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Nurses' Knowledge and Attitudes toward Thyroidectomy: A Cross-Sectional Study

Tiryag A.M.*[1] *MSc*, Abdulameer Atiyah M.[1] *MSc*, Salman Khudhair A.K.[1] *PhD*

[1] Fundamental of Nursing Department, College of Nursing, University of Basrah, Basrah, Iraq

Abstract

Aims: Thyroidectomy is one of the most frequent neck and endocrine procedures today. However, the mortality and morbidity rates are reduced due to technical advancements in thyroid surgeries. Certain long-term consequences that arise after thyroidectomy continue to be a health societal concern. This study aimed to assess nurses' knowledge and attitudes about thyroidectomy and determine the relationship between nurses' knowledge and attitudes about thyroidectomy and their demographic characteristics (age, gender, marital status, level of education, and years of experience).

Material & Methods: A descriptive study on nurses' knowledge and attitudes toward thyroidectomy in (Al-Sader Teaching Hospital, Al-Faiha Teaching Hospital, Al-Basrah Teaching Hospital, Abi Al-Khasib General Hospital, Umm Qasr General Hospital, Al-Zubair General Hospital, Al-Shifaa Hospital, and Al-Mawani Teaching Hospital) in Al-Basrah Governorate. The study period was extended from the 15th of November 2021 to the 1st of May 2022. The data collection period was extended from the 27th of December 2021 to the 27th of February 2022. A non-probability purposive sample consists of (200) nurses who work in the surgical wards and operating rooms. To determine the content validity of the study, (15) experts were selected to review the questionnaire. The reliability of the questionnaire is determined using the Cronbach's Alpha test.

Findings: This study showed that (66.5%) of studied nurses had poor knowledge about thyroidectomy, (14.5%) of nurses had moderate knowledge, and (19%) of nurses had good knowledge. Also, this study showed the majority of the nurses (70.5%) have poor attitudes about thyroidectomy (16.5%) of them have moderate attitudes, and (13%) of them have good attitudes.

Conclusion: The present study concluded that the nurses have moderate knowledge about thyroidectomy and have poor attitudes toward thyroidectomy.

Keyword
Nurses, Knowledge, Attitudes, Thyroidectomy

*Corresponding Author
Tel: 07811735332
Fax: -
Post Address: Fundamental of Nursing Department, College of Nursing, University of Basrah, Basrah, Iraq.
Postal Code: -
Email: ali.malik@uobasrah.edu.iq
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Introduction

Thyroidectomy is one of the most frequent neck and endocrine procedures done today. While thyroid surgery mortality and morbidity rates have decreased due to technical developments, certain long-term consequences after thyroidectomy continue to be a health and societal burden (1). Thyroid disorders such as thyroid cancer, noncancerous thyroid enlargement, and hyperactive thyroid are often treated by head and neck or endocrine surgeons via thyroidectomies (2). Other reasons for thyroidectomy include a cosmetically enlarged thyroid or a symptomatic blockage that makes it difficult to breathe or swallow (3). Also, obesity is a risk factor for many cancers, including thyroid cancer (4).

Graves' disease, autoimmune thyroiditis, is the most common cause of hyperthyroidism. Total thyroidectomy is the treatment of choice when medical therapy by thyrostatic drugs fails to control the disease, and radio-iodine therapy is contraindicated. Surgery is the first-choice therapy for some patients, such as those with severe Graves' ophthalmopathy, those with Graves' disease, expecting pregnancy, and drug-induced thyrotoxicosis (5).

Since thyroid nodules are being found more often, thyroidectomy is a procedure that is frequently utilized; 50–70% of adults may have thyroid incidentalomas (6-8).

Over the last several decades, there has been a rise in thyroid cancer worldwide, which has led to an increase in thyroidectomies as a form of therapy. (9).

Thyroid surgeries have grown threefold in the last three decades, with 118-166 thousand individuals receiving thyroidectomy annually in the United States for benign or malignant thyroid malignancies (10). Around 13 thousand thyroid operations are performed annually in England (11). It is frequently conducted on male and female patients. However, it is more common in females (12).

Between 200 to 800 million individuals worldwide suffer from thyroid illness. Over 20 million Americans get therapy for prevalent thyroid diseases (13).

