

Knowledge, attitude and beliefs of nurses regarding antibiotic use and the prevention of antibiotic resistance: A survey of healthcare providers

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Background

- Resistance to antibiotics is a global issue affecting the health care system. Nurses, as frontline health care providers, have a significant role in combating the global threat of antibiotic resistance. The awareness and the attitude towards antibiotic resistance can affect their participation in antibiotic prevention.

Objectives

- This study examined the awareness and attitude of nurses towards antibiotic use and the prevention of antibiotic resistance.

Methods

- This was a cross-sectional study conducted at a multi-cultural tertiary setting between October 2018 and July 2019. The study participants were 341 nurses involved in patient care, selected from a target population of 2629 nurses using a convenience sampling method. A structured self-administered questionnaire with good reliability and validity ($r=0.7$) was used for data collection.

Results

- The study has noteworthy findings. Nurses showed moderate awareness of antibiotic resistance and a negative attitude towards the prevention of antibiotic resistance. Only half of the participants showed a positive attitude towards antibiotic self-use. There was no significant correlation of demographic features with the awareness and attitude of nurses ($p<0.05$).

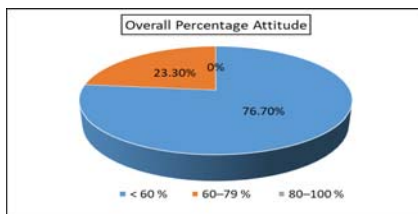
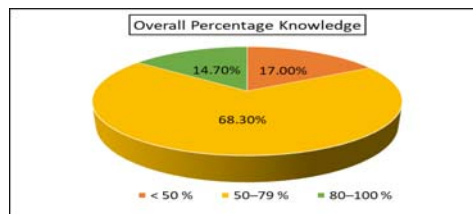


Table 4: Correlation between knowledge and attitude

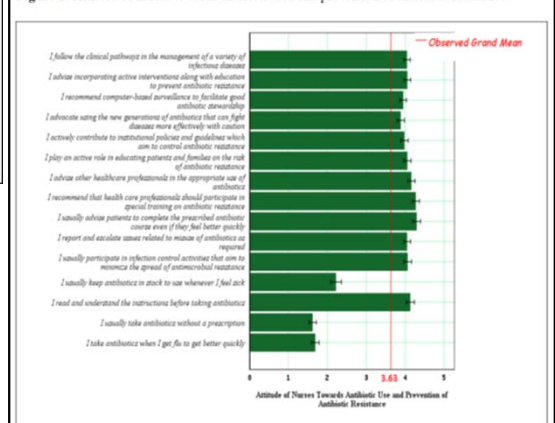
Categorization	Overall Percentage Knowledge				Result
	< 50 (fair)	50–79 (good)	80–100 (very good)	Total	
< 60 (fair)	43 (17.6%)	169 (69.3%)	32 (13.1%)	244 (76.7%)	$r = 0.024$ $p = 0.177$
60–79 (good)	10 (13.5%)	48 (64.9%)	16 (21.6%)	74 (23.3%)	
80–100 (very good)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Total	53 (16.7%)	217 (68.2%)	48 (15.1%)	318 (100.0%)	



Demographic characteristics of the study population (n = 341)

Characteristics	Description	Mean ± SD
Age (years)	min – max	22–56
	Mean ± SD	12 ± 5.8
	Range	0–33
Total years of nursing experience	Male	40 (11.7%)
	Female	301 (88.3%)
Sex	Diploma	98 (28.7%)
	Bachelor	231 (67.7%)
Highest professional qualification	Master	12 (3.5%)
	Medical	124 (36.5%)
	Surgical	28 (8.2%)
Working Unit	Critical/Specialized	152 (44.7%)
	OPD	36 (10.6%)
	Registered nurse	289 (84.8%)
Job title	Shift manager	45 (13.2%)
	Unit manager	7 (2.1%)

Figure 1: Attitude of nurses towards antibiotic use and prevention of antibiotic resistance



Discussion

- Prevention of AR requires a multi-sectoral response, and every individual has a role to play in this context. Health professionals, especially nurses, play a particularly important role in the prevention of this global crisis. Only half of the respondents knew that bacteria become resistant to antibiotics. The responses indicated uncertainty among nurses about the action of antibiotics. More than half of all respondents had only moderate knowledge regarding the basics of antibiotics.
- In this study, nearly half of all participants exhibited a negative attitude towards the self-use of antibiotics. A majority (94.7%) of the subjects expressed the need for training on antibiotic stewardship. These findings highlight the need for training to enhance participation in antibiotic prevention and reinforce the central role of nurses in antibiotic prevention strategies.
- The study is limited to a particular setting and limited sample size which limits the generalizability of the findings.

How to improve ?

- Our study highlights the need for concerted interventions to enhance the awareness level and improve the attitudes of nurses towards antibiotic resistance. Initiatives using a creative approach facilitate the optimal participation of nurses in antimicrobial stewardship initiatives. Creative approaches to installing initiatives will stimulate proactive endeavors to alleviate this global concern.

Conclusions

- The study results highlight the knowledge gap among nurses related to the issue of antibiotic resistance. Despite several initiatives on the subject, rigorous concerted efforts are required to improve the awareness of nurses and their role in preventing this global crisis. Engaging nurses in antimicrobial stewardship program, initiatives proactive participation and optimize the prevention of antibiotic resistance. This study provides valuable insights for future educational approaches in preventing this global phenomenon.

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