
Knowledge of the University of Namibia Third Year Bachelor in Nursing Students Regarding Post Operative Management of Patients After Thyroidectomy

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Abstract

Thyroidectomy is one of the major operations performed in surgical units. It is vital that healthcare professionals including student nurses should be able to manage patients after thyroidectomy, by identifying problems and begin timely interventions to prevent serious and life-threatening complications. The aim of this study was to determine the knowledge of 3rd year nursing students at the University of Namibia (UNAM) regarding the management of patients after thyroidectomy. The objectives of this study were to assess and explore the knowledge level of UNAM third year bachelor in nursing students concerning post-operative management of patients who had thyroidectomy, and to determine the management and care rendered to post-operative patients who had thyroidectomy. A quantitative, cross sectional design was used. Data was collected using a structured questionnaire. A simple random sampling was employed and 58 participants participated in the study. The collected data was analysed using Microsoft Excel, 2013.

The study concluded that the knowledge level of the 3rd year bachelor in nursing students regarding management of patients after thyroidectomy was below average. Therefore, there is a need of extra education and training for bachelor in nursing students focused more on preoperative nursing care, particularly on thyroid surgery in order to improve their level of knowledge and enhance safe patient care during their clinical practices.

Keywords: Knowledge, nursing students, thyroidectomy, post-operative, management.

INTRODUCTION

Thyroidectomy is one of the major and frequent operations performed in general surgical units (Khanate et al, 2010). Thyroidectomy is an operation that involves the surgical removal of all or part of the thyroid gland (Martin, 2014). Similarly, (Forted, 2011) defines thyroid gland as a butterfly-shaped gland located at the base of the neck. Head and neck or endocrine surgeons often perform a thyroidectomy to treat patients with a thyroid disorder, such as thyroid cancer, noncancerous enlargement of the thyroid, and overactive thyroid (Oozier et al, 2014). Other indications for thyroidectomy include cosmetic (much enlarged thyroid), or symptomatic obstruction causing difficulties in swallowing or breathing (Seltzer et al, 2010).

In the study done in Portugal on the thyroidectomy post-operative care and complications stated that surgical procedures involving the partial or total removal of the thyroid gland involve a degree of risk that arises not only from the complexity of the intervention but also from the patient's clinical status (Forted, 2011). Therefore, it is the nurse's role to assess the patient for potential or actual complications following surgery, such as haemorrhage, hematoma, wound infection, or changes in the normal breathing pattern.

A study done in Bangladesh on the knowledge and attitudes of nurses and their practices regarding post-thyroidectomy pain management concluded that nurses had very low level of knowledge and attitudes in post-thyroidectomy pain management (Bask et al, 2010). Furthermore, a study conducted in Northern Gauteng, South Africa on recovery room nurses' knowledge regarding post-operative airway emergencies in adults concluded that nurses working in the recovery rooms of five hospitals, did not have necessary knowledge and competence needed to render quality nursing care to post-operative patients as the respondents failed to attain the performance standard set for recovery room nurses (Van Hussein et al, 2014).

Moreover, (Bask et al, 2010) conducted a study in Bangladesh among post-operative patients with thyroidectomy which revealed that post-operative complications remains high in post-operative patients but little is known about the knowledge and skills of student nurses, regarding post-operative thyroidectomy management. The reported incidence of post-thyroidectomy bleeding varies between approximately 0.4 and 4.0 per cent, but in major centres among developed countries is commonly described to be approximately 1 percent (Forted, 2011). The risk of this complication mainly depends on the extent of the operation, the conditions of patients, the experience of surgeons, as well as the extent of care rendered post-operatively (Ending et al, 2014). Although the post-thyroidectomy bleeding is rare, when it occurs, it may be life-threatening and even causes severe functional impairment (Ending et al, 2014). Therefore, early recognition with immediate intervention is the key point to manage these complications.

Thyroid gland is one of the vascular glands with highly blood flow (Oozier et al, 2014). Post-thyroidectomy complications are serious and life-threatening more especially post-thyroidectomy bleeding, hypocalcaemia (due to accidental removal of parathyroid glands during total thyroidectomy), thyroid storm, and wound infection which may manifest after 48 hours of surgery (Grainger et al, 2015).

Knowledge of health professionals regarding the post-thyroidectomy management is the sub-minimal requirement needed to achieve null or minimal complications of post-thyroidectomy consequence (Forted, 2011). A study done by [Chitimwango, 2017] in Zambia on the knowledge of determinants of post-thyroidectomy wound infection and infection prevention practices among nurses and student nurses revealed that 70% of the respondents had high level of compliance to infection prevention guidelines while 30% failed to attain standard performance. Knowledgeable caregivers will necessitate the care needed by post-thyroidectomy patients and take safety precaution in place to counteract complication which may arise post-operatively following the surgical operation of the thyroid gland (Forted, 2011). It is vital that

healthcare professionals can identify the signs and symptoms of each disorder and begin timely interventions to prevent serious and life-threatening complications, thus it remains the nurse's role to assess the patient for potential or actual complications following surgery (Furtado , 2011).

