

Nurses Competence with Regard Congenital Heart Diseases in Cardiac Care Unit of Pediatric Hospital in Sulaimani City

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Abstract

The activities of the nurse performing duties at a haemodynamic facility is characterized by the need to be able to field a high degree of specialisation. It is absolutely essential that he/she has bases of knowledge and skills also in the field of intensive care and cardiac resuscitation that are adequate for the high complexity of the diseases and procedures that are treated .

Method : Quantitative design with descriptive study was carried out with assessment approach and it was conducted on nurses in cardiac care unit of pediatric hospital in Sulaimani city/Kurdistan region from 1st July 2017-1st May 2018. Non-probability sampling was performed, a purposive sample of (35) nurses, all males and females . Data were shown and tabled in frequencies and percentage, and mean of scores was calculated from ordinal data in five level (5, 4 , 3, 2, 1) . In the present study the highest mean of score indicates the highest level of practice regarding nursing management. The P-value at 0.05 level indicates the degree of significance. Independent T- test and ANOVA have been utilized to find out the significant relationship of nursing care management with socio-demographic characteristics, and nurse's skill and experiences.

Result : socio-demographic profile of participants presented. Out of 35 participants studied 21 (60%) were from age group 20 – 30 years, with mean age of 30.4 years. Majority of participants studied 77.1 % were female . Majority of the nurses were graduated for institute 16 (45.7%) and 10 (28.6%) were hold university certificate . According to working experience and skills. Out of 35 participants studied, only 19 (54.29%) attended training session regarding Pediatric Intensive Care Unit (PICU). Around 74.29% of participants were not familiar with PICU drugs . Around 74.29% of participants were not familiar with PICU drugs however, 88.6% of participants were familiar to PICU doses. 80% of the total participants did not attend the periodic educational program and conference/symposium. 97.14% of the participants did not study the books regarding CHD. The right to practice in manner that is suitable for fulfilling the obligations was reported as never by 48.6% of nurses . Regarding perception of ethical practice in work environment major participants 88.6% reported sometime.

Keywords: Congenital heart diseases, Nurses competence, cardiac care unit

Introduction

Competence is defined as knowledge and performance combined with psychomotor and clinical problem-solving skills and a responsive attitude .

Competence of nurses is a complex combination of knowledge, function, skills, attitudes, and values. Delivering care for patients in the Intensive Cardiac Care Unit (ICCU) requires nurses' competences¹. The concept of competence has been described by many authors , Meretoja et al. (2004) defined nursing competence in terms of three dimensions, i.e., the nurse's ability to function professionally, knowledge and skills for collaborating within real-world practices with a degree of understanding, affection, and psychomotor skills, and professional development and the willingness to acquire

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more skills². The activities of the nurse performing duties at a haemodynamic facility is characterized by the need to be able to field a high degree of specialisation. It is absolutely essential that he/she has bases of knowledge and skills also in the field of intensive care and cardiac resuscitation that are adequate for the high complexity of the diseases and procedures that are treated. The set of skills should therefore also include good knowledge of anatomy and cardiovascular pathophysiology, working knowledge of electro-medical equipment, technical skills and knowledge of electrocardiogram monitoring and other highly specialized techniques³. In addition, the nurse must know how to relate to others and have the skills needed for performing the process of care, capacity of observation, planning, judgment and decision-taking. Neither should he/she lack the ability to properly interpret information and communicate in a comprehensive way. Continuous updating of the nursing staff is very important in order to constantly increase their professionalism, obviously including constant participation in courses and conferences in order to facilitate cultural and experiential exchange with other situations and at international level³.

Method and Materials

Design of the study:

Quantitative design with descriptive study was carried out with assessment approach and it was conducted on nurses in cardiac care unit of pediatric hospital in Sulaimani city from 1st July 2017-1st May 2018. The study carried out to evaluate nursing management regarding children with congenital heart diseases.

Setting of the study:

Pediatric Intensive Care Unit selected as setting of the study which located at Kurdistan region/Sulaimani/Iraq. Most of serious pediatric patient admitting in this unit in order to performing better caring and services. The most critical cases includes: Congenital heart diseases, Pneumonia, Nephrotic syndrome, Sever dehydration, Bleeding, Sepsis, Convulsion, Croop, live fail, and encephalitis.

The sample of the study :

Non-probability sampling was performed, a purposive sample of (35) nurses who were employed in pediatric intensive care unit, and were performed

nursing management for (105) pediatric patient with congenital heart diseases.

The inclusion criteria for sample selection :-

All nurses who work at cardiac care unit, with both gender (male and female) and all nurses who work at both shifts (morning and evening).

Tools:

The study tool include two parts. First are three section. Section one regarding nurses socio-demographic data (age, gender, years of employment, experience, Level of education, and marital status). Section two consist of information related to pediatric intensive care unit which include supportive activities like training session, educational programs, conference and symposium, Also in section two Self-education and learning is an other item which consist of availability of books and references, time for reading and nurses information regarding scientific web cite and articles, and availability of PICU equipment is also involved in section two, consist of information regarding nurses familiarity with drugs, drug doses, the ways of O2 supply, and equipment like (monitor, ventilator, ECG). Section three consist of nurse's bills of rights.

