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A Study to Assess Efficacy of Educational Programme Reg Arding Knowledge And Awareness about Medication Error Among Nurses Working in Tertiary Helath Care Center.

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Nurses, knowledge, awareness, medication error, educational programme.

Abstract
Medication errors can happen at any point during the process of prescribing, recording, dispensing, preparing, or giving a drug in a hospital, because it takes a team of people working in different areas to use drugs safely. OBJECTIVE: To find out how much people know and understand about medication errors, how well educational programmes about medication errors work, and if there is a link between knowledge and awareness and certain socio-demographic variables. METHODOLOGY: 50 nurses were chosen at random for a quantitative study (KH&MRC, karad). One group, pre-test, and test afterward. Self-structured Questionaries were used to test how much people knew and how much they were aware of. Consent was given with full knowledge. Both descriptive and inferential statistics were used to look at the data. RESULTS: Most nurses were between 22 and 30 years old, had nuclear families, lived in cities, had a diploma in nursing, had worked for 1 to 5 years, and worked in the ICU. At a level of p0.0001, the paired t test value was 5.727. The average difference between how much you knew before and after the test was 2.5. The difference between the score on the pre-test and the score on the post-test is big and statistically very important. At a level of p 0.0001, the paired t-test value was 21.557. The average difference between the level of knowledge before and after the test was 1.68. The difference between the knowledge score before and after the test is high and statistically very important. There wasn't a statistically significant link between levels of knowledge and any of the sociodemographic factors except for working ward. 33.263. No statistically significant link was found between awareness levels and any of the demographic variables. CONCLUSION: The results of the study show that the educational programme given to nurses is making them more knowledgeable and aware. The study's conclusion is that the nurses' level of knowledge and awareness had

Introduction

Medication mistakes can happen at any point in the health care system, from the doctor's office to the pharmacy to the patient's home. The sad truth is that many mistakes can be avoided. The study "To Err is Human: Building a Safer Health System," from the Institute of Medicine, shows that this is true. Every

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year, between 44,000 and 98,000 Americans die because of mistakes in medical care.

Recently, more people in the U.S. have been talking about drug errors than ever before. This is because doctors have been talking about it. Pharmacists have been studying drug errors for a long time. One study from 40 years ago showed that errors are a much bigger problem than anyone had thought. Barker and McConnell compared the effectiveness of voluntary and incident reports to directly watching nurses in order to find mistakes. During the year under investigation, incident reports showed that 36 mistakes were made. In contrast, extrapolating two weeks' worth of data from direct observation over the same one-year period showed that 51,200 mistakes might have happened (including 600 wrong time errors). This amount is 1,422 times bigger than the number of reported incidents. Other research has shown that there is a difference between the two methods. [1]. Getting in Touch Medication errors can happen at any point in the process of giving a medication because of barriers. Most of the time, doctors give medication orders over the phone. This can lead to mistakes because many drug names sound the same and can be mispronounced.

Doctors' written instructions for medicines are often typed by hand by nurses. Messy, hard-to-read handwriting on the part of both doctors and nurses can lead to mistakes, like giving the wrong medicine, dose, or route to the wrong patient. Also, some hospitals use duplicate medicine order forms, and the carbon copies that follow can make handwriting very hard to read. Because of this, Dalton-Bunnow and Halvachs' computer-assisted adverse drug reaction programme could be changed to account for pharmaceutical errors. [3].

Most countries in the world, especially developing countries, now put a high priority on providing high-quality, safe, and easy-to-reach healthcare. Care that is safe, reliable, and based on evidence is being talked about more and more at the local, regional, and national levels. This means that governments in developing countries like India have become more aware of and committed to giving their people good health care. [4].

So, the goal of this study was to find out how much people know and understand about medication errors, how well educational programmes about medication errors work, and if there is a link between knowledge and awareness and certain sociodemographic variables. ways to make inpatient care safer for patients in the Indian health care system.

RESEARCH METHOD:

The goal of this study was to find out how well an educational programme taught people about medication errors and made them aware of them. A quantitative method was used to do the research for the study. RESEARCH DESIGN: The term "research design" refers to the plan, structure, and strategy for answering the research questions. It is the overall plan or blueprint that the researcher chooses to carry out their study. One group took a test before and after the research was done. SETTING OF THE STUDY: The setting of a study is the physical place and conditions in which data is collected. The study was done at a hospital in Karad with the highest level of care. SAMPLE: Choosing a small part of the population to represent the whole population is what the word "sample" means. In this study, the nurses who work in Karad's tertiary health care hospital were looked at. SIZE OF THE SAMPLE: The study's sample consisted of 50 nurses from selected tertiary care hospitals in Karad. These nurses were chosen based on sampling selection criteria at the time of data collection. CHOICE OF SAMPLING METHOD: The purposeful sampling method was used. The technique of "purposeful sampling" is a type of "non-probability sampling." SIZE OF THE SAMPLE: With the help of a statistician, the size of the sample was calculated based on the rate of occurrence from a previous study. 50 people were chosen to take part in this study. INCLUSION CRITERIA: Nurses who are willing to take part in the study, Nurses who will be working in a tertiary care hospital, and Nurses who will be available during the time of the study. EXCLUSION CRITERIA: Nurses who don't want to take part in the study and Nurses who will be working in a tertiary health care centre.