Nowadays, thyroidectomy is one of the most commonly performed neck and endocrine surgeries due to advancements in the field. Although mortality and morbidity rates are low following thyroidectomy, some long-term complications persist as health and social problems (14). There are three types of thyroidectomies: (1) total thyroidectomy, which completely removes the thyroid tissue; (2) bilateral subtotal thyroidectomy, which leaves some bilateral thyroid remains; and (3) unilateral total and contralateral subtotal thyroidectomy (15,16). When alternative therapies fail in young people, persons with big or suspicious nodules, and those with obstructive symptoms caused by pressure on the esophagus or trachea, surgery is indicated for immediate symptom relief. The most common procedure is a complete thyroidectomy. Enough of the thyroid gland is left after this treatment to create enough thyroid hormone. A complete thyroidectomy is done to treat thyroid cancer, and the patient will need hormone replacement for the rest of their lives (17).

Thyroid carcinoma is the most frequent endocrine disease that requires thyroidectomy and has a favorable result (18).

Surgical complications are classified as either early or late based on whether they arise during the first thirty days after surgery or later (19).

The Clavien-Dindo Classification, which is widely used, divides complications into four severity levels. Minor risk cases that did not necessitate treatment are classified as Grade 1 (with exceptions of analgesic, antipyretic, antiemetic, and antidiarrheal drugs or drugs required for lower urinary tract infection). Grade 2 complications are potentially life-threatening complications requiring surgery or a hospital stay that is more than twice the typical hospitalization time for the same operation. Complications of grade 3 were classified as those that resulted in long-term impairment or organ resection. Grade 4 complications are considered life-threatening, while Grade 5 complications result in a patient's death due to a complication (20).

Neck hematoma, postoperative hypocalcemia due to hypoparathyroidism, vocal cord paresis/paralysis due to damage to the recurrent laryngeal nerves, and postoperative surgical site infection are major complications after thyroid surgery. Patients differ in how seriously these complications affect them. There is an urgent need for treatment since they may be life-threatening in certain individuals, such as acute airway obstruction brought on by a post-operative neck hematoma or bilateral vocal cord paralysis. For example, severe hypocalcemia brought on by hypoparathyroidism or a neck abscess brought on by surgically unintentionally injuring the aerodigestive tracts need intense care in other individuals despite their mild severity (21). Patients commonly experience uncomfortable neck symptoms, including pain, tension, and pressure, as well as stiffness in the shoulder and restricted range of motion in the neck and shoulder (22).

The incidence of postoperative neck hematoma is between 0.6-2% (23). Most rebleeding occurs during the first postoperative hours when the patient is observed in the postoperative care unit. Almost 90% of the patients who suffer from this complication bleed within 24 hours of the operation (24).
Postoperative vocal cord palsy occurs due to injury to the recurrent laryngeal nerve. The condition can be unilateral or bilateral, permanent, or transient. The incidence of permanent unilateral vocal cord palsy is 3-5 percent, whereas bilateral permanent vocal cord palsy is 0.01-0.02 percent (25). The recurrent laryngeal nerves course adjacent to the dorsal side of the thyroid gland when entering the vocal muscles on both sides (26).
Postoperative hypocalcemia is a consequence of postoperative hypoparathyroidism. Parathyroid glands are closely attached to the thyroid gland. Hypoparathyroidism occurs when parathyroid glands are removed or injured during surgery. Hypoparathyroidism may be transient or permanent. In large cohort studies, the incidence of transient and permanent postoperative hypoparathyroidism is between 7.6 and 12.5 percent (27). Permanent hypoparathyroidism is associated with an increased risk of morbidity (28) and mortality (29).
After thyroid surgery, postoperative surgical site infection is 0.5-2.0 percent (30). The infection leads to prolonged thyroid surgery, worsened cosmesis, and increased healthcare costs (31).
A patient's medical history, physical exam findings, and test results all play a role in determining if thyroidectomy is necessary. The most frequent examinations to determine if thyroidectomy is required include a fine needle aspiration biopsy, thyroid scan, thyroid X-ray, ultrasound, X-ray and/or CT scan, and measurement of thyroid hormone levels (32).
The nurse oversees the collection of preoperative screening procedures and reviews the results. Common laboratory studies include a complete blood cell count (CBC), electrolytes, blood urea nitrogen (BUN), and creatinine. Other screening tests that can be obtained in obese patients include a sleep study, upper endoscopy, electrocardiogram (ECG), lipid panel, aspartate aminotransferase (AST), alanine aminotransferase (ALT), glucose, and hemoglobin A1c (HbA1c), as well as iron, vitamin B12, thiamine, and folate (33).
A nurse is essential to the treatment and care of patients and their planning for surgery, informing patients about potential complications following surgery and discharge preparation (34). Preoperative and postoperative nursing care is critical because poor thyroid surgery preparation and poor postoperative nursing care directly impact patients' recovery, jeopardize their lives, and ultimately harm their quality of life. Observing the patient's condition, aiding and working with the surgeon for treatment, and proactively dealing with severe post-thyroidectomy consequences are all part of nursing care before and after thyroid surgery (35).
Following surgery, the nurse will maintain the patient in the proper posture, splint the incision, provide pain treatment and wound care, educate the patient on how to deal with voice changes, and assist them with neck exercises and nutritional therapy. Additionally, the patient should be aware of the warning signs and symptoms of wound complications and infection. Patients should be advised to seek medical attention if they have any neuromuscular excitability signs or symptoms. The follow-up appointments that include suture and drain removal, voice quality evaluation, calcium status control, and discussion of any relevant difficulties are crucial (36).
This study aimed to assess nurses' knowledge and attitudes about thyroidectomy.

