

Nurses' Performance Regarding Care of Patients with Lymphoma By

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Abstract

Background: Nurses have a variety roles regarding care for patients with lymphoma. They has an important role in assessing and managing many problems experienced by patients with lymphoma. **Aim:** This study aimed to assess nurses' performance regarding care of patients with lymphoma. **Research design:** A descriptive exploratory research design was utilized. **Setting:** Oncology unit affiliated to radiation oncology & nuclear medicine center and oncology unit at Ain-Shams Specialized Hospital, Cairo, Egypt. **Subjects:** A convenience sample of all available nurses (40) worked at previously mentioned settings. **Tools:** Three tools were used. **(I)** Nurse's self-administrated questionnaire. **(II)** Nurses' practices observational checklist. **(III)** Nurses' attitude scale. **Results:** The results of present study indicated that **65%** of the studied nurses had unsatisfactory level of total knowledge while, **55%** of the studied nurses were incompetent regarding their total practice. Also, **70%** of the studied nurses had positive attitude towards caring of patients with lymphoma. **Conclusion:** less than two thirds of the studied nurses had unsatisfactory level of total knowledge regarding lymphoma. Also, more than half of the studied nurses were incompetent regarding total practice towards lymphoma. Less than three quarters of the studied nurses had positive attitude regarding caring of patients with lymphoma. **Recommendations:** Preparation and implementation of educational programs for nurses who are caring of patients with lymphoma to improve their knowledge and practice.

Key words: Nurses' performance, Lymphoma, Patients.

The etiology of HL is unknown. Most patients are young adults. Unique clinic

Introduction

Lymphatic disease is a malfunction of the lymphatic system in which fluid, or lymph, does not pass properly through the lymph nodes and lymphatic vessels. The most common lymphatic disease is lymphoma (*Madison, 2020*). Lymphatic disease is a Condition in which there is a deviation from or interruption of the normal structure or function of the lymph or lymph vessels. Some common diseases and disorders of the lymphatic system are lymphadenopathy, lymphedema and the cancers of the lymphatic system is lymphoma (*National Cancer Institute, 2021*).

The different sub-types of lymphoma are divided into two main types: Hodgkin s' lymphoma (or Hodgkin s' disease) and non-Hodgkins' lymphoma (*Yahalom & Straus, 2020*).

pathologic features and treatment requirements differentiate it from other lymphomas called non-Hodgkin lymphomas [NHLs] (*Meder, 2022*). Different types of Hodgkin lymphoma can grow and spread differently and may be treated differently. The two primary classifications of Hodgkin disease are: (classic) Hodgkin's disease (cHD) and nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL) (*Hinkle & Cheever, 2017*).

Non-Hodgkin lymphomas are broadly divided into two major groups: B-cell lymphomas - those that arise from developing B-cells, T-cell lymphomas - those that arise from developing T-cells. The majority of lymphomas (over 80%) are B-cell lymphomas (*American Cancer Society, 2018*).

The treatment chosen for disease depends on several factors including the particular type of lymphoma, where it has spread within body, age and general health. Treatment for lymphomas may involve the use of chemotherapy, radiotherapy and immunotherapy, or combinations of these treatments. Blood stem cell transplantation may also be used. Chemotherapy is the main form of treatment given for lymphoma. The dose, timing and types of the drugs used will vary depending on the particular disease involved, age and general health, and the treatment protocol (plan of treatment) (*Lawrence & Rosenberg, 2019*).

The major goals for lymphoma patient may include relief of pain and discomfort, prevention of infection, attainment and maintenance of adequate nutrition, maintenance of skin integrity, activity tolerance, maintenance of tissue integrity, coping with hair loss, fewer episodes of nausea and vomiting before, during, after chemotherapy, ability for self-care and to cope with the diagnosis, positive body image, and an understand of the disease process and its treatment (*Lewis & Dirksen, 2018*).

