

Nurses' Perception of Clinical Decision Making Ability: A Cross-Sectional Survey

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Abstract

Nursing practice today is becoming more complex with advancement in technology and changing health care needs of the population. There is an increased demand on the health care service requirements and competencies from the health care professionals. Nurses being the key health care providers are expected to be specialised in task of decision making. Hence, understanding the type of clinical decision making (CDM) abilities in solving problems in practice may be helpful in education and research. This study emphasises on the CDM ability used by nurses in practice and its association with their demographic variables. A cross-sectional survey was carried out among 94 nurses in a selected tertiary care hospital of Udupi district (Karnataka). A 24-item CDM instrument was used for evaluation when caring for a patient with post-operative pain. Nurses' decision making was categorised as analytical (<68), quasi-rational (69-78) and intuitive decision making abilities (>79). The collected data were analysed with descriptive frequencies and one way ANOVA. All the participants reported the use of analytical model of decision making. Age was associated with analytical model of clinical decision making ($F=2.063$, $p=0.012$). Incorporation of the kinds of decision making abilities used by nurses will help bring improvement in the nursing curriculum thus expanding the clinical decision making abilities of future nurses.

Clinical decision making (CDM) is an integral component of nursing profession. Decision making by nurses has been studied by variety of methods and from different theoretical perspectives (Aspinall 1979; Baumann & Deber 1989; Benner 1984; Bucknall 2000; Corcoran 1986; Grobe et al 1991; King & Appleton 1997; Tanner et al 1987). Changes in healthcare and enrollment of a more academically diverse health care professionals challenge nurse educators to develop strategies to prepare nurses for advanced nursing practice. Given the increased complexities of healthcare, CDM skills are critical to safe client care (Campbell, 2004).

According to the evidence available on clinical decision making, it is understood as a very complex and difficult task. Clinical decision making consists of a series of judgements which includes observations to be made during patient encounters, data

evaluation and actions to be taken to achieve expected outcome. Recent advancement and research on decision making focuses on analytical and intuitive process (Abu-Saad & Hamers, 1997; Benner et al 1996; Carnevali & Thomas, 1993; Crow & Spicer 1995; Easen & Wicockson, 1996; King & Appleton 1997; Narayan & Corcoran-Perry, 1997; Thompson, 1999; Ubel & Loewenstein, 1997). Knowledge and awareness regarding use of CDM models in nursing practice is essential to strengthen the nursing practice in health care settings.

The current research is focussing on CDM abilities and their differences in terms of demographic variable characteristics.

Objectives

This study aimed:

1. To assess the perceived Clinical Decision Making (CDM) ability of nurses during post-operative management, and
2. To find out the association between perceived CDM ability and demographic variables such as: age, gender, professional qualification, experience in surgical wards etc.

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Review of Literature

Bucknall (2000), in a study in Australia observed 18 nurses in urban and rural critical care settings. During the 2-hour observation, the researcher dictated a detailed commentary on to audio-tape of each nurse's actions. Findings indicated three main categories of decisions: intervention, communication and evaluation decisions. Decision frequencies were linked to nurses' critical care experience, appointment level and location, as well as nursing shifts. The author concluded that future research should be directed towards measuring the contextual influences on nurses' decision-making on the outcome of patient care.

Lauri S et al (2001) explored to identify cognitive processes of 459 nurses (Geriatric and Medical-surgical wards) during decision making in five countries with 56-item questionnaire (reliable). Five models of decision making were identified which represent analytical and intuitive processes. Education, experience, area of practice, knowledge and country of residence were the factors associated. Decision making varies across countries and situations.

Bakalis & Watson (2005) compared what decisions nurses make in medical, surgical and critical areas with 60 nurses (20 from each area) in UK. A CDM questionnaire with 15 items was developed and data collected from local hospital nurses. Results revealed that nurses were involved in decision making during direct care – nursing care, emotional support and health education to patients. Poor level of decisions making was found in mentoring, ward budget, supervision etc. Clinical experience is significantly associated with CDM.

