

A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON TIME OUT PROCEDURE PROTOCOL ON KNOWLEDGE AND SKILL REGARDING PATIENT SAFETY AMONG OPERATING ROOM NURSES AT SELECTED HOSPITALS, RAJKOT.

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ABSTRACT

Background: Patient safety is a discipline that emphasize safety culture in health care through the prevention, reduction, reporting, and analyzing of medical and surgical error that often leads to adverse effects. Aim and Objective: To assess and compare the effectiveness of time out procedure protocol on knowledge and skill regarding patient safety among operating room nurses. Methodology: A Pre - experimental pre-test post-test design and a Quantitative approach was adopted to assess the effectiveness of time out procedure protocol on knowledge and skill regarding patient safety among 100 operating room (OR) nurses (50) each in Study Group and control group, who were working as a OR nurse holds > 6 months of working experience at the study group was KDP hospital, Atkot & Kotadiya Hospital Jasdhan, and for the control group was Krishna hospital and Sreeram Hospital, Gondal.. Lottery method was used to divide the setting. Need assessment was performed and OR nurses who scored $\geq 3/6$ and who fulfilled the inclusion and exclusion criteria using non - probability purposive sampling technique were selected as samples. Timeout procedure protocol was administered and the level of knowledge and skill was assessed by using structured knowledge questionnaire and observational checklist. Results: The study findings revealed that the post test mean knowledge score was 21.24 with SD of 3.57 in study group and 14.78 with SD of 1.72 in control group, and their post test mean skill score was 11.24 with SD of 2.18 in study group and 3.79 with SD. 1.97 in control group. The calculated student independent 't' value (9.54 and 11.78) for knowledge and skill among the Study Group and control group. indicates that there was a very high statistical significance at $p < 0.001$.

Keywords: Structured Teaching Programme, Time Out Procedure Protocol, Patient Safety, Operating Room Nurses

INTRODUCTION

Thousand years back, The Greek Healers in the fourth century BC, drafted a Hippocratic promise and vow to "endorse regimens which is useful for patients based on their capacity and judgement and never do harm to anybody". From that point onwards, they inferred *primum non nocere* (first do no harm) which turned out to be the primary need in health care industry.

Patient safety is a discipline that emphasize safety culture in health care through the prevention, reduction, reporting, and analyzing of medical and surgical error that often leads to adverse effects.³ The frequency and magnitude of near and never miss events experienced by patients were not revealed until 1990's, even when various countries from different health care agencies reported number of patients were harmed and killed by medical and surgical errors.

Patient safety is a fundamental principle of health care delivery system. Every point in the process of care-giving contains certain degree of inherent unsafety. Few countries have published studies showing that significant number of patients are harmed while receiving health care facility. This may result in permanent injury, increased length of stay in health care facility, or even death.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of structured teaching programme on time out procedure protocol on knowledge and skill regarding patient safety among operating room nurses at selected hospitals, Rajkot.

OBJECTIVES

1. To assess the knowledge and skill regarding time out procedure protocol regarding patient safety among operating room nurses.
2. To assess the effectiveness of timeout procedure protocol on knowledge and skill among operating room nurses.
3. To correlate the mean knowledge score with skill score regarding time out procedure protocol among operating room nurses
4. Find out the association between knowledge score and selected demographic variables regarding time out procedure protocol among operating room nurses.
5. Find out the association between skill score and selected demographic variables regarding time out procedure protocol among operating room nurses.

HYPOTHESES

H₁: There is no significant difference in the post test level of knowledge regarding time out procedure protocol on patient safety among operating room nurses between Study Group and control group.

H₂: There is no significant correlation between the post test level of knowledge with skill regarding time out procedure protocol among operating room nurses in the Study group and control group.

H₃: There is no significant association of the selected demographic variables with post test mean score of knowledge and skill regarding time out procedure protocol among operating room nurses in the Study group and control group.

RESEARCH METHODOLOGY

The methodology is the significant part of any research study which will enable the researcher to project a blue print of the research. It is a Master plan for obtaining answers to research questions being studied.

