



## Effectiveness of an Education Program on Nurses knowledge concerning in Nursing Management for patients with Third degree and bundle branch block in Kirkuk Teaching Hospitals

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### ABSTRACT

**Background and Objectives:** Heart block is a disease or acquired condition that causes a fault within the heart's natural pacemaker due to some kind of obstruction (or "block") in the electrical conduction system of the heart. Nurses play an important role in maintaining the health and well-being of patients. Aims of the study was to assess the effectiveness of nursing education program on nursing knowledge concerning in nursing management toward third degree and bundle branch block in Kirkuk's teaching hospitals and to identifying the relationship between the nurses' knowledge and their demographic characteristics such as ( age ,gender and education level)

**Material and Method :**A descriptive study design (quasi experimental study )was carried out at Azadi teaching hospital and Kirkuk general hospital in Kirkuk city for nursing staff who worked at CCU ,RCU unit , emergency unit and internal medicine unit ,from February up to May, 2018. A non – probability (purposive) sample was selected and composed of (80) Nurses (male and female) .Nurses was divided into two groups, study group consisted of (40) nurses exposed to the nursing educational program and control group consisted of (40) nurses were not exposed to the program from Azadi Teaching Hospital and Kirkuk General Hospital in Kirkuk city. The program and instruments were constructed by the researcher for the purpose of the study .The questionnaire was constructed for the purpose of the study which consisted of three parts: the first part include the demographic data (5 ) items (age, gender, residencr , Educational achievement and marital status.The second about training in cardiac care (2) items ( work place and name of training in cardiac care . The third part consist from (18 ) items of general knowledge toward management of third degree of heart block and bundle branch block of heart block. The (SPSS) ver. (22.0) was used for data analysis. Mean, SD, and ANCOVA test, compare means were used to analyze the collected data. Level of significance was the threshold at  $p < 0.05$

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Results: There were 40 nurses included in the study. Relative to "Gender" 23(57.5%) from sample were female are more illustrated, since, also the study shows the high percent of nurses were at age between (20-39 years) and constitute 35(87.5%) and most of "Age Groups", are focused at the first two groups since (72.5% ). Also the results shows (65.0%) were female. With regard to residence 28(70.0%) were living in urban areas, The study findings indicated that there were highly significant differences between pre and post tests in the study group in overall main domains related to nurses' knowldg about management of third degree heart block and bundle branch block

Conclusion: The study concluded that the effectiveness of educational program regarding nurses' nurses' knowldg about management of third degree heart block and bundle branch block .

**Keywords:** Education Program , nursing management, Heart Block

## Introduction

Atrioventricular (AV) heart block is marked by a disturbance in electrical impulse conduction from the atria to the ventricles. Depending on the type of AV block, the disturbance may be insignificant or it could lead to potentially fatal arrhythmias. AV blocks are classified as first-degree, second-degree, and third-degree. First-degree AV blocks are the least concerning; third-degree blocks are the most dangerous (Reynolds, 2014) .

Cardio Vascular Disease remains a major healthcare problem and one of the most consumers of the public health resources. Heart block (HB) and Ischaemic heart diseases (IHD) remain the commonest cause of death all over the world. As in statistical reports of the World Health Organization (WHO); 2011, the rate of death per 100,000 due to coronary artery diseases in Yemen was 238.5, Sudan; 212.0, Bangladesh; 203.7, Libya; 199.3 and Jordan; 162.5 .(WHO,2011).

Despite the lack of accurate epidemiology data for AVB, it is clear that it is not uncommon in both apparently healthy populations and those

with overt heart disease. Approximately 1% to 2% of normal subjects have first-degree AVB which increases to 5% in men over the age of 60 with cardiac diseases (Crisel and Farzaneh,2011)

The prevalence of second-degree AVB for Mobitz II block is estimated to be 3% in patients with HF, and it is estimated that 5% to 10% of people will develop a third-degree heart block in those >70 years old and having a history of heart disease ( Chow and Marine,2012).

Atrioventricular (AV) block is a common complication of acute Myocardial Infarction (MI). In pre-thrombolytic era, high (second or third degree) AV block was seen in approximately 5-7% of patients presenting with acute MI.1 In setting of Inferior MI, this was even as high as 28% (Rathore et al ,2015)

The prevalence of first-degree atrioventricular block in the general population is approximately 4%, and it is associated with an increased risk of atrial fibrillation. Cardiac pacing for any indication in patients with first-degree heart block is associated with worse

outcomes compared with patients with normal atrioventricular conduction. Among patients with heart failure, first-degree atrioventricular block is present in anywhere between 15% and 51%. Data from cardiac resynchronization therapy studies have shown that first-degree atrioventricular block is associated with an increased risk of mortality and heart failure hospitalization. Recent studies suggest that optimization of atrioventricular delay in patients with cardiac resynchronization therapy is an important target for therapy; however, the optimal method for atrioventricular resynchronization remains unknown. Understanding the role of first-degree atrioventricular block in the treatment of patients with heart failure will improve medical and device therapy. (ACCF,2016)

There are currently more than 3 million patients worldwide with implanted permanent pacemaker. In Europe, Japan and USA, the implantation rate is almost 300-1000 per million. In United States, the prevalence of third-degree AV block is 0.02%. Worldwide, the prevalence of third-degree AV block is 0.04%. The incidence of AV conduction abnormalities increases with advancing age. (Stewart et al ,2011)

In Iraq and by the experience of the researcher the study is important because there is no evidence based research about the level of nurses knowledge to ward heart block inKirkuk city there for the researcher decided to study this issue. The objectives of the study were to assess the effectiveness of nursing education program on nursing knowledge concerning in

nursing management toward third degree and bundle branch block in Kirkuk's teaching hospitals and to identifying the relationship between the nurses' knowledge and their demographic characteristics.

