Original Article

International Journal of Practical Nursing
Vol. 9 No.1, January – April 2021
DOI: http://dx.doi.org/10.21088/ijpn.2347.7083.9121.1

Effectiveness of Self Instructional Module on Knowledge Regarding Nursing Care of Patient with Immunosuppressive Therapy among Staff Nurses Working In Selected Hospitals of the City.

[1]Lodelliwar Rahul B, [2]David Pascaline J, [3]SukareLata V

How to cite this article:
Lodelliwar Rahul B, David Pascaline J, SukareLata V, Effectiveness of Self Instructional Module on Knowledge Regarding Nursing Care of Patient with Immunosuppressive Therapy Among Staff Nurses Working In Selected Hospitals of the City., Int J Practical Nurs.2021;9(1):9–15.

Author's Affiliations: VSPM Madhuribai Deshmukh Institute of Nursing Education, Digdoh Hills, Hingna road, Nagpur, Maharashtra 440019, India.

Corresponding Author: Lodelliwar Rahul B, VSPM Madhuribai Deshmukh Institute of Nursing Education, Digdoh Hills, Hingna road, Nagpur, Maharashtra 440019, India.

E-mail: drbharati2005@yahoo.com

Abstract

Background: Administration of immunosuppressive medications or immunosuppressant's is the main method of deliberately induced immunosuppression in optimal circumstances; immunosuppressive drugs are targeted only at any hyperactive component of the immune system. People with previous cancer who require immunosuppressions are not more likely to have a recurrence, throughout its history, radiation therapy has been used to decrease the strength of the immune system.

Objectives: To assess the pre-test knowledge regarding nursing care of patient with immunosuppressive therapy, and to associate the post-test knowledge score with selected demographic variable.

Methodology: a pre experimental one group pre test post test design was adopted for the study. It was conducted over 60 staff nurses and was selected by using non probability convenient sampling technique. Pre test was done using self structured questionnaire for knowledge. After pre test the researcher administered self instructional module regarding knowledge. Post test was done after seven days and analysis showed that there was significant increase in knowledge after administering self-instructional module. The analysis reveals that post test mean knowledge score was higher 23.15 with SD of 2.76 when compared with the pre test mean knowledge score value which was 12.70 with SD of 2.88. The calculated't' value 28.77 is greater than table value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that the self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy was effective. Thus the H_1 is accepted and H_0 is rejected.

Conclusion: The significantly association was found on knowledge score with age (in years), marital status, area of working and none of the other demographic variables were associated with knowledge score.

Keywords: Immunosuppressive Therapy; Staff Nurse; Self Instructional Module, Knowledge.

Introduction

In biology, immunity is the balanced state of multicellular organisms having adequate biological defences to fight infection, disease, or other unwanted biological invasion, while having adequate tolerance to avoid allergy, and autoimmune diseases.[2]

Immunity is the capability of multicellular organisms to resist harmful microorganisms from entering it. Immunity involves both specific and nonspecific components. The nonspecific components act as barriers or eliminators of a wide range of pathogens irrespective of their antigenic make-up. Other components of the immune system adapt themselves to each new disease encountered and can generate pathogen-specific immunity.[2]

Immunosuppression is a reduction of the activation or efficacy of the immune system. Some portions of the immune system itself have immunosuppressive effects on other parts of the immune system, and immunosuppression may occur as an adverse reaction to treatment of other conditions.[1]

Immunosuppressive therapy means treatment that lowers the activity of the body's immune system. This reduces its ability to fight infections and other diseases, such as cancer. Immunosuppressive therapy may be used to keep a person from rejecting a bone marrow or organ transplant. It may also be used to treat conditions in which the immune system is overactive, such as autoimmune diseases and allergies.