METHODS AND TOOLS FOR COLLECTING DATA:

The goal of the study was to find out how well an educational programme taught people about medication errors in a tertiary health care hospital.

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The self-designed Questionnaires were used to find out how much people knew and how aware they were of medication errors. It has three parts: SECTION I: sociodemographic data, such as age, gender, family type, place of residence, education, work experience, monthly income, and working ward. SECTION II: Knowledge that is self-organized When there were questions about medication mistakes, each correct answer was worth 1 point and each wrong answer was worth 0 points. The total score was 15, and the marks were given out so that a score of 0–7 meant that the person had poor knowledge, 8–12 meant that they had average knowledge, and a score of 13–15 meant that they had good knowledge. Self-structured awareness is the third part. When asked questions about medication errors, each correct answer was worth 0 points and each incorrect answer was worth 0 points. The total score was 15, and the marks were given out so that a score of 0-7 meant the person had poor awareness, a score of 8-12 meant they had average awareness, and a score of 13-15 meant they had good awareness.

RESULT AND DISCUSSION –

Table No.1: Distribution of Nurses according to Demographic Variables

Sociodemographic variable	**Respondent**	
	Frequency (n)	Percentage (%)
Age in years		
22-30	42	84
31-48	6	12
49-57	2	4
Gender		
Male	11	22
Female	39	78
Family Type		
Joint family	18	36
Nuclear family	32	64
Residency		
Urban	35	70
Rural	15	30
Education		
Diploma in Nursing	25	50
B.Sc. in Nursing	24	48
M.Sc. in Nursing	1	2
Work Experience		
Fresher	2	4
1-5 Year	31	62
6-10 Year	13	26
11-15 Year	4	8
Monthly Income		
21,000-29,000	17	34
30,000-38,000	30	60
More Than 50,000	3	6
Working Ward		
General Ward	19	38
OPD	3	6
OT	2	4
ICU	26	52

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Table number one reveals that

Based on their age, 42 (84%) nurses are between the ages of 22 and 30, 6 (12%) are between the ages of 31 and 48, and 2 (4%) are between the ages of 49 and 57. The majority of nurses are women, with 39 (78%) being women and 11 (22%) being men. Based on the type of family, 18 (36%) of nurses come from a joint family and 32 (64%) come from a nuclear family. In terms of where they live, 35 (70%) of nurses live in cities, while 15 (30%) live in rural areas. In terms of education, 25 (50%) nurses had a diploma or less, 24 (48%) had a degree in nursing, and 1 (2%) was a postgraduate nurse. Based on how long the nurses had been working, 2 (4% of them) were new to the job, while 31 (62%) had worked for 1-5 years. Thirteen (26%) had between 6 and 10 years of work experience, and four (8%), between 11 and 15 years. According to their monthly income, 34% of nurses make between $19,000 and $29,000 per month, 60% make between $30,000 and $38,000 per month, and 6% make more than $50,000 per month. 19 (38%) nurses work in the General Ward, 3 (6%), in the Outpatient Department, 2 (4%), in the Operating Room, and 26 (52%) work in the Intensive Care Unit.

Table 2: Comparison of frequency and percentage distribution of pre-test and post-test level of knowledge regarding medication error among nurses.

Level of knowledge	Pretest		Posttest	
	Frequency	Percentage	Percentage	Percentage
GOOD (13-15)	6	12%	41	82%
AVERAGE (08-12)	42	84%	9	18%
POOR (0-7)	2	4%	0	0%

Table 2 shows how the level of knowledge about medication errors among staff nurses changed from before the test to after the test, both in terms of frequency and percentage. Analysis shows that 6 people (12%) had good knowledge before the test, 42 people (84%) had average knowledge, and 2 people (4%) had poor knowledge. The standard deviation was 1.468, and the mean score was 10.74. In the Post-test, 82 percent of the students had good knowledge, 18 percent had average knowledge, and none had bad knowledge, with a standard deviation of 0.9381. At a level of p0.0001, the paired's test value was 5.727. The average gap was 2.5. The difference between the score on the pre-test and the score on the post-test is big and statistically very important.

