Clinical Decision-Making Styles and Critical Thinking Skills Among General Care Nurses in Malaysia

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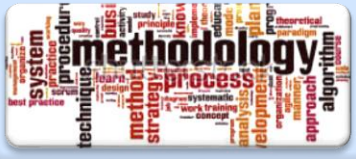
Outline

Parkway Pantai

Background

Aim and Objectives



Methodology

Results

Discussion

Acknowledgments, References

Background

- Constant changes in healthcare systems and increasing complexity of health problems

(Hagbaghery, Salsali, & Ahmadi, 2004)

- Nurses are often the first professionals to observe rapid deterioration in patients' physical state

(Bakalis & Watson, 2005)

- Nurses are required to be good in **critical thinking skills (CTS)** and competent in **clinical decision-making (CDM)**.

Background

In Malaysia

- Reforms of nursing education since early 90's aimed to produce more knowledgeable nurses;
- To drive nursing towards professional recognition**.**

(Ministry of Higher Education, 2010).

In reality**…**

Are we there yet?

Problem Statement

- **Lack of research studies done on nurses' CTS and CDM in Malaysia.**

  Abdullah et al. (2010); Ludin (2018)

- **Limited studies found investigating the influence of nurses' demographic characteristics on their CTS and CDM.**

- **Previous studies have yielded inconclusive results**

Literature Review

Extensive literature review conducted and published in:

Lee, D.S.K., Abdullah, K.L., Subramanian, P., Bachmann, R.T., & Ong, S.L. (2017). An integrated review of the correlation between critical thinking ability and clinical decision-making in nursing. *Journal of Clinical Nursing, May,* 1-15. http://doi.org/10.111/jocn.13901

AIMS

To assess

- The relationship between CTS and types of CDM among general care nurses in Malaysia, and

- The influence of nurses' selected demographic characteristics on their ability to think critically and the types of clinical decisions they make.

OBJECTIVES

- To assess the level of CTS among Malaysia nurses and types of CDM use when caring for patients in Malaysia;
- To examine the relationship between nurses' selected demographic characteristics and the level of their CTS; and the types of CDM used in practice;
- To determine the significant relationships between CTS and types of CDM among Malaysian nurses

METHODOLOGY

- **Design**
  - Cross-Sectional Descriptive Correlational Design
- **Population**
  - Registered nurses practising in public hospitals in Peninsular Malaysia
- **Types of Sampling**
  - Multistage Cluster Sampling
- **Sample Size**
  - STATA version 14.0 software was used;

    $\alpha = 0.05$; power = 0.08
  - **800** was considered for this study

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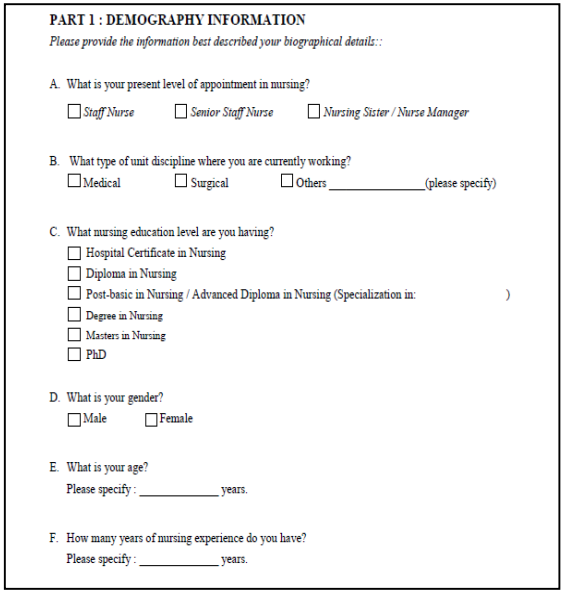
QUESTIONNAIRES

Parkway Pantai

Part 1: Nurses' Demographic Information

Part 2: 24-Item Nursing Decision-Making Instrument (24-NDM)

Part 3: Health Sciences Reasoning Test (HSRT)



PART 1 : DEMOGRAPHY INFORMATION

Please provide the information best described your biographical details::

A. What is your present level of appointment in nursing?

☐ *Staff Nurse* ☐ *Senior Staff Nurse* ☐ *Nursing Sister / Nurse Manager*

B. What type of unit discipline where you are currently working?

☐ Medical ☐ Surgical ☐ Others _____(please specify)