Some types of immunosuppressive therapy may increase a person's risk of cancer by lowering the body's ability to kill cancer cells.[3]

Background and need of the study:

Many people who receive organ transplants take medications to suppress the immune system so the body won't reject the organ. These "immunosuppressive" drugs make the immune system less able to detect and destroy cancer cells or fight off infections that cause cancer. Infection with HIV also weakens the immune system and increases the risk of certain cancers.[4]

Kane S (2010) have found that the decision to start immunosuppressive therapy comes with benefits and risks. Patient selection is as important as medication selection, because some patients are not appropriate for certain therapies. The decision is based on many factors, including diagnosis, level of disease activity, comorbidities, and sometimes socioeconomic status.[5]

Mohamad ML (2012) have found that the nurses' understanding and knowledge of immunosuppressive drug therapy is insufficient and they need to update their knowledge on immunosuppressive drug therapy continually.[6]

Statement of the problem

"An experimental study to assess the effectiveness of Self Instructional Module on knowledge regarding nursing care of patient with Immunosuppressive Therapy among staff nurses working in selected hospitals of the city".

Objectives

1. To assess the pre-test knowledge regarding nursing care of patient with immunosuppressive therapy among staff nurses.
2. To assess the post-test knowledge regarding nursing care of patient with immunosuppressive therapy among staff nurses.
3. To evaluate the effectiveness of self-instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy among staff nurses.
4. To associate the post test knowledge score with selected demographic variable.

Operational definition

Assess: In this study assess refers to estimate the knowledge of staff nurses regarding nursing care of patient with immunosuppressive therapy.

Effectiveness: In this study the effectiveness means improvement of knowledge of staff nurses regarding nursing care of patient with Immunosuppressive Therapy.

Self Instructional Module: In this study Self Instructional Module is systematically made a learning material, arranged by investigator to improve the knowledge of staff nurses regarding the nursing care of patient with Immunosuppressive Therapy.

Knowledge: In this study knowledge is facts, information, with regards to nursing care of patient with Immunosuppressive Therapy among staff nurses in term of correct response to the items on self-structured knowledge questionnaire.

Nursing care: In this study nursing care means all activities performed by the nurses for immunosuppressive patients.

Patient: In this study patient means those who need care for immunosuppressive therapy.

Immunosuppressive therapy: In this study immunosuppressive therapy refers to the treatment that lowers the activity of the body's immune system.

Staff nurses: In this study staff nurses refers to GNM, B.B. Sc. Nursing/ B.Sc. Nursing, and PBB Sc.\PCB Sc. Nursing qualified registered nurses working in the selected hospitals of the city.

Hospital: In this, study hospital refers to an institution providing medical and surgical treatment and nursing care for sick people.

Delimitation

This study is delimited to the staff nurses working in selected hospitals.

Hypothesis

Hypothesis will be tested at 0.05 level of significance:

H_0: There is no significant difference between pre-test and post-test knowledge score regarding nursing care of patient with Immunosuppressive Therapy among staff nurses.

H_1: There is significant difference between pre-test and post-test knowledge score regarding nursing care of patient with Immunosuppressive Therapy among staff nurses.

Conceptual Framework

The conceptual framework of this study is based upon Imogene King Goal Attainment theory.

Review of Literature

1. Literature related to Immunosuppressive Therapy.
2. Literature related to staff nurses knowledge regarding nursing care of patient with Immunosuppressive Therapy
3. Literature related to effectiveness of Self Instructional Module.

Methodology

Research Approach: In this study quantitative approach is used.

Research Design: In this study the design used is pre experimental pre test and post test one group design.

Setting of the Study: Lata Mangeskar hospital, Nagpur
Independent variable: Self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy.

Dependent Variable: The dependent variable in this study is knowledge regarding nursing care of patient with immunosuppressive therapy.

Demographic Variable: It includes age (in years), gender, marital status, religion, professional educational qualification, monthly income (in rupees), experience (in years), area of working etc.