The nurse has an important role in assessing and managing many of the problems experienced by lymphoma patients. Because of the systemic effects on normal as well as malignant cells, these problems are often widespread, affecting many body systems (*Morton & Fontaine, 2018*). The care of port-a-cath is a nursing practice that requires the nurses to insert, flashing and recapping a needle into the port. It is essential to avoid air occlusions, infections. It is important for the nurses to be have satisfied level of knowledge, skills about port-a-cath and complications (*Wolosker et al., 2019*).

Significance of the Study:

According to the Middle East Cancer Consortium in Egypt, the incidence rates of lymphoma are (16.3/100 000 person). This very high incidence makes lymphoma the third most common cancer in Egyptian men and the second most common cancer in women as reported by the National Cancer Institute (NCI), accounting for 10.9% of all

cancers in Egypt diagnosed every year (*National Cancer Institute, 2021*).

Patients with lymphoma require specialized nursing knowledge and practice so that enhancing nursing performance regarding care of lymphoma because of the pervasive presence of array of patients. Many units is consider lead to lymphoma be high risk because the nursing mismanagement of these patients can catastrophic effect on physical, psychological, emotional and social aspects of lymphoma patients. There is a great need to assess the knowledge, skill and attitude of oncology nurses to ensure the safe care for lymphoma patients. Therefore, this study was conducted to assess the oncology nurses' existing level of knowledge, skills and attitude regarding care of lymphoma patients (*Potter, 2018*). **AIM OF THE STUDY**

The study was aimed to assess nurses' performance regarding care of patients with lymphoma. This aim achieved through:

- Assess nurses' level of knowledge regarding care of patients with lymphoma.
- Assess nurses' level of practice regarding care of patients with lymphoma.
- Assess nurses' level of attitude regarding care of patients with lymphoma.

Research question :

- What is the nurses' level of knowledge regarding care of patients with lymphoma?
- What is the nurses' level of practice regarding care of patients with lymphoma?
- What is the nurses' level of attitude regarding care of patients with lymphoma?

Subject And Methods

Research design:

A descriptive exploratory research design was used to achieve the aim of the study (*Aamodt, 2018*). Research setting: At oncology unit affiliated to Radiation Oncology & Nuclear medicine center and Oncology unit at Ain-Shams Specialized Hospital, Cairo, Egypt. Subjects: Convenience sample of all available nurses who working in previous mentioned setting was included in the study, Sample size were (40) nurses.

Tool for data collection:

1-Nurse's self-administrated questionnaire:

The self-administered questionnaire was developed by the researcher after reviewing the relevant and recent literatures in simple Arabic language (*Brunner and Suddarth's, 2016 & Lewis et al., 2017*). It included two parts as follows:

Part (I): It was concerned with demographic characteristics of the nurses under study such as age, gender, marital status, occupation and training programs regarding care of patients with lymphoma.

Part (II): It was concerned with assessing: nurse's knowledge regarding lymphoma (37 MCQ) including; Basic knowledge regarding care for patients with lymphoma (7MCQ), knowledge about the treatment of lymphoma (9MCQ), nursing care for patients with lymphoma (12MCQ). While, in relation to nurses' Knowledge regarding port A-catheter (9 MCQ) questions were included.

Scoring system:

Regarding scoring system of the nurses' knowledge questionnaire: it included 37 MCQ questions. Each correct answer was given one grade and the incorrect answer was given zero. The total score of the nurses' knowledge was 37 grades.

2-Nurses' practices observational checklist:

It was adopted from (*Advanced Practice Nursing Procedure, 2015*). It was used to assess nurses' practice regarding care of patients with lymphoma. It included 5 procedures as follows:

- 1-Observational checklist for porta cath's needle insertion (16 steps), flushing of implanted port catheter (19 steps) and Recapping of implanted port catheter (18 steps).
- 2- Observational checklist for safe handling & disposal of hazardous drugs (50 steps).
- 3- Observational checklist for nurses' role pre, during and post receiving chemotherapy (49 steps).
- 4- Observational checklist for nurses' role for administrating radiation therapy (25 steps).
- 5- Observational checklist for nurses' role to skin care for patients that receiving radiation therapy (24 steps).

