Effect of self-Instructional Module regarding Oncology Emergencies on knowledge among Nurses

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Abstract: *Cancer patients need special care which improve their quality of life and protect them from complications. Nevertheless, it is not always possible to prevent undesired events, thus knowledge on oncologic emergencies is needed for fast interventions that can save live. Study was aimed to assess the effectiveness of self instructional module on oncology emergency among nurses. Methodology - Quantitative research approach with one group pretest post test research design was used for 40 study samples were selected by non-probability purposive sampling technique. Findings- Majority of staff nurses- 32 (80.0 percent) were in the age group of 21-25 years. (55.0 percent) have completed General Nursing and Midwifery, and30 (75.0 percent) have less than one year experience. The total mean knowledge score of the staff nurses, during pre-test was 9 had poor knowledge, 1 had good knowledge and 30 subjects had average knowledge of oncology emergencies. In posttest out of 40 subjects, 8 had average knowledge, 32 had good knowledge and none of the subjects had a poor knowledge of oncology emergencies. Conclusion- Self instructional module regarding oncological emergencies among staff nurses was effective to improve the knowledge of staff nurses.*
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Keywords: Self-instructional module, oncology, emergencies, knowledge, nurses.

1. Introduction

The quoted sentence was the theme for the year 2009. The theme is intended to get awareness about saving lives, at the same time to be safe during emergency care.[1]WHO celebrates each year on 4 February with support of International union against cancer to promote ways to ease the global burden of cancer as "World Cancer Day" Preventing cancer and raising quality of life for cancer patients are recurring themes. Cancer patients need special care which improve their quality of life and protect them from complications. Nevertheless, it is not always possible to prevent undesired events, thus knowledge on oncologic emergencies is needed for fast interventions that can save lives.

About 30 per of cancer-related deaths can be prevented by appropriating timely checkout of emergencies[1].About 70% of all cancer deaths occurred in low and middle income countries, deaths from cancer worldwide is projected to continue to rise to over 11 million in 2030. However, leaving a hopeful, optimistic view of the outcome, it is imperative that nurses understand the potential emergent consequences in order to respond to the symptoms of life threatening events [2]. The main objective of the prevention is to review common oncological emergencies, and identify key components in the management of these emergencies as they occur for the betterment of nursing staff.

1.1Justification of the Study

Nurses play a pivotal role in the management and in providing primary care in times of emergency to save the life of patients suffering with cancer. This essential resource for nurses offers a thorough understanding of oncologic emergencies. Guiding nurses in acute symptom management, selected oncological emergencies provide an in-depth discussion of the 10 most common oncologic emergencies. Included is information on cardiac tamponade, disseminated intravascular coagulation, hypercalcemia of malignancy, increased intracranial pressure, malignant pleural effusion, sepsis and septic shock, syndrome of inappropriate antidiuretic hormone secretion, spinal cord compression, superior vena cava syndrome, and tumor lysis syndrome. Detailing the risk factors, pathophysiology, patient assessment, treatment, and nursing management, as well as patient and family education, this is a valuable resource for nurses working with oncology patient populations, and can also be used as a study guide for oncology nursing.[6] During personal experience to oncology hospital as staff nurse I felt that nurses lack the basic skill in dealing with patients on emergency where life of client had been saves. Hence as a researcher I felt since cancer is recent curbing disease as nurses there is urgent need to assess the knowledge of nurses' knowledge and educate to enhance the knowledge [3].

2. Review of Literature

The review of literature is a summary of current knowledge about a particular practice, problem and includes what is known and what is unknown about the problem. Literature is reviewed to summarize knowledge for use in practice or to provide a basis for conducting a study [4]. Review of literature following is categorized based on the categories:

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a) Review of literature related to education programme
b) Knowledge of staff nurses regarding emergency of cancer or oncological emergencies.
c) Management of oncological emergencies related studies.

