Elderly Cancer patients Satisfaction with quality of nursing care in day care unit at oncology center Mansoura University

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Abstract: Patient satisfaction is a key indicator of the care quality in elderly cancer treatment in day care unit. Aim: Assess elderly cancer patient's satisfaction with nursing care quality in day care unit at oncology center Mansoura University.Method:Adescriptive study designcarried on 300elderly cancer patientsundergoing chemotherapy and 30 nurseat day care unit of Oncology center Mansoura University, patients and nurses were interviewed individually by the researcher to collect data.Results: Nearly three quarters of patients were unsatisfied with nursing care quality. Most of nurses had poor knowledge about cancer. Moreover, they didn't follow quality of nursing care standard related to cancer. Furthermore, most of resources were unavailable in the day care unit.Conclusion: Most of elderly cancer patient unsatisfied about quality nursing care and bad nursing performance.Recommendations: Continuous educational programs to keep nurses' knowledge and performance aboutcare quality up to date. Additional research is needed to assess the elderly cancer patients' satisfaction about quality of care provided care in day care unit.

Keywords: day care unit, elderly cancer patient's satisfaction, quality of nursing care.

I. Introduction

Cancer is a disease associated with aging, and median age at diagnosis is close to 70 years in Norway **(Ostrom et al., 2015)**. In Denmark, cancer has been the leading cause of death since 2000 and number of incident cancer is expected to increase by about 32% towards 2030 just due to an increasing elderly population **(Hildebrandt et al., 2016).** According to Iranian ministry of health, cancer is the third most common known cause of death, after cardiovascular disease and accidents. With age, risk of cancer is increased. Older adults account for 60% of cancer incidences and 70% of cancer death in Australia **(Extermann&Movsas., 2012)**.

In USA, patients who aged 65 years and above are account for about 60% of cancer diagnosis and 70% of cancer mortalities, cancer incidence in those who aged 75 years and above has increased to 2.217 cases per 100.000 people in 2012. In Egypt, based upon results of National Cancer Registry Program (NCRP), the crude incidence rates (CIR) of cancer per 100,000 were 113.1 (both sexes), 115.7 (men), and 110.3 (women)**(Ibrahim &Issa, 2015)**.

There are various modalities of cancer treatment such as radiation therapy, chemotherapy, surgery, hormonal therapy and transplant. Chemotherapy is a used to treat many types of cancer either alone or in combination with other treatments. It is a systemic therapy to control, cure and prevent the growth of cancer in a patient which means that cancer-fighting drugs circulate in the blood.Chemotherapy affects the whole body causing a range of side effects because the drugs spread throughout the body **(Siegal et al, 2012)**.

Patient satisfaction about nursing care is a valid indicator for measurement of all satisfaction with hospital setting. To ensure service improvement at appropriative levels in hospital it is important to identified factors which affect patient satisfaction with nursing care. Measuring patient satisfaction with nursing care is important to determine and meet patient's need and to assess quality of care provided. Patient satisfaction is a key indicator of quality of care. A highly satisfied patient is compliant with treatment and advises of medical staff **(Psilopanagioti et al, 2012) (Fortney et al, 2013)**.

Care quality is a system approach to health services, which assure each technical competency and interpersonal dimension of "health care giving process". Patient's satisfaction is amongst two main elements of care quality which includes respect for, understanding patient requirements and providing services consequently **(Ghiwet&kidanu, 2014).** It is supported by difference between expected and perceived quality. Once expected service quality equals to perceived service level, it is referred to as general service quality, level of perceived service is higher than expected, it is referred to as better service quality and when level of perceived service is

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lower than expected, it is referred to as worse service quality. Well-designed health care delivery system can reduce re admission, improve quality of life and provide patient satisfaction **(Samina, 2008).**

Nursing care is recognized as an area of competition, where the patient is seen as a client and consumer of health care. Nurses are an important part of each single part of patient's care; they provide continuous care to patients: Assessing patient, answering questions, giving medications and treatments, and making medical procedures. They have the responsibility to explain to patients what they should and shouldn't do through treatment and recovery, and they must quickly respond to patient needs. They are backbone of healthcare team, and way performance has a real impact on healthcare quality*(Omran&Elmolla, &AbdElaziz, 2013)*.

