KNOWLEDGE OF ACUTE KIDNEY INJURY AMONG NURSES IN TWO GOVERNMENT HOSPITALS IN ONDO CITY

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INTRODUCTION

- Acute kidney injury (AKI) has become a global health problem.(1)
- The burden of AKI is enormous due to its associated increased morbidity, mortality and overall health expenditure.(2)
- There are still deficiencies in management of AKI both in the developed and developing countries leading to missed opportunities in prevention, early detection and management of AKI.(3)

- There is need to regularly assess and improve health care providers' knowledge on AKI.
- The nurses play pivotal role in patients' management especially those receiving in-patient care.
- Their knowledge on various aspects of AKI would have effect on early diagnosis, management and outcome of AKI.
- This study determined the knowledge of AKI among nurses and associated factors in the two government hospitals in Ondo city

METHODOLOGY

- This was a cross-sectional descriptive study carried out in the two government hospitals in Ondo city; Ondo state medical village and State Specialist hospital, Ondo city between April and May 2016.

- A simple random technique was adopted in selecting the participants who were nurses working in the two government hospitals in Ondo city.

- The minimum sample size for this study was 150 nurses after including 10% attrition rate using Epi Info sample size calculation and taking 50% as the proportion with adequate knowledge of AKI.

- One hundred and fifty-six (156) respondents participated in the study with a response rate of 89%
- Knowledge of AKI was assessed through the use of validated closed ended structured questionnaire that had 28 questions
- The questionnaire was validated in a pilot study done in State Specialist hospital Akure using 20 respondents (nurses) and has Cronbach's alpha internal consistency coefficient of 0.92

- The questionnaire has sections A and B.
- Section A consists of questions on socio-demographic information and number of years of nursing experience.
- Section B consists of questions that assessed knowledge in areas of clinical features, types, and risk factors of AKI, nephrotoxic medications, criteria for diagnosis of AKI and important vital signs that required regular monitoring in patients at risk of AKI.

- A score of 1 point was given to each correctly answered question and the total score was calculated for each respondent.

- A score of 20-28 points was considered as having good knowledge of AKI, 14-19 points as fair knowledge and < 14 points as poor knowledge

- Ethical clearance was obtained from the Ondo state Ethical and Research Committee
- Data generated was analyzed using SPSS version 17.0.

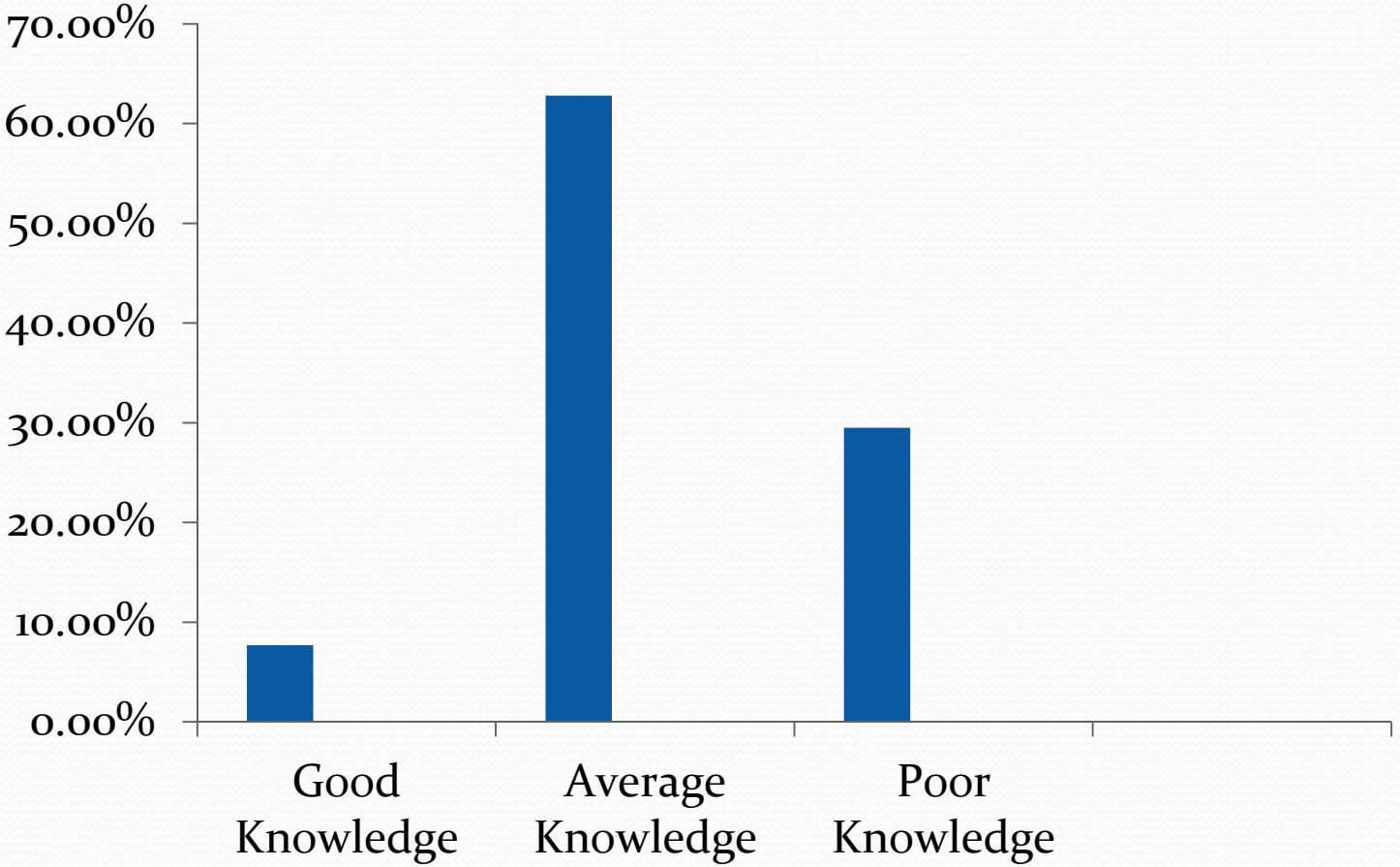
- P values < 0.05 were considered significant.