There is an increase of thyroid cancer globally over the last few decades which also cause the increase in thyroidectomise as a treatment. (La Vichada, 2015) . However, the knowledge of UNAM student nurses regarding the management patients following thyroidectomise remain unknown especially in Namibia since there are no studies conducted regarding the knowledge of the UNAM student nurses concerning post-operative management of patient who had thyroidectomise. It's against this back ground that the researchers were interested in the assessment of the knowledge of the third year UNAM nursing students regarding the post-operative management of patients who had thyroidectomise.

PURPOSE

The purpose of this study was to assess the knowledge of the third year UNAM bachelor of nursing students regarding the post-operative management of patients who undergone thyroidectomise.

OBJECTIVES

The objectives of the study were to:

- Assess and explore the knowledge level of third year UNAM bachelor of nursing students concerning post-operative management of patients after thyroidectomise.
- Determine the managements and care rendered to post-operative patients after thyroidectomise

METHODS

This study used a quantitative, descriptive cross sectional approach. The population included the third year bachelor in nursing students at UNAM main campus. There were 68 third year nursing students at UNAM main campus in 2017. A simple random sampling method was utilized whereby all elements in the population had an equal chance of being included in the sample to be representative of the population . A list of the names of third year student nurses pursuing bachelor in nursing was obtained from the third year lecturer and was used as a sampling frame. The universal sample formula for calculation of the population sample size was applied to extract the sample size from the population, and the sample size had been calculated as follow:

$$n = \frac{N}{1 + N \times a^2}$$

Where by: n= sample size

N= population i.e. 68

a= confidence limit (5%) i.e. 0.05

Therefore:

$$\begin{aligned}n &= \frac{68}{1 + 68 \times 0.05^2} \\ &= \frac{68}{1 + 68 \times 0.0025} \\ &= \frac{68}{1 + 0.17} \\ &= \frac{68}{1.17} \\ &= 58\end{aligned}$$

Therefore, the sample size is 58 participants calculated according to the international standard formula of sample size calculation [12]. Questionnaires with structured questions were used to collect data. Data was collected at UNAM main campus in August 2017 after the researchers arranged the date and time with the help of the class representative.

Validity and Reliability

To ensure validity and reliability of the study, the researchers selected large sample to make study more representative and ensure that the participant understand the questions by explaining the questions verbally to participants. Furthermore, the data collection was checked by the expert in the field. In addition, pilot study was conducted at UNAM Main Campus among 5 second year student nurses before the main study. Slight adjustments were made to the instrument to ensure reliability and validity.

The inclusion criteria was 3rd year bachelor in nursing students, pursuing their study at UNAM Main Campus who were willing to participate in the study. Student nurses repeating third year modules were excluded to participate in this study. Data were entered in Microsoft excel, and analysed.

RESULTS

Data was collected from 58 participants. 58 questionnaires were distributed and all 58 were returned, which gives a response rate of 100%. The response rate was adequate and reliable. The characteristic of the sample and relative number of responses are reflected below.

Socio demographic data

Characteristic of the participants by gender

Among the participants, 88% were female while only 12% were male. This clearly indicates that females are outshining the male when it comes to gender representation in nursing profession.

Characteristic of the participants by age

The majority of students 74% were in the age group of 21-24, followed by 17-20years who were 10%. Furthermore 25-29 age categories were represented by 9%, 35 and above were 5 % while 30-34 years age categories were only represented by 2%.

Marital status of the participants

Majority of the participants were single representing 93%, while 7% participants were married.

Participants previously enrolled as nurses

Only 3% of the participants were previously registered as enrolled nurse while 97% had never enrolled as nurses before.

Participants' general knowledge on thyroidectomise

Participants were asked whether they have ever heard of the term thyroidectomise. Majority, 97% of the students indicated that they heard about thyroidectomise before while 3% had never heard about thyroidectomise. Among all participants who heard thyroidectomise before, 88% have heard the term thyroidectomise via lecturers' notes, 5% of the participants have first heard the term thyroidectomise at practical settings, while the least 4% have read it on internet. None of the participants have for the first time read thyroidectomise in health journal.