II. Aim of the study

Assess elderly cancer patients' satisfaction about quality of care at day care unit at Oncology Center Mansoura University and assess Nursing knowledge and performance related to cancer and chemotherapy.

III. Research Question

RQ1- Are elderly cancerpatients satisfied about quality of care provided at day care unit at Oncology Center?
RQ2- Are nurses at day care unit Oncology Center qualified and knowledgeable?

IV. Materials And Methods

I- Study Design:
A descriptive research design was used to carry out this study.
II- Setting:
This study was carried out at day care unit at Oncology Center Mansoura University. Day care unit consists of two big rooms, one for men and one for woman with 10 beds and clinical pharmacy.
III- Subjects:
A purposive sample of three hundred (300) elderly cancer patients aged 60 years and above, attended the above mentioned setting and scheduled to receiving chemotherapy within a period of three months (from the 1st June to the 1st of September, 2017) was used in addition to thirteen nurses represent all staff nurses at the time of data collection on the setting mentioned before. Those elderly patients were included the following **inclusion criteria**: -
1.   Both sexes aged 60 years and above.
2.   Ability to communicate.
3.   Willing to participate in the study.

IV- Tool of data collection:
In order to collect the necessary data for the study four tools were used:
Tool I: Interview schedule sheet: this tool was developed by the researcher and consisted of three parts.
Part One: Socio demographic characteristics of nurses: such as(age, gender, marital status, educational level, years of experience, and training related to elderly cancer).
Part two: Socio demographic characteristics of elderly patients: such as (age, gender, marital status, educational level, No of children, current work, and income).
Part three: Medical data of elderly patients: such as (diagnosis, comorbidities, duration of disease, treatment type, history of chemotherapy and radiotherapy and side effect of chemotherapy).
Tool II: Assessment sheet of nurse`s knowledge:
This tool was developed by the researcher and consists of two parts:
Part one: Nurses knowledge about cancer disease:
This tool was developed by the researcher after reviewing recent relevant literature **(Shafik& Allah, 2015)**. It included four questions are true or false, each carried answer had one grade, while wrong answer, or did not know had zero. It included four questions as (definition, risk factors, type of cancer, and type of cancer treatment?). Scoring systemfor nurse's knowledge about cancer, nurse's knowledge was considered «poor» if the percentage was < 60%, and was considered «good» if the percentage was ≥ 60 %.

Part two: Nurses' knowledge about chemotherapy.
This tool was developed by the researcher after reviewing recent relevant literature **(Shafik& Allah, 2015)**. It included eight questions are true or false, each carried answer had one grade, while wrong answer, or did not know had zero. It included eight questions as (Objective of giving chemotherapy, factors that determine the type of treatment, Calculation method of chemotherapy dose, Complication, Side effects of it, signs and

symptoms of chemotherapy reaction, nursing interventions of chemical reaction, and effect of aging on response to chemotherapy). Scoring systemfor nurse's knowledge about chemotherapy, nurse's knowledge was considered «poor» if the percentage was < 60%, and was considered «good» if the percentage was ≥ 60 %.

Tool III: Nurse's performance check list.
It was developed by the researcher based on reviewing recent relevant literature **(Ebrahim&Issa, 2015)** and consisted of vital signs (pulse, blood pressure, and temperature), measuring weight and height, reporting physician about chemotherapy side effects, take necessary action with chemotherapy side effects, nursing intervention in case of nausea and vomiting, stomatitis, anemia, fatigue, hair lose, infection, chemotherapy reaction, and giving health education. Each item in the previous procedures was classified into two levels; (done) and (not done), if the nurses performed the steps correctly, one point was given, if incorrectly done or not done it at all, zero point was given. Total score for nurses' performance were dependent on the number of grades the nurses obtained regarding all questions, and were classified as the following
- Good performance: more than or equal 60%.
- Poor performance: less than 60%.

