



Peninsula Health

Non-Specialised Pharmacists' Understanding of Sepsis and Septic Shock



Lam A¹, Subramaniam A^{2,3,4}

1. Department of Pharmacy, Peninsula Health (Melbourne, Australia)
2. Department of Medicine, Peninsula Health (Melbourne, Australia)
3. Department of Intensive Care Medicine, Peninsula Health (Melbourne, Australia)
4. Faculty of Medicine, Nursing and Health Sciences, Monash University (Melbourne, Australia)

Bottom Line

- ✓ Non-specialised pharmacists' understanding of sepsis is **SUBOPTIMAL**
- ✓ There are significant **knowledge deficits**
- ✓ Pharmacists with > 3 months ICU experience had better knowledge
- ✓ Pharmacists will **benefit from** at least 3 months structured rotations in ICU
- ✓ Pharmacists review patients regularly & their knowledge of sepsis provides an additional safety-net for early recognition

Introduction

- Significant proportion of patients are admitted to ICU with severe sepsis and septic shock each year.
- Substantial consumption of healthcare resources.
- Pharmacists review patients regularly.

Aim

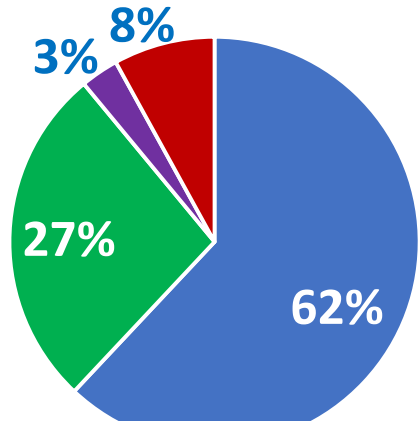
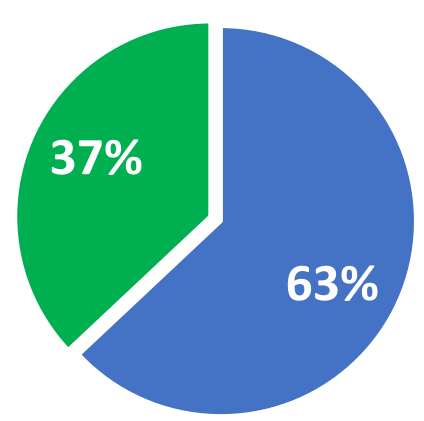
To investigate ward pharmacists' understanding of severe sepsis and septic shock and it's management

Methods

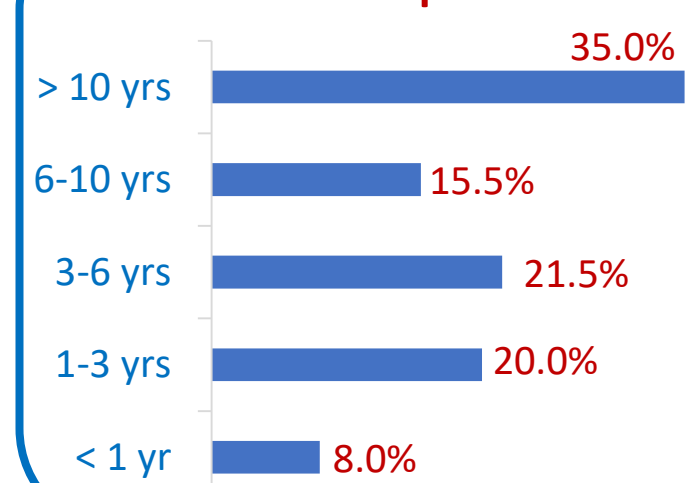
- **Study Design:** Prospective pre-course survey
- **Participants:** Registrants were pharmacists who attended a 2-day Society of Hospital Pharmacists of Australia General Medicine Pharmacists' symposium (Sept 2016). They answered the survey on a voluntary basis.
- **Tool Used:** SurveyMonkey®
35 questions overall, 27 on sepsis
- **Purpose:** To explore 3 key concepts

A:	Fundamentals of sepsis
B:	Basics of circulatory consequences of severe sepsis and septic shock
C:	Principles of managing septic shock