SETTING

The research setting for the Study group was KDP hospital, Atkot & Kotadiya Hospital Jasdan, and for the control group was Krishna hospital and Sreeram Hospital, Gondal.

POPULATION

Target population: All Operating room nurses

Accessible population: Registered Operating room nurses who were employed at selected hospitals, Rajkot

SAMPLE

Registered operating room nurse who fulfilled the sample selection criteria

SAMPLE SIZE

Sample of 100 OR nurses (50 each in Study Group and control group), who fulfilled the inclusion criteria.

DATA ANALYSIS AND INTERPRETATION

DESCRIPTION OF DEMOGRAPHIC VARIABLES OF OT NURSES IN THE STUDY GROUP AND CONTROL GROUP.

Frequency and percentage distribution of demographic variables in Study Group and control group.

DEMOGRAPHIC VARIABLES	GROUP				
	STUDY GROUP(n=50)		CONTROL (n=50)		
	n	%	n	%	
	1	2	1	3	
	21-30	3	6	5	0
		1	3	1	3
AGE	31-40	8	6	6	2
			1		1
	41-50	9	8	8	6
	50	1	2	1	2
	Above	0	0	1	2
		1	2	1	2
GENDER	Male	3	6	0	0
		3	7	4	8
	Female	7	4	0	0
		3	7	4	8
	Married	9	8	0	0
	Unmarried		1		1
MARITAL STATUS	ied	8	6	7	4
	Divorced				
	d	1	2	2	4
	Widower				
	er	2	4	1	2



		2	4	2	4
	GNM	3	6	2	4
EDUCATION		1	3	2	4
QUALIFICATION	BSc	7	4	0	0
	Post		1		1
	BSc	7	4	6	2
	MSc	3	6	2	4
	0-2	3	6	4	8
		2	4	2	5
TOTAL	3-4	2	4	7	4
CLINICAL		1	3	1	2
EXPERIENCE	5-6	5	0	3	6
	7 And	1	2		1
	Above	0	0	6	2
	0-2	3	6	2	4
		2	5	2	4
TOTAL OT	3-4	6	2	1	2
EXPERIENCE		1	2	1	3
	5-6	4	8	8	6
	7 And		1		1
	Above	7	4	9	8
ATTENDED		1	3	1	2
	YES	7	4	4	8
IN-SERVICE					
		3	6	3	7
EDUCATION	NO	3	6	6	2

Table 4.1. reveals that with regards to age of the OR nurses, in the experimental group, majority of operating room nurses **18 (36%)** were aged between 31 – 40 years. In control group most of them **16 (32%)** also belongs to the same age group. Most of them **37 (74%)** and **40 (80%)** were female gender in experimental and control group respectively. In marital status **39 (78%)** and **40 (80%)** were married in experimental and control group respectively.

Total clinical experience in the Study Group majority of the OR nurses **22(44%)** had 3-4 years, whereas in control group 27 (**54%**) had 3-4 years. Considering experience in OR in the Study Group mostly **26 (52%)** had 3-4 years, while in control group majority **21 (42%)** of them had 3-4 years of experience.

Most of the OR nurses have not attended in-service education on Timeout Procedure. In Study Group **17(34%)** and in control group **14 (28%)** were attendant the in-service education on Timeout Procedure. This signifies the need for education and training on Timeout Procedure.

Comparison of pre test and post test mean knowledge score on timeout procedure protocol between experimental and control group.

N=100

Group	n	Mean	Standard Deviation	Mean Difference	Independent t-test
Study	50	21.24	3.57	6.74	t=9.54 p=0.005***
Control	50	14.78	1.72		S

***p<0.005, S- Very highly significant

In Study Group while comparing the post test level of knowledge, the mean score of knowledge was **21.24** with standard deviation of **3.57**, whereas in control group the mean post test knowledge score was **14.78** with standard deviation of **1.72** and the mean difference was **6.74**. the calculated ‘**t**’ value was **9.54** using independent t-test, which was found to have a very high statistical significance at **p<0.005** level. This inference suggests the effectiveness of the intervention in improving the knowledge in experimental group.

Comparison of post test mean skill scores on timeout procedure protocol between experimental and control group.