Table 3: Comparison of mean and standard deviation of pre-test and post-test level of knowledge regarding medication error among nurses.

Level of knowledge	Pre test	Post test	Mean difference (MD)	Paired 't' test
Mean	10.74	13.24	2.5	5.727
Standard deviation (SD)	1.468	0.9381		

p <0.0001

Table 3 shows how much staff nurses knew about medication errors before and after the test, as measured by the mean and standard deviation. Analysis shows that the average score on the pre-test was 10.74, and the standard deviation was 1.468. The average score on the post-test was 13.24, and the standard deviation was 0.9381. At a level of p0.0001, the paired t test value was 5.727. The average gap was 2.5. The difference between the score on the pre-test and the score on the post-test is big and statistically very important.

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Table 4: Comparison of frequency and percentage distribution of pre-test and post-test level of awareness regarding medication error among nurses.

Level of awareness	Pretest		Posttest	
	Frequency	Percentage	Percentage	Percentage
GOOD (13-15)	20	40%	41	82%
AVERAGE(08-12)	30	60%	9	18%
POOR (0-7)	0	0%	0	0%

Table no. 4 depicts the comparison of frequency and percentage between pre-test and post-test level of awareness regarding medication error among staff nurses. Analysis revels that the pre-test level of awareness was 20(40%) were having good knowledge, 30(60%) were having average knowledge, and 0(0%) was having poor knowledge. In Post-test level of knowledge was 41(82%) were having good knowledge, 9(18%) were having average knowledge, none of them were having poor knowledge.

Table 5: Comparison of mean and standard deviation of pre-test and post-test level of awareness regarding medication error among nurses.

Level of awareness	Pre test	Post test	Mean difference (MD)	Paired 't' test
Mean	11.96	13.640	1.68	21.557
Standard deviation (SD)	1.456	1.274		

p value <0.0001

Table no 5 depicts the comparison of mean and standard deviation between pre-test and post-test of awareness regarding medication error among staff nurses. Analysis reveals that the pre-test level of awareness mean score was 11.96 with the standard deviation of 1.456 and the post-test level of awareness mean score was 13.640 with the standard deviation of 1.274. The paired't' test value was 21.557 at the level of p <0.0001. The mean difference was 1.68. The difference between pre-test and post-test knowledge score is high and it is statistically extremely significant.

Table 6: Association of pre-test level of knowledge regarding medication error among staff nurses with their selected demographic variables.

Sr. No	Demographic variables	Pretest level of knowledge						Chi Square χ^2	P value	Result
		Poor		Average		Good				
		N	%	N	%	N	%			
1	**Age in years**							**0.7937**	**0.9393**	**NS**
	22-30	2	4.76	35	83.33	5	11.90			
	31-48	0	0	5	83.33	1	16..66			
	49-57	0	0	2	100	0	0			
2	**Gender**							**0.7437**	**0.6895**	**NS**
	Male	0	0	10	90.90	1	9.09			

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	Female	2	5.12	32	82.05	5	12.82			
3	**Family Type**							**01901**	**0.9093**	**NS**
	Joint family	1	5.55	15	83.33	2	11.11			
	Nuclear family	1	3.12	27	84.37	4	12.5			
4	**Residency**							**1.814**	**0.4037**	**NS**
	Urban	1	2.857	31	88.571	3	8.571			
	Rural	1	6.666	11	73.333	3	20			
5	**Education**							**9.361**	**0.0527**	**NS**
	Diploma in Nursing	1	4	23	92	1	4			
	B.Sc. in Nursing	1	4.166	19	79.166	4	16.666			
	M.Sc. in Nursing	0		0		1				
6	**Work Experience**							**1.855**	**0.9325**	**NS**
	Fresher	0		2	100	0	0			
	1-5 Year	1	3.225	26	83.870	4	12.90			
	6-10 Year	1	7.692	10	76.923	2	15.38			
	11-15 Year	0	0	4	100	0	0			
7	**Monthly Income**							**3.259**	**0.5155**	**NS**
	21,000-29,000	0	0	16	94.117	1	5.882			
	30,000-38,000	2	6.666	23	76.66	5	16.66			
	More Than 50,000	0	0	3	100	0	0			
8	**Working Ward**							**33.263**	**<0.0001**	**S**
	General Ward	0	0	17	89.47	2	10.52			
	OPD	2	66.66	1	33.33	0	0			
	OT	0	0	2	100	0	0			
	ICU	0	0	22	84.61	4	15.38			

S- Statistically Significant. NS-Not significant, S-Significant.