Regarding the question whether respondents had managed a patient after thyroidectomise before, 40% indicated that they had managed post-thyroidectomise patients before, while 60% of the respondents have had never attended to such. Participants were asked the meaning of thyroidectomise. The majority 81% of the participants have got it right about the meaning of thyroidectomise, while 19% have failed to select the collect definition of thyroidectomise. Participants were assessed on the indication of thyroidectomise and 71% have got it right of all the three indications, while 29% were only aware of one indication respectively.

Furthermore, participants were also assessed on the types of thyroidectomise. As displayed in table 1, most participants, 55% knows all the three types of thyroidectomise, while 19% and 7% of the participants only know one type of thyroidectomise respectively. Surprisingly, 19% didn't know any types of thyroidectomise.

Table 1: Types of thyroidectomy

Variable	Response	Frequency	Percentage
Types of thyroidectomy	a. Total thyroidectomy	11	19%
	b. Thyroid lobotomy	4	7%
	c. Thyrectomy	32	55%
	d. None of the above	11	19%

Moreover, participants were also evaluated on the complication of thyroidectomy, with 50% of the participants indicated knowing all three complication that were provided, whereas another half participants indicated only one complication out of three options respectively.

Participants’ knowledge on thyroidectomy care

Participants were assessed on whether they are conversant on rendering nursing care to patient who had thyroidectomy by rating themselves on the scale of 1-5 from strongly agree, agree, neutral, disagree, and strongly disagree. In this regard, participants were asked whether hypotension and tachycardia may indicate post-thyroidectomy bleeding, 62% of the respondents had strongly agreed while 24% agreed, however 5% were neutral, and 9% disagreed. Meaning 86% of the participants were aware that hypotension and tachycardia are the signs that one has to observe for early detection of post-thyroidectomy bleeding.

Participants were asked whether monitoring of temperature and wound discharge is done to rule out post thyroidectomy wound infection. The majority, 72% had strongly agreed to such, 22% agree, 2% were neutral, none of them had strongly disagreed, and 4% were at disapproval. This gives us a total of 94% of the participants who are in favour of the statement which shows good understand of interpretation of the observation and their rationales thereof. Conversely, 6% of the participants were at disapproval of the statement meaning that those participants were not aware that doing temperature and observing wound for discharge is to rule out post-operative infection.

Additionally, participants were assessed on whether observing patient’s voice quality can assist them to assess the possibility of nerve injury. Among those , 40 % of the participants had strongly agreed , while 27% were also in agreement with the statement, 12% were uncertainty about the statement while 9% were strongly disagree and 12% disagree. Furthermore, participants were also tested if they know the signs of hypocalcaemia following thyroidectomy.

10% of the participants strongly agreed that positive trousseau's and chvostek's signs indicate hypocalcaemia while 26% had agreed, 57% of the respondents were uncertainty and 7 % were strongly disagreeing. Participants were also evaluated whether they are familiar with the Thyroid storms a severe, life-threatening condition caused by excess of thyroid hormone. In this regard, 26% of respondent had strongly agreed upon that, 43% agreed, 28% uncertainty 3% strongly disagree and none of the respondents had chosen disagree.

In addition, participants were also asked whether thyroid storm can be prevented via administration of prophylaxis. Regarding this question, 12% agreed strongly, 26% agreed, 46% were neutral, 7% and 9% disagreed and strongly disagree .Another question was formulated to assess if participants are conscious that post-thyroidectomise bleeding is a life-threatening condition that one has to be observing regularly following thyroid surgery. In this regard, 10% and 14% of the respondents were respectively strongly agree and agree , 9% of the respondents were uncertainty while 12% and 55% of the respondents strongly disagreeing.

Participants were also asked about the emergency equipment they should set up on patient bedside after thyroidectomise. Most participants, 52% opted for only option A (an airway and recreating tube) while 48% of the participants have got it right, opting for option B (a tracheotomy set and oxygen). None of the participants have chosen option C (a crush cart with bed board) neither D (two ampoules of sodium bicarbonate).

Moreover, participants were also asked to identify the nursing intervention that is more appropriate after total thyroidectomise. Half of the participants managed to get this question right by picking option C (keep your patient in a high-fowler's position), while 50% of the respondents didn't get it right, with 14% opting for option A (place pillows under your patient's shoulders), 7% opting for option B (raise the knee-batch to 30 degrees) and 29% choosing option D (support the patient's head and neck with pillows and sandbags).

DISCUSSION

The findings on demographic characteristics of the participants showed that there were more female compared to male participants. This is simply because nursing profession originally is more presented by women than men (Barrett-Landau& Henley, 2013). However, in this world of equality and equity, men are now seemingly increasing in the nursing profession compared to previous years. The majority of respondents were younger as an indication that people tend to study while young. The majority of participants indicated that they heard about thyroidectomise, via lecturers' notes. This implies that most students rely only on the lecturers to discover the term thyroidectomise and get meaning of it and it also indicate that majority of the students do not read journals which may negatively affect their knowledge.