RESULTS

Characteristics of Study Population

Parameter	n (%)
Age (years)	
≤ 40	122 (78.2%)
> 40	32(21.8%)
Gender	
Male	12(7.7%)
Female	144(92.5%)
Years of experience	
≤10 years	99(63.5%)
>10 years	57(36.5%)
Previous AKI lecture	
Yes	106(67.9%)
No	46(29.5%)

Fig 1:Knowledge of AKI among respondents



Frequency of correct answers about AKI

		n (%)
1	**About presentation of AKI**	
1.1	Urine output may be reduced in AKI	150 (96.2%)
1.2	Urine output may be normal in AKI	33 (21.2%)
1.3	Serum creatinine may be normal in AKI	33 (21.2%)
2	**Risk factors for AKI include**	
2.1	Heart failure	126 (80.8%)
2.2	Diabetes mellitus	122 (78.2%)
2.3	Elderly	60 (38.5%)
2.4	Liver disease	87 (55.8%)
2.5	Chronic hypertension	133 (85.3%)

Frequency of correct answers about AKI

		n (%)
3	**Nephrotoxic medications include**	
3.1	Genticin	111 (71.2%)
3.2	Frusemide	32 (20.5%)
3.3	NSAIDs	108 (69.2%)
3.4	Co-trimoxazole	72 (46.2%)
3.5	Lisinopril	28 (17.9%)
3.6	Metrondazole	69 (44.2%)
4	**Types of AKI include**	
4.1	Pre-renal AKI	121 (77.6%)
4.2	Renal AKI	127 (81.4%)
4.3	Post-renal AKI	106(67.9%)
4.4	Oliguric AKI	96 (61.5%)
4.5	Non-oliguric AKI	54 (34.6%)

Frequency of correct answers about AKI

		n (%)
5	**Criteria used for AKI definition and staging include**	
5.1	RIFLE	35 (22.4%)
5.2	APACHE	9 (5.8%)
5.3	Child-Pugh	9 (5.8%)
5.4	AKIN	34 (21.8%)
5.5	KDIGO	38 (24.4%)
6	**Vital signs that should be closely monitored patients with risk for AKI**	
6.1	Pulse rate	112 (71.8%)
6.2	Blood pressure	143 (91.7%)
6.3	Hydration status	143 (91.7%)
6.4	Hourly urine output	147 (94.2%)

Table 1: Association between knowledge of AKI, previous AKI lecture and years of experience

	Good Knowledge	Fair Knowledge	Poor Knowledge	P-value
Previous AKI lecture				
Yes	10(83.3%)	71(73.2%)	25(66.1%)	0.03
No	2(16.7%)	26(26.8%)	18(33.9%)	
Years of experience				
≤10 years	6(50.0%)	66(67.3%)	27(58.7%)	0.37
>10 years	6(50.0%)	32(32.7%)	19(41.3%)	

DISCUSSION

- This study showed that only 7.7% of the nurses in the government hospitals in Ondo city had good knowledge of AKI. This is similar to the findings in a study by Edward et al.(4)

- There was no association between knowledge of AKI and years of nursing experience among the respondents. This therefore implied that all cadre of nurses should be included in the educational programs targeted at improving AKI knowledge

- This study also showed that those who had previous education on AKI had better knowledge of AKI. This is similar to report by Brady et al (5)

- Almost all the nurses in this study were willing to attend seminar on AKI.

Conclusion

- This study showed that only a small proportion of nurses in Ondo city had good knowledge of AKI.
- Identified areas of deficiencies were risk factors for AKI, potentially nephrotoxic medications, non-oliguric AKI, criteria for definition and staging of AKI.
- This study also showed that those who had previous education on AKI had better knowledge of AKI.
- Almost all the nurses were willing to have update courses on AKI

RECOMMENDATIONS

- Regular in-service training on AKI and management for practicing nurses.

- Lectures on AKI should be incorporated into both undergraduate and postgraduate nursing curriculum.

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