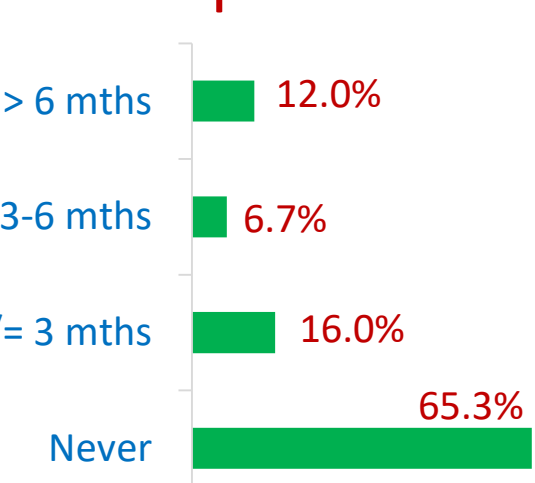
Survey response Place of employment



Years of Experience

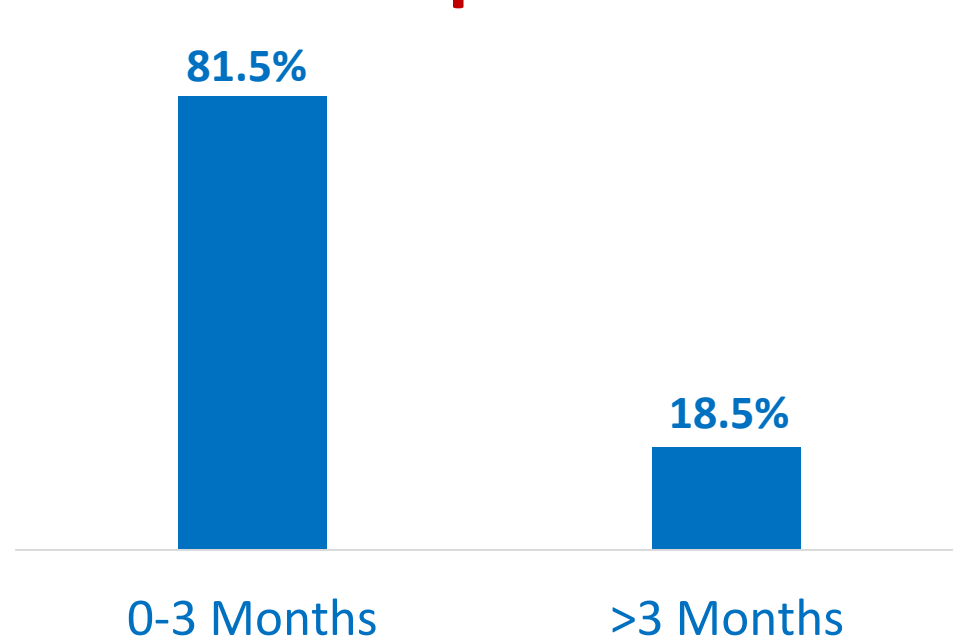


ICU Experience



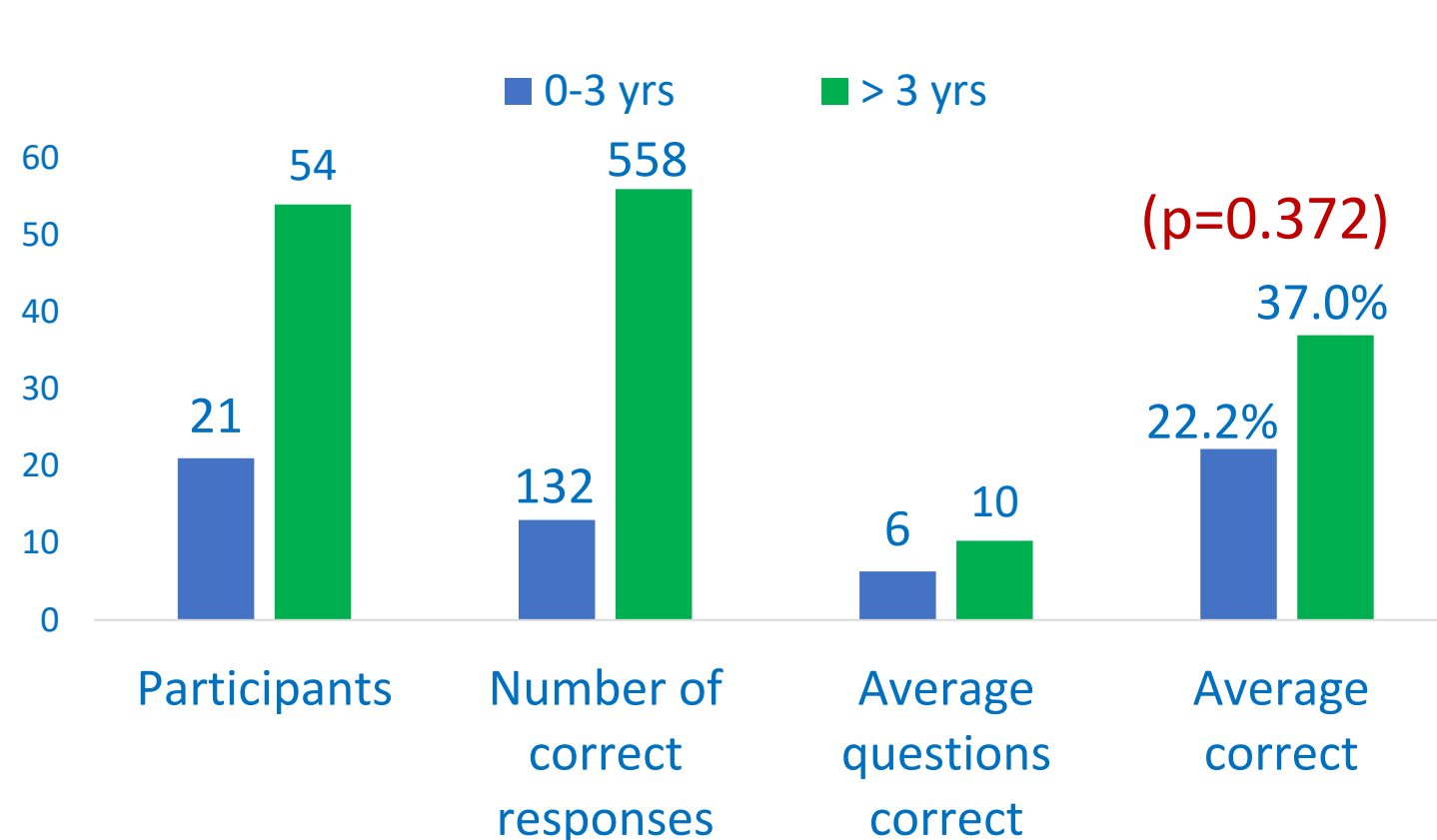
Results and Discussion

ICU Experience



		(n=27)	p value
Mean correct answers ± SD	9.2 ± 5.1		
Range of correct answers	0 - 23		
Overall average correct answers	34.1%		p<0.001
Overall average unsure answers	51.2%		