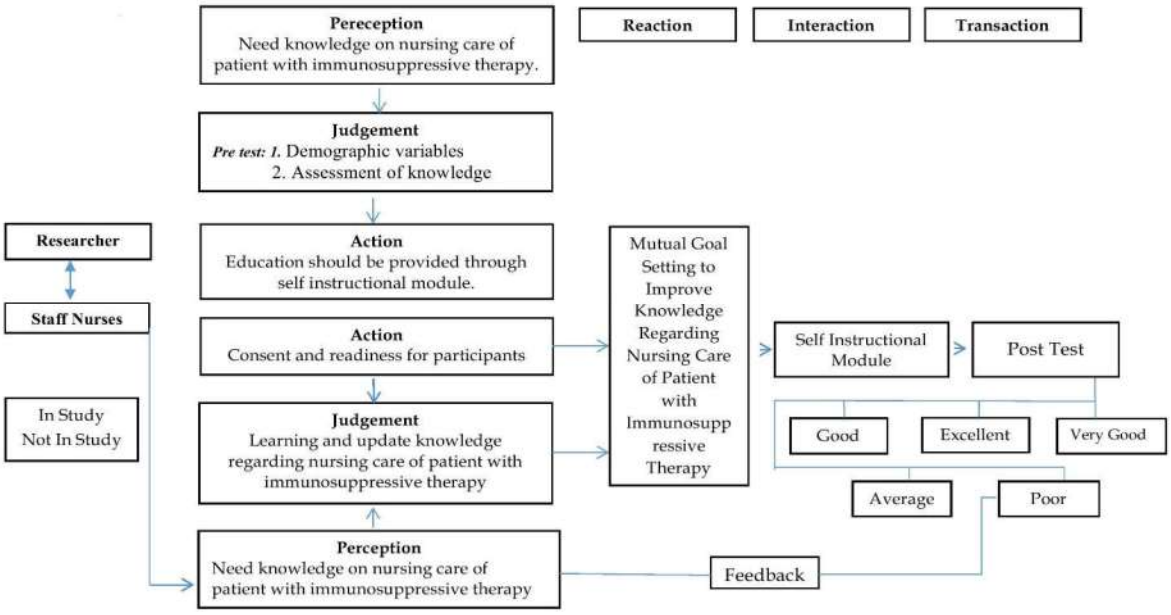

Fig. I.1: conceptual framework on King's Goal Attainment Theory.

Population:

Target population: In this study the target population includes the all staff nurses working in the selected hospital of the city.

Accessible population: In the present study the accessible population selected for the study comprises of staff nurses working in selected hospitals of the city and are available at the time of data collection and who were fulfilling the inclusive
criteria.

Sampling

Sample: In this study, sample consisted of 60 registered staff nurses working in the selected hospitals of the city who were available during the time of data collection.

Sample size: 60

Sampling technique: Non probability convenient sampling technique was used.

Sampling criteria:

Inclusive criteria: In this study, inclusive criteria was, staff nurses who are:

1. Registered nurses having RGNM, B.B.Sc.Nursing/B.Sc. nursing and P.B.B.Sc. Nursing/ P.C.B.sc. Nsg. qualification.
2. Willing to participate in study.
3. Available at the time of data collection.

Exclusive criteria: In this study exclusive criteria was, staff nurses who are:

1. Having M.Sc Nursing qualification.
2. Presently working in Operation Theater and causality.
3. Attended educational programme on immunosuppressive therapy.
4. Not willing to participate in study.
5. Not available at the time of data collection.

Description of tools

Section A – Demographic variables.
Section B – Self structured knowledge questionnaire.
Section C - Self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy.

Validity

Content and construct validity of tool was determined by 27 experts including medical surgical nursing subjects experts, oncologists, English literature and statistician etc.

Reliability

Karl Pearson correlation coefficient formula was used. The correlation coefficient 'r' of the questionnaire was 0.9247%, which is more than 0.8. Hence the questionnaire was found to be reliable.

Pilot study

Pilot study was conducted from 4thOctober 2019 to 10th October 2019 for a period of 7 days. The pilot study was feasible in terms of time, money, material and resources.