Methods

To achieve the aims of this study**:** A descriptive cross-sectional study was conducted on nurses' knowledge and attitudes toward thyroidectomy at all Al-Basrah Governorate Hospitals (Al-Sader Teaching Hospital, Al-Faiha Teaching Hospital, Al-Basrah Teaching Hospital, Abi Al-Khasib General Hospital, Umm Qasr General Hospital, Al-Faw General Hospital, Al-Qurna Hospital, Al-Zubair General Hospital, Al-Shifaa Hospital, and Al-Mawani Teaching Hospital). The study period was extended from the 15th of November 2021 to the 1st of April 2022. The data collection period was extended from the 27th of December 2021 to the 27th of February 2022. A non-probability purposive sample consists of most nurses working in the surgical wards and operating rooms (200). (20) Nurses for the pilot study were excluded from the study.
To accomplish the objectives, the researcher created a questionnaire based on an exhaustive analysis of related literature and previous studies, which was then used to gather data for the study project related to thyroidectomy. It consists of five parts. The study instrument is composed of five parts: the first part consists of the demographic variables of the nurses, the second part consists of knowledge

about thyroidectomy (10 items), and the third part: consists of knowledge about complications of thyroidectomy (8 items), fourth part: consist of knowledge about postoperative nursing care (13 items), fifth part: consist of attitudes about thyroidectomy (7 items). Each question in the first four parts assessed involved three items (Know, Uncertain, and Don't Know) and scored as (3 for Know answer, 2 for Uncertain, and 1 for Don't Know). Each question in the fifth part that assesses attitudes involved three items (Yes, No, Don't Know) and scored as (3 for Yes, 2 for Don't Know, 1 for No). About (15-20) minutes are given to complete the questionnaire.

We use three (3) Points Likert Scale ranging from (1 up to 3). This scale is composed of (39) items, and these items were measured on a three-point Likert scale, which ranged from 1 (Don't know), 2 (Uncertain), and 3 (Know). The level of assessment for each item in the knowledge scales was estimated by calculating the cutoff point for the mean of the score and scored as follows: The researcher determined (1–1.66) for poor knowledge, (1.67–2.33) for moderate knowledge, and (2.34–3) for the high knowledge.

The instrument's reliability was determined through Cronbach's alpha method by using the Statistical Package for Social Science Program (SPSS) for (38) items. The validity of the study instrument was determined through a list of (15) experts. The experts had at least (10) years of experience in their field. These experts were given a copy of the research instrument and asked to review and test it for material clarity and adequacy to investigate the questionnaire's content. The data analysis used was descriptive statistics and statistical inferential to find the differences between the demographic variables of the nurses and their knowledge and attitudes. Data were analyzed through the use of SPSS application version 26.0. Descriptive data analysis includes mean score (M.S), with their standard deviation (Sd), and frequency (F). Inferential data analysis includes the chi-square and fisher's exact test.

Findings

Socio-demographic characteristics of the nurses in the present study were that 56% were female (more than half), age group was (20-29) years (54.5%). Most of them were married (67.5%). The nursing institute (41.5%) has the highest percentage regarding educational levels. Regarding years of experience, the highest percentage is seen with the 1-5 years (46.5 %). Most of them work in the surgical wards (63.5%). Most nurses had no training course in thyroidectomy (80.5%).

The majority of the nurses (66.5%) have poor knowledge about thyroidectomy, (14.5%) of them have moderate knowledge, and (19%) of them have good knowledge at the mean score and standard level deviation= (1.68+0.795).

There is a significant relationship between nurses' (education level, years of experience, and training courses) and their knowledge of thyroidectomy at a P-value ≤ 0.05. Also, these findings show no significant relationship between nurses' (gender, age, marital status, and place of work) and their knowledge about thyroidectomy at a P-value > 0.05.