2.1 Review of literature related to education programme

Kadam, A.(2014) found that Structured education programme was highly effective to improve the knowledge score and to improve the attitude score of subjects/ caregiver towards colostomy care of patient [5]. Anjum, S.(2014)conducted study to assess knowledge of contraceptives methods and appraisal of health education among married women and concluded After the health education married women knowledge was improved to 100% about female sterilization followed by condom 99%, skin implants 86%, oral pills 85% and emergency contraceptives 85%.Sociodemographic variable were significantly associated with existing knowledge and level of married women specially age at marriage, age at first child, occupation,, income ,education [6][7].Babu, R. L. (2014) concluded that care takers had inadequate knowledge regarding non-curative care of terminally ill cancer patients. The planned education programme on non-curative care of terminally ill cancer patients was highly effective in improving the knowledge of care takers regarding non-curative care of terminally ill cancer patients [8]. Shinde M (2014) concluded in their study that demonstration is effective regarding feeding of hemiplegic patient [10].

2.2 Knowledge of staff nurses regarding emergency of cancer

Learning is the addition of new knowledge and experience

Interpreted in the light of past knowledge and experience. Teaching and learning is an integral part of nursing. Nurses have the responsibility to educate patients related to various aspects and keep themselves updated. Various teaching strategies are used to increase knowledge, such as lecturing, demonstration, discussion and self-education. These methods of self-education has an advantage over the others as the learner can educate himself at his own pace and it also stresses on rereading [9].

A study was conducted On "oncological Emergencies " with the objective to prioritize the medical oncological emergencies that can be taken care of by practitioners and physicians in primary care and emergency care settings and keep apart the other emergencies which need specific surgical interventions. They classified emergencies based on the: Emergencies with Direct involvement of vital organs by neoplasm and metabolic emergencies [11]. A study was conducted by NHS foundation trust on "Oncological Emergencies" The objective is to check out the cataspphoric events such as paraplegia, paralaresis and incontinence due to bone Metastatic malignancies by oncologists and hematologists at the earliest. Outcome showed that definitive treatment at the earliest gives useful symptomatic relief [12].

A study was conducted on "Intensive care and cancer patients" The statistical analysis of revealed the mortality figures climbed northwards as the number of organ involvement increased in disease process, while binary organ involvement death is up to 61.5% and three organ involvement 80% mortality with five organ involvement 100% mortality is detected. Though ICU is still best place for such treatment modalities in spite of shortage of specialist services in our country [13].

A study conducted on "Oncological emergencies: Nursing care" The objective is to identify the Knowledge about nursing care in oncological emergencies and present nursing interventions mentioned for these situations. Integrative literature review method was used and 30 articles were selected from Pub Med and LILACS. The result was 56.7% are nurses and 40% of the journals are nursing journals. Knowledge and interventions in nursing appeared in only 26.7% of the articles [14].

A study was conducted in (2007) by J. V. Divatia on "Critical Care for Cancer Patients" the objective was to help the intensive care nurses to have a greater understanding of the challenges involved in the care of the critically ill cancer patient and that oncology and ICU teams will treat critically ill patients based on science and evidence, rather than on personal opinion with a view to show the developments in cancer treatment from last three decades [15].

A study conducted by AACN 2009 NTI and CRITICAL CARE EXPOSITION on "Managing Oncological Emergencies in the Critical care setting" The objective is to review the common oncological emergencies that occur in critical care setting and identify key components in the management of these emergencies as they occur, which in turn helps to improve the skills of critical care nurses encounter persons with oncological issues in all types of critical care settings. This provided information that timely and appropriate interventions, critically ill patients can return to their previous level of function [16].

2.3 Management of Oncological Emergencies Related Studies

AACN Clinic Issues conducted a study on Oncological emergencies in the pediatric intensive care unit that the overall 5-year survival rate of children with cancer has now reached 77%, an increase of about 45% in the past 25 years. Despite the national trend toward hospice and palliative care, children with chronic and life threatening illnesses continue to die in the hospital setting, often in the intensive care unit. Previous studies of children with complications of cancer and its therapy document poor outcomes among those who do require intensive care [17].

A study was carried out by Cervantes et al from University of Valencia in on "Management of Oncological Emergencies" explained about major oncological emergencies with additional diseases like diabetes, CHD, COPD etc. Need quick and rapid intervention to avoid death and sever permanent damage. Depending on the clinical picture, the acute emergencies to be prioritized and treated accordingly [18]. A Research study was conducted by MAYO foundation for medical education and research on "management of oncological emergencies: Diagnosis and treatment" Described about the requirement of emergency

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care for patients with cancer and prompt evaluation that leads to a diagnosis and urgent institution of therapy can be lifesaving or essential to prevent irreversible loss of function. Therefore it is very important that all health care professionals likely to encounter patients with cancer have a sound knowledge of the most common oncological emergencies [19].

