

JORDANIAN ICU REGISTERED NURSES: ARE THEY COMPLIANT WITH STANDARD INFECTION CONTROL PRACTICES?



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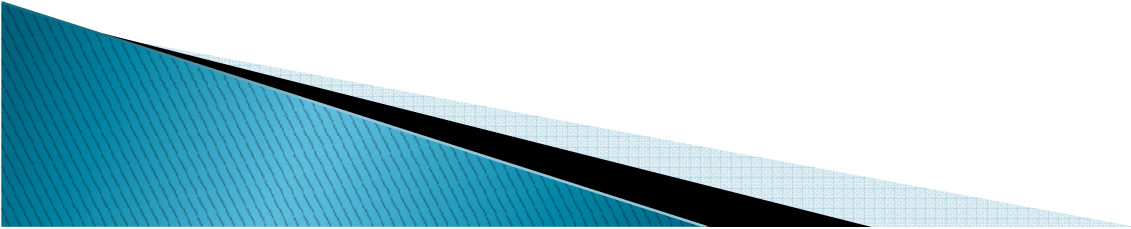
ACKNOWLEDGEMENTS

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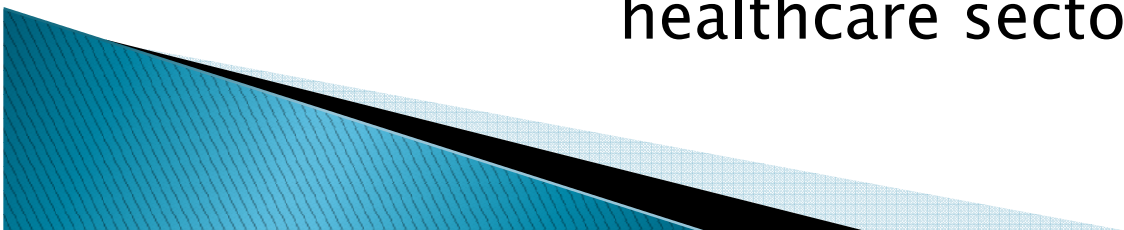
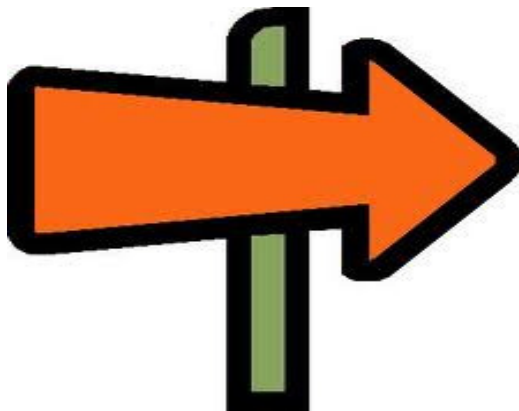
BACKGROUND AND SIGNIFICANCE

- ▶ Prevalence of Healthcare Associated Infections (HCAIs) in intensive care units (ICUs) are much higher than other units
 - ▶ Assessment of adherence to infection control guidelines periodically is a high priority measure to reduce the incidence of HCRIIs (CDC, 2002)
 - ▶ No Jordanian Studies that assess IC practice among ICU nurses at the national level
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STUDY OBJECTIVES



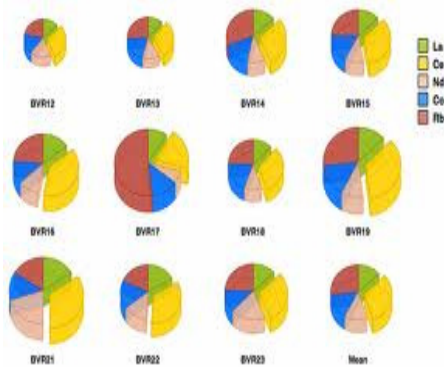
- ▶ The purpose of this national study was to assess the compliance of Jordanian ICU RNs with standard IC guidelines
- ▶ Identify possible factors that affect Jordanian ICU RN compliance with IC guidelines
- ▶ Identify possible differences in IC practices among RNs in different healthcare sectors in Jordan