Tool IV: Assessment sheet of patient's satisfaction level.
It was developed by the researcher after reviewing relevant literature **(Risser, 1975)** andconcerned with assessment of patients satisfaction related to nursing staff, physicians, and day care unit. Patient satisfaction related to nursing staff was consisted of fourteen question such availability of nurses, vital signs, explaining procedures and given health education. Patient satisfaction related to physician consisted of three questions such availability of physician, listen to patient complaint and patient trust physician.Patient satisfaction related today care unit consisted of fifteen questions about beds, lighting, ventilation and availability of medical supplies. Scoring was considered (0) not satisfied (1) sometimes (2) satisfied. Patient satisfaction was considered satisfied if percent score was > 60%, satisfaction considered average if percent was 50% and satisfaction considered unsatisfied if percent < 50%.

IIV- Methods
1. An official letter was obtained from Faculty of Nursing, Mansoura University to the director of the Oncology Center Mansoura University.
2. The head of the out patients clinics for Oncology center was informed about the purpose of the study, the date and the time of starting data collection in order to obtain their approval to interview the elderly patients.
3. Verbal consent of the subjects was obtained after explanation of the purpose of the study.
4. Privacy of the subjects was maintained and Confidentiality of the collected data was assured.
5. After reviewing of the relevant literature, tool I, II, III, and IV was developed by the researcher and reviewed by the supervisors.
6. Tool I, II, III, and IV was validated by juries to ensure the content validity. The juries consisted of five experts in the Gerontological Nursing, Faculty of Nursing Mansoura University the necessary modifications were done accordingly.
7. A pilot study was carried out on 15 elderly patients from Oncology Center Mansoura University before starting the data collection to test the feasibility of the tools and to make the necessary modifications. The elderly participated in the pilot study were excluded from study sample.
8. Based on the schedule of the outpatient clinics at Mansoura Oncology Center, the researcher visited the clinics on Sunday, Monday, Wednesday and Tuesday weekly and all the elders attended the outpatient clinics in these days were included in the study.
9. Each elderly was interviewed individually by the researcher after explaining the purpose of the study, and then the necessary data were collected.
10. Time taken to fill the study tools ranged from 20 to 25 minutes for each patient.
11. The data collection covered a period of three months from June till September 2017.

IIIV- Statistical analysis:
Collected data was organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 21, SPSS Inc. Chicago, IL, USA). Descriptive statistics were used to present data; frequencies and percentages used for expression to qualitative variables, while means and standard deviations used for quantitative normally distributed variables. Fisher exact test was used when expected frequency in one or more of the cells was less than five. Correlation between variables was evaluated using Pearson's correlation coefficient (r). Statistical significance was confirmed when p-value at ≤0.05.

V. Results
Part I: Socio demographic data of participant nurses and elderly patients:
Table (1) presents the distribution of participants' nurses according to their socio demographic characteristics. It shows that (40%) of them were in age group (25 < 30 years). Regarding sex and marital status (83.3 %) of them were female, (70%) were married. As regards to level of education (56.7 %) of them had nursing diploma. The table reveals that (30%) of them had 1 to 5 years' experience in day care unit, the most of them (93.9) didn't receive any training courses related to care of elderly cancer patients, and (70%) of them hadn't problem in dealing with elderly.

Table (2) presents the distribution of participants' patients according to their socio demographic characteristics. It shows that more than three quarter (84.3%) of the study sample was in age group (60 to 70 years). As regards sex and marital status (62%) of them were female and (60.7%) of them were married. It is observed from the table that (64.7) of them were illiterate, (65.3%) of them had one to four children, (76%) of the patients not working, and (69%) of them reported that income not enough for them.

Part II: Nurses' knowledge level about cancer and chemotherapy:
Figure (1) shows Nurses' knowledge level regarding cancer and chemotherapy treatment among elderly patients. The figure reveals that more than half of study sample (53.3%) nurses' knowledge regarding cancer disease not enough. In the other hand (53.3) of nurses had adequate knowledge regarding chemotherapy.

Part III: Nurses'performance level:
Figure (2) points out nurses' performance level regarding nursing intervention of elderly cancer patients'. It reveals that more than three quarter of nurse's performance level (86.7%) was bad while only 13.3% of nurses' performance level was good.

Part IV: Patients' satisfaction level about quality of care:
Table (3) presents the patients' satisfaction about quality of care. It shows that the highest level of patient's satisfaction was among availability of cafeteria (54%) followed by taking necessary lab (52.3%), however the lowest level of patient's satisfaction was among absence of commode and table for each bed, bell to call nurse and feeling of privacy (0.0%, 0.7%), respectively.