Table no 6 show the association of pre-test on level of knowledge regarding medication error among staff nurses with selected demographic variables. The chi- square value of 33.263 showed that there was a significant association between the working ward of nurses.

Table 7: Association of pre-test level of Awareness regarding medication error among staff nurses with their selected demographic variables.

Sr. No	**Demographic variables**	**Pretest level of awareness**						**Chi Square $\chi 2$**	**Paired t test**	**Result**
		Poor		**Average**		**Good**				
		N	**%**	**N**	**%**	**N**	**%**			
1	**Age in years**							**5.556**	**0.0622**	**NS**
	22-30	0	0	28	66.66	14	33.33			
	31-49	0	0	1	16.66	5	83.33			
	49-57	0	0	1	50	1	50			
2	**Gender**							**0.1748**	**0.6759**	**NS**
	Male	0	0	6	54.54	5	45.45			
	Female	0	0	24	61.53	15	38.46			
3	**Family Type**							**3.704**	**0.0543**	**NS**
	Joint family	0	0	14	77.77	4	22.22			

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	Nuclear family	0	0	16	50	16	50			
4	**Residency**							**1.587**	**0.2077**	**NS**
	Urban	0	0	19	54.28	16	45.71			
	Rural	0	0	11	73.33	4	26.66			
5	**Education**							**4.000**	**0.1553**	**NS**
	Diploma in Nursing	0	0	18	72	7	28			
	B.Sc. in Nursing	0	0	12	50	12	50			
	M.Sc. in Nursing	0	0	0	0	1	100			
6	**Work Experience**							**0.2843**	**0.9629**	**NS**
	Fresher	0	0	1	50	1	50			
	1-5 Year	0	0	19	61.29	12	38.70			
	6-10 Year	0	0	8	61.53	5	38.46			
	11-15 Year	0	0	2	50	2	50			
7	**Monthly Income**							**1.797**	**0.4071**	**NS**
	21,000-29,000	0	0	9	52.94	8	47.05			
	30,000-38,000	0	0		66.66	10	33.33			
	More Than 50,000	0	0	1	33.33	2	66.66			
8	**Working Ward**							**5.061**	**0.1674**	**NS**
	General Ward	0	0	11	57.89	8	42.10			
	OPD	0	0	3	100	0	0			
	OT	0	0	0	0	2	100			
	ICU	0	0	16	61.53	10	38.46			

Table 7 shows the association between pre-test on level of awareness regarding medication error among staff nurses with their selected demographic variables. The analysis revealed that there was no association found between levels of awareness with their demographic variables.

DISCUSSION –

Medication mistakes can have serious consequences ranging from the person not knowing what to do to system failure, which can lead to a number of disasters. The study was done to find out how well the educational programme taught nurses in tertiary health care centres about medication errors and how aware they were of them. The result showed that 84% of nurses had average knowledge in the pre-test, 12% had good knowledge, and 4% had poor knowledge. The present study was compared to similar studies done by Akashpreet Kaur1, Gopal Singh Charan2, which looked at how much nurses knew about medication errors. The results showed that 61% of nurses had average knowledge, 32% had poor knowledge, and 7% had good knowledge.

The results of this study showed that staff nurses were aware of medication errors before the test. 60% or less of nurses had average awareness, 40% or more had good awareness, and none of them had poor awareness. This is compared to what Sewal RK found in other studies he did to find out how aware health care workers in the North, East, and West regions of India were of medication errors. He found that 18.45%, 39.48%, 14.16%, and 27.9% of those who answered had excellent, good, average, and poor knowledge of the basics of medication error, respectively.

The results of this study showed that in the post-test, at least 41 (82%) of the staff nurses had good knowledge, 9 (18%) had average knowledge, and none of the staff nurses had bad knowledge. The current study was compared to a similar one done by Dr. Hari Mohan Singh, Vijesh Patel, Susan Misquitta, Lyju Vargish, and Latha P. The results of the post-test showed that 18 (60%) of the nurses had good knowledge about medication errors, 12 (40%) had average knowledge, and none had poor knowledge.

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The results of this study showed that there was no significant link between the level of knowledge about medication errors among staff nurses and selected demographic variables like age, gender, family type, residency, education, work experience, and monthly income. However, there was a link between knowledge and selected demographic variables like working ward. The chi-square value of 33.263 showed that there was a significant link between the working ward and the level of knowledge about medication errors among staff nurses.

The results of this study showed that there was no significant link between staff nurses' awareness of medication errors and certain demographic factors like age, gender, type of family, place of residence, education, work experience, monthly income, and working ward.

Conclusion –

The study concluded that educational programme on medication error was effective. It shows that improving nursing staff knowledge and awareness on medication error after intervention.

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