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Assessment of Clinical Reasoning in B Sc Nursing Students

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Abstract: ***Today nurses are facing clinical situations that are very complex and challenging due to various reasons. To ensure high quality patient care, nurses must be able to quickly analyse clinical situations and make best clinical judgement on time. The aim of this study was to measure the clinical reasoning skills of B.Sc.Nursing students so that an awareness regarding their ability to make accurate and appropriate clinical judgement become possible. A descriptive survey design was used to explore the clinical reasoning skills of sixty Fourth Year B Sc Nursing students of a selected college of nursing in Kerala by using Script Concordance Test (SCT). The mean scores obtained for clinical reasoning was 24.58. None of the students were having good clinical reasoning skill. Students having moderate and poor clinical reasoning were 53.33% and 46.67% respectively. No significant association was found between clinical reasoning and variables such as gender and academic performance. The study reveals that the student nurses lack clinical reasoning skills irrespective of their academic performance. Hence nurse educators have to identify and adopt innovative teaching learning strategies that promote critical thinking, reflection and clinical reasoning.***

Keywords: Clinical reasoning; Script Concordance Test; B Sc Nursing students

1. Introduction

Today's nurses are facing very complex and challenging clinical situations in an uncertain environment due to sophisticated healthcare settings, increasing patient acuity levels, shortage of professional nurses, technological advancements which become an integral part of health care, efforts directed towards cost containment, increasing patient awareness and emergence of new illnesses. Nurses as first hand caregivers and persons who are throughout with the patients during their recuperation (or their moving towards death) are vested with high responsibility of making accurate and timely clinical judgements very often.To meet the high demand of clinical decision making at their work place, nurses must be able to quickly analyse clinical situations, make scientific conclusions, find alternatives and make use of best decisions on time which helps to ensure high quality patient care.

2. Background

Clinical decision-making is an essential component of professional nursing care and, nurses' ability to make effective clinical decisions is one of the most important factor affecting the quality of patient care (White A, 2003). The focus of the clinical decisions made by health professionals varies in different contexts; it could be related to diagnosis, investigations, interventions and/or evaluation. Knowledge and skill only may not culminate in accurate clinical judgement. It requires the use of some degree of higher order thinking namely critical thinking, reflection and reasoning. Thus clinical judgment becomes a major challenge of modern nursing and despite its critical importance, it is still poorly understood.

The results of the Performance Based Development System, a tool employed to assess nurses' clinical reasoning, showed that 70 per cent of graduate nurses in the United States scored at an 'unsafe' level. It is also noticed that these nurses were having good content knowledge and adequate procedural skills. Still they demonstrated poor clinical reasoning skills and couldn't respond appropriately in critical situations (delBueno, 2005).

The terms 'clinical reasoning', 'clinical judgment', 'decision-making' and 'critical thinking' are often used interchangeably. Clinical reasoning is referred as the process by which nurses (and other clinicians) collect cues, process the information, come to an understanding of a patient problem or situation, plan and implement interventions, evaluate outcomes, then reflect on and learn from the process (Levett-Jones et al, 2010).Clinical reasoning is a dynamic process.

3. Clinical Reasoning Cycle

There are eight main steps or phases in the clinical reasoning cycle; look, collect, process, decide, plan, act, evaluate and reflect. The clinical reasoning cycle involves the following process.

- Consider the patient situation- Describe or list facts, context, objects or people.
- Collect cues/ information- Review current information, Gather new information,
  Recall knowledge
- Process information- Interpret: analyze data to come to an understanding of signs or symptoms. Compare normal vs abnormal.
  Discriminate: distinguish relevant from irrelevant information

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Relate: discover new relationships or patterns
Infer: make deductions or form opinions that follow logically by interpreting subjective and objective cues
Match: current situation to past situations or current patient to past patients
Predict: an outcome
Synthesize: facts and inferences to make a definitive diagnosis of the patient's problem.