Figure (3) shows the satisfaction levels of sub items as perceived by the studied patients. It shows that the highest level of dissatisfaction was among unit structure (97.3%), followed by nursing staff, and physicians (90%, 78.3% respectively).

Part V: Relation between Nurses' knowledge and performance:
Table (4): points out the relation between nurse's knowledge and their performance. The table shows that nurse's knowledge affect significantly on their performance.

VI. Discussion
Cancer is a significant cause of morbidity and mortality worldwide, and every nurse will, at some stage of their career, cares for cancer patient. Nurses are challenged to meet patient and its family's needs through all cancer stages; from diagnosis, treatment, potential recurrence, to possible survivorship or death. Nursing care of cancer patients has been described as stressful, challenging and emotionally demanding. It is require advanced communication skills, counseling skills and practical knowledge. Oncology patients and their families' physical and psychosocial needs are generally not being met in non-specialist clinical settings**(Basch, et al, 2016).**So thestudy aimed toassess elderly cancer patients' satisfaction with quality of nursing care in day care unit at oncology center Mansoura University. According to the present study, more than three quarters of nurses were women this may be due to in our country the majority of nursing manpower werewomen. This finding wascompatible with the studydonein Egypt by**Shafik and Abd Allah (2015),** who mentioned that three quarters of the nurses were women. Regarding marital status, the present study reported that higher than two third of the nurses were married. This finding was in the same line with**Major (2016),** whodemonstrated that higher than half of nurses were married. Considering level of education, the present study showed that more than half of the nurses had nursing diploma, while one quarter of them had technical nursing and minimal had bachelor. This finding was in the same line with studydone in Egypt by**Mohamed &Gaballah, (2018)**who mentioned that the highest percentage of nurses had nursing diploma it can be due to its few yearsof schooling and easier to study.

Regarding experience years' in oncology unit, most of them having from 1 to less than 5 years' experience, in day care unit. Concerning training coursehigher than three quarter of them didn't take any training courses about care of elderly cancer patients. The previous findings were confirmed by **Shafik and Abd Allah (2015),** who noticed that higher than half of nurses have more than 8 years of experience, and most of them didn't take any training courses about cancer, which may be related toabsenteeism andshortage of nursing staff, this shortage can't allow them to attend any training courses to avoid work interruption.

In relation to studied elder's characteristics, the present study revealed that the most of elderswere young old, female, married, illiterate, and house wives. This resultwas in congruent with study done by**Clough-Gorr and Silliman, 2012,Siegel, el, at, 2012,** who mentioned that cancer was more common in women than

males. As regards to the gender, women were more prevailing which represents more than one half of the studied elders. This may be attributed to the fact that certain types of cancers are associated with gender like breast cancer which more common in women and constituted more than one third of study sample. This is in line with the finding of a study conducted in USA by **Hurria etal., (2011)** and a study conducted in Mexico by **Wildiers, et al, (2014)** which revealed that women were constituted more than one half of the study sample.Concerning the educational level, slightly more than half of the studied elders were illiterate while a limited number had a university education. This may be related to that majority of the studied elders were house wife which had lower opportunities for education in the past. This finding is inagrees with **Krebber, et al, (2014)**who revealed that about three quarter of cancer patients had a low education level. Regarding the marital status, the majority of studied elders were married. This finding is consistent with a study done in Alexandria, Egypt by **samir, (2012)**, who demonstrated that higher than half of elderly cancer patients were married.

The current study result revealed that the studied elders didn't work also this finding was compatible with **kates (2014),** who revealed that higher than half of cancer patients didn't working. This finding could be related to aging process and diseases itself as it causes overheating which may be the main reason for inability to work.