Scoring system:

Regarding scoring system of the nurses' practice observational checklists: It consisted of 5 procedures, total steps 201 step. Each item was evaluated as "done" was taken one score and "not done" was taken zero score. These scores were summed up and were converted into a percentage score.

3- Nurses' attitude questionnaire:

It was used to assess nurses' attitude toward caring of patients with lymphoma. It was developed by the researcher based on reviewing the related literatures, wrote in Arabic language (*National Cancer Institute, 2017*).

Scoring system:

Nurses' attitude questionnaire tool included 18 questions. Response is grading according to likert scale "agree", "uncertain", "disagree". The agree response was given three grades, to uncertain response two grade, while disagree response was given one. The total score was 45 grades, positive attitude if score $\geq 70\%$ ($>31,5$) and Negative attitude if score $< 70\%$ ($<31,5$).

Content validity and Reliability:

• Content validity:

The tools were revised for content validity by a panel of five experts. The experts' opinion was elicited regarding the format, layout, consistency, accuracy, simplicity and applicability. The experts was 3 assistant professors and 2 lecturers from medical surgical nursing department, faculty of nursing, Ain Shams University. Modifications of tools were done according to panel's judgment.

• Tool reliability:

Reliability of tools was tested statistically by Cronbach Alpha test for knowledge was 0.943, practice was 0.856 and attitude was 0.874.

II-Operational design:

The operational design included preparatory phase, pilot study and field work.

A-Preparatory phase:

It included reviewing of related literatures, and theoretical knowledge of various aspects of the study using books, internet, periodical and magazines to develop tools for data collection.

B-Pilot study:

A pilot study was carried out on (10%) of 5 nurses from the study subjects to test the applicability, clarity, feasibility of the tools and to determine the time needed for filling the forms. No modifications were done after conducting pilot study.

C- Field work:

Data were collected within from beginning of January 2020 to the end of August 2020. The researcher attended to the setting one day per week for each setting (Sunday and Monday) in the morning shift. The purpose was explained simply to the nurses who were included in the study and got their approval to participate in data collection to this study.

The researcher assessed nurses' knowledge regarding care of patients with lymphoma at Radiation oncology & Nuclear medicine center at Ain-Shams University hospitals & oncology unit of Ain Shams specialized hospital. The researcher filled the observational checklists by observing each nurse while caring for patients with lymphoma which took from 15:30 minutes for each procedure and the nurses' attitude scale took 15 minutes to be filled by the nurses.

III-Administrative design:

An official permission was obtained from faculty of nursing Ain-Shams University to the director of Radiation Oncology & Nuclear medicine center at Ain-shams University hospitals and director of oncology unit at Ain Shams Specialized Hospital which the study was conducted, explaining the purpose of the study and requesting the permission for data collection from the study group. Meeting and

discussions were held by the researcher to explain to nurses the aim, nature and the objectives of the study.

Ethical consideration:

- The research approval was obtained from scientific research ethical committee in faculty of nursing at Ain Shams University as well as the director of Ain-Shams University Hospitals and oncology unit of Ain Shams specialized hospital before starting the study.
- The researcher clarified the objective and aim of the study to the nurses included in the study.
- The researcher assured maintaining anonymity and confidentiality of subject data.
- Nurses were informed that they were allowed to choose to participate or not in the study and their rights to withdraw from the study at any time.

IV-Statistical Design:

All data collected were organized, entered and analyzed using appropriate statistical significance tests. The data were collected, coded and entered to personnel computer. The data were analyzed by using statistical Package for Social Sciences(SPSS) version17. Number and percentage, mean and standard deviation(SD) were used. Test of significance was used and regarding significance of the result at $p\text{-value} \leq 0.05$.

