A STUDY TO EVALUATE THE EFFECTIVENESS OF SKILL COMPETENCY PROGRAMME ON DRUG ADMINISTRATION ERROR RELATED TO NEUROLOGICAL ALTERATION AMONG STAFF NURSES WORKING IN SELECTED HOSPITAL AT MEERUT.

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Abstract: This study has been undertaken to evaluate the effectiveness of skill competency programme on drug administration error related to neurological alteration among staff nurses working in selected hospital at Meerut. independent variable was skill competency programme on drug administration error related to neurological alteration and dependent variable was knowledge and practice of staff nurses regarding drug administration error related to neurological alteration. 60 staff nurses, 30 in experimental and 30 in control group selected in this study by Non- probability purposive sampling technique. The mean post-test knowledge score was 22.63 in experimental group and the mean post-test knowledge score was 10.05 in control group. The calculated unpaired t score was 17.30 for the df 58 at 0.05 level of significance which was higher than the table value. The mean post-test practice score was 10.6 in experimental group and the mean post-test practice score was 6.3 in control group. The calculated unpaired t score was 10.67 for the df 58 at 0.05 level of significance which was higher than the table value.

I. INTRODUCTION

A drug administration error is a failure in the treatment process that leads to, or has the potential to lead to, harm to the patient. Medication errors can occur in deciding which medicine and dosage regimen to use (prescribing faults—irrational, inappropriate, and ineffective prescribing, under prescribing, overprescribing); writing the prescription (prescription errors); manufacturing the formulation (wrong strength, contaminants or adulterants, wrong or misleading packaging); dispensing the formulation (wrong drug, wrong formulation, wrong label); administering or taking the medicine (wrong dose, wrong route, wrong frequency, wrong duration); monitoring therapy (failing to alter therapy when required, erroneous alteration).

Neurological alteration means Structural, biochemical or electrical abnormalities in the brain, spinal cord or other nerves can result in a range of symptoms. Examples of symptoms include paralysis, muscle weakness, poor coordination, loss of sensation, seizures, confusion, pain and altered levels of consciousness.

Drugs or medicines are the most important factors which plays the very important role to improve the patient's health. But during the treatment if any kind of drug administration errors occurs it can cause neurological alteration which will affect the patient's health. Drug administration error also can create the problems in practices.

I.

I. RESEARCH METHODOLOGY

The research methodology includes the steps undertaken to gathering and organizing the data collection that are research approach, research design, study setting, population undertaken study sample, sampling technique, criteria for selection of sample, development of demographic variable, description of tools for data collection and plan for data analysis.

3.1 Population and Sample

The target Population for the study was staff nurses were working in maternity unit, psychiatric, neurology and ICUs of Chatrapati Shivaji Subharti hospital, Meerut.

The samples were staff nurses who were working in Chatrapati Shivaji Subharti hospital (maternity, psychiatric, neurology, ICUs).

3.2. Data and the Source of Data

Formal administrative permission was taken from The medical supretendent of Chatrapati Shivaji Subharti hospital , Meerut. Final data was done from 03/07/2020 to30/07/2020. 60 staff nurses (30 experimental group and 30 control group) were selected from selected hospital, Chatrapati Shivaji Subharti hospital by the purposive sampling technique.

3.3 Theoretical Framework

Variables of the study contains dependent and independent variables. independent variable was skill competency programme on drug administration error related to neurological alteration and dependent variable was knowledge and practice of staff nurses regarding drug administration error related to neurological alteration.

3.4 Statistical tools and econometric models

The details of methodology is given as follow

3.4.1 descriptive and Inferential Statistics

Score were planned to be organized tabulated and analyzed by using the frequency distribution with descriptive statistics (mean, standard deviation and mean score percentage) and inferential statistics (paired and unpaired t-test, correlation and chi square) which helped to find out the effectiveness of skill competency programme on drug administration error related to neurological alteration among staff nurses.

IV RESULT AND DISCUSSION

Table 1: Mean and standard deviation of pre-test knowledge score and post-test knowledge score of experimental group

n=30

Effectiveness of skill competency programme	Mean	Mean difference	Standard deviation	DF	Paired t test	Table value	p value
Pre test	8.6		3.43				
		14.03		29	19.04*	2.05	0.0001*
Post test	22.63		3.41				

df(29),

Data represented in table shows the mean pre and post-test knowledge score regarding drug administration error related to neurological alteration in experimental group. The mean post test knowledge score (22.63) was significantly higher than the mean pre test knowledge score (8.6) with the mean difference of 14.03. The standard deviation pre test (3.43) and post-test (3.41) . The obtained paired calculated t-value was 19.04 which were higher than the tabulated value 2.05 at df (29) at 0.05 level of significance. That shows the result were significant. Hence the hypothesis H_1 was accepted and null hypothesis H_{01} was rejected. So it is statistically interpreted that the training program is effective in educating staff nurses.