Concerning nurse's knowledge related to cancer, the current study showed poor knowledge score about cancer. This finding is the same linewith the studyconducted in Tanzania **byUrasa&Darj, (2011)**who notice in their study that nurses had poor knowledge about cancer. This could be due to three quarters of the study nurses participant don't have any training courses, and most of them had nursing diploma.On the other hand the present study revealed that nurses had good knowledge about chemotherapy. This finding is similar to study done in Pakistan, by **Khan, et, al, (2012).**

As regardsnursing performance for elderly cancer patients, the result of the current study showed that most of nurses didn't measurevital signs, didn't performappropriate nursing care related to nausea, vomiting, stomatitis, and fatigue. In this respect, **Caillet, et al, (2014)** demonstrated that general nursing process as assessment and diagnosis provide the nursing carebaseline; its vital steps in critical care units to identify the patient's problems but most of nurses don't apply general assessment and diagnosis. This is due to the large number of patients and the shortage of nurses. In contrast of this study **Aiken,et, al (2012)** who stated that high nursing care in European hospitals due to improved work environments and reduce ratio of patient to nurse.

The current study revealed that the majority of elderly cancer patients wereunsatisfied aboutquality of nursing services in day care unit this finding was similar to thosestudy done inIran **by Teshnizi, et al, (2018)** and in Ethiopiaby **Sharew, et al, (2018)** who expounded patient not satisfiedabout nursing care. It caused by lack of nursing, lack of inputs and entryroutine This finding is in contrast of a study in Egypt**byMahran& Al Nagshabandi, (2016)**who reported patient satisfied with the nursing care provided.

Concerning patient satisfaction about unit, thestudy showed that higher than one third of unit resourcewasunavailable as: arrest care, sphygmomanometer, thermometer, blood glucose, infusion pump and scale. Concerning suppliesthe study revealed that higherthan half of supplies were unavailable as blood transfusion, lines, gloves, cannulas, gauze, dressing and syringes. This result was in compatible with **Kritsotakis, et al, (2010),**who recently expounded that there is shortage in hospital resources as equipment and supplies. A different hospital setting isdue to difference in hospital policy, patient's needs, and health settingpackage.This results in contrast of **Suhonen, et al, (2012)**who showed that patient satisfied about hospital inputs.

Correlation between nursing knowledge, and practice, the results showed that there was significant relation between nurse's knowledge and performance. The previous results was highly compatible by **Sayed, Mohamed & Mohamed, (2013)** and **Khaleel& Al-Hussein, (2015)** which demonerstrated the relation between nurses' knowledge and practicewas significant. It could be due to with practice, knowledge growsas a result of long period of nurses' experience.

VII.   Conclusion
Based on results of present study, it can be concluded thatmajority of the studied elders unsatisfied about nursing care.

VIII.   Recommendation
According to results of this study the following recommendations were suggested:
-     Development and application of training program for all nurses to update their knowledge and improve their skills and attitude to care of cancer elderly patients.
-     Counseling sessions should be offered to elderly patients, families and their caregivers about disease, its treatment, and side effects.

- Encourage responsible authorities in hospital to facilitate admission routine, develop unit structure like comfortable beds, clean bathroom, good ventilation, and bell to facilitate nurse calling and increase number of nurses.

IX. Figures and Tables
Table (1): socio demographic characteristics of participants' nurses (n=30).

Characteristics	No (30)	%
Age (in years)		
▪ < 20 years	6	20.0
▪ 20<25 years	7	23.0
▪ 25<30 years	12	40.0
▪ >30 years	5	16.7
Gender		
▪ Male	5	16.7
▪ Female	25	83.3
Marital status		
▪ Single	7	23.3
▪ Married	21	70.0
▪ Widowed	1	3.3
▪ Divorced	1	3.3
Educational level		
▪ Diploma in nursing	17	56.7
▪ Technical institute	11	36.7
▪ Bachelor in nursing	2	6.7
Years of experience		
▪ <1 years	6	20.0
▪ 1< 5 years	9	30.0
▪ 5< 10 years	8	26.7
▪ >10 years	7	23.3
Having training courses related to care of elderly cancer patients		
▪ Yes	2	6.7
▪ No	28	93.3
Having problems in dealing with elderly		
▪ Yes		
▪ No	9	30.0
	21	70.0

Table (2): socio demographic characteristics of participants' patients (n=300).