 A study was conducted on "Care of Terminally Ill Cancer Patients: An Intensivist's Dilemma" The Aim and Objective is to evaluate the benefits of Intensive care treatments in terminally ill cancer patients and also to find out whether optimal utilization of critical care resources has got any positive financial, psychological, and clinical outcome. A retrospective evaluation of 873 terminally ill cancer patients, who got admitted to ICU, strict and vigilant monitoring of all vital parameters was, carried out. The mortality rate increased with increasing number of organ involvement, Hence ICU care is best form of Treatment for terminally ill but resources should be used optimally so that deserving patient should not be sacrificed for resource utilization.

3. Statement

Statement of the problem

A study to assess the effectiveness of self-instructional module regarding oncology emergencies on knowledge among staff nurses working in selected hospitals.

3.1 Objectives

- To assess the effectiveness on self-instructional module on the knowledge of the staff nurses.
- To compare the knowledge score of the staff nurses with their selected demographic data.
- To find out the association between posttest knowledge score with their selected demographic variables.

3.2 Operational Definitions

a) **Knowledge:**
It refers to the awareness and information acquired by the staff nurses about oncological emergencies.

b) **Oncological Emergencies:**
It refers to the clinical condition resulting from a metabolic, neurologic, cardiovascular, hematologic, and/or infectious change caused by cancer or its treatment that requires immediate intervention to prevent loss of life or quality of life. Which are potentially life threatening events directly or indirectly.-Adapted from Tan, S.J. (2002) & Higdon, M.L. & J.A. (2006)-

c) **Self Instruction Module:**
It refers to the sequentially arranged expository instructions for nurses on knowledge of selected oncological emergencies like Hypercalcemia (most common), Tumor Lysis Syndrome, Spinal Cord Compression, Malignant Pericardial Effusion, Superior Vena Cava Syndrome, DIC (disseminated intravascular coagulation), cardiac tamponade, Septic shock etc.

3.3 Hypothesis

Ho_1 There will be no significant difference between pretest and posttest knowledge scores of staff nurses regarding oncology emergencies.
Ho_2 There will be no association between post-test knowledge scores and their selected demographic variables of the staff nurses.

3.4 Assumptions

1. Nurses with higher professional qualification will have better knowledge about oncological emergencies.
2. Self instruction module will help to enhance the knowledge of staff nurse

3.5 Ethical Aspect

- Informed consent will be obtained from the staff nurses of selected hospital to participate in the study.
- Permission will be obtained from the authority of selected hospitals.

4. Research Methodology

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation.

4.1 Research approach

Quantitative research approach was used.

4.2 Research Design

The research design selected for the study was pre-experimental design in that one group pretest – posttestdesignused.

4.3 Independent variable

The Independent variables in this study is self-instructional module.

4.4 Dependent variable

The dependent variable in the study is staff nurses working in selected hospital

4.5 Sample

The subjects for the study both male and Females staff nurses working in selected hospital.

4.6 Sample Size

The sample size consisted of 40subjects.

4.7 Sampling Technique

A non-probability purposive sampling technique was used to select the sample for the study

4.8 Setting of the study

The study was conducted at in the selected hospitals. These institutes were chosen because these were convenient to the investigator. These institutes are private hospitals.

4.9 Inclusion Criteria

The study was limited the staff nurses who were
1. Working in selected private hospital.
2. Those staff nurse who are in duty during the data collection.
3. Present during the period of data collection.
4. Willing to participate in the study.

4.10 Exclusion Criteria

1. Those staff nurse who are not in duty during the data collection.
2. Staff nurses who are not willing to participate in the study.
3. Staff nurses who are working in other hospitals.
4. Nurses not involved in direct care of patients.

4.11 Data Collection Instrument

In this study, the tools consisted of the following were used for the study

1. **Section (a)** Demographic variables.
2. **Section(b)** Multiple choice close ended Knowledge based questionnaire to assess staff nurses knowledge regarding oncology emergencies

Description of the Tool:
- **Section 1.**
  Consisted of base line data of the patient 6 items pertaining to the demographic variables of the respondents like Age, gender/Sex, Experiences, Professional qualification, Experience, Work Experience in cancer ward, Additional information
- **Section 2.**
  Consisted of Multiple choices close ended Knowledge based questionnaire to assess the staff nurses knowledge regarding oncology emergencies

4.12 Feasibility of the Study

The feasibility of the study assessed in terms of outcome and availability of subjects as well as ethical aspects at the time of selection of statement of problems. Pilot study report shows that there is significant difference between pre and posttest.

