

# Impact of Years' Experience upon Nurses' Knowledge and Practice concerning Infection Control at Critical Care Units in Baghdad City

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## Abstract

**Introduction:** Infection control or hospital-acquired infections are the major concern of the health care system and agencies. Critical care nurses are on the first-line contact with the patients, so on, they are most vulnerable to acquired infections. It is really important to regularly check their knowledge and practices concerning infection control. **Objectives:** The study aims to identify the impact of years' experience on nurses' knowledge and practices concerning infection control in three hospitals and center (Baghdad teaching hospital, Ibn Al-Nafees hospital, and Ibn al-Bitar center) **Methodology:** Cross-sectional study was conducted, the study starting from 4<sup>th</sup> of July 2020 to 13<sup>th</sup> of November 2020. Non-probability (purposive) sample was used to select 110 nurses who work at critical care units in three hospitals and center (Baghdad teaching hospital, Ibn Al-Nafees hospital, and Ibn al-Bitar center). The years of experience should no less than one year. The instrument was composed of two parts. Firstly, covers the nurses' demographic characteristics. Secondly, included self-report questions about nurses' knowledge and an evaluation sheet concerning nurses' practices of infection control with 24 questions for knowledge and 12 questions for practices checklist. **Results:** The study revealed that the nurses' knowledge toward infection control record 38%, 41%, and 21% for low, moderate, and high knowledge respectively. In comparison, nurses practices record 47%, 42%, and 11% for low, moderate, and high practices respectively. Most of the study sample 62% was females while 38 % of the subject was males. The age group (20-29) takes the highest percentage (38%), In addition, about (27.3%) of the nurses who works in critical care units have 1-5 years of experience. Significant statistical associations were found between nurses knowledge and practice from one hand and years' experience on the other hands  $p \leq 0.05$ . **Recommendation:** Based on this finding, the researcher recommended further studies involve more nurses and other health professionals regarding infection control and highlight the importance of infection control to nurses with (1-5) years' experience by symposium or teaching programs.

**Keywords:** Impact, Years' Experience, Nurses' Knowledge & Practice, Infection Control, Critical Care Units

## Introduction

Hospital-acquired infections are significantly high, especially in critical care units. Both nurses and patients are vulnerable to get those infections, patients in critical care units have low immunity as a result of their health status and can easily be infected with viruses and bacteria [1, 2, 3]. In comparison, nurses are in direct contact with patients for a long time [4, 5]. Nurses' knowledge and practices about precautions and infection prevention strategies are the cornerstones to minimize the burden

of hospital-acquired infections [6]. Accordingly, Information about nosocomial diseases is imperative to improve infection control strategies and to create successful preventive and therapeutic methodologies which, thus, will help us in diminishing the prevalence, and mortality rate [7, 8]. The infection control is a key part of training for all health services personnel, for their health as well as to minimize nosocomial infection and along these lines improve nurses and patients safety [9, 10].

## Methodology and Materials

### Design of the study:

A cross-sectional research design was conducted from the period 4<sup>th</sup> of July 2020 to 13<sup>th</sup> of November 2020 to find out the impact of years' experience on nurses knowledge and practices concerning infection control. Hospitals and center (Baghdad teaching hospital, Ibn Al-Nafees hospital, and Ibn al-Bitar center) in Baghdad city were included. Non probability (purposive) sample was used to select 110 nurses who worked in critical care units and have at least one year experience.

### Tools of the study:

It was consisted of two parts, first part: composed of nurses' demographic characteristics include age, gender, and years of experience in the critical care units. Second part: consist of (24) self- reported questions for nurses' knowledge and (12) questions as a checklist evaluation for practices concerning infection control.

### Validity and Reliability

The content validity of the knowledge and practices sheet was checked by ten experts in College of Nursing / University of Baghdad with different specialty and modifications done accordingly. Reliability was done to determine the stability of the questionnaire by using test-retest method (correlation coefficient 0.89).