Data collection

The main study data was gathered from 4th November 2019 to 23rd November 2019. Permission was obtained from concerned authority. The samples

were approached in small groups on a daily basis.
Before giving the questionnaire self introduction was given by the investigator and the purpose of the study mentioned. Consent of the samples were taken. The pre test questionnaire were distributed to the samples and collected back after 38 minutes. After the pre test the investigator administered the treatment (self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy). After 7 days post test was taken.

Result:

Section I: Description of staff nurses working in selected hospitals with regards to their demographic variables.

The table 1 shows that, Majority 61.70% of the staff nurses were in the age group of 21-30 years, 20% of the staff nurses were in the age group of 31-40 years, 18.30% of staff nurses were in the age group of 41-50 years and none of them were in the age group of more than or equal to 51 years. Majority 86.70% of the staff nurses were females however 13.30 % of staff nurses were males. Majority 51.70% of the staff nurses were unmarried, 48.30% of staff nurses were married and none of them were divorced, separated and widow/widower. Majority 46.70% of the staff nurses were Hindus, 53.30% of staff nurses them Buddhism and none of them were Christian, Muslim and any others. Professional educational qualification reveals that majority 96.70%of them were educated upto GNM/RGNM, 3.30%were educated upto P.C. B.Sc./P.B. BSc and none of them were in the B. Bsc Nursing/ B.Sc Nursing. Majority 63.30% of them had monthly income between 10001-15000 Rs, 30% of them had monthly income between 15001-20000 Rs, 5% of them had monthly income more than 20,000 Rs., 1.70 % of them had monthly income below 10000 Rs., Majority 70% of the staff nurses had experience of 1-5 years, 16.70% of the staff nurses had experience of 5-10 years, 13.30% of the staff nurses had experience of more than 10years, and none of them had experience of less than 1 year. Majority 35% of them were working in Critical care unit, 28.30% of the staff nurses were working in Medical ward, 26.70% of the staff nurses were working in surgical ward, and 10% of the staff nurses were working in other ward like orthopedic, 5% and 5% in ENT wards.

Table No: 1 Table showing frequency and percentage wise distribution of staff nurses working in selected hospitals according to their demographic variables.

n=60

Demographic Variables		Frequency (F)	Percentage (%)
Age	21-30 yrs	37	61.7
	31-40 yrs	12	20
	41-50 yrs	11	18.3
	≥51 yrs	0	0
Gender	Male	8	13.3
	Female	52	86.7
Marital Status	Married	29	48.3
	Unmarried	31	51.7
	Divorced	0	0
	Separated	0	0
	Widow/Widower	0	0
Religion	Hindu	28	46.7
	Muslim	0	0
	Christian	0	0
	Buddhism	32	53.3
	Others	0	0
Professional Educational Qualification	RGNM/GNM	58	96.7
	BBSc/BSc Nursing	0	0
	PBBSc/PCBBSc Nursing	2	3.3
Monthly Income (in rupees)	Below 10000	1	1.7
	10001-15000	38	63.3
	15001-20000	18	30
	≥20001	3	5
Experience (in years)	Less than 1	0	0
	1-5	42	70
	5-10	10	16.7
	>10	8	13.3
Area of working	Medical Ward	17	28.3
	Surgical Ward	16	26.7
	Critical Care Unit	21	35
	Other Ward	6	10

Table no. 2: Table showing frequency and percentage wise distribution of pre test knowledge scores of staff nurses working in selected hospitals regarding nursing care of patient with immunosuppressive therapy.

n=60

Level of knowledge score in pretest	Score Range	Frequency (f)	Percentage (%)
Excellent	81-100% (25-30)	0	0
Very Good	61-80% (19-24)	0	0
Good	41-60% (13-18)	34	56.67
Average	21-40% (7-12)	23	38.33
Poor	0-20% (0-6)	3	5
Minimum score		6	
Maximum score		18	
Mean knowledge score		12.70±2.88	
Mean % Knowledge Score		42.33±9.61	

Section III: Description on post test knowledge of staff nurses working in selected hospitals regarding nursing care of patient with immunosuppressive therapy.