Results

Table (1): Number and percentage distribution of the studied nurses according to their demographic data.

Demographic data of the studied nurses	Sample size (n = 40)	
	N	%
Age		
20-<30 yrs.	12	30
30-<40 yrs.	21	52.5
40-<50 yrs.	7	17.5
Mean SD	32.3±10.4	
Gender		
Male	9	22.5
Female	31	77.5
Marital status		
Married	27	67.5
Not Married	13	32.5
Years of experience		
5-<10 yrs.	10	25
10-<15 yrs.	22	55
≥ 15 yrs.	8	20
Attendance of training courses about nursing care for patients with lymphoma		
Yes	14	35
No	26	65
Did you benefit from these courses? (n=14)		
Yes	12	85.7
No	2	14.3

Shows that, 52.5% of the studied nurses their age ranged between 30-<40 years, the Mean SD of age is 32.3±10.4 years, 77.5% and 67.5% of the studied nurses are female and married, respectively. Moreover, 55% of the studied nurses their years of experience ranged between 10-<15 years, In addition, 35% of the studied nurses attend training courses about nursing care for patients with lymphoma and 85.7% of them benefit from these courses.

Figure (1): Percentage distribution of the studied nurses according to their level of education (n=40).

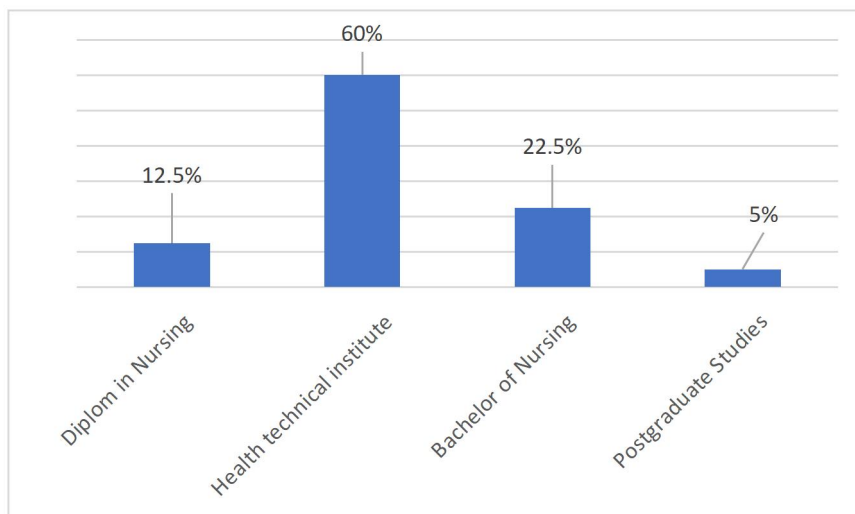


Figure (1): shows that, 60% of the studied nurses have health technical institute. Also, 22.5% and 5%, respectively of them have bachelor of nursing and postgraduate studies. While, 12.5% of the studied nurses have nursing diploma.

Table (2): Number and percentage distribution of the studied nurses according to their total knowledge about caring patients with lymphoma.

Total nurses' knowledge about caring patients with lymphoma	Studied nurses (n = 40)			
	Satisfactory		Unsatisfactory	
	N	%	N	%
Basic knowledge about lymphoma	15	37.5	25	62.5
Knowledge about the treatment of lymphoma	14	35	26	65
Nursing care for patients with lymphoma	13	32.5	27	67.5
Total knowledge	14	35	26	65

Table (2) shows that, 62.5% and 65% of the studied nurses have unsatisfactory level of total knowledge regarding of the basic knowledge about lymphoma and the treatment of lymphoma, respectively. Also, 67.5% of them have unsatisfactory level of total knowledge about the nursing care for patients with lymphoma.

