A study of the Nurses Performance about the Acquired Weakness in the Intensive Care Unit by MRC-Scale for Muscle Power

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ABSTRACT

Patients with critical condition lead to long stay in ICU which result complications as AW-ICU. The AW-ICU is disability may be permanent or temporary due to lower and upper extremities weaknesses add top respiratory muscle. The critical ill patients occur with AW-ICU about 50% of more causes lead to AW-ICU the most common hypoglycemia, care accident, stroke such as hemorrhage or thrombotic stroke, respiratory failure, Corona virus, early rehabilitation that reduction or prevention ICU complications and effect sedative medication and impact parenteral gastric feeding and early predication for AW-ICU very important by one methods such as medical council research scale (MCR) for muscle power. Other rots for diagnosis are electrical impulses for stimulation and measuring muscle reflexes Acquired weakness comes in different forms, some of which affect nerves or muscles, or are neuromuscular Acquired weakness is a recurrent disorder in the ICU, the weakness can be cause to essential neuromuscula48% of critically ill patients survive in intensive care.

Methodology: A descriptive design was used in the current study; the study was conducted in the ICU of Al-Zahra Hospital in Al-Kut city in Iraq. Study sample: a non-probability (purposive) sample selected from nurses working in ICU, and the sample was (52) nurses. Use the questionnaire by noting the checklist.

Result: It was found that the nurses working in the intensive care unit were weak or almost non-existent in predicting acquired weakness by the Medical Research Council's scale of muscle strength.

Conclusion: Intensive care unit nurses underperform on predicting (AW-ICU). Also, a relationship was found between demographic data and the nurses' performance.

Key words: Study, Performance, Acquired weakness.

INTRODUCTION

Patients with critical condition lead to long stay in ICU which result complications as AW-ICU [1]. The AW-ICU is disability may be permanent or temporary due to lower and upper extremities weaknesses add top respiratory muscle [2]. The critical ill patients occur with AW-ICU about 50% of more causes lead to AW-ICU [3] the most common hypoglycemia, care accident, stroke such as hemorrhage or thrombotic stroke, respiratory failure, Corona virus [4], early rehabilitation that reduction or prevention ICU complications and effect sedative medication and impact parenteral gastric feeding [5] and early predication for AW-ICU very important by one methods such as medical council research scale (MCR) for muscle power [6]. Other rots for diagnosis are electrical impulses for stimulation and measuring muscle reflexes [7] Acquired weakness comes in different forms, some of which affect nerves or muscles, or are neuromuscular [8] Acquired weakness is a recurrent disorder in the ICU [9], the weakness can be cause to essential neuromuscula48% of critically ill patients survive in intensive care [10].

METHODOLOGY

The design of study: A descriptive project was used in the present study; the study was showed in the ICU of Al-Zahra Hospital in Al-Kut city in Iraq.

Setting of the study: The study was conducted in ICU for Al-Zahraa Teaching Hospital at Al-kut city in Iraq.

Sample of the study: A non-probability (purposive) sample designated from nurses working in ICU, and the sample was (52) nurses.

Study Instrument. The questionnaire was used as a study tool by observation the checklist, which contains [11] items for demographic data and (65) questions related to MRC-Scale muscle power about early predication acquired weakness.

Data analysis: Use data analysis such as frequencies, percentages, Pearson correlation coefficient test and ANOVA test to measure nurses' performance.

Ethical consideration: Endorsement was got from the Morals Group of the College of Nursing. Permission was obtained from Al-Zahra Hospital; oral and written agreement was got from the participants in the current education.

RESULT AND DISCUSSION

Table 1 represents the nurses' practices concerning AW-ICU. The findings showed that the nurses' practices that applied the early prediction of acquired weakness in the ICU of the study sample were most of them not applied so that its percentage was 80.6%. Similarly, the study with Gundo, et al., This showed that the sum of the competency scores on the competency of critical care nurses before training, time ranged from 483 to 697 (M.S=608.2, SD=59.6) after training, ranging from 617 to 720 (M.S=684.7, SD=29.7). The increase was statistically significant, p<0001. Haegdorens F. et al., We found a negative correlation between the practices of nurses in the nursing care unit towards the acquired weakness resulting from the length of lying (B=−2.771, p=0.002), but the correlation was strong after giving the implementation of the intervention program (B =8.845, p=0.023). Table 2 represents statistical significant between age group, years of experience in nursing field, Years of experience in ICU and nurses' performance concerning AW-ICU. It appears that there is a high statistical significance between the effectiveness of the nurses' performance and the age group, years of experience in the intensive care unit at P 0.05. While there is no statistically significant relationship between performance and years of experience in the field of nursing at P>0.05. This study similar with Huang et al., who stated that educational level also, did not show significant differences; however, the higher the level of education, the higher the total knowledge, attitudes, and practices of ICU nurses related to the early detection of AW-ICU.

Table 1: Assessment of nurses' performance concerning early predication AW-ICU.