Table No. 3: Table showing frequency and percentage wise distribution of post test knowledge score of staff nurses working in selected hospital regarding nursing care of patient with immunosuppressive therapy.

n=60

Level of knowledge score in post test	Score Range	Frequency (F)	Percentage (%)
Excellent	81-100% (25-30)	21	35
Very Good	61-80% (19-24)	32	53.33
Good	41-60% (13-18)	7	11.67
Average	21-40% (7-12)	0	0
Poor	0-20% (0-6)	0	0
Minimum score		16	
Maximum score		26	
Mean knowledge score		23.15±2.76	
Mean % Knowledge Score		77.16±9.22	

Section-IV: Description on the effectiveness of self instructional module on knowledge of staff nurses working in selected hospital regarding nursing care of patient with immunosuppressive therapy.

Table no. IV-4.1: Table showing comparison of pretest and posttest grading score.

n=60

Level of knowledge score	Score Range	Pre test		Post test	
		Freq. (f)	Per. (%)	Freq. (f)	Per. (%)
Excellent	81-100% (25-30)	0	0	21	35
Very Good	61-80% (19-24)	0	0	32	53.33
Good	41-60% (13-18)	34	56.67	7	11.67
Average	21-40% (7-12)	23	38.33	0	0
Poor	0-20% (0-6)	3	5	0	0
Minimum score		6		16	
Maximum score		18		26	
Mean knowledge score		12.70±2.88		23.15±2.76	
Mean % Knowledge Score		42.33±9.61		77.16±9.22	

Table No. IV-4.2: Table showing effectiveness of self instructional module on knowledge score of pre test and post test of staff nurses working in selected hospital regarding nursing care of patient with immunosuppressive therapy.

n=60

Test	Mean	SD	Mean Difference	Calculated t-value	Df	Table value	P value
Pre test	12.70	2.88	10.45±2.81	28.77	59	2.00	0.0001 S,p <0.05
Post test	23.15	2.76					

Level of significance p<0.05

Above table shows the overall mean knowledge score of pretest and posttest which reveals that post test mean knowledge score was higher 23.15 with SD of 2.76 when compared with the pre test mean knowledge score value which was 12.70 with SD of 2.88. The calculated 't' value 28.77 is greater than table value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that the self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy was effective. Thus the H1 is accepted and H0 is rejected.

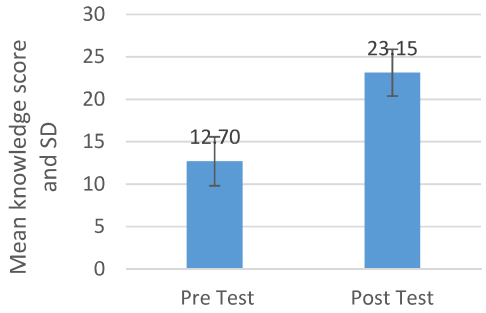

Figure IV – 1: Bar diagram representing effectiveness of self instructional module on knowledge score of pretest and post test of staff nurses working in selected hospital regarding nursing care of patient with immunosuppressive therapy.

Section-V: Description on association on knowledge score with selected demographic variables.

The analysis shows that there is association of knowledge score with age (in years), marital status, area of working and none of the other demographic variables were associated with knowledge score.