The majority of the nurses (70.5%) have poor attitudes about thyroidectomy (16.5%) have moderate attitudes, and (13%) of them have good attitudes at the mean score and standard level deviation= (1.61+0.494).

There is a significant relationship between nurses' (education level, years of experience, and training courses) and their attitudes toward thyroidectomy at a P-value ≤ 0.05.

Also, the findings show no significant relationship between nurses' (gender, age, marital status, and place of work) and their attitudes about thyroidectomy at a P-value > 0.05.

Table 1: Demographic data of the nurses

Table 4.1.1 Descriptive Statistics of Demographic Characteristics			
Demographic Variables	Variables Classes	F	Percent
Gender	Male	88	44 %
	Female	112	56 %
	Total	200	100 %
Age	20-29	109	54.5 %
	30-39	65	32.5 %
	40-49	18	9 %
	35-39	11	11 %
	50 and more	8	4 %
	Total	200	100 %

Education level	Secondary School	75	37.5 %
	Nursing Institute	83	41.5 %
	College of Nursing	42	21 %
	Total	200	100 %
Years of experience	1-5	93	46.5 %
	6-10	50	25 %
	11-15	29	14.5 %
	More than 15	28	14 %
	Total	200	100 %
Training Course	Yes	٣٩	19.5 %
	No	١٦١	80.5 %
	Total	٢٠٠	100 %

Table 2: Nurses' Knowledge toward Thyroidectomy

Nursing Staff's Knowledge						
Assessment levels	F	%	Scale	Total		
				MS	Sd	Ass.
Poor	133	66.5%	1 – 1.66	1.68	0.795	Moderate
Moderate	29	14.5%	1.67 – 2.33			
Good	38	19%	2.34 – 3			
Total	200	100 %				

Table 3: Relationships of Demographic Variables with Nurses' Knowledge

Relationships of Demographic Variables with Nurses' Knowledge					
Demographic Variables	Variables Classes	Knowledge			Significant
		Poor	Moderate	Good	
Gender	Male	53	18	17	Chi-Square= 4.546 Df= 2 P-Value= 0.103 NS
	Female	78	11	23	
Age	20-29	65	16	28	Fisher's Exact Test= 6.937 P-Value= 0.340 NS
	30-39	48	8	9	
	40-49	11	5	2	
	45 and more	7	0	1	
Education Level	Secondary School	64	8	3	Chi-Square= 113.073 Df= 4 P-Value= 0.000 HS
	Institute	66	11	6	
	College	1	10	31	
Years of Experience	1-5	51	14	28	Fisher's Exact Test= 16.542 P-Value= 0.009 HS
	6-10	41	5	4	
	11-15	22	5	2	
	More than 15	19	5	4	
Training Course	Yes	3	17	19	Chi-Square= 72.968 Df= 2 P-Value= 0.000 HS
	No	128	12	21	

Table 4: Nurses' Attitudes toward Thyroidectomy

Nursing Staff's Knowledge						
Assessment levels	F	%	Scale	Total		
				MS	Sd	Ass.
Poor	141	70.5%	1 – 1.66	1.61	0.494	Poor
Moderate	33	16.5%	1.67 – 2.33			
Good	26	13%	2.34 – 3			

Total	200	100 %				

Table 5: Relationships of Demographic Variables with Nurses' Attitudes

Relationships of Demographic Variables with Nurses' Attitudes					
Demographic Variables	Variables Classes	Knowledge			Significant
		Poor	Moderate	Good	
Gender	Male	60	12	16	Chi-Square= 4.147 Df= 2 P-Value= 0.126 NS
	Female	81	21	10	
Age	20-29	75	19	15	Fisher's Exact Test= 8.964 P-Value= 0.135 NS
	30-39	46	10	9	
	40-49	14	2	2	
	45 and more	6	2	0	
Education Level	Secondary school	62	6	7	Chi-Square= 64.289 Df= 4 P-Value= 0.000 HS
	Institute	70	6	7	
	College	9	21	12	
Years of Experience	1-5	57	20	16	Fisher's Exact Test= 15.800 P-Value= 0.009 HS
	6-10	41	5	4	
	11-15	22	3	4	
	More than 15	21	5	2	
Training Course	Yes	10	13	16	Chi-Square= 51.420 Df= 2 P-Value= 0.000 HS
	No	131	20	10	

Discussions

The characteristics of the study sample involved in this study Regarding gender, this study shows that more than half of the samples are female and accounted for (56%). This study agreed with (2), revealing that most respondents were female. Nurses are mostly female over the globe. In Iraq, females are accepted more often than males into the college of nursing and nursing Institute.