METHODOLOGY



- ▶ This study used a descriptive cross-sectional design
- ▶ Proportional, multistage, probability sampling was used
- ▶ The sampling frame consisted of all Jordanian hospitals listed by the Ministry of Health annual statistical report
- ▶ The total sampling frame consisted of 103 hospitals (29.1% were governmental, 10.7% military, 58.3% private and 1.9% university affiliated hospitals)





STUDY INSTRUMENT

▶ The Infection Control Practices Tool (ICPT)

- 29 items and uses a 5-point Likert scale
- Score ranged from 29 to 145



▶ Reliability coefficient of the Arabic version in this study was 0.88



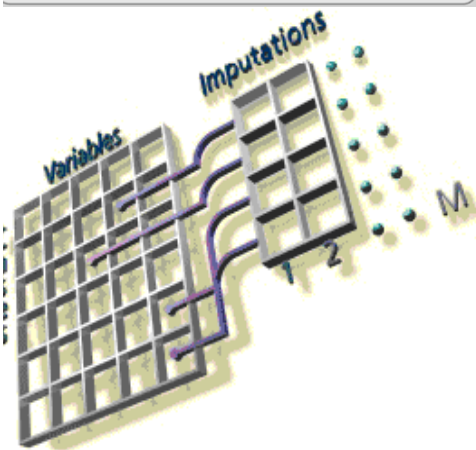
▶ Three level of compliance:

- Unsafe compliance (less than the 50th percentile)
- Weak compliance (between the 50th to 75th percentiles)
- High compliance (more than 75th percentile)

DATA ANALYSIS



EMPLOYEE_A	EMPLOYEE_A	CITY	ZIP
0310 ST ANDREW AVE STATE ST	MOORE	MOORE	90300
300 E WASHINGTON	MOORE	MOORE	90307
3900 ST ANDREW	MOORE	MOORE	90300
3001 FRANKLIN	MOORE	MOORE	90300
20 ST ANDREW AVENUE #101	MOORE	MOORE	90300
17 ST ANNE AVE	MOORE	MOORE	90306
3000 WASHINGTON	MOORE	MOORE	90300
300 WYOMING BLVD	MOORE	MOORE	90307
101 WOODSTOCK	MOORE	MOORE	90302
304 14TH STREET	MOORE	MOORE	90304
100 11TH ST	MOORE	MOORE	90307
100 S BRADLEY	MOORE	MOORE	90300
3030 E WYOMING AVE	MOORE	MOORE	90300
CONTINENTAL PET PRODUCTS BUSINESS CENTER INC			
1900 WAGNER AVE	MOORE	MOORE	90300
2012 S WASHINGTON	MOORE	MOORE	90304
1100 ROCKFELLER	MOORE	MOORE	90307
3400 SUGAR BL	MOORE	MOORE	90300
3008 WYOMING BLVD	MOORE	MOORE	90304
3000 WAGNER	MOORE	MOORE	90300
2000 WAGNER	MOORE	MOORE	90300
1000 WAGNER	MOORE	MOORE	90300
2015 ST	MOORE	MOORE	90300
1001 LAUREL AVE	MOORE	MOORE	90300
300 10TH ST	MOORE	MOORE	90304
1000 CLEVELAND AVE	MOORE	MOORE	90300
300 WAGNER AVE	MOORE	MOORE	90300
1420 GARFIELD	MOORE	MOORE	90300
1101 WAGNER AVE	MOORE	MOORE	90300
1124 WAGNER AVE	MOORE	MOORE	90304
700 11TH ST	MOORE	MOORE	90304
700 11TH ST	MOORE	MOORE	90304



▶ We used SPSS®-PC Version 20.

▶ Reliability coefficient of the Arabic version in this study was 0.88

▶ Missing data for the 29 practice items ranged from 1% to 3%.

▶ The expectation-maximization (EM) maximum likelihood algorithm was used to impute missing data for all practice items.