Figure (2): Percentage distribution of the studied nurses according to their total knowledge about caring patients with lymphoma (n=40).

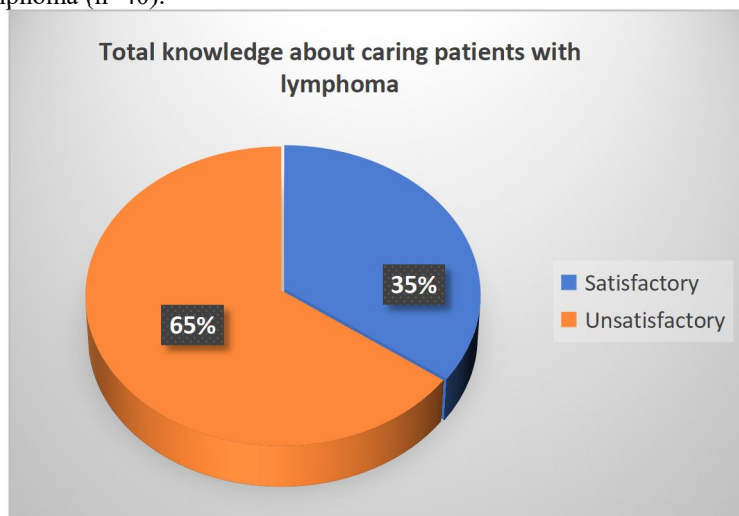


Figure (2) shows that, 65% of the studied nurses have unsatisfactory level of total knowledge about caring patients with lymphoma. While, 35% of the studied nurses have satisfactory level of total knowledge.

Table (3): Number and percentage distribution of the studied nurses according to their total practice regarding caring patients with lymphoma.

Total nurses' practice regarding caring patients with lymphoma	Studied nurses (n = 40)			
	Competent		Incompetent	
	N	%	N	%
Nurse' practice regarding Porta Cath's needle insertion & flushing.	16	40	24	60
Nurse' practice regarding Recapping of implanted port catheter.	21	52.5	19	47.5
Nurse' practice regarding Safe Handling & Disposal of Hazardous Drugs.	15	37.5	25	62.5
Nurse' role before, during and after giving chemotherapy.	15	37.5	25	62.5
Nurse' performance regarding administrating radiation therapy.	21	52.5	19	47.5
Nurse' role to skin care for patients that receiving radiation therapy.	24	60	16	40
Total practice	18	45	22	55

Table (3) shows that, 52.5% of the studied nurses were competent regarding their practice towards recapping of implanted port catheter and administrating radiation therapy, respectively. Also, 60% of them were competent regarding their role to skin care for patients that receiving radiation therapy. While, 60% and 62.5% of the studied nurses were incompetent regarding their practice towards Porta Cath's needle insertion & flushing and Safe Handling & Disposal of Hazardous Drugs, respectively. Also, 62.5% of them were incompetent regarding their role before, during and after giving chemotherapy.

Figure (3): Percentage distribution of the studied nurses according to their total practice towards caring patients with lymphoma (n=40).