Table 2: Mean and standard deviation of pre-test knowledge score and post-test knowledge score of control group

n=30

Effectiveness of skill competency programme	mean	Mean difference	standard deviation	Df	t test	table value	p value
Pre test	9.3		2.65	29	1.9	2.05	0.002
Post test	10.5	1.2	3.19				

df(29),

Data represented in table shows the mean pre and post-test knowledge score regarding drug administration error related to neurological alteration in control group. The mean post test knowledge score (10.05) was significantly higher than the mean pre-test knowledge score (9.3) with the mean difference of 1.2. The standard deviation pre test (2.65) and post-test (3.19) . The obtained paired calculated t-value was 1.9 which was less than the tabulated value 2.05 at df (29) at 0.05 level of significance. It shows that result was not significant.

Table 3: Mean and standard deviation of pre-test practice score and post-test practice score of experimental group

n-30

Effectiveness of skill competency programme	mean	Mean difference	standard deviation	Df	Paired t test	table value	p value
Pre test	11.1	1.5	2.74	29	8.83*	2.05	0.0001*
Post test	12.6		2.31				

df(29),

Data represented in table shows the comparison of mean pre and post-test practice score regarding drug administration in experimental group. The mean post-test practice score (12.6) was significantly higher than the mean pre-test practice score (11.1) with the mean difference of 1.5. The standard deviation pre-test (2.74) and post-test (2.31) . The obtained paired calculated t-value was 8.83 which were higher than the tabulated value 2.05 at df (29) at 0.05 level of significance. Hence hypothesis H_1 is accepted and null hypothesis H_{01} was rejected.

Table 4: Mean and standard deviation of pre-test practice score and post-test practice score of control group

n-30

Effectiveness of skill competency programme	Mean	Mean difference	standard deviation	df	t test	table value	p value
Pre test	6.3		2.28				
Post test	7.4	1.1	2.19	29	2.01	2.05	0.0002

df(29)

Data represented in table shows the mean pre and post-test practice score regarding drug administration in control group. The mean post test practice score (7.4) was significantly higher than the mean pre test knowledge score (6.3) with the mean difference of 1.1. The standard deviation pre test (2.28) and post-test (2.19) . The obtained paired calculated t-value was 2.01 which were less than the tabulated value 2.05 at df (29) at 0.05 level of significance. It shows that result was not significant.

Table 5: compare the post-test knowledge score of effectiveness of skill competency program on knowledge regarding drug administration error related to neurological alteration in control and experimental group.

n=60

Effectiveness of skill competency programme	Mean		Mean Difference	standard deviation		Df	unpaired t test	table value	p value
	Control	Experimental		CONT	EXP				
POST TEST	10.05	22.63	12.58	2.73	3.41	58	17.30*	2.00	0.0001*

df(58)

Data represented in table shows that the experimental post-test mean score (22.63) was significantly higher than the post-test mean score (10.05) of control group with the mean difference of (12.58), the SD was (3.41) in experimental group and (2.73) in control group. The obtained unpaired t test value was significantly higher i.e. 17.30 than the tabulated t-value which was 2.00 at df 58 at 0.05 level of significance. Hence hypothesis (H_2) is accepted and null hypothesis H_{02} was rejected. So it is statistically interpreted that in experimental group, the training programme was highly effective in improving knowledge regarding drug administration error related to neurological alteration among staff nurses.

Table 6: compare post-test practice score of effectiveness of skill competency program on practice regarding drug administration in control and experimental group.

n=60

Effectiveness of skill competency programme	Mean		Mean Difference	standard deviation		Df	Unpaired t test	table value	p value
	Control group	Experimental group		Control group	Experimental group	58	10.67*	2.00	0.0001*
POST TEST	6.3	12.6	6.3	2.28	2.31				

df(58)

Data represented in table shows that the experimental post-test mean score (12.6) was significantly higher than the post-test mean score (6.3) of control group with the mean difference of (6.3), the SD was (2.31) in experimental group and (2.28) in control group. The obtained unpaired t test value was significantly higher i.e. 10.67 than the tabulated t-value which was 2.00 at df 58 at 0.05 level of significance. Hence hypothesis (H_2) is accepted and null hypothesis H_{02} was rejected. So it is statistically interpreted that in experimental group, the training programme was highly effective in improving practice regarding drug administration among staff nurses.

Table 7: Correlation between knowledge and practice scores regarding drug administration error related to neurological alteration among staff nurses in experimental and control group.

n=60

s.no	Group	r-value	Table value	Df	p-value
1	Experimental group	0.78*	0.361*	28	0.0001*
2	Control group	0.35*	0.361*	28	0.580*

This table shows the correlation between posttest knowledge and practice score of nurses regarding drug administration error related to neurological alteration in experimental and control group. Post test knowledge and practice score of nurse were compared by karl pearson correlation coefficient was applied at 0.05 level of significance and r =0.78, P= 0.0001, Df at 0.05 level was 28 which shows that there was a highly positive correlation between knowledge and practice in experimental group and in control group r = 0.35, P= 0.580, DF at 0.005 level was 28 which shows that there was a moderate positive correlation between knowledge and practice. Hence H_3 was accepted and null hypothesis H_{03} was rejected.

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