Characteristics	No (300)	%
Age (years)		
▪ 60-70 years	253	84.3
▪ >70 years	47	15.7
Gender		
▪ Male	114	38.0
▪ Female	186	62.0
Marital status		
▪ Single	16	5.3
▪ Married	182	60.7
▪ Widowed	102	34.0
Educational level		
▪ Illiterate	194	64.7
▪ Read and write	62	20.7
▪ Secondary education	36	12.0
▪ University education	8	2.7
No of children		
▪ None	16	5.3
▪ 1-4	196	65.3
▪ >4	88	29.3
Work before retirement		
▪ House wife	170	56.7
▪ Farmer	56	18.7
▪ Employee	37	12.3
▪ Worker	37	12.3
Current work		
▪ Not working	228	76.0
▪ Worker	58	19.3
▪ Office work	14	4.7
Income	207	69.0

	No	%
▪ Not enough	81	27.0
▪ Enough	12	4.0
▪ Enough and save		

**Table (3): patient's satisfaction related to quality of care at day care unit (n=300).**

Nursing staff	No (0)		Sometimes (1)		Yes (2)	
	No	%	No	%	No	%
1. There are enough nurses available	150	50.0	64	21.3	86	28.7
2. Nurses give medication on time	163	54.3	71	23.7	66	22.0
3. Take vital signs.	180	60.0	62	20.7	58	19.3
4. Take necessary lab	87	29.0	56	18.7	157	52.3
5. Nurse explain what she are going to do, such as installing a cannula or withdrawing tests	170	56.7	83	27.7	47	15.7
6. Answer your questions and the family without anger	175	58.3	82	27.3	43	14.3
7. Give you the necessary health education.	176	58.7	80	26.7	44	14.7
8. You feel upset if physician and nurses talk about medical terms.	83	27.7	62	20.7	155	51.7
9. Trust the abilities of the nurse.	140	46.7	65	21.7	95	31.7
10. Nurse is constantly following up.	164	54.7	75	25.0	61	20.3
11. Nurse treats you with affection and respect.	170	56.7	69	23.0	61	20.3
12. You feel that the nurse knows what to do and have sufficient experience.	128	42.7	61	20.3	111	37.0
13. The nurse is patient.	163	54.3	73	24.3	64	21.3
Physicians						
1. Does the physician always exist?	155	51.7	87	29.0	58	19.3
2. Does the physician listen to your complaint?	159	53.0	80	26.7	61	20.3
3. Do you trust the physician to write the appropriate treatment?	137	45.7	64	21.3	99	33.3

Unit	No (0)		Sometimes (1)		Yes (2)	
	No	%	No	%	No	%
1. There is enough beds	176	58.7	65	21.7	59	19.7
2. Lighting the unit is good	132	44.0	36	12.0	132	44.0
3. There is a column and table for each bed	300	100.0	0	0.0	0	0.0
4. There is a bell to call the nurse.	300	100.0	0	0.0	0	0.0
5. Feel the privacy during the detection of you. There are curtains between beds.	295	98.3	3	1.0	2	0.7
6. The unit is clean and well ventilated.	145	48.3	56	18.7	99	33.0
7. The bathroom is clean and close to the room	147	49.0	67	22.3	86	28.7
8. There are entertainment facilities such as television and magazines.	281	93.7	4	1.3	15	5.0
9. There is ways to communicate with family, such as a telephone.	213	71.0	31	10.3	56	18.7
10. Is there an elevator.	121	40.3	76	25.3	103	34.3
11. Hospital administration allows you to have company with you.	142	47.3	70	23.3	88	29.3
12. There is a cafeteria to provide food and drink.	122	40.7	16	5.3	162	54.0
13. Hot and cold water is available.	117	39.0	72	24.0	111	37.0
14. There is adequate medical supplies such as cotton, gauze, alcohol, pesticides, gonads, masseurs and syringes	132	44.0	67	22.3	101	33.7
15. The necessary medical devices, such as a pressure device, a thermometer, a headset, medications, a balance, and a sugar machine available.	160	53.3	62	20.7	78	26.0

Table (4): Relation between nurses' knowledge and their performance.