Baxter & Rideout (2006) conducted a qualitative, intrinsic case study among 12 students that explored the decision-making activities of Baccalaureate nursing students in Canada. Inductive analysis revealed three key encounters that demonstrated students' decision making: encounters with the patient, nursing staff, and clinical tutor. Each encounter revealed an emotion-based and knowledge-based response to various clinical situations. The findings help to better understand the types of decisions students make so that students feel confident, and less frightened as they make decisions related to patient care.

Baxter & Boblin (2008) described a qualitative case study which explores the kinds of decisions and the factors that influenced 19 nursing students' decision making throughout the Baccalaureate degree programme. Individual interviews, journals and a document review were used to collect data. Students

described five key kinds of decisions – Assessment, Intervention, Resource, Communication and Action. Understanding the kinds of decisions the students make will bring one step closer to improving nursing curriculum which will prepare future nurses to be sound and autonomous decision makers.

Bjork & Hamilton (2011) analysed perceptions of 2095 Norwegian nurses on clinical decision making in practice and compared differences with demographic variables. A 24-item nursing decision making instrument was used based on cognitive continuum theory (Analytic-systematic, intuitive-interpretive and quasi-rational models). Results showed that most nurses were using quasi-rational models of clinical decision making. Increased use of intuitive models of CDM was associated with experience, education, male gender, higher age, working predominantly in surgical units.

Materials and Methods

A descriptive cross sectional design was used to collect data from 94 staff nurses working at a selected tertiary care hospital, recruited by purposive sampling technique. The inclusion criteria were: nurses working in surgical units (post-operative wards), nurses taking care of post-operative patient with pain up to 72 hours after they were shifted from post-operative recovery unit and their willingness to participate. Nurses working in post-operative ICU and those who underwent post-operative pain management course were excluded.

Ethical considerations: Study was approved by the Institutional Ethics Committee. Subject information sheet was provided and informed consent was obtained from the study participants.

Data collection procedure: Data were collected using a demographic proforma and a 24-item CDM instrument. Demographic proforma explored variables like age, gender, qualification, experience, any additional programme undergone in CDM and need for such educational interventions. Permission to use the tool was obtained. Participants were asked to record one option out of five available in questionnaire describing CDM ability. The minimum score was 24 and the maximum was 120. The scores were arbitrarily classified into analytical decision making (<68); systematic, quasi-rational decision making (68-78); systematic and experience-based and intuitive decision making (>78); experience-based. This is a reliable and valid tool. Internal consistency coefficients for the scale was 0.85; test-retest reliability co-efficient was 0.73.

Self-reported responses were collected from the

Table 1: Distribution of samples as per demographic variables (n=94)

Demographic variables		Frequency (f)	Percentage (%)
1	Gender		
	Male	8	8.51
	Female	86	91.48
2	Professional qualification		
	DGNM	65	69.15
	BSc Nursing	29	30.85
3	Experience in post-operative (Surgical) ward		
	Up to 1 yr	70	74.46
	1-6 yrs	24	25.54
4	Any additional educational programme regarding clinical decision making on management of post-operative pain		
	No	84	89.4
	Yes	10	10.6
5	Any in-service education programme and continuing nursing education regarding clinical decision making on management of post-operative pain		
	No	76	80.9
	Yes	18	19.1
7	Need for training in clinical decision making		
	No	7	7.5
	Yes	87	92.5

Table 2: Area-wise distribution of frequency and percentage of perception of CDM (N=94)

Areas	Models of CDM					
	Analytical		Quasi-rational		Intuitive	
	f	%	f	%	f	%
Data collection	44	46.88	23	24.42	27	28.7
Data processing	38	40.11	28	30.48	28	29.41
Planning action	26	28.87	29	31.21	39	39.92
Implementation and evaluation	39	41.53	20	21.21	35	37.25

participants using questionnaire. The data collected were analysed using the descriptive and inferential statistics with the help of SPSS 20.0 version

Results

Demographic Information: The mean age of the nurses enrolled in the study was 26 years (SD=6.73). Majority (91.48%) of them were females. It was found that 69.18 percent of the nurses were diploma holders and rest were having Bachelor's degree in Nursing. Majority (74.46%) of them had an experience of less than a year in surgery wards. Most of them had not attended any programmes (Additional Educational Programme - 89.4%, in-service education programme or Continuing Nursing Education Programme - 80.9%)

on clinical decision making regarding post-operative pain management. Most of them expressed a need for training in clinical decision making (92.5%) (Table 1).