C. What nursing education level are you having?

☐ Hospital Certificate in Nursing
☐ Diploma in Nursing
☐ Post-basic in Nursing / Advanced Diploma in Nursing (Specialization in:)
☐ Degree in Nursing
☐ Masters in Nursing
☐ PhD

D. What is your gender?

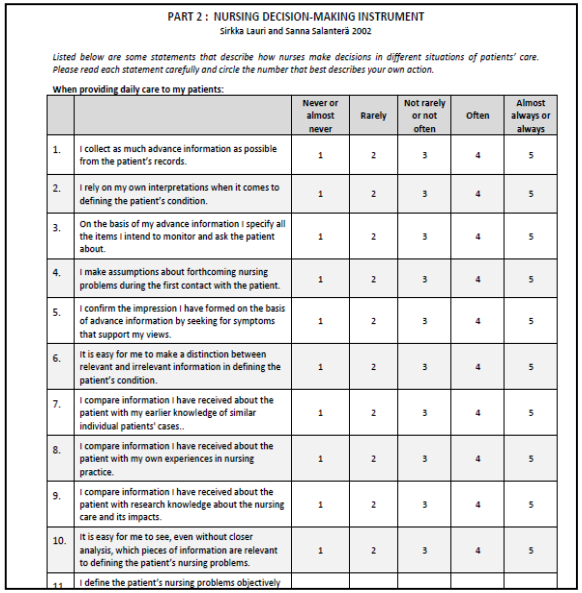
☐ Male ☐ Female

E. What is your age?

Please specify : _____ years.

F. How many years of nursing experience do you have?

Please specify : _____ years.



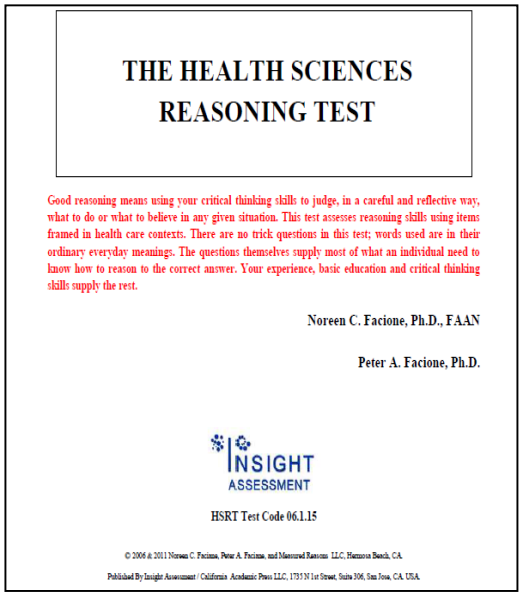
PART 2 : NURSING DECISION-MAKING INSTRUMENT

Sirkka Lauri and Sanna Salanterä 2002

Listed below are some statements that describe how nurses make decisions in different situations of patients' care. Please read each statement carefully and circle the number that best describes your own action.

When providing daily care to my patients:

		Never or almost never	Rarely	Not rarely or not often	Often	Almost always or always
1.	I collect as much advance information as possible from the patient's records.	1	2	3	4	5
2.	I rely on my own interpretations when it comes to defining the patient's condition.	1	2	3	4	5
3.	On the basis of my advance information I specify all the items I intend to monitor and ask the patient about.	1	2	3	4	5
4.	I make assumptions about forthcoming nursing problems during the first contact with the patient.	1	2	3	4	5
5.	I confirm the impression I have formed on the basis of advance information by seeking for symptoms that support my views.	1	2	3	4	5
6.	It is easy for me to make a distinction between relevant and irrelevant information in defining the patient's condition.	1	2	3	4	5
7.	I compare information I have received about the patient with my earlier knowledge of similar individual patients' cases..	1	2	3	4	5
8.	I compare information I have received about the patient with my own experiences in nursing practice.	1	2	3	4	5
9.	I compare information I have received about the patient with research knowledge about the nursing care and its impacts.	1	2	3	4	5
10.	It is easy for me to see, even without closer analysis, which pieces of information are relevant to defining the patient's nursing problems.	1	2	3	4	5
11.	I define the patient's nursing problems objectively					



THE HEALTH SCIENCES REASONING TEST

Good reasoning means using your critical thinking skills to judge, in a careful and reflective way, what to do or what to believe in any given situation. This test assesses reasoning skills using items framed in health care contexts. There are no trick questions in this test; words used are in their ordinary everyday meanings. The questions themselves supply most of what an individual need to know how to reason to the correct answer. Your experience, basic education and critical thinking skills supply the rest.

