The above findings were supported and carried out by Assem *et al.* [8] suggested that 57.32% of subjects had good knowledge, and 42.68% had poor knowledge.

A similar study done by Askari *et al.* [9] suggested a noteworthy change in knowledge among subjects, whom have and did not complete the education programme on thyroid problems. Another previous research study was done by Kumar *et al.* [10] suggested that the majority of

individuals had little understanding of or awareness of hypothyroidism. Only 35.2% and 51.2% of people, respectively, recognized what the terms thyroid and hypothyroidism meant. Another research conducted by Alyahya *et al.* [11] suggested, the overall literacy score was 8.67 (SD-3.69) and that 44.7%, 41.2% and 14.2% of participants are categorized as having low, average, and high knowledge. Another previous research study was conducted by Sreelatha *et al.* [12] that concluded, 55% had moderate knowledge, 24% have insufficient information and 21% showed an appropriate understanding of hypothyroidism.

The related research was conducted by Masih *et al.* [13] suggested that the mean percentage knowledge score was 8.25 ± 2.72 in the pre-test and after the implementation of a structured teaching programme post-test mean percentage was 14.97 ± 2.67 . The study concluded that there was significantly change between pre-test and post-test knowledge scores. Another previous research study done by Thakur *et al.* [14] suggested that the mean knowledge score was 6.1 ± 3.02 in the pre-test and after the structured teaching programme, the post-test score was 10.1 ± 2.81 and it concluded that the planned teaching programme was effective to acquire knowledge.

A similar study was done by Alan *et al.* [15] study result shows that the mean pre-test score was 6.72 ± 2.13 and after intervention post-test score was 14.55 ± 1.92 and it concludes, a planned education programme proved successful in raising awareness of thyroid disorders.

Another previous research study was done by Devi *et al.* [16] study result shows, the average pre-test score is 38.7%, while the average post-test score is 81.0% and concluded, there was essential to develop a structured teaching programme knowledge regarding thyroid disorders.

Undoubtedly, one of the most widespread endocrine problems globally is thyroid disease. India is also not an exception. There are thought to be 42 million thyroid disorder sufferers in India based on projections from many research on the condition.^[17] Thyroid hormones are essential for maintaining healthy growth and development, proper cognition, cardiovascular function, bone healthiness, metabolism, and energy balance in individuals. They affect almost all tissues.^[18]

Thyroid nodules, thyroid masses, and diffuse thyroid enlargement can all be observed sonographically and can either be palpable lesions or not. The lesions might have symptoms or not. The most prevalent pathology, multinodular goitre, was present in 40% of patients. Ninety percent of instances of multinodular goitre were in females, who also accounted for the majority of cases.^[19] Thyroid dysfunction was prevalent in particular age groups, including postmenopausal and reproductive, as well as in patients with diabetes mellitus and hypertension, therefore routine thyroid disease screenings should be carried out in those patient populations.^[20]

CONCLUSIONS

The study is helpful to find the overall impact of structured educational intervention on knowledge regarding the early detection and prevention of thyroid disorders among Women.

After STP was administered, significant variation between the knowledge scores of Women on the pre-test and post-test was discovered. Thus, research demonstrated that STP was very helpful in enhancing women's awareness of the early detection and prevention of thyroid problem.