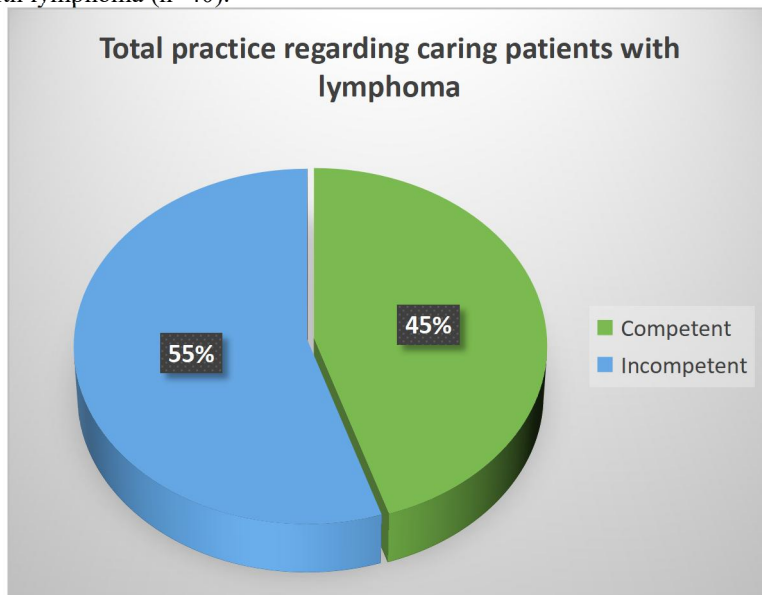


Figure (3) shows that, 55% of the studied nurses were incompetent regarding their total practice towards caring patients with lymphoma. While, 45% of them were competent regarding their total practice towards caring patients with lymphoma.

Figure (4): Percentage distribution of the studied nurses according to their total attitude regarding caring patients with lymphoma (n=40).

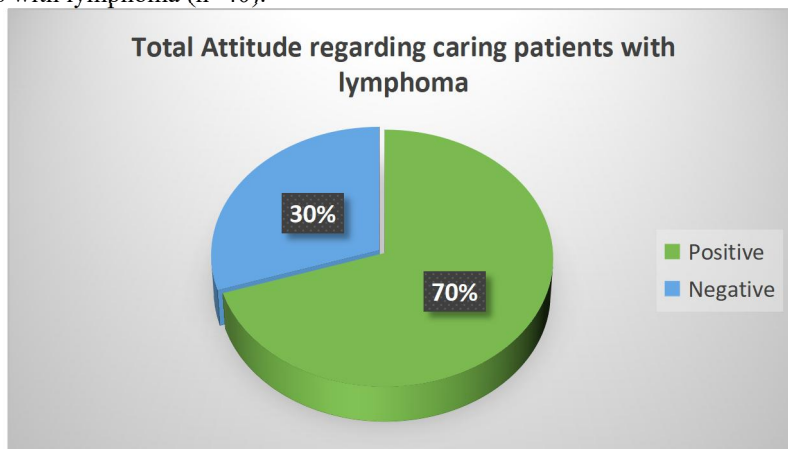


Figure (4) shows that, 70% of the studied nurses have positive attitude regarding caring patients with lymphoma. While, 30% of them have negative attitude regarding caring patients with lymphoma.

Table (5): Correlation between nurses' knowledge, practice and their total attitude regarding caring patients with lymphoma (n=40).

Items	Total knowledge	Total practice
Total knowledge		r =. 227 P =. 015*
Total attitude	r =. 205 P =. 032*	r =. 211 P =. 021*

****highly significant at $p < 0.01$.**

Table (5) indicate that, there is a significant positive correlation between nurses' knowledge, practice and their total attitude regarding caring patients with lymphoma at ($P = < 0.05$).

Discussion:

The lymphomas are neoplasms of cells of lymphoid origin. These tumors usually start in lymph nodes but can involve lymphoid tissue in the spleen, the gastrointestinal tract, the liver, or the bone marrow. The different sub-types of lymphoma divided into two main types: Hodgkin s' lymphoma (or Hodgkin s' disease) and non-Hodgkin s' lymphoma. Non-Hodgkin lymphomas belong to the group of lymphatic system cancers. They develop in lymphatic and lymph-related tissues from pathological cells proliferating without body control through B and T lymphocytes, or NK cells. Over half of all the NHL diagnosed cases are of popular nature diffused from large B cells and mantle cell lymphoma (**Kurek, Tatara, 2018**). Regarding the studied nurses' demographic characteristics, the results of this study revealed that half of the nurses' ages were less forty years old with Mean age 32.3 ± 10.4 years. This finding disagreed with **Kurek and Tatara, 2018**). In a study titled 'Assessment of nurses knowledge about non – Hodgkin's lymphomas' who found that three fifth of the study nurses there mean age was 41.3 ± 7.5 years.