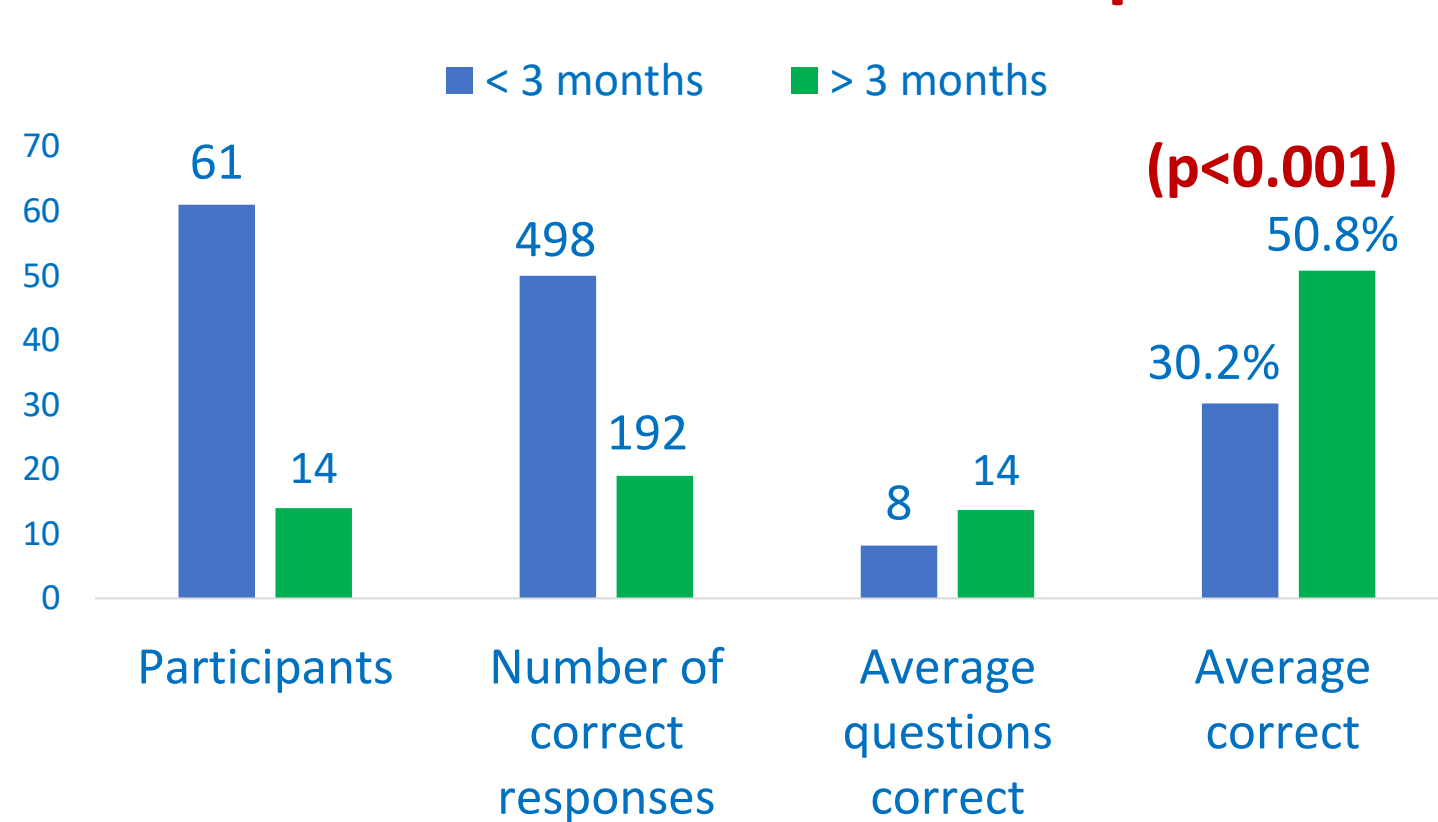
Years of Practice as Pharmacists (0-3 years vs. > 3 years)



Analysing the Key Concepts - A, B & C

		Total Score	Av correct (%)
A	< 3 years	57	34%
	> 3 years	207	48%
B	< 3 years	6	4%
	> 3 years	75	20%
C	< 3 years	69	27%
	> 3 years	276	43%

Pharmacists with ICU Experience (0-3 months vs. > 3 months)



Analysing the Key Concepts - A, B & C

		Total Score	Av correct (%)
A	< 3 months	201	41%
	> 3 months	63	56%
B	< 3 months	45	9%
	> 3 months	36	32%
C	< 3 months	252	52%
	> 3 months	93	83%

Knowledge of Drugs in Sepsis

12 Questions

- Very poor knowledge
- Better with ICU Experience

	Years of Practice		ICU Experience	
	0-3 yrs	> 3 yrs	0-3 mo	> 3 mo
Participants	21	54	61	14
Av no. of correct responses	0.3	1.9	1	3.5
Average Correct	3%	16%	8%	29%

Recommendations to improve knowledge deficit

- ICU rotation for > 3 months
- Structured rotational program with specified learning goals
- Active participation in ward rounds
- Mini-CEX & other Continuing Education programs
- Active learning, e.g. creating guidelines
- Participation in journal club meetings

Strength of Study

- ✓ Good response rate to the survey (63%)

Limitations of Study

- ✗ Small cohort with ICU exposure ≥ 3 months (n=14)
- ✗ Symposium had a biased sample of Gen Med pharmacists (specialist ICU pharmacists less likely to attend)
- ✗ Data limited by input of unsure responses which could not be clarified

Conclusion

- ✓ Non-specialised pharmacists' understanding of sepsis and it's management is suboptimal
- ✓ There are significant knowledge deficits
- ✓ Knowledge better in pharmacists with ICU experience

Author Details

Alice Lam
alam@phcn.vic.gov.au
Dr. Ashwin Subramaniam
Asubramaniam@phcn.vic.gov.au