	Total Nurses' performance score	
	r	**p**
Total Nurses 'knowledge score	0.48	**0.007***

Figure (1): Nurses' knowledge level regarding cancer and chemotherapy among elderly patients (n=30).
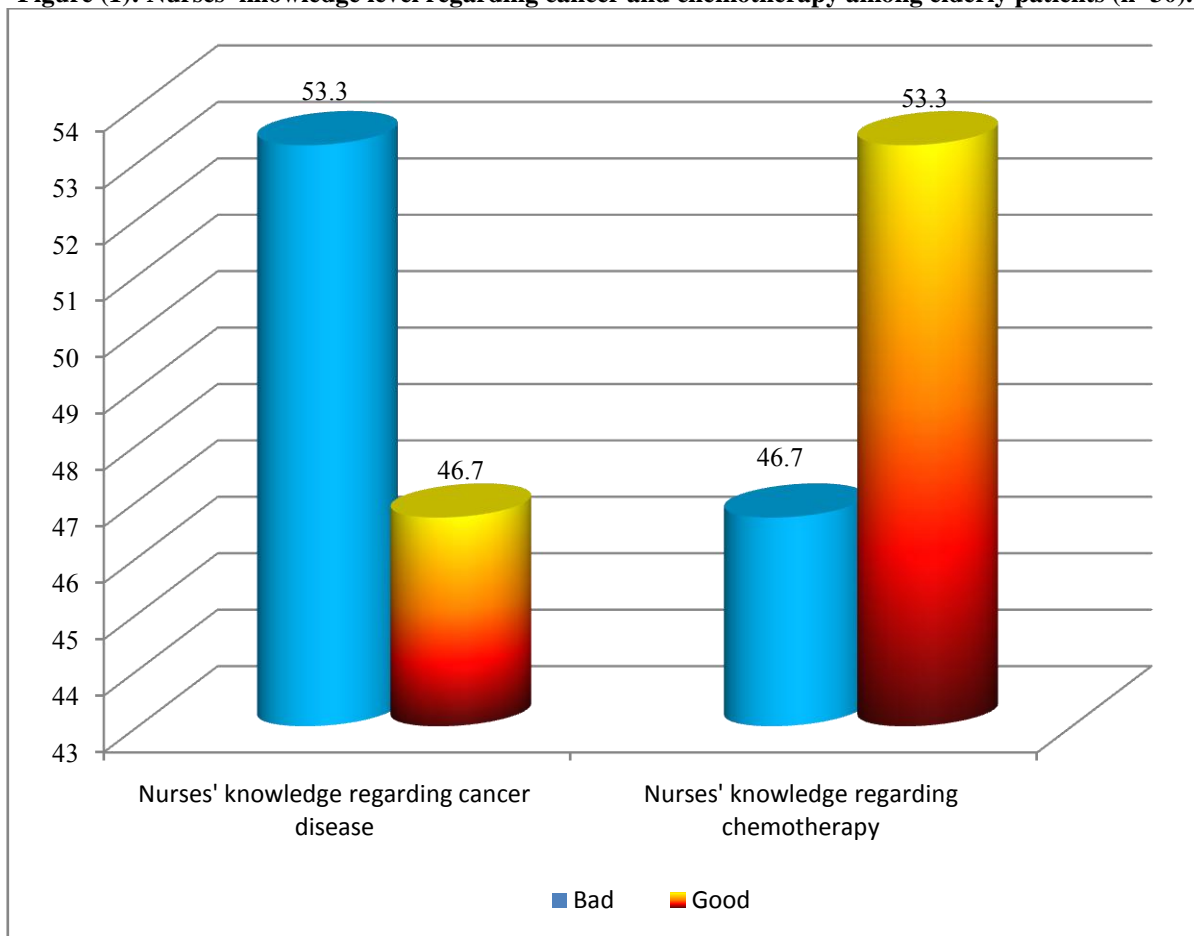
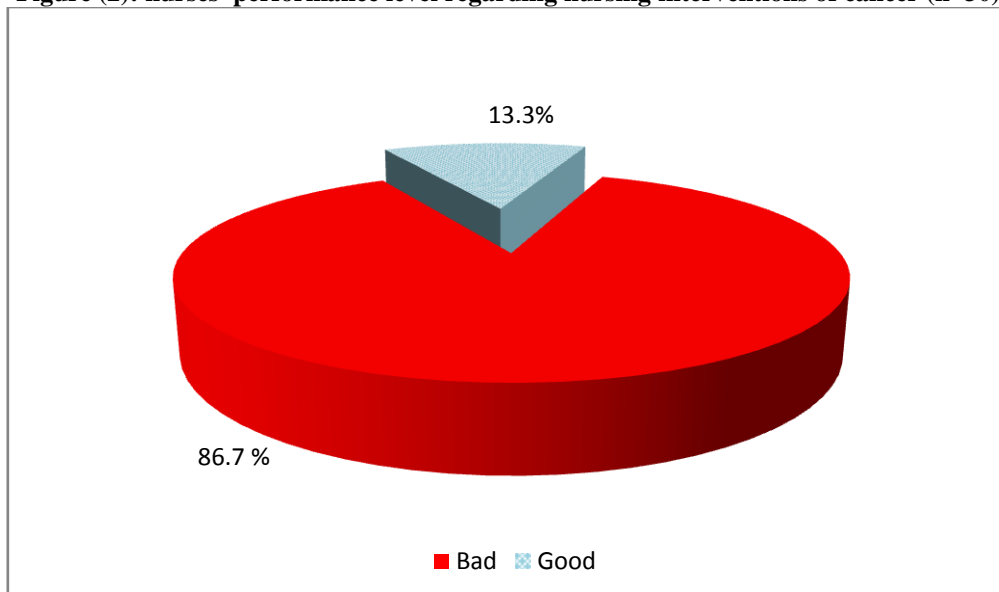