According to gender, the present study showed that more than three quarters of them were females and two thirds of them were married. This result was supported with **Ahmed et al. (2018)**. In a study titled 'Effect of Nursing Protocol on Nurses' Performance and Venous Thromboembolism Risks among the Patients with Non-Hodgkin Lymphoma Undergoing Surgery' who found that majority of the study nurses were female and married.

Related to attend of training courses, less than two thirds of the studied nurses had not attended any training courses and more than one third of them attending training courses, while, majority of them had benefit from attending training courses about nursing care for patients with lymphoma. This finding is inconsistent with **Shahin et al. (2018)**, In a study titled "Effect of educational program on performance of Staff Nurses' care of patients with lymphoma in Acute Care Setting" revealed that the majority of nurses were attending training courses.

Regarding to level of education it was found that, three fifth of the studied nurses were graduated from health technical institute and more than half of them have ranged between 10-15 years of experience about care of patients with lymphoma. This finding in the same line with **Dubois et al. (2018)**. In a study titled "Conceptualizing performance of nursing care as a prerequisite for better measurement among care of lymphoma patient: a systematic and interpretive review" who found that more than half of the nurses were graduated from a health technical institute and their experience more than 10 years of experience.

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interpretive review” who found that more than half of the nurses were graduated from a health technical institute and their experience more than 10 years of experience.

The present study revealed that less than two thirds of the studied nurses had unsatisfactory level of knowledge regarding Basic knowledge about lymphoma disease as definition, causes, risk factors and complication. This might be due to lack of continuous educational programs about the disease. This finding is in agreement with **Kurek and Tatara, (2018)**. In a study titled “Assessment of nurses’ knowledge about non – Hodgkin’s lymphomas” who found that more than three quarters of the study nurses have unsatisfactory level of knowledge about lymphoma disease.

According to Total satisfactory level of knowledge, less than two thirds of nurses had unsatisfactory level of knowledge, this could be due to lack of training and workload that decrease their time and energy to seek knowledge. This result incongruent with **Ahmed et al. (2018)**. In a study titled ‘Effect of Nursing Protocol on Nurses’ Performance and Venous Thromboembolism Risks among the Patients with Non-Hodgkin Lymphoma Undergoing Surgery” who found that more than half of the study nurses had satisfactory level of knowledge. This part answers the first research question.

Based on the results in the present study, more than half of the studied nurses had incompetent level of total practice. The total and subtotal practice incompetency could be due to lack of attending training courses and this affect their knowledge and skills, so that the nurses need educational Inservice training. This finding in the same line with **Shahin et al. (2018)**, In a study titled “ Effect of educational program on performance of Staff Nurses’ care of patients with lymphoma in Acute Care Setting “ revealed that the more than three quarters of nurses were unsatisfied level of practice. This part answers the second research question.

Concerning with total scores of nurses’ attitudes regarding to care for patients with lymphoma, this study revealed that more than two thirds of nurses under study had positive attitude. This finding was in agreement with

Gashi et al. (2018). In a study titled ‘Knowledge, attitude and practice of registrar nurses toward care of patients with non-hodgkin lymphoma” who found that majority of the study nurses have positive attitude regarding care of patients with non-hodgkin lymphoma. This may be due to that cancer patient always need long term follow up and this increase the relation between nurses and patient during conducting care. This part answers the third research question.

According to relation between demographic characteristics and total satisfactory level of knowledge, there is highly statically significant relation between nurses’ knowledge about caring patients with lymphoma and their demographic data as level of education and attendance of training courses. In addition, there is statistically relation with their ages and years of experience. While there is no statistically significant relation with their gender and marital status.