Table no V: table showing association of knowledge score with selected demographic variables.

n=60

Demographic Variables	Calculated Value			DF	Table Value	Level of Signify -cance p<0.05	Signifi -cance
	T value	F value	P value				
Age (in yrs.)	-	9.33	0.01	2,57	3.15	<0.05	S
Gender	0.51	-	0.60	58	2.00	>0.05	NS
Marital Status	6.28	-	0.01	58	2.00	<0.05	S
Religion	0.53	-	0.59	58	2.00	>0.05	NS
Professional educational qualification	0.43	-	0.66	58	2.00	>0.05	NS
Monthly Income (INR)	0.26	-	0.84	3, 56	2.76	>0.05	NS
Experience (in years)	0.85	-	0.43	2, 57	3.15	>0.05	NS
Area of working	-	2.86	0.045	3, 56	2.76	<0.05	S

Key: S – S1ignificant NS: Not significant

Discussion:

A study aimed to assess effectiveness of a self instructional module (SIM) on knowledge and practice of staff nurses working in oncology units related to safe handling of antineoplastic drugs in Athena Institute of health Sciences, Mangalore. The research design is pre experimental, one group pre-test posttest design. Sample consisted of 30 staff nurses administering chemotherapy, selected by purposive sampling. Pretest assessment was done using baseline proforma, structured questionnaire for assess knowledge and observational checklist for assessing practice, and then the SIM was administered. Post-test was conducted after 7 days. Mean pre-test and post-test knowledge scores were 16.43 and 21.53 respectively. Mean pre-test and post-test practice scores were 31.6 and 36.5 respectively. A significant improvement (P<0.001) in knowledge and practice of staff nurses regarding safe

handling of antineoplastic drugs were found after administration of SIM; which show SIM was effective study concluded that service education program have to be conducted periodically to update nurses knowledge.[15]

In above study the mean post test knowledge score (21.53) was higher than the mean pretest score (16.43) and mean post-test practice scores was (36.5) was higher than the mean pretest score (31.6).Similarly in present study the total mean post-test knowledge score (23.15) was higher than the mean pretest score (12.70). So self instructional module is an effective strategy to improve the knowledge among staff nurses working in selected hospitals.

In present study there is significant association was found between knowledge score with age (in yrs), marital status and area of working but none of the similar study was found.

Implication of the Study:-
The findings of this study have implications for nursing practice, nursing education, nursing administration, and nursing research

Nursing Practice

- Health care services are an essential component of community health care nursing, the role of the personnel is to conduct and participate in national programme to increase knowledge related to nursing care of patient with immunosuppressive therapy among staff nurses.
- It will also help the nurses to keep update knowledge regarding nursing care of patient with immunosuppressive therapy.
- When professional liability is recognized, it defines the parameters of the profession and the standards of professional conduct. Nurses should therefore enhance their professional knowledge.
- The self instructional module can be used for imparting knowledge regarding nursing care of patient with immunosuppressive therapy to health team members.
- Self instructional module would serve as a ready reference material for the health team members. The information is particularly useful for the nurses for educating the relatives and other health team members the benefits of nursing care of patient with immunosuppressive therapy.

Nursing Education

- Nurse who are up to date with the knowledge regarding nursing care of patient with immunosuppressive therapy are the better person to impart their knowledge to the nursing student which will ultimately decrease the mortality related to immunity disorder.
- Now days, much emphasis is given on comprehensive care in the nursing curriculum. So this study can be used by nursing teachers as an informative illustration for nursing students.
- Self instructional module could help educators to use it as a tool for teaching.
- Students must be given clinical field assignment, in which they must be given opportunity to interact with people and create awareness regarding nursing care of patient with immunosuppressive therapy.
- Teacher training programs must also include the nursing care of patient with immunosuppressive therapy.

Nursing Administration

- Findings of the study can be used by the Nursing Administrator in creating policies and plans for providing education to the staff nurses and health professionals.
- It would help the nursing administrators to be planned and organized in giving continuing education to the nurses and to others for applying and updating the knowledge regarding nursing care of patient with immunosuppressive therapy.
- In-service education must be conducted for the nurses to create awareness regarding nursing care of patient with immunosuppressive therapy.

Nursing Research

- The findings of the study have added to the existing body of the knowledge in relation with knowledge of nursing care of patient with immunosuppressive therapy which will enhance the knowledge and would help to keep it updated.
- Other researchers may utilize the suggestions and recommendations for conducting further study.
- The tool and technique used has added to the body of knowledge and can be used for further references.

