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Study to Assess the Knowledge Regarding Emergency Drugs Among Nurses Working in Ambulance at Selected Areas in Karnataka

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ABSTRACT

Ambulance nurses are the first line of medical team during any causality, management of critical situation is essential and need sound judgment and clinical proficiency, nurses knowledge and application of emergency drugs will save the life of the patients, 69 ambulance nurses were selected using purposive sampling, to assess their knowledge and application of emergency drugs, the drugs which were focused are, adrenaline, atropine, adenosine, amidarone, nalaxone, nitroglycerin, furosemide, diazepam, noradernaline, magnesium sulphate, sodium bicarbonate, vasopressor, aspirin, lidocaine, pretest determined the knowledge and application level of ambulance nurses, a structured education module was given to improvise their knowledge which in turn could help nurses in application of emergency drug use in critical situation, a posttest evaluated the improvement in level of knowledge, this data was statistically significant. The findings of the revealed that poor pretest knowledge score, this score was improved after education module which reflected in posttest knowledge scores. Study concluded that, education training was effective in improvising the knowledge of ambulance nurses on emergency drug and recommended the need for covering large group of ambulance nurses to effectively manage the critical ill patients and stabilize before reaching the emergency room at hospital.

Keywords: Emergency Drugs, Ambulance Nurses, Knowledge.

INTRODUCTION

Emergency drugs are those medications which meet the instant therapeutic needs of the patients and which are not available from any other ratified source in enough time to stop threat or harm to patients. Emergency drugs play a vital role in ensuring the quick recovery of a patient and even save life, the goal of treatment is to prevent deteriorating to an arrest situation. The knowledge of nurses especially ambulance nurses is essential in securing, saving, guarding the health

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and managing the critical illness of the patients from the onset till the patient reach the emergency management room delaying complications and hazards of illness and to prevent medication errors in selection and administration of drugs in emergency situation. The present study designed to assess the knowledge of ambulance nurses regarding the emergency drug and their application in critical situations which improvises nurses skill and knowledge on selection of right drugs during emergency situation [1-9].

METHODOLOGY

An interventional approach with one group pretest posttest design adopted for 69 Ambulance nurses selected using random sampling technique, the inclusion criteria were nurses working in ambulance and are in management of critical ill patients from the site of injury to hospital and excluded were nurses not working in ambulance and are in intensive care unit, a structured knowledge questionnaire designed to assess the knowledge regarding emergency drugs, the study was conducted during April 2024 for duration of three months at Hubli taluk of Dharwad district and the nurses and ethical consent and approval were obtained by concerned authority, based on the pretest knowledge scores, a planned education module administered to improve the knowledge of nurses following which nurses will apply the same in management of the critical ill patients, a posttest conducted to evaluate the effectiveness of planned education module impact on knowledge and its application in critical care of emergency patients. The emergency drugs studied in the module were adrenaline, atropine, adenosine, amidarone, nalaxone, nitroglycerin, furosemide, diazepam, noradernaline, magnesium sulphate, sodium bicarbonate, vasopressor, aspirin, lidocaine. The statistical analysis performed using SPSS 16.0 version for interpretation of the study findings.

RESULTS

The findings of the study related to demographic data were:

Table1. Describes the demographic variable under the study, out of 69 ambulance nurses, 66.66% of them were in age group of 20-30 years, 72.46% were males, 92.75% were undergraduates, 55.07% were experienced less than 3years, 55.07% were earning between 100,000-200,000/- and 92.75% of them had no previous training on emergency management

Sl No	Demographic variable		No. of nurses	Percentage
1	Age in years	20-30	46	66.66
		31-40	14	20.28
		41-50	05	7.24
		More than 50	04	5.79
2	Gender	Male	50	72.46
		Female	19	27.53
3	Qualification	Undergraduate	64	92.75
		Postgraduate	05	7.24
4	Ambulance experience	Less than 3years	38	55.07
		3-5years	12	17.39
		More than 5years	19	27.53
5	Economic status	100,000-200,000	38	55.07
		200,001-500,000	19	27.53
		More than 500,001	12	17.39
6	Previous training on emergency management	Yes	05	7.24
		No	64	92.75