4.13 Protection of Human Right

The study was conducted among staff nurses regarding knowledge on management of oncological emergencies.

4.14 Data Collection

As the purpose of this study was to assess the effectiveness of self-instructional module regarding oncology emergencies on knowledge among staff nurses working in selected hospitals, it is considered necessary to derive information directly from them through a questionnaire.

4.15 Plans for Data Analysis

The data analysis was planned to include descriptive and inferential statistics on the basis of objectives of the study. Descriptive statistics**:** Mean, Mode, Median, Percentage and standard deviation be used for assessing their demographic variables and level of knowledge.

Inferential statistics: Chi-square test will be used to find out relationship of the knowledge with demographic variables; "t" test will be used to find out effectiveness of self-instructional module on oncological emergencies.

5. Findings

Table 1: Demographic data analyzed in terms of frequency and percentage (n=40)

		Frequency	Percentage
(a)	**Age**		
	21 – 25 years –	32	80%
	26 – 30 years -	8	20%
(b)	**Gender**		
	Male	4	80%
	Female-	36	80%
(c)	**Professional qualification**		
	General Nursing and Midwifery	22	55%
	BSc. Nursing -	18	45%
(d)	**Total work experience in hospital**		
	Less than 1 year-	30	75%
	1 – 2 years-	9	22.50%
	3 years and above	1	2.50%
(e)	**Attended any previous workshops or seminars oncology emergencies**		
	Yes	7	17.50%
	No	33	82.50%

5.1 Age

The above Table-1 shows that the proportion of staff nurses- 32 (80.0 percent) were in the age group of 21-25 years, 8 (20.0 percent) were in the age group of 26-30 years, 0 (0.0 percent) were in the age group of 31- 35 years and 36 years and above.

5.2 Professional qualification

The above Table-1 shows that the proportion of staff nurses- 22 (55.0 percent) have completed General Nursing and Midwifery, 18 (45.0percent) have completed B.Sc. Nursing, 0 (0.0 percent) have Post Basic B.Sc. Nursing or any other professional qualification.

5.3Total work experience in hospital

The proportion of staff nurses- 30 (75.0 percent) have less than one year, 9 (22.5 percent) have 1-2 years, 0 (0.0 percent) have 2-3 years and 1 (2.5 percent) have 3 years and above total work experience.

5.4 Pretest knowledge score

The total mean knowledge score of the staff nurses, during pre-test was 9 had poor knowledge, 1 had good knowledge and 30 subjects had average knowledge of oncology emergencies. In pre-test, out of 40 staff nurses. The 9 nurses had very poor knowledge of oncology emergencies (M = 44.375). Only 1 had good knowledge of oncology emergencies. (M =1.26).The all score revealed that the staff nurses had poor knowledge regarding oncology emergencies.

5.4 Posttest knowledge score

In posttest out of 40 subjects, 8 had average knowledge, 32 had good knowledge and none of the subjects had a poor knowledge of oncology emergencies.

5.5 Comparison of knowledge level and Mean knowledge score of pre-test and post test

The Mean post-test knowledge 28.10 was higher than Mean pre-test knowledge score 16.675. The computed 't' value is 35.70 and P< 0.05 showed that there is significant difference between the pre-test and post-test mean knowledge scores. The total score revealing good knowledge of oncology emergencies. The data presented shows that there is an increase in knowledge after Self instruction module reference. As regards to Meaning/definition, the Mean score in pre-test was 1.25; which increased to 1.925 in post-test and as regards to condition and Etiology, the Mean score in pre-test was 3.55; which increased to 5.2 in post-test and as regards to Clinical manifestation and Medical management, the mean score in pre- test was 12 which increased to 21.175 in post- test. .Thus there was tremendous increase in scores invariably in all areas. There was maximum enhancement in knowledge in the area Clinical manifestation and Medical management of oncological emergencies whereas there was least enhancement in the area oncological emergencies.