N	Steps	Apply		Wrong apply		Not apply	
		F.	%	F.	%	F.	%
1	Evaluate the state of awareness in terms of responding and carrying out orders	0	0	0	0	26	100
2	Explain procedure to patient	4	15.4	2	7.7	20	76.9
3	Ensure that the urinary catheter and the enteral feeding tube do not interfere with work	0	0	11	57.7	15	57.7
4	Remove the bed side rails so that they do not interfere with the work	0	0	12	46.2	14	53.8
5	Sure patient comfortable and stable.	1	3.8	1	3.8	24	92.4
	Muscle power test for upper extremities						
	First test: muscle power of the shoulder joint						
6	Bed position at a 10 angle	0	0	0	0	26	100
7	Stand on the patient's right side	4	15.4	1	3.8	21	80.8
8	Expose the patient's right arm from the clothes	5	19.2	5	19.2	16	61.5
9	Placing the right hand under the patient's elbow and the left hand above the shoulder joint	4	15.4	2	7.7	20	76.9
10	Flex the elbow joint towards the shoulder and record the test score on the MRC-Scale for muscle power	1	3.8	5	19.2	20	76.9
11	By the right hand, raise the arm upwards with the support of the hand and record the test score on MRC scale for muscle power	0	0	0	0	26	100
12	The patient was asked to raise his arm without support and to record the test score on MRC scale for muscle power	4	15.4	4	15.4	18	69.2
13	The patient was asked to raise the arm towards the shoulder with pressure on the ulna muscle downward and to record the test score on MRC scale for muscle power	8	30.8	1	3.8	17	65.4

		F.	%	F.	%	F.	%
14	Stand on the left side of the bed	3	11.5	3	11.5	20	76.9
15	Expose the patient's left arm from the clothes	0	0	0	0	26	100
16	Place the left hand under the patient's elbow and the right hand above the shoulder joint	7	26.9	7	26.9	12	46.2
17	Flex the elbow joint towards the shoulder and record the test score on MRC scale for muscle power	5	19.2	5	19.2	16	61.5
18	By the left hand, raise the arm upwards with the support of the hand and record the test score on MRC scale for muscle power	4	15.4	2	7.7	20	76.9
19	The patient was asked to raise the arm towards the shoulder with pressure on the ulna muscle downward and record the test score on MRC scale for muscle power	4	15.4	1	3.8	21	80.8
20	Give the patient a rest of at least 30 seconds before starting the elbow muscle test	0	0	0	0	26	100
	Muscle power test for lower extremities						
	second test: muscle power of the hip joint						
21	Stand on the patient's right side	1	3.8	1	3.8	24	92.4
22	Placing the left hand over the arm muscle and with the right hand holding the patient's palm trying to extend the arm and extend the palm to feel the contraction and stretching of the arm muscle and record the test score on MRC scale for muscle power	5	19.2	7	26.9	14	53.8
23	Holding the patient's hand at the wrist joint with the left hand with the hand placed lateral and the right hand under the wrist joint. The patient was asked to extend and bend the wrist joint and record the test score on MRC scale for muscle power	2	7.7	4	15.4	20	76.9
24	Hold the patient's hand with the left hand from the end of the arm at the wrist joint so that the patient's hand is horizontal and ask the patient to extend the fingers while trying to bend the wrist joint with the right hand to see the extent of the patient's resistance and record the test score on MRC scale for muscle power	5	19.2	4	15.4	17	65.4
25	Stand on the patient's left side	2	7.7	4	15.4	20	76.9
26	Placing the right hand over the arm muscle and with the left hand holding the patient's palm trying to extend the arm and extend the palm to feel the contraction and stretching of the arm muscle and record the test score on MRC scale for muscle power	1	3.8	4	15.4	21	80.8
27	Holding the patient's hand at the wrist joint with the right hand with the hand placed lateral and the left hand under the wrist joint. The patient was asked to extend and bend the wrist joint and record the test score on MRC scale for muscle power	12	46.2	0	0	14	53.8
28	Hold the patient's hand with the right hand from the end of the arm at the wrist joint so that the patient's hand is horizontal and ask the patient to extend the fingers while trying to bend the wrist joint with the right hand to see the extent of the patient's resistance and record the test score on MRC scale for muscle power	0	0	0	0	26	100
29	Give the patient a rest of at least 30 seconds before starting the hip muscle test	2	7.7	2	7.7	22	84.6
	Total		10.3		10.2		80.6

F.=Frequency, %=Percentage

Table 2: statistical significant between age group, years of knowledge in nursing field, Years of experience in ICU and nurses' performance concerning AW-ICU.

Variables		Sum of Squares	Df	Mean Square	F	P ≤ 0.05
Age	Between Groups	41.117	26	1.581	6.013	**0**
(Years)	Within Groups	6.575	25	0.263		**H-sig.**
	Total	47.692	51			
Years of experience in nursing field	Between Groups	106.473	26	4.095	1.064	**0.439**
	Within Groups	96.2	25	3.848		**N-sig.**
	Total	202.673	51			
Years of experience in ICU	Between Groups	29.635	26	1.14	3.829	**0.001**
	Within Groups	7.442	25	0.298		**H-sig.**
	Total	37.077	51			

df: Degree of freedom, F: Statistic, Sig: Significance

CONCLUSION

Nurses in ICU have insufficient performance regarding acquired weakness of critically ill patients in the ICU. There is also a high statistical significance between the nurse's performance, age group, and years of experience in the intensive care unit. While there is no statistically significant relationship between performance and years of experience in the field.

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