Regarding part two is the observational check list scale includes (40) items concerning practice and activities that should be provided from the nurses to the children with CHD in Pediatric Intensive Care Unit.

Method of data collection:

Data collection method were throw the using of adopted and constructed questionnaire, interviewing technique, and observational technique. Data were collected from (1st July 2017 - 1st April 2018).

Rating scales and scores:

In this study using 3 types of rating scales:

Two points likert scale (Yes and NO)

Three points likert scale (Always, Some time, and Never) is used in the section three of part one.

Five point likert scale:

Poor (1), Fair (2), Good (3), Very good (4), Excellent (5)

Five is the highest score regarding nursing management in the (observational check list part) performed to the children with congenital heart disease in Pediatric Intensive Care Unit .

To make understanding scoring system more clearly, mean of nursing care management were calculate for each subscale, then the score of each subscales have been unified in (0-100).

Statistical analysis :

Descriptive statistics:-

Data were shown and tabled in frequencies and percentage, and mean of scores was calculated from ordinal data in five level (5, 4 , 3, 2, 1) . In the present study the highest mean of score indicates the highest level of practice regarding nursing management. The P-value at 0.05 level indicates the degree of significance.

Inferential statistics:-

Independent T- test and ANOVA have been utilized to find out the significant relationship of nursing care management with socio-demographic characteristics, and nurse's skill and experiences.

Results

Table 1 : Distribution of nurses according to academic supportive activities and self learning :

Variables	Frequency	Percentage
Training session regarding PICU		
Yes	16	45.7
No	19	54.3
Total	35	100.0
Familiarity with posters /guidelines in PICU		
Yes	8	22.9
No	27	77.1
Total	35	100.0
Attending to periodic educational program		
Yes	7	20.0
No	28	80.0
Total	35	100.0
Attending to conference/symposium		
Yes	7	20.0
No	28	80.0
Total	35	100.0
Having books regarding CHD		
Yes	1	2.9
No	34	97.1

Cont ... Table 1 : Distribution of nurses according to academic supportive activities and self learning :

Total	35	100.0
Scientific website regard CHD		
Yes	10	28.6
No	25	71.4
Total	35	100.0
time to read books , articles		
Weekly	7	20.0
Monthly	8	22.9
Don't read	20	57.1
Total	35	100.0

Table 2: Level of satisfaction of nurses regarding to nursing rights

Nursing Rights	Always N(%)	Sometime N(%)	Never N(%)
Do you have your right to practice in manner that is suitable for fulfilling your obligations?	3 (8.6)	15(42.9)	17(48.6)
Do you have your right to practice in an environment that allow you to act in accordance with professional standards ?	2(5.7)	24(68.6)	9(25.7)
Do you feel you work in an environment supports ethical practice ?	1(2.9)	31(88.6)	3(8.6)
Are you feel free to advocate for your selves and your patients without fear ?	2(5.7)	25(71.4)	8(22.9)
Are you satisfy with the compensation for your work and consistency with your knowledge ?	3(2.9)	7(6.7)	25(71.4)
Are you feel safe in the environment you work as well as your patient ?	1(2.9)	20(57.1)	14(40.0)
Do you have the right to negotiation in the conditions for your employment in all practice setting?	2(1.9)	25(71.4)	8(22.9)

Table 3: Association of nurse's academic activities with nursing care practice

Academic activities	Assessment Mean \pm SD	Intervention Mean \pm SD	Total Management Mean \pm SD
Training session regarding CHD			
Yes	49.58 \pm 4.38	56.49 \pm 5.18	54.42 \pm 4.14
No	49.33 \pm 5.54	55.48 \pm 7.01	53.63 \pm 5.07
Total	49.44 \pm 5.02	55.94 \pm 6.23	53.99 \pm 4.66
T	0.067	0.685	0.737
Sig	0.796	0.410	0.392
Attending to periodic educational program regarding PICU			
Yes	48.81 \pm 5.06	57.14 \pm 4.19	54.64 \pm 3.59
No	49.60 \pm 5.03	55.64 \pm 6.63	53.83 \pm 4.90
Total	49.44 \pm 5.02	55.94 \pm 6.23	53.99 \pm 4.66
T	0.417	0.980	0.512
Sig	0.520	0.324	0.476
Attending to conference/symposium			
Yes	48.97 \pm 6.02	55.95 \pm 3.80	53.86 \pm 3.17
No	49.56 \pm 4.78	55.94 \pm 6.72	54.02 \pm 4.98
Total	49.44 \pm 5.02	55.94 \pm 6.23	53.99 \pm 4.66
T	0.234	0.000	0.021
Sig	.630	.991	.884
Have books regarding CHD			
Yes	47.78 \pm 2.55	56.19 \pm 2.70	53.67 \pm 2.08
No	49.49 \pm 5.08	55.93 \pm 6.31	54.00 \pm 4.72
Total	49.44 \pm 5.02	55.94 \pm 6.23	53.99 \pm 4.66
T	0.338	0.005	0.015
Sig	0.562	0.944	0.904
Know about scientific website regard CHD			
Yes	49.11 \pm 5.36	56.45 \pm 5.58	54.25 \pm 4.39
No	49.58 \pm 4.92	55.73 \pm 6.49	53.89 \pm 4.79
Total	49.44 \pm 5.02	55.94 \pm 6.23	53.99 \pm 4.66
T	0.183	0.284	0.129
Sig	0.669	0.596	0.720