▶ Cases of missing data of 20% or greater were excluded from the final analysis



RESULTS

21 Hospitals participated in the study

- 8 Governmental, 7 Military, 4 Private, & 2 university affiliated.
- The final sample consisted of 247 RNs from 56 critical care units.

▶ Sample characteristics

- 51% female with a mean age of 28.5 years ($SD = 5.2$).
- 84.6% held a BSN degree with mean years of experience of 6.2 years ($SD = 5.1$)
- 37.6% worked in medical and surgical floors and 20% worked in critical care units
- 54.7% of RNs were working in general ICUs; 17.8 % worked in NICUs; only about 2.8% were working in cardiac catheterization units

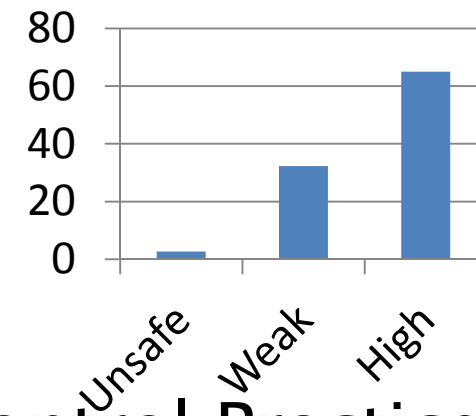


RESULTS



- ▶ The mean overall compliance level was 122.6 ($SD = 13.2$)

- Unsafe compliance (2.7%)
- Weak compliance (22.8%)
- High compliance (74.5%)



- ▶ Important Infection Control Practices

- 78.9% always washed their hands before giving care to patients
- 63.2% always wash their hands before and after gloving
- 24.3% always share equipments between patients without sterilization
- 52.4% perform recapping always or most of the time

COMPARED MEANS COMPLIANCE SCORE IN RELATION TO SELECTED FACTORS

	Yes	No or not sure		
	M (SD)	M (SD)	t (df)	<i>p</i> value
Receive infection control training inside the hospital	124.3 (12.3)	117.3 (14.6)	3.7 (245)	< 0.001
Receive infection control training outside the hospital	126.2 (11.7)	121.8 (13.4)	2.0 (244)	0.05
Hospital offer IC education for new nurses	123.6 (12.3)	115.6 (16.8)	3.2 (244)	0.002
Received hepatitis B vaccine	123.2 (12.5)	119.4 (15.8)	1.7 (245)	0.08

RESULTS

▶ One-way ANOVA

- Total compliance scores were NOT significantly different across all types of healthcare sectors, $F(3, 246) = 0.60, p < 0.70$.
- The mean total IC practice score was not statistically different across all types of critical care units, $F(6, 246) = 0.80, p < 0.90$.



DISCUSSION



- ▶ Strengths of the study
 - This is the first Jordanian national study that evaluated IC practices among ICU RNs.
 - Inclusion of hospitals representing all health care sectors in Jordan from all geographical areas
 - Proportional probability sample, results are very likely generalizable





DISCUSSION

- ▶ Limitations of the study
 - Use of a self-report method.
 - Self-report method overestimates the compliance rate with IC practices in comparison with the observation
 - The use of observation would give greater insight regarding level of compliance with these guidelines





DISCUSSION

- ▶ Messages to healthcare sectors
 - 63.7% of untrained nurses worked in governmental and military hospitals
 - 74% of nurses with weak compliance worked in governmental and military hospitals
 - Orientation and teaching programs conducted in hospitals for newly employed RNs



DISCUSSION



Messages to healthcare sectors

- 24.3 % always or most of the time shared equipment between patients
- The availability of IC resources such as hand washing facilities and personal protective equipment in health care facilities in Jordan represents a real challenge.
- Recent standard recommended a ratio of 0.8 to 1.0 IC–nurses per 100 occupied acute care beds as an appropriate level of IC staffing



THANK YOU.....



**WE ARE READY FOR YOUR
IMPORTANT QUESTION**