Regarding age in this study, the age group (20-29) years old (54.5%). These results agreed with (2) that the majority of the nurses were between (20-29) years old (43%). The researcher noted that surgical ward and operating room nurses are younger, which is good since they desire to learn more and enhance their skills. Furthermore, this task requires greater muscular effort.

The present study has the highest percentage regarding educational level with the nursing institute (41.5%). The findings of this study agreed with (37), which nursing diploma was the highest proportion (94.4%). We have a secondary school of nursing, a nursing institute, and a nursing college in Iraq. Nursing graduates from secondary schools and nursing institutes work in practically every ward. College nursing graduates, on the other hand, work in critical wards, and their percentage is less than other nurses.

Regarding years of experience, this study reveals that most nurses who work in the surgical wards were between (1-5) years of experience, with a percentage (46.5%). These results agree with (2), which shows that most of the sample has (1-5) years of experience.

Most nurses have no training course (80.5%) concerning training courses. The results of this study are consistent with those (38), which reveal that most nurses do not have a training course.

The current study findings in tables (4-2) explored the statistics of nurses' knowledge toward thyroidectomy. Nurses' knowledge statistics are classified into three main domains: Nurses' knowledge about thyroidectomy, nurses' knowledge about complications of thyroidectomy, and nurses' knowledge concerning postoperative nursing care.

According to the findings of this study, the bulk of the nurses (66.5%) have poor knowledge about thyroidectomy.

The researcher believes that nurses' poor knowledge regarding thyroidectomy might be due to many causes. Nurses did not study enough about thyroidectomy at all nursing education levels. The nurses

do not have adequate training courses about thyroidectomy, and the nurses do not update their knowledge continuously.
The results of this study agreed with (35); the results showed that most nurses have inadequate knowledge (68.3%) toward operative management for patients with thyroidectomy.
The findings of this study agreed with (2); in their study, the knowledge level of the 3rd year bachelor in nursing students regarding the management of patients after thyroidectomy was below average.
According to the findings of this study, there is no significant relationship between nurses' knowledge and demographic variables of the study group concerning (gender and age).
Other studies have also shown no major differences between demographic variables and nurses' knowledge (35). This supports the findings of this study and mentions in their results that the nurses' demographic variables did not affect the results.
According to the present study results, most nurses (70.5%) have poor attitudes about thyroidectomy.
The results of this study agreed with a study conducted in Bangladesh by (39) on nurses' knowledge and attitudes concerning post-thyroidectomy pain management, and their practices reported that nurses had an unsatisfactory level of knowledge and attitudes in post thyroidectomy pain management.
Also, the present study's findings were the opposite of a study conducted in Egypt by (38); nurses' knowledge, attitude, and practice regarding Patients undergoing thyroidectomy. The results show that studied nurses had a high attitude related to thyroidectomy.
According to the result of this study, there is a significant relationship between nurses' knowledge and their demographic variables (education level and years of experience).
The results of the present study agreed with a study conducted in Egypt by (38); nurses' knowledge, attitude, and practice regarding Patients undergoing thyroidectomy. The results showed a significant relationship between nurses' attitudes, educational levels, and years of experience.

Recommendations

The researcher recommends the following based on the results of this study:
Providing education programs for nurses to improve their knowledge about thyroidectomy.
Training courses should be provided to these nurses to increase their knowledge about thyroidectomy, complications of thyroidectomy, and pre and postoperative nursing care.
Providing booklets for nurses related to thyroidectomy, complications of thyroidectomy, and everything about this surgery (pre and postoperative nursing care).
The researcher recommended more studies about thyroidectomy because of the deficit of studies in Iraq.
Creating a continued education unit in the surgical ward to help nurses develop their knowledge about thyroidectomy because the curriculum at all levels of nursing doesn't include thyroidectomy, complications of thyroidectomy, and pre and postoperative nursing care.

Limitations

1- The lack of relevant published literature and research studies.
2- Difficult to collect all nurses from Al-Basrah Teaching Hospital because this hospital is for COVID-19 patients.

Conclusions

The researchers write the following conclusions based on the findings of this study:
The vast majority of the nurses in the present study were female, age group was (20-29) years, married, nursing institute, 1-5 years of experience, worked in the surgical wards, and had no training course about thyroidectomy.
Most of the nurses who participated in the present study had poor knowledge about thyroidectomy in all domains (thyroidectomy, complications of thyroidectomy, and postoperative nursing care).
Most nurses participating in the present study had poor attitudes about thyroidectomy.

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