Limitation:

- The study was conducted only on staff nurses.
- The sample size was small to generalize the findings of the study.
- The study was limited to measure the knowledge of staff nurses in selected hospitals of the city.
- The tool for data collection was prepared by investigator himself. Standardized tool was not used.

Recommendations:

- A similar study can be replicated on a larger population for a generalization of findings.
- A Study may be conducted to evaluate the effectiveness of planned teaching programme on knowledge regarding nursing care of patient with immunosuppressive therapy.
- A similar study can be carried out to evaluate the effectiveness of video assisted teaching programme on knowledge regarding nursing care of patient with immunosuppressive therapy.
- A comparative study can be carried out to assess the effectiveness of planned teaching programme and self instructional module on staff nurses on knowledge regarding nursing care of patient with immunosuppressive therapy.
- An experimental study to assess the Effectiveness of self instructional module on knowledge regarding nursing care of patient with immunosuppressive therapy among 4th year Basic BSc nursing students.

Reference:

1. https://en.wikipedia.org/wiki/Immunosuppression cited on 17-03-2019 at 7:53 am.
2. https://en.wikipedia.org/wiki/Immunity_(medical) cited on 17-03-2019 at 7:35 am.
3. NCI Dictionary of Cancer Terms National Cancer Institute. Available From: https:/www.cancer.gov /publications/dictionaries/cancer terms/def/ immune - suppressive-therapy cited on 17-03-2019 at 9:18 am.
4. Immunosuppression. National Cancer Institute. April 29, 2015. Available From: https://www.cancer.gov/ aboutcancer/causesprevention/risk/immunesuppressi- onited on 17-03-2019 at 8:19 am.
5. Kane S. Preparing the patient for immunosuppressive therapy.journal of health and racial ethinic disparities. December 2010, Volume 12, Issue 6, pp 502–506. AvailableFrom:https://www.ncbi.nlm.nih.gov/pubmed /20890739 cited 17-03-2019 at 12:23 pm.
6. Mohamad ML. Knowledge of immunosuppressive drugs used in kidney transplants. 2012 Jul 12-25;21(13):795-800.AvailableFrom:https://www.ncbi.nlm.nih.gov/pub med /?term=Mohamad%20ML%5BAuthor%5D&caut hor =true&cauthor_uid=22874779 cited 17-03-2019 at 3:58 pm.

7. https://nurseslabs.com/immunosuppressants/ cited on 17-11-2019 at 1:40 pmHawker Sara, "Little oxford English Dictionary", 9th edition, Oxford university press publication, page no. 36, 217, 521, 718, 549.
8. American heritage dictionary, Indian edition, oxford university press, 2011.
9. https://www.who.int/topics/nursing/en/ cited on Date:17-11-2019 at 2:31pm.
10. Bailliere's Nurses Dictionary. For nurses and health care worker. 25th edition. Elsevier. Page number:192.
11. https://www.medicinenet.com/script/main/art. asp ?articlekey=1514Date:30-08-2019 at 06:00 pm.
12. https://nursekey.com/kings-conceptual-system-and-theory-of-goal-attainment-in-nursing-practice/ Date: 30-08-2019.
13. Polit de and back ct. nursing research, generating and assessing evidence for nursing practice. 8th edition. New Delhi: Wolters Kluwer (India) publications, 2008. Page number: 105,328,765,768,761,764.
14. Sharma S K. nursing research and statistics. 2nd edition. Reed Elsevier India Private Limited; 2014. Page number:289,25,101-102,30-31,331.
15. Mrs. Bhagyalakshmi Jadhav. 'Effectiveness of a self-instructional module on knowledge and practice of staff nurses working in selected hospital related to safe handling of antineoplastic drugs. Sinhgad e-Journal of Nursing, Vol. IV, Issue II, December 2016. Available from: http://www.sinhgad.edu/SinhgadNursing College-eJournal/volumeVI-Issue2/17.pdf. Cited on Date: 18-11-2019 at 11:34 am.