N=100

Group	n	Mean	Standard Deviation	Mean Difference	Independent t-test
Experimental	50	11.24	2.18	7.34	t=11.78 p=0.005***
Control	50	3.79	1.97		S

***p<0.005, S- Very highly significant

In Study Group while comparing the post test level of skill, the mean skill score was **11.24** with Standard deviation of **2.18**, whereas in control group the mean post test level of skill score was **3.79** with standard deviation and the mean difference was **1.97**. The calculated 't' value was **11.78** using independent t-test, which was found to be very high statistical significance at **p<0.005** level.

Thus, evidently proves that the OR nurses in Study Group had performed the timeout procedure better when compared with the control group. This ascertains the effectiveness of the demonstration of Timeout procedure protocol by the investigator.

CORRELATION OF THE POST TEST MEAN KNOWLEDGE SCORE WITH SKILL SCORE REGARDING TIMEOUT PROCEDURE PROTOCOL IN THE STUDY GROUP AND CONTROL GROUP AMONG OPERATING ROOM NURSES.

Group	Variables	Pre test and Post test		Spearman	Type of correlation
		Mean	SD	rank Correlation coefficient	
Study	Knowledge Vs	21.24	3.57	r = 0.46	Moderate
	Skill	11.24	2.18	p=0.005*** S	
Control	Knowledge Vs	14.78	1.72	r =0.15	Low
	Skill	3.79	1.97	p=0.24 N.S	

***p<0.005 S- very highly significant, N.S-Not Significant

Table 4.4.1 depicts the correlation between mean knowledge score with skill score among study and control group, analyzed using Spearman rank Correlation coefficient. This indicates that, in the study group there was a significant positive moderate correlation between pre test and post test knowledge score and skill score, which infers that as knowledge increases their skill also increases moderately.

In contrast to the above result, in control group no significant and poor correlation was identified between pre test and post test knowledge score and skill score, which infers that as knowledge increases their skill score also increases poorly.

The calculated 'r' value among study and control group, r =0.46 and 0.15 respectively thus, revealed a high statistical significance and a positive moderate correlation between knowledge and skill at p<0.005 level.

Hence improving knowledge regarding Timeout Procedure Protocol has also enhanced the skill in study group.

RESULTS

Correlate the post test mean knowledge score with skill score regarding time out procedure protocol between the study group and control group among operating room nurses.

The correlation between mean knowledge score with skill score among study and control group, analyzed using Spearman rank Correlation coefficient. This indicates that, in the study group there was a significant positive moderate correlation between post test knowledge score and post test skill score, which infers that as knowledge increases their skill also increases moderately.

In contrast to the above result, in control group no significant and poor correlation was identified between post test knowledge score and post test skill score, which infers that as knowledge increases their skill score also increases poorly.

The calculated 'r' value among study and control group, $r = 0.46$ and 0.15 respectively thus, revealed a high statistical significance and a positive moderate correlation between knowledge and skill at $p < 0.005$ level.

Hence improving knowledge regarding Timeout procedure protocol has also enhanced the skill in study group.

Hence the, NH₂ stated earlier that “There is no significant correlation between the post test level of knowledge with skill regarding time out procedure protocol among operating room nurses in the study group and control group” was not accepted for the study group and accepted for the control group.

Associate the selected demographic variables with post test mean of knowledge and skill score regarding time out procedure protocol between the study group and control group among operating room nurses.

In study group shows that there is a significant association with selected demographical variables in aspect of knowledge and skill. And in control group almost all variables are not significant association with the variables.

In study group significant association shows in age, gender, education qualification and OT experience in knowledge aspect. And in skill base age, education qualification clinical experience and OT experience. and other demographical variables are not significant

In control group significant association shows in gender, education qualification, clinical experience and in-service education in knowledge aspect. And in skill base education qualification and

clinical experience. And other demographical variables are not significant

In contrast all the variables in the control has not shown any statistical association with both knowledge and skill mean score.

Hence, NH₃ stated earlier that “There is no significant association of the selected demographic variables with post test mean score of knowledge and skill regarding time out procedure protocol among operating room nurses in the study group and control group”

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