Noreen C. Facione, Ph.D., FAAN

Peter A. Facione, Ph.D.

INSIGHT ASSESSMENT

HSRT Test Code 06.1.15

Published By Insight Assessment / California Academic Press LLC, 1735 N 1st Street, Suite 306, San Jose, CA, USA

METHODOLOGY

- **Pilot study done and tools have yielded a test-retest reliability (0.89) and split-half reliability (0.89-0.91)**
- **Ethics approval obtained from NMRR and permission sought from the 9 hospital's directors and nursing directors.**
- **Data analysis done with SPSS (Version 16.0)**
  - Descriptive statistics were used for demographic data
  - Multinomial logistic regression was used to test the relationships among the variables

RESULTS

- **800 questionnaires were distributed**
- **77.4% response rate**
- **70 questionnaires were rejected:**
  - incomplete information
  - response being identical
  - did not meet the inclusion criteria

- **Final sample for data analysis = 549 (67%)**

RESULTS

Demographics Characteristics

Characteristics	*N* (%)	Mean ± SD
Age		34.5 ± 8.3
Gender		
Male	12 (2.2%)	
Female	537 (97.8%)	
Job Ranking:		
Staff Nurse	394 (72.0%)	
Senior staff Nurse	155 (28.0%)	
Clinical Specialty:		
Medical	288 (52.5%)	
Surgical	261 (47.5%)	
Years of Working Experience		10.7 ± 7.5
Nursing Education Qualification:		
Certificate in Nursing	20 (3.6%)	
Diploma in Nursing	371 (67.6%)	
Post-basic Nursing / Advanced Diploma	133 (24.2%)	
Degree	23 (4.2%)	
Masters	2 (0.4%)	

RESULTS

Level of CTS

Skill/Attribute	Frequency	Percentage (%)	Mean ± SD	Range
Overall Score			13.8 ± 3.4	6 - 25
Not Manifested (0 – 14)	318	57.9		
Moderate (15 – 20)	217	39.5		
Strong (≥ 21)	14	2.6		

RESULTS

- **Types of CDM**

Types of Clinical Decision-Making	Frequency	Percent (%)
Analytical-Systematic (24-67)	132	24
Quasi-Rational (68-77)	361	65.8
Intuitive-Interpretive (78 – 120)	56	10.2
Total (n)	549	100

RESULTS

- **Relationships Between Demographic Characteristics and Critical Thinking Skills**

Critical Thinking Skills[a]	Demographic Variables	Univariate OR (95% CI)	*p-value*	Multivariate Adjusted OR (95% CI)	*p-value*
Not Manifested	**Age**	0.94 (0.88, 1.01)	0.098	-	-
	Job Ranking				
	Staff Nurse	3.89 (0.74, 20.43)	0.108	1.66 (0.13, 21.15)	0.697
	Senior Staff Nurse	1[b]	-	1[b]	-
	Clinical Specialty				
	Medical	1.29 (0.24, 8.97)	0.784	0.71 (0.12, 4.20)	0.709
	Surgical	1[b]	-	1[b]	-
	Work Experience	0.93 (0.85, 1.01)	0.067	0.99 (0.82, 1.19)	0.893
	Education Qualification				
	Certificate / Diploma	10.92 (2.51, 47.40)	0.001	9.14 (2.58, 32.40)	0.001
	Post-basic and above	1[b]		1[b]	

RESULTS

- **Relationships Between Demographic Characteristics and Types of Clinical Decision-Making**