## Results

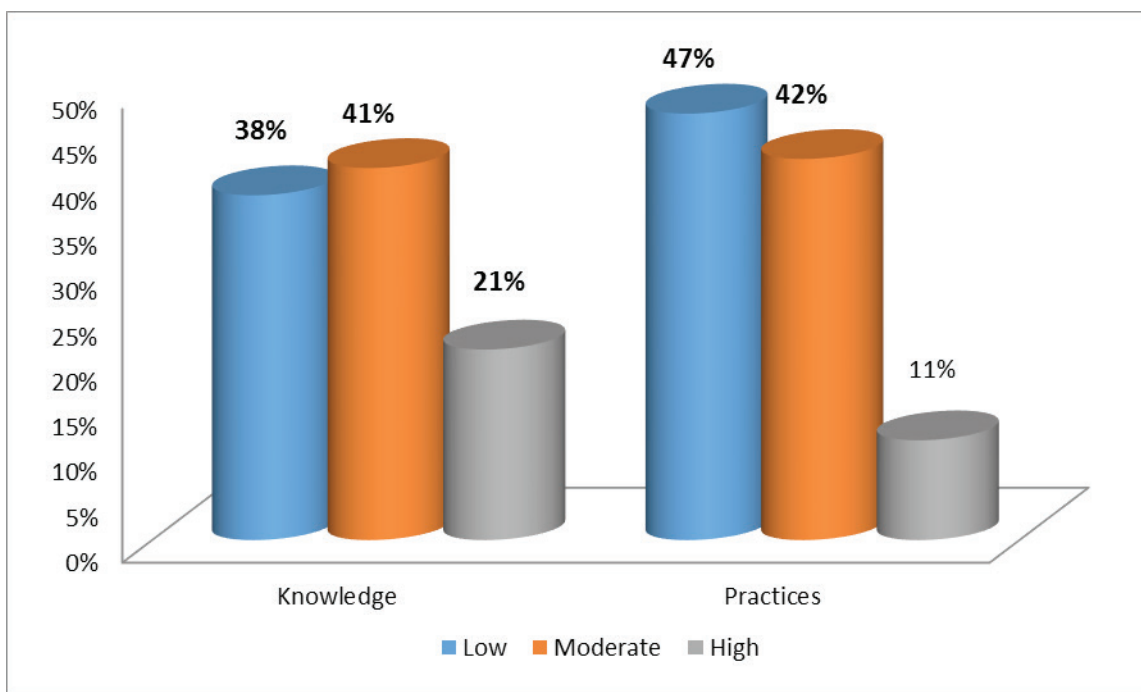


Figure 1: Distribution of Nurses' Knowledge and Practices

**Table 1: Distribution of Socio-Demographical Characteristics.**

<b>Gender</b>		<b>F</b>	<b>P</b>
	Male	42	38
	Female	68	62
<b>Age groups</b>		<b>F</b>	<b>P</b>
	20-29	42	38
	30-39	30	27.3
	40-49	20	18.3
	50-59	18	16.4
<b>Years of experience in critical care unit</b>		<b>F</b>	<b>P</b>
	1 – 5	30	27.3
	6 – 10	15	13.6
	11 – 15	17	15.4
	16 – 20	20	18.3
	21-25	12	10.9
	More than 25 years	16	14.5

Frequency, Percentage

This table indicated that more than half (62%) of the study sample were females with (38%) at age group (20-29 years) and (27.3%) have (1-5) years' experience.

**Table 2: Association of years' experience with Nurses knowledge**

<b>ANOVA</b>					
<b>Nurses Knowledge</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	148.988	3	49.663	1.015	0.05
Within Groups	5135.276	106	48.446		
Total	5284.264	109			

df: degree of freedom, F: frequency, sig: significant

This table demonstrates that there is a statistical significant association between years' experience and nurses' knowledge (p value  $\leq 0.05$ ).

**Table 3: Association of years' experience with Nurses Practice**

ANOVA					
Nurses Practices					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	389.942	4	97.486	2.425	0.053
Within Groups	4220.612	105	40.196		
Total	4610.555	109			

df: degree of freedom, F: frequency, sig: significant

Table (3) reveals significant statistical association between years' experience and nurses' practices in critical care units concerning infection control.

### Discussion

Results in figure (1) shows that the moderate level of knowledge takes highest percentage (43%) concerning infection control while (47%) of the nurses records the high level practices. Most of the study (62%) sample was females, and the age group (20- 29 years) takes the highest percentage (38%). The years' experience (1-5) years records (27.3%) of the study sample.

This finding approximately similar with the study in in Baghdad Teaching Hospital done by Abdel-latif, 56.6 were females, and 43.3% of them at age 20-29 years old, it is agree with the results of at eight hospitals in Saudia Arabia. Another study has been found that females were more Informationable than males toward infection control [11, 12].

The study results demonstrate that years' of experience associate with nurses' knowledge. In addition, there is a statistical significant association with nurses' practices, the nurses have affected their compliances to standard precautions, thus more years of employment lead to more experiences which finally influences on nurses' practices. This result agrees with study done by Eskander who find that there is a significant association between the Nurses' Information and the years of employment [13]. Hassan, A. and Fatima

were indicating positive relation between the skills and the years of experience as a nurse.

### Conclusions

According to the results, the study conclude that years' experience associate with the nurses knowledge and practices toward infection control in critical care units, the more years' experience lead to more knowledge and skills toward infection control.

### Acknowledgements

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### Conflict of Interest

There are no conflict of interest concerning this research and the manuscript has not been submitted to another journal or publishing venue.

### Financial Resources

The authors have no affiliation with any organization with a direct or indirect financial interest in the subject matter discussed in the manuscript.

### Informed Consent

Before filling the questionnaire, all participants were asked if they agree or disagree to participate in the research.

### Ethical Clearance

All experimental protocols were approved under the Faculty of Dentistry, University of Babylon, Hillah city, Iraq and all experiments were carried out in accordance with approved guidelines.

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