CONTRIBUTION OF AUTHORS

Research concept: Soumya H, Prof. Varesh G C

Research design: Soumya H, Prof. Varesh G C

Supervision: Soumya H, Dr. Deelip S Natekar

Data collection: Soumya H

Data analysis and interpretation: Soumya H

Literature search: Soumya H

Writing article: Soumya H

Critical review: Prof. Varesh G C, Dr Deelip S Natekar

Article editing: Soumya H, Varesh G C, Dr. Deelip S Natekar

Final approval: Prof. Varesh G C, Dr. Deelip S Natekar

REFERENCES

- [1] Gireesh VA, Nirmita G. Incidence of hypothyroidism in women of reproductive age group in Raichur, Karnataka—a study based on thyroid hormone profiling. *J Evol Med Dental Sci.*, 2013; 2(42): 8072-78.
- [2] Abilash N, Jayakumari C, Jabbar PK, Jayakumar RV, Nishant R, et al. Prevalence and Associations of Hypothyroidism in Indian Patients with Type 2 Diabetes Mellitus. *J Thyroid Res.*, 2018; 2018:5386129. doi: 10.1155/2018/5386129.
- [3] Ramprasad M, Bhattacharyya SS, Bhattacharyya A. Thyroid disorders in pregnancy. *Indian J Endocrinol Metab.*, 2012; 2(16): 167-170. doi: 10.4103/2230-8210.104031.
- [4] Allen E, Fingeret A. *Anatomy, Head and Neck, Thyroid.* StatPearls Treasure Island (FL), 2021. Available at <https://www.ncbi.nlm.nih.gov/books/NBK470452/>.
- [5] Yadav V, Dabar D, Goel AD, et al. Prevalence of Hypothyroidism in Pregnant Women in India: A Meta-Analysis of Observational Studies. *J Thyroid Res.*, 2021; 5515831. doi: 10.1155/2021/5515831.
- [6] Singh A, Purani C, Mandal A, Mehariya KM, Das RR. Prevalence of Thyroid Disorders in Children at a Tertiary Care Hospital in Western India. *J Clin Diagn Res.*, 2016; 2(10): SC01-SC4. doi: 10.7860/JCDR/2016/16315.7189.
- [7] Bernal J. 2005 Thyroid hormones and brain development. *Vitamins Hor.*, 71: 95-122. doi: 110.1016/S0083-6729(1005)71004-71009.
- [8] Assem SAA, Bayan AIA, Sundos-Hamoud OA, Ayman AM, Abdulmajeed KMA, et al. Assessment of knowledge and awareness regarding thyroid disorders among Saudi people. *Int J Med Dev Ctries.*, 2019; 3(12): 1070-76. doi: 10.24911/IJMDC.51-1568037206.
- [9] Askari S, Abdi H, Ahmadi S, Bahadoran Z, Amouzegar A. Knowledge of Thyroid Disorders during Pregnancy among General Practitioners in Iran. *Int J Endocrinol Metab.*, 2017; 3(15): e55450. doi: 10.5812/ijem.55450.

- [10]Kumar P, Khandelwal D, Mittal S, et al. Knowledge, Awareness, Practices and Adherence to Treatment of Patients with Primary Hypothyroidism in Delhi. *Indian J Endocrinol Metab.*, 2017; 3(21): 429-33. doi: 10.4103/ijem.IJEM_49_17.
- [11]Alyahya A, Al-Naim A, AlBahr AW, Almansour F, Elshebiny A. Knowledge of Thyroid Disease Manifestations and Risk Factors Among Residents of the Eastern Province, Saudi Arabia, 2021; 1(13): e13035. doi: 10.7759/cureus.13035.
- [12]Sreelatha M, Renuka PJC, Sudha RP. A study to assess the knowledge regarding hypothyroidism and its effects among adolescent girls in selected areas of Pakala. *Int J Curr Res.*, 2020; 12 (11): 14612-16. doi: 10.24941/ijcr.39929.11.2020.
- [13]Masih A, George S, Kumar A. A study to assess the effectiveness of Structured Teaching Programme on knowledge regarding effect of hypothyroidism; 2019; 3(5): 2002-10.
- [14]Thakur M. Effectiveness of planned teaching programme on knowledge regarding thyroid disorder among women. *Int J Res.*, 2019; 6(6): 533-36.
- [15]Alan MJ, Arya R, Ayisha M, Deepa J, Jincy J, et al. A Study to assess the effectiveness of Structured Teaching Programme on knowledge regarding thyroid problems among adolescent girls. *Int J Adv Nur Manag.*, 2019; 3(7): 201-05.
- [16]Devi HS, Devi A, Aurelia A. Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding Hashimoto's Thyroiditis among Third-Year B.Sc. Nursing Students. *Int J Med Surg Nur.*; 2020; 3: 1.
- [17]Unnikrishnan AG, Menon UV. Thyroid disorders in India: An epidemiological perspective. *Indian J Endocrinol Metab.*, 2011; 2(15): 78-81. doi: 10.4103/2230-8210.83329.
- [18]Panicker V. Genetics of thyroid function and disease. *Clin Biochem Rev.*, 2011; 4(32): 165-75.
- [19]Hiren R, Panchal, Kulkarni DS, Gandage SG, Kachewar SG. Ultrasonographic Evaluation of Thyroid Lesions. *Int J Biomed Res.*, 2013; 1: 197-202.
- [20]Rashad NM, Samir GM. Prevalence, risks, and comorbidity of thyroid dysfunction: a cross-sectional epidemiological study. *Egypt J Intern Med.*, 2019; 31: 635–641. doi: 10.4103/ejim.ejim_22_19.

Open Access Policy:

Authors/Contributors are responsible for originality, contents, correct references, and ethical issues. SSR-IJLS publishes all articles under Creative Commons Attribution- Non-Commercial 4.0 International License (CC BY-NC). <https://creativecommons.org/licenses/by-nc/4.0/legalcode>