Type of Clinical Decision-Making[a]	Variables	Univariate		Multivariate	
		OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Analytical-Systematic	Age	0.91 (0.87, 0.95)	<0.001	-	-
	Job Ranking				
	Staff Nurse	3.10 (1.42, 6.77)	0.005	0.45 (0.14, 1.39)	0.165
	Senior Staff Nurse	1[b]	-	1[b]	-
	Clinical Specialty				
	Medical	2.27 (1.04, 4.98)	0.041	1.38 (0.60, 3.20)	0.462
	Surgical	1[b]	-	1[b]	-
	Work Experience	0.89 (0.65, 0.94)	<0.001	0.88 (0.82, 0.95)	<0.001
	Education Qualification				
	Certificate/Diploma	7.54 (3.35, 16.87)	<0.001	5.95 (2.49, 14.27)	<0.001
	Post-basic and above	1[b]	-	1[b]	
Quasi-Rational	Age	0.88 (0.84, 0.92)	<0.001		-
	Job Ranking				
	Staff Nurse	3.26 (1.63, 6.53)	0.001	0.27 (0.09, 0.80)	0.018
	Senior Staff Nurse	1[b]	-	1[b]	-
	Clinical Specialty				
	Medical	2.51 (1.22, 5.17)	0.013	1.49 (0.66, 3.35)	0.334
	Surgical	1[b]	-	1[b]	
	Work Experience	0.86 (0.82, 0.90)	<0.001	0.82 (0.77, 0.88)	<0.001
	Education Qualification				
	Certificate/Diploma	5.44 (2.66, 11.12)	<0.001	3.41 (1.50, 7.74)	0.003
	Post-basic and above	1[b]	-	1[b]	-

RESULTS

Correlation between Critical Thinking Skills and Clinical Decision-Making

Multinomial Logistic Regression for Overall Critical Thinking Skills and Types of Clinical Decision-Making (n = 549)

Type of Clinical Decision-Making[a]	HSRT Categories	Univariate		Multivariate[c]	
		OR (95% CI)	*p-value*	Adjusted OR (95% CI)	*p-value*
Analytical-Systematic	**Not Manifested**	42.25 (4.99, 358.01)	0.001	25.30 (1.46, 438.15)	0.026
	Moderate	3.78 (0.53, 26.86)	0.184	2.73 (0.18, 41.71)	0.469
	Strong	1[b]	-	1[b]	-
Quasi-Rational	**Not Manifested**	55.39 (6.55, 468.12)	<0.001	44.94 (0.90, 2256)	0.054
	Moderate	3.69 (0.52, 26.02)	0.190	3.70 (0.081, 167.0)	0.501
	Strong	1[b]	-	1[b]	-

c. The reference category is: Intuitive-Interpretive Clinical Decision-Making
d. The parameter is set as 1, as it is a comparative category
e. After excluding demographic variables: age, years of work experience, education qualification, clinical specialty and job ranking, as confounding factors

OR, odds ratio; *CI*, confidence interval; *Significant at 0.05 level

RESULTS

- **Majority did not meet the required level of CTS.**

- **Majority used Quasi- Rational CDM**

(Hammond, 1996)

- **Lower education qualification → weaker CTS**

(p =0.001) (Pardue, 1987; Drennan, 2010; Chang et al., 2011)

RESULTS

- **Longer work experience** and **higher education qualification ⟶ Intuitive-Interpretive decision-making** ($p < 0.001$)
  (Benner, 1984; Thomson, 1999; Lauri et al. 2001; Hicks et al. 2003; Pretz & Folse, 2011; Bjørk & Hamilton, 2011)

- **Higher job ranking ⟶ Intuitive-Interpretive decision** ($p = 0.018$)

- **Weaker CTS ⟶ Analytical-Systematic & Quasi-Rational decisions** ($p < 0.05$)

DISCUSSION

- Lack of confidence and empowerment among nurses
  (Ahmad & Oranye, 2010)
- Subservient role still exist in nursing
  (Birks, Chapman & Francis, 2009)
- Diploma in Nursing curriculum issues
- Insufficient of nurses pursuing higher level of education
  (Rahman, Jarrar & Don, 2015)
- Quasi-Rational decisions style among Malaysian nurses should not be regarded negatively

IMPLICATIONS

- Nursing education
- Nursing practice
- Nursing leadership

RECOMMENDATIONS

- Future studies should include triangulation with qualitative methods
- A longitudinal study should be designed to trace the changes of development in CDM and CTS over times
- Studies to discover effective strategies for teaching and improving nurses' CTS and CDM
- A tool that culturally suited the Malaysia nurses should be developed

CONCLUSION

Are we there yet?

The answer is “Not Yet” there is still a long road ahead in our journey.

ACKNOWLEDGEMENTS

- **Supervisors:**

  Associate Prof. Dr. Khatijah Lim Abdullah

  Department of Nursing Sciences,

  Faculty of Medicine, University of Malaya

  Associate Prof. Dr. Karuthan Chinna

  Department of Social And Preventive Medicine

  Faculty of Medicine, University of Malaya

- **Top Management of Pantai Hospital Ayer Keroh**

- **All nurses whom had participated in my research study**

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Thank you