This finding was in agreement with **Aljobury et al. (2021)**. The study title was ‘Effectiveness of Educational Program on Nurses’ Knowledge and practice toward malignant lymphatic Tumors at the Oncology Center” who found that there were statistically significant relation between demographic characteristic as level of education and total level of knowledge.

According to relation between demographic characteristics and total competent level of practice, there were highly significant relation between competent level of nurses’ practice and their demographic data as level of education and attendance of training courses. In addition, there is statistically relation with their ages and years of experience. While there is no statistically significant relation with their gender and marital status.

This finding was in agreement with **Elsayed et al. (2019)**. The study title was “Assess Nurses’ Performance Regarding Care of Patient with Implanted Port Undergoing Chemotherapy” who found there were highly statistically significant relation between demographic characteristic as age, level of education and total level of practice.

In present study, there is highly statistically significant relation between nurses' attitude and their demographic data as level of education and attendance of training courses about nursing care for patients with lymphoma. In addition, there is statistically significant relation with their years of experience. While, there is no statistically significant relation with age, gender, marital status.

This finding was in agreement with *Onianwa et al. (2017)*. The study title was 'Impact of training program on Nigerian nurses knowledge, practice, and attitude of Lymphoma management' who found that there were highly statistically significant relation between nurses' attitude regarding caring patients with lymphoma and their demographic data as level of education and attendance of training courses about care for patients with lymphoma. This results might be due to nurses acquires positive attitude when deal with care for lymphoma patients and it reflect their experiences when deal with this conditions.

Based on the findings, there were a significant positive correlation between total scores of nurses' knowledge, practice and attitude regarding care of patients with lymphoma. This finding was in agreement with *Mohammed & Aburaghif, (2018)*. The study title was "Effectiveness of Teaching Program on Nurses' Knowledge Concerning the Side Effects of Chemotherapy among patients with Leukemia at Oncology Wards in Baghdad" who found that there were statistically significant relation between nurses' knowledge and practice. This results might be due to nurses acquires positive attitude when deal with care for lymphoma patients and it reflect their experiences when deal with this conditions.

The study finding of the present study was answered the research question of this study and found that less than two third of nurses had unsatisfactory level of knowledge more than half of the studied nurses had incompetent level of total practice and more than two third of nurses under study had positive attitude. Finally, there were a significant positive correlation between total

scores of nurses' knowledge, practice and attitude regarding care of patients with lymphoma.

Conclusion

Based on the findings of the current study, this study concluded that: less than two thirds of the studied nurses had unsatisfactory level of total knowledge about caring patients with lymphoma. Also, more than one half of the studied nurses were incompetent regarding their total practice towards caring for patients with lymphoma. Less than three quarters of the studied nurses had positive attitude regarding caring patients with lymphoma. The present study revealed that, there is a significant positive correlation between nurses' knowledge, practice and total attitude regarding care for patients with lymphoma.

Recommendation

Based on the study results, the following recommendations are suggested:

- Prepare and implement of educational program for nurses who caring for patients with lymphoma about knowledge, practice and communication skills between patients with lymphoma and nurses that need to improve high quality of health care, to meet needs and problems of patients with lymphoma .
- Provide nurses who administrate chemotherapy and radiotherapy to patients with lymphoma, updated booklets which contain guidelines and updates information about chemotherapy and radiotherapy treatment to improve their level of knowledge and practice.
- Increase nurses awareness about policies and guidelines related to chemotherapy and radiotherapy administration.
- Periodically and continuously, evaluation for nurses' performance should be done to determine their needs.
- Nurses should be encouraged to attend scientific meetings and conferences to gain updated

knowledge about care for patients with lymphoma, chemotherapy and radiotherapy administration for proper nursing services.

- Further studied to detect the predictive factors affecting nurses' lack of knowledge and skills regarding care for patients with lymphoma.
- Further studies about needs and problems of nurses who care for patients undergoing chemotherapy and radiotherapy treatment with increasing sample size and different setting.

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