Perceived Clinical Decision Making: All nurses reported that they use analytical model during decision making. Further when it is explored in different areas of clinical decision making, it was found that in the area of data collection, majority of them (46.88%) used analytical model followed by intuitive model (28.7%) and others (24.22%) used quasi-rational models. With regard to data processing, majority (40.11%) of them used analytical model followed by quasi-rational model (30.48%) and 28.7 percent used intuitive models. But in planning action, majority (39.92%) of them used intuitive model, followed by quasi-rational model (31.21%) and 28.87 percent used intuitive models. Again during implementation and evaluation, majority (41.53%) of them used analytical model, followed by intuitive model (37.25%) (Table 2).

Association between CDM ability and Demographic variables: Analysis of association between CDM instrument scores and demographic variables were performed to find out whether CDM is associated with any variables like age, gender, qualification and experience using one way ANOVA. Age was found to be significantly associated with CDM. No other measures were computed because clinical decision making is constant i.e. all participants are using analytical model of clinical decision making Hence categories of analytical model were analysed to associate with demographic characteristics. Age ($p=0.012$) is the only factor found to be associated. All other factors remain without any significant association (Table 3).

Discussion

All participants reported use of analytical model during CDM. Hence there is a wide gap in perception of CDM skills and practice. Contrary to the current study Bjork, & Hamilton (2011), Dowdings et al (2009), Hammond (1996) reported that most nurses use quasi-rational models during CDM.

Age was found to be significantly associated with analytical clinical decision making ability. All other factors did not show any significant association. The present study findings support the study conducted by Lauri et al (1998, 1998a) where they report that the experience does not significantly influence clinical decision making ability. Benner et al (1984, 1992 and 1996) and Hoffmann et al (2004) showed that the association between education and CDM is inconclusive. But, Bjork & Hamilton (2011) reported that

Table 3: Association between CDM scores and selected demographic variables

Variables	Analytical decision making		p Value	Significance
	Below median	Above median		
Age (in years) Below 25 Above 25	41 8	41 1	0.035	S
Gender Male Female	5 45	3 41	0.719*	NS
Professional qualification DGNM BSc Nursing PCBSC Nursing	38 8 4	27 12 5	0.301	NS
Experience in post-operative (Surgical) ward Up to 1 yr 1-6 yrs	36 12	34 9	0.484	NS
Any additional educational programme regarding clinical decision making on management of post-operative pain No Yes	45 5	39 5	1.00	NS
Any in-service education programme and continuing nursing education regarding clinical decision making on management of post-operative pain No Yes	40 8	36 8	1.00	NS
Need for training in Clinical Decision making No Yes	47 2	39 4	0.41	NS

NS-Not Significant, S Significant, *-Chi Square test

increased use of intuition-interpretive models of the CDM was associated with years in the present job, further education, male gender, higher age, and working predominantly in surgical units. A large scale study by Lauri et al (2001) in five different countries shows that the professional education and practical experience were associated with intuitive decision making which helps in implementation and evaluation of care. This results are in line with several earlier studies (Lauri et al 1998; Rew 1998; Schrader & Fischer 1987). In the current study no significant association was found with education and experience.

Differences in decision making may relate to differences in culture, education and everyday practices in workplace. Education and practice in US require extensive use of nursing diagnosis, sup-

ported by information processing theory. But this concept is rare in UK, whose favoured approach is nursing process. Hence the results of studies in different countries may have differences in outcomes (Lauri S et al 2001). Clinical decisions mostly are taken based on the experience including lessons learned from taking care of the similar patients in the past rather than incorporating the analytical skills. The knowledge of the nurses from their training however would have probably made them to report that they are using analytical approach; however in reality many used intuitive model in decision making.

Conclusion

Nurses' play an important role in the delivery of health care services. Clinical decision making is a crucial ability, a nurse should possess skills in providing best possible care. It is a balance of experience, awareness, knowledge and information gathering that enables to build up the core skills of clinical decision making.

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