5.6 Association of pre -test knowledge and selected socio demographic variables.

No significant association was found between knowledge scores of the staff nurses in pre test when compared to the demographic variables

6. Discussion of Findings

The highest proportion of staff nurses- 32 (80.0 percent) were in the age group of 21-25 years and 8 (20.0 percent) were in the age group of 26-30 years. Majority i.e. 36 (90.0 percent) were females and 4 (10.0 percent) were males. Among them – 22 (55.0 percent) of staff nurses had completed General Nursing and Midwifery whereas 18 (45.0 percent) of staff nurses had completed B.Sc. Nursing. Around - 30 (75.0 percent) of staff nurses had less than one year total work experience, 9 (22.5 percent) of staff nurses had 1-2 years total work experience and 1 (2.5 percent) staff nurse had 3 years and above total work experience. Out of that - 30 (75.0 percent) of staff nurses had less than one year work experience in oncology ward, 9 (22.5 percent) of staff nurses had 1-2 years' work experience in oncology ward and 1 (2.5 percent) staff nurse had 3 years and above work experience in oncology ward. Only - 4 (17.5 percent) of staff nurses had attended seminar or workshop on oncology emergencies whereas 36 (82.5 percent) of staff nurses had not attended any seminar or workshop on oncology emergencies.

In which nearly half of the sample there age ranged from 20-30 years, all of them were females and in relation to qualification degree 93.05% had diploma of nursing

6.1. Aspect / component wise statistical analysis of Pre-test and Post-test mean knowledge score of respondents

The present findings revealed that the overall mean pre-test knowledge score of the subjects was less (16.675) with the individual component mean knowledge values being as follows: As regards to Meaning/definition, the Mean score in pre test was 1.26; and as regards to condition and Etiology, the Mean score in pretest was 3.55 and as regards to knowledge regarding Clinical manifestation and Medical management of oncology emergencies, the Mean score in pretest was 12.Thus, in the present Study, in all the components, there is a good increase in the post test knowledge score of the respondents with enhancement of knowledge in each component indicating that the was self instructional module effective in improving the knowledge level.

6.2. Findings related to effectiveness of self instructional module on oncological emergencies

In the present Study, there is a significant increase in the mean knowledge score from 16.675 in pretest to 28.10 in posttest. The computed 't' value is 35.70 and P< 0.05 showed that there is significant difference between the pre-test and post-test mean knowledge scores. In pretest 30 samples had average knowledge, 9 samples had poor knowledge and 1 sample had good knowledge whereas in posttest, 8 samples had average knowledge and 32 samples had good knowledge. This indicates that self instructional module was effective in increasing the knowledge score of staff nurses regarding oncological emergencies.

6.3. Findings related to Association between knowledge score with selected demographic variables

In terms of association of the knowledge score with demographic variables, it was found that the variables age, professional qualification and whether attended any seminar or workshops on oncological emergencies had significant association with the knowledge score of the respondents whereas the variables gender, total work experience in hospital and work experience in oncology ward had no significant association with the knowledge score of the respondents.

6.4. Discussion in relation with the hypothesis of the Study

The Mean posttest knowledge 28.10 was higher than Mean pre-test knowledge score 16.675. The computed 't' value is 35.70 and P< 0.05 showed that there is significant difference between the pre-test and post-test mean knowledge scores.

Thus the results of t test show that the improvement of the mean value of knowledge scores of Post-test when compared to the lesser values of Pre-test are not by chance but due to the gain in knowledge because of self instructional module. Therefore the hypothesis H0 is rejected and the hypothesis H1 is accepted.

7. Conclusion

From the findings of the present study it can be conducted that SIM regarding oncological emergencies among staff nurses was effective to improve the knowledge of staff nurses. Prior to implementation of SIM the staff nurses had poor knowledge (M-16.675) after implementation of SIM; staff nurses had good knowledge (M-28.10) regarding oncological emergencies, with the difference mean percentage which shows the effectiveness of SIM. Highly significant difference was found between the pre and posttest knowledge score of the staff nurses regarding oncological emergencies no significant association between knowledge score of staff nurses in pretest when compared to third demographic variables. Further, the SIM on oncological emergencies among staff nurses was effective for all the area irrespective of their demographic variables.