Majority of the responded defined thyroidectomise correctly which implies that participants have general understanding of the topic under investigation, which is fairly good. The study results is not concurring with a study done in Northern Gauteng, South Africa (Van Hussein et al, 2014) on recovery room nurses' knowledge regarding post-operative airway emergences in adults

which concluded that participants did not have necessary knowledge and competence needed to render quality nursing care to post-operative patients as the respondents failed to attain the performance standard set for recovery room nurses.

Moreover, the majority 86% of the participants were aware that hypotension and tachycardia are signs that one has to observe for early detection of post-thyroidectomy bleeding, hypotension and tachycardia after thyroid surgery. In support of this study results, the study conducted in Serbia indicated that many patients who had thyroidectomy develop hypotension during operation and after operation ([Kalezic et al, 2010](#)). Majority of participants were strongly agreed that monitoring of temperature and wound discharge is done to rule out post thyroidectomy wound infection which shows good understanding of interpretation of the observation and their rationales thereof. Similarly, study done in Zambia on the knowledge of determinants of post-thyroidectomy wound infection and infection prevention practices among nurses and student nurses revealed that 70% of the respondents had high level of compliance to infection prevention guidelines ([Grainger et al, 2015](#)).

More students were uncertain that positive Trousseau's and Chvostek's signs indicate hypocalcaemia. Hypocalcaemia is a major post-operative complication of total thyroidectomy causing severe symptoms. A retrospective analysis was made of immediate pre-operative and early post-operative calcium levels in 100 patients which found that many patients had a marked decrease in blood calcium, immediately after surgery, which indicates hypocalcaemia ([Trudeau et al, 2011](#)). Therefore, post-operative hypocalcaemia requires calcium and Vitamin D supplementation, with monitoring until blood calcium returns to normal.

More than half of the participants indicated poor knowledge on the prevention of thyroid storm. Thyroid storm is a serious and life-threatening condition that occurs following thyroidectomy which signifies compromised organ function. Participants were also asked whether thyroid storm can be prevented via administration of prophylaxis. Although the incidence of thyroid storm is rare, mortality rates are high which could be up to 20% ([Carroll, R and Matfin, 2010](#)). Therefore, student nurses should be aware of the signs of thyroid storm and its prevention to prevent mortality due to thyroid storm. Another thyroidectomy complication is post-thyroidectomy bleeding which is a life-threatening condition that one has to be observing regularly following thyroid surgery ([Lee et al, 2009](#)). More than half of participants were aware that post-operative bleeding is not an exceptional complication following thyroidectomy. Incidence of post-thyroidectomy hemorrhage has varied between 0.36 and 4.3% ([Lee et al, 2009](#)). Participants were also tested for their profound knowledge in rendering nursing care to post-thyroidectomy patients on setting up emergency equipment at patient's bedside following thyroidectomy. 52% of the respondents have failed this question. The results imply that students are not aware of post-operative nursing care after thyroidectomy.

ETHICAL ISSUES

Permission to contact the research had been granted from the Ministry of Health and Social Services as well as from University of Namibia. Informed consent were written and explained to the respondents before data collection process. Individual autonomy and right to self-determination were respected. Furthermore, all participants were informed about the right to withdraw from the study any time. To ensure anonymity participants were not asked their names; instead numbers were allocated to questionnaires in order not to identify them. Confidentiality had been ensured by not sharing the information linked to the participant's names with other individuals.

CONCLUSIONS

The study concludes that most of the 3rd year nursing students at the University of Namibia, Windhoek Main Campus have moderate knowledge toward general understanding of thyroidectomise. There were also moderate levels of knowledge among students towards rendering of care to the post thyroidectomise patients, via correct assessment, provision of individualised nursing care and early identification of post thyroidectomise complication as well as their management thereof. This was observable in the study as student nurses whose were exposed to the care of such condition had exceptionally scored well in the questionnaire compared to those who had never managed the condition at the clinical practice

The researchers recommended that in order to improve the student nurse's knowledge on management of post-thyroidectomise patients, the University of Namibia has to strengthen the teaching and training content regarding the post-operative care, particularly post-thyroidectomise nursing care, possible complication thereof and prevention or management of such complications. Orientation to students should be done in each unit/department, every students should get chance to practice in surgical wards, with adequate clinical allocation hours for greater exposure to the procedures. Students should be educated and supervised by well-trained nurses during their clinical practices to ensure safe and quality patient care as well as for students' fundamental development in the nursing profession.

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