- Establish goals- Describe what you want to happen, a desired outcome, a time frame
- Take action-Select a course of action between different alternatives available
- Evaluate- Evaluate the effectiveness of outcomes and actions.
- Reflect on process and new learning- Contemplate what you have learnt from this process and what you could have done differently.

Contemporary learning and teaching approaches do not always facilitate the development of a requisite level of clinical reasoning skills. It is observed that in the clinical area, student nurses spend a large amount of time in performing routine tasks, so that they become proficient only in carrying out such activities. Seldom have they used reasoning during their clinical practice. Errors in clinical judgement and decision making are said to account for more than half of adverse clinical events. Hence a study to determine the clinical reasoning skills of nursing students will be helpful to throw light into their ability to make accurate clinical judgement. Further it will contribute to the development of appropriate teaching and learning strategies which would promote clinical reasoning skills of nursing students.

4. Materials and Methods

A descriptive survey was conducted among 60 final year B Sc Nursing students of a selected College of Nursing in Kerala, India. The baseline information was collected on a demographic Performa. The data regarding clinical reasoning skill was collected by using Script Concordance Test (SCT).

Script Concordance Testing is based on the principle that the steps in the clinical reasoning process can be assessed and compared to those of a panel of experts. According to script theory, clinicians have networks of organized knowledge which have been developed over years of clinical encounters. Scripts are made up of links between illnesses, clinical features and management options. Clinicians retrieve these scripts to make judgments on the effect that each new piece of information has, on a hypothesis or management option in order to progress toward solutions to clinical problems.

The test is case based. It starts with a clinical vignette which has uncertainty. This is followed by a series of questions in 3 parts: first part ('if you were thinking of') contains a relevant diagnostic or management option; second part ('and then you find') presents a new clinical finding eg: a physical sign, pre-existing condition, imaging study or lab result; and third part is a five point Likert scale that captures the examinees decisions. The examinee must decide what effect the new clinical finding in part 2 has on the information or decision given in part 1 and must note the direction (positive, negative or neutral) and intensity in part 3. There were 60 questions with a maximum score of 1 for each question.

5. Results

All the students were in the age group of 20-21 years.

Only 6.67% of the students were boys.

Majority (86.67%) of the students had cleared the previous years' university examination.

The mean scores obtained for clinical reasoning was 24.58. None of the students were having good clinical reasoning skill.

Students having moderate and poor clinical reasoning were 53.33% and 46.67% respectively.

No significant association was found between clinical reasoning and variables such as gender, qualifying examination and previous year's academic performance

Table 1: Demographic characteristics , n=60

Demographic variables		f	%
1. Age in years	20	34	56.67
	21	26	43.33
2. Gender	Male	4	6.67
	Female	56	93.33
3. Qualifying examination	Higher secondary	46	76.67
	CBSE	9	15
	Vocational Higher Secondary	5	8.33
4. Previous year's academic performance	First class & above	14	23.33
	Second class	38	63.33
	Failed	8	13.34

Table 2: Distribution of nursing students according to clinical reasoning skill, n=60

Clinical Reasoning Skill	*f*	*%*
Good	0	0
Moderate	32	53.33
poor	28	46.67

6. Conclusion

Quality decision making is an essential component of good clinical practice. If we are to promote effective decision making, we need to understand how we can best teach decision making in the clinical settings. Students should be guided to understand patient needs, develop appropriate responses and prepare care plans on the basis of clinical reasoning and judgement.

This study reveals that the clinical reasoning capacity of the participants wasnot adequate for identifying patient problems, planning and implementing nursing care and evaluating and modifying the care. Nurse educators and clinical supervisors should look into the matter very seriously and should try to incorporate enhancement of clinical reasoning in their teaching. Clinical decision making is facilitated when students have an opportunity to integrate

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scientific knowledge, experiences and clinical judgement in a specific situation (Benner, Tanner, &Chesla, 2009). Such opportunities guide nursing students to a deeper understanding of the clinical situation and allow them to progress from reliance on abstract knowledge to deep knowledge.

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