Cont... Table 3: Association of nurse’s academic activities with nursing care practice

Time to read books , articles			
Weekly	48.89±4.36	57.52±4.97	54.93±3.80
Monthly	49.44±5.77	55.74±6.83	53.85±4.97
Don’t read	49.64±5.00	55.46±6.38	53.72±4.83
Total	49.44±5.02	55.94±6.23	53.99±4.66
T	0.171	0.857	0.534
Sig	0.843	0.427	0.588

Table 4: Mean of nursing care management for each of assessment and intervention dimensions according to observational check list scale:

Variable	Mean	SD
Nurse’s assessment for patients (12 items)	49.44	5.02
Nurse’s intervention for nutritional intake to promote children’s growth and development (5 items)	55.62	8.58
Nurse’s intervention to prevent infections (5 items)	91.39	12.30
Nurse’s intervention to reduce child’s heart load (5 items)	37.48	9.06
Nurse’s intervention to reduce pulmonary distress (10 items)	49.60	8.24
Nurse’s intervention to providing education for child and family (3 items)	49.26	13.05
Intervention Total	55.93	6.23
Management Total	53.99	4.66

Table 5 : Correlations among nurses’ assessment, intervention, total management and period of hospitalization

Correlations		Assessment	Intervention	Management	Child period of hospitalization
Assessment	r	1	0.033	0.355**	-0.063
	p		0.736	0.000	0.526
Intervention	r		1	0.946**	-0.158
	p			.000	0.107
Management	r			1	-0.168
	p				0.086

** . Correlation is significant at the 0.01 level (2-tailed). r: Pearson Correlation,

Nurse's satisfaction with the nursing rights were taken as the indicators of nursing care management in this study. This study has found that nurses who lesser perceived to work in environmental support and ethical practice had significant high practice in nursing care management. This finding could be considered to be a negative out-come. while, in contrast to that nurses who more perceived to advocate for themselves and their patient, and those who feel to right to safe environment to nurses and patient practice were provide better nursing care management. This finding was observed in other study, it was observed that, the nurse's right they would improve patient experiences of the quality of nursing care, clinically competent nurses. And the collaborative working relationships, autonomous nursing practice, adequate staffing, control over nursing practice was addressed as the reasons for better practice of nursing care (Kieft et al. 2014). There is many promotion courses for nurturing nursing skill and for providing better nursing performance. Nurses attending academic activities and training course are considered to provide good nursing care management. For instance, in developing countries low academic and educational program for staff lead to poor providing care for patients with CHD and it becomes a substantial challenge for health care. Several patients, who have initial heart conditions, have ended up with secondary irreversible damage or death (Jivanji, 2019). In this study attending academic activities and training were taken as one determinate for nursing care management. The current study has shown that there was not a significant association between attending academic activities and nursing care management. However, those nurses who attend the training, educational program, and search website regarding CHD had provide better nursing care management. Education program in developing countries have significant effect on nursing care management, quality of health care, and impact of the CHD. Different kinds of certificate had made impact on quality of nursing care management, and patient's out-come. In this concerning, many kinds of certification, courses and training are introduced in the US. The courses such as Cardiac-designated ICUs, Mixed PICUs Academic teaching hospital, American Nursing Certification Center Magnet Recognition, American Association of Critical Care Nurses Beacon Designation have a significant relationship with the nursing care qualities and patient out-come^{9,10}. From another side this study found the relationship between nursing care management (nursing assessment and nursing intervention), and nursing care management

with and child period hospitalization. There was a positive weak association of nursing assessment and nursing intervention. And the weak negative relationship of nursing care management was found with child period hospitalization. In some study, the reasons for long hospitalization have been determined, while the relationship of long hospitalization and the nursing care practices have not been studied. According to those study, the cases which stay long in hospital have need to more nursing care and advance skill for clinical assessment and intervention. And it has mentioned that the complexity and complication of CHD such as tetralogy of fallot and respiratory infection (due to respiratory syncytial virus) mostly are determined as the reasons for long hospitalization.

Conclusions

The nurse's academic background and experience were not good qualified. Most of the nurses had more working experience while working experience in the ICU was less. The nurse's education background was considerably less by considering developed countries, since only few of them were college graduated nurse. Regarding to training, only (54 %) nurses attended training session regarding Paediatric Intensive Care Unit (PICU). Most of the cases were male, and diagnostic with cyanotic congenital heart.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the University of Sulaimani and all experiments were carried out in accordance with approved guidelines.

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