Table 2. Describes the emergency drugs included in education module under study

Emergency drug	Indication	Dosage and method of administration
Adrenaline (epinephrine)	anaphylactic shock	03.-0.5 ml IM 1:1000, 3-5 ml IV 1:10000
	cardiac arrest	1 mg IV 1:1000 fast bolus 10 ml NS flush
Atropine	symtomatic bradycardia	1 mg IV every 3-5 minutes American Heart Association or 0.5 mg IV
	organophosphosphate piosioning	1-2 mg IV, repeated every 5-15 minutes until symptoms resolve
Adenosine	PSVT(Paroxymal supraventricular trachycardia)	6 mg rapid IV bolus, fast bolus 20 ml saline flush, 12 mg after 1-2 minutes if no response
Amidarone	cardiac arrest Ventricualr Fibrillation/pVT	300 mg IV bolus fast bolus 150 mg if needed
	Ventricular Trachycardia with a pulse	150 mg IV over 10 minutes fast bolus by continuous infusion
Nalxone	opioid overdose	0.4-2 mg IV/IM/SC every 2-3 minutes upto 10 mg total
Nitroglycerin	angina (chest pain)	0.3-0.6 mg sublingual
	heart failure	5-10 mcg/min IV infusion
Furosemide	pulmonary edema/ heart failure	20-40 mg IV can be increased upto 80 mg in severe cases
Diazepam	status epilepticus	5-10 mg IV slow push repeat every 10-15 minutes
Noradernaline	acute hypotension	initial 8-12 mcg/min IV infusion, maintenance- 2-4 mcg/min IV infusion
	sepsis and septic shock	0.01-3.3 mcg/kg/min IV infusion
Magnesium sulphate	eclampsia	5g each buttock IM with 4g in 16 ml NS

Finding related to knowledge level of ambulance nurses regarding emergency drugs

The present study found that, the pretest knowledge score was poor among ambulance nurses with Mean±Standard Deviation as 8.68± 1.90 and median 8.00 in pretest and in posttest has Mean ± Standard Deviation as 26.82± 1.52 and median 27.00 respectively.

Finding related to effectiveness of planned education module on knowledge of ambulance nurses regarding emergency drugs

The present study found that for Mean±Standard Deviation as 8.68± 1.90 in pretest and posttest Mean ± Standard Deviation as 26.82± 1.52 respectively, the overall knowledge score was significant at t value 59.48 at df = 59 and p value ≤0.001for 95% CI depicting that teaching module was effective in improving the knowledge of nurses regarding emergency drugs which in turn help in practical application of knowledge in critical illness.

DISCUSSION

The demographic variable revealed 66.66% of them were in age group of 20-30 years, 72.46% were males, 92.75% were undergraduates, 55.07% were experienced less than 3years, 55.07% were earning between 100,000-200,000/- and 92.75% of them had no previous training on emergency management [10,11].

The study found that ambulance nurses pretest knowledge regarding emergency drug was poor and this knowledge was improved to good knowledge score in posttest after the education module, these findings of the study were similar to the study findings of Nisha Mane [12] and Kanakalakshmi R [13] which assessed nurses knowledge on emergency drug, revealed the significant difference in pretest and posttest knowledge scores.

CONCLUSION

The demographic variable under study were age, gender, education status, experience, economic status, and previous training on emergency drug revealed diverse findings. The study revealed that the education module was effective in improving the knowledge of ambulance nurses to bring confidence among nurses to apply in management of critical ill patients. The study recommends that a large group

of ambulance nurses could be educated on emergency drug usage and right administration in better managing emergency patients in critical life saving situation.

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CONFLICTS OF INTEREST

The author declares that there are no conflicts of interest.

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