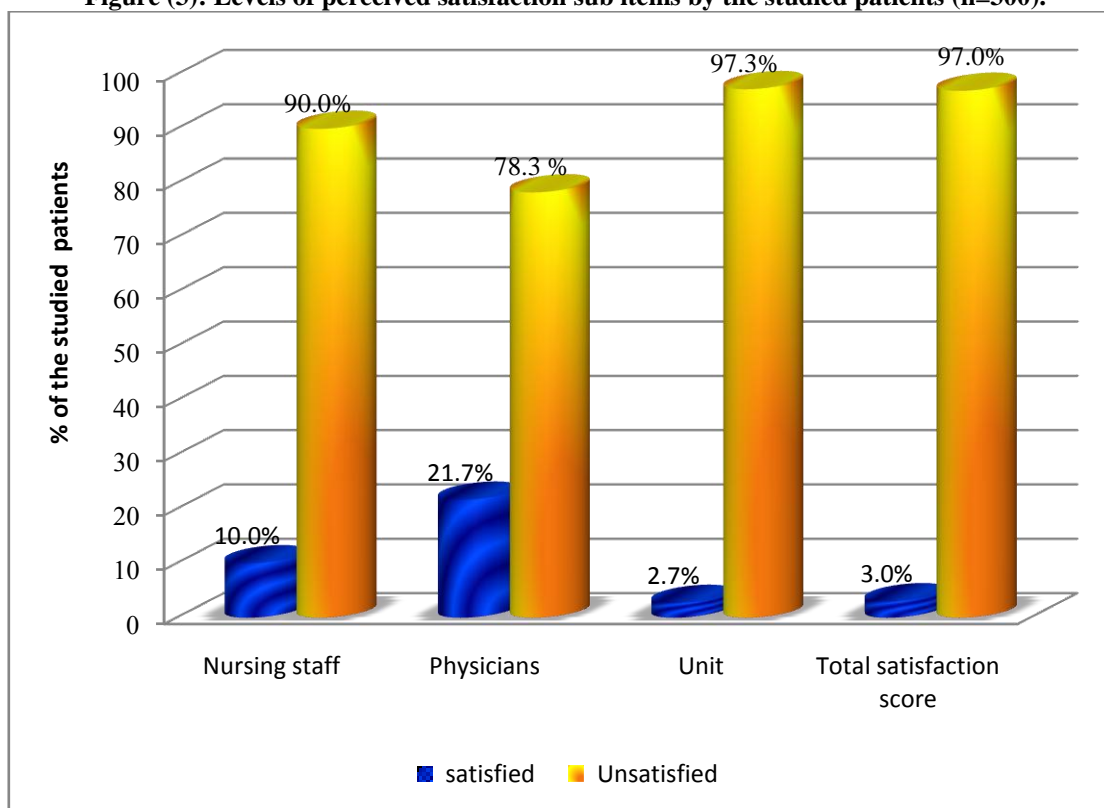**Figure (2): nurses' performance level regarding nursing interventions of cancer (n=30).**

Figure (3): Levels of perceived satisfaction sub items by the studied patients (n=300).

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