8. Scope of the Study

8.1 Nursing services

The content of the self instructional module will help the staff nurses working in the hospital and community for reinforcing their knowledge on oncological emergencies The findings will help the nursing personnel to assess the emergency situation which requires to knowledge on oncological emergencies to save the life of the people. The staff nurses can utilize this to teach the other health personnel**.**

8.2 Nursing education

The nurse educators can use the self instructional module to teach oncological emergencies to the students the study was proved the important of improving the knowledge on oncological emergencies of nurses regarding formulation of self instructional module. The finding will help to nursing faculty to give more important for planning and organization SIM to improve knowledge of clinical practice of the students.

8.3 Nursing research

The findings utilized for conducting research on the effectiveness of SIM on various aspects of nursing a large scale study can be done for replication to standardize the self instructional module on oncological emergencies. Use of research findings should be come of quality assurance to evaluate and enhance individual profession as a whole.

References

[1] Dr.Boman N. Dhabares MD, Medical oncologist and Hematologist certification, The week health Feb. 20, 2011 European society of medical oncology.

[2] An article on critical services Tata memorial hospitals Mumbai, India Dr.J.V.Divatia,

[3] Mark A. Lewis, MD CA cancer J clin 2011; 61:287-314@2011 American Cancer Society, IncBhuyan.C. Guidelines for the Management of oncological emergencies, Journal of the Indian Medical Association, 103(9),474-478

[4] SHINDE, M., & ANJUM, S. (2007). Introduction to Research In Nursing. Sneha Publication India (Dombivili).

[5] Kadam, A., & Shinde, M. B. (2014). Effectiveness of Structured Education on Caregiver's Knowledge and Attitude Regarding Colostomy Care. *International Journal of Science and Research (IJSR)*, *3*(4), 586-593.www.ijsr.net

[6] Anjum, S., Durgawale, P. M., & Shinde, M. (2014). Epidemiological Correlates of Use of Contraceptives Methods and Appraisal of Health Education on Status of Knowledge and Practices among Married Woman. *International Journal of Science and Research (IJSR)*, *3*(2), 203-210.www.ijsr.net

[7] Anjum, S., Durgawale, P. M., & Shinde, M. (2014). Knowledge of Contraceptives Methods and Appraisal of Health Education among Married Woman. *International Journal of Science and Research (IJSR)*, *3*(3), 584-590.www.ijsr.net

[8] Babu, R. L., Mali, N., & Shinde, M. (2014). Effectiveness of Planned Teaching Programme on Knowledge Regarding Non-Curative Care of Terminally ILL Cancer Patients among Care Takers. *International Journal of Science and Research (IJSR)*, *3*(4), 198-205.www.ijsr.net

[9] Shinde, M., & Anjum, S. (2007). Educational Methods and Media for Teaching in Practice Of Nursing. *Sneha Publication India (Dombivili).*

[10] Shinde, M., & Anjum, S. (2014). Effectiveness of Demonstration Regarding Feeding of Hemiplegia Patient among Caregivers. *International Journal of Science and Research (IJSR)*, *3*(3), 19-27.

[11] Selby and yolk palliative care Team and pharmacy group reviewd 2010 version: 2NHS foundation Trust.

[12] Bajwa Indian journal of palliative care / [oct 23, 2011 18; 122,166.2,61] vol-16/Issue-2

[13] Suelemcristinapignatari, Renatacristinacamporperirasilveiraetal. Selby and yolk palliative care Team and pharmacy group date of issue: 2010.

[14] Coffer B.etal (2008) Guidelines for the management of oncological emergencies for the management of pediatrics and adult tumor lyses syndrome: An evidence based review, Journal of clinical Oncology, 26(16), 2767-2678.

[15] AACN 2009 NTI and Critical care exposition Managing oncological emergencies in critical care setting

[16] AACN Clin Issues. 2005 Apr-Jun; 16(2):232-45. Oncological emergencies in the pediatric intensive care unit.

[17] Cervantes and I.Chirivella.. Annals of oncology 15(supplement 4) iv299-iv306, 2004. European society of Medical oncology.

[18] Thorvardur R. Halfdanarson.. Mayo clinprof.Jane 2006; 81(6); 835-848.

[19] Sukhminderjit Ssingh Indian journal of palliative care /

[nov 23, 2010 18; 122,166.2,61] vol-16/Issue-2

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