## MATERIALS AND METHOD

To achieve the objectives of the study A descriptive study design was conducted on nurses staff who work at Azadi Teaching Tospitals and kirkuk Teaching Hospitals from February up to May, 2018.A nonprobability (purposive) sample of (40) of Nurses staff whom work at Cardiac care unit(CCU) , Respiratory Care Unit(RCU) , Emergency unit and internal medicine (male and female). The selection of nurses was simply randomly, who ethical approval informed consent was obtained from each participant included in this study. The validity of the questioneir was determined through presenting it to (20) specialist experts and its reliability was determined through using Cronbach's alpha coefficient. Finally, the test-retest reliability of the knowledge questionnaire and 10 nurses were assessed twice in four-week intervals. For the purpose of data collection, a questionnaire was used, which consists of three parts, **first part** concerning the demographic data form that included the(age, gender,residencr , Educational achievement and marital status, **The second part** about **training in cardiac care (2) items** ( work place and name of training in cardiac care **.The third part** concerning in Nursing knowledge toward management of heart block **.The questionnaire consists of 23 items**

covering (3) domains includes (general Nurses knowledge towardment of third degree heart block of (7) multiple questions , Nurses knowledge concerning in managementt of bundle branch block heart block and cosist from (8) multiple questions and Nurses knowledge concerning in drugs and pacemaker used in management of AV heart block this part consist of( 8) multiple questions related to drugs and pacemaker used in management of AV heart block and medications. The study was implemented at Azadi Teaching hospitals and kirkuk Teaching

Hospitals. The nurses who met the study criteria, were approached in the study, the nurses were invited to participate in the study and explain the study objectives. The data analysis through use a descriptive statistical analysisprocedures and inferential analysis procedures (SPSS 22.0) .The data were analyzed through the application of descriptive statistical analysis which include (frequency and percentage, mean of score) and inferential statistical analysis which include (ANCOVA) test .

**Analysis Data and result**

**Table (1): Distribution of the studied groups according to socio-demographical characteristics variables (SDCv.) (SDCv.) with comparisons significant(No .40)**

SDCv.	Groups	Study		Control		C.S. (*)
	Classes	No.	%	No.	%	
Gender	Male	17	42.5	15	37.5	C.C.=0.051 P=0.648 (NS)
	Female	23	57.5	25	62.5	
	Total	40	100	40	100	
Age Group	20 - 29	26	65.0	17	42.5	C.C.=0.287 P=0.066 (NS)
	30 - 39	9	22.5	20	50.0	
	40 - 49	4	10.0	3	7.50	
	50 - 59	1	2.50	0	0.00	
	Total	40	100	40	100	
Residence	Urban	28	70.0	31	77.5	C.C.=0.220 P=0.131 (NS)
	Rural	12	30.0	9	22.5	
	Total	40	100	40	100	
Marital status	Single	26	65.0	16	40.0	C.C.=0.244 P=0.088 (NS)
	Married	12	30.0	20	50.0	
	Divorced	2	5.0	4	100.0	
	Total	40	100	40	100	
Educational achievement (Nursing)	Preparatory Nursing	6	15.0	7	17.5	C.C.=0.108 P=0.621 (NS)
	Nursing Institute	14	35.0	10	25.0	
	Bachelor and more	20	50.0	23	57.5	
	Total	40	100	40	100	

(\*) NS: Non Sig. at P>0.05; Testing based on a contingency coefficient (C.C.) test.

Relative to "Gender" subjects are from female are more illustrated, since 23(57.5%), and 25(62.5%) are accounted in the study and controlled groups respectively, and most of "Age Groups", are focused at the first two groups since 35(87.5%), and 37(92.5%) are accounted in the study and controlled groups respectively, as well as most of residential subjects, are focused at urban area,

since 28(70.0%), and 31(77.5%) are accounted in the study and controlled groups respectively. With regard to marital status, shows that single subjects has recorded the most od study group, while married status has recorded the most of studied subjects in the controlled group, and they are accounted 26(65.0%), and 20(50.0%) respectively. Finally, educational achievement of studied

subjects shows that most of them has graduate institute, and bachelor or more degrees, and they are accounted 34(85.0%), and 33(82.5%) in the study and controlled groups respectively.

**Table (2): Distribution of the studied groups according to training in cardiac care indicators with comparisons significant**

Training	Groups	Study		Control		C.S. (*)
	Classes	No.	%	No.	%	
Work place	CCU Unit	15	37.5	14	35.0	C.C.=0.105 P=0.926 (NS)
	Medical Ward	8	20.0	8	20.0	
	Emergency Unit	6	15.0	5	12.5	
	ECG Unit	2	5.00	1	2.50	
	RCU Unit	9	22.5	12	30.0	
	Total	40	100	40	100	
Name of training	CCU	21	52.5	22	55.0	C.C.=0.059 P=0.871 (NS)
	RCU	15	37.5	13	32.5	
	ECG	4	10.0	5	12.5	
	Total	40	100	40	100	

(\*) NS: Non Sig. at  $P > 0.05$ ; Testing based on a contingency coefficient (C.C.) test.

Table (2) indicate that the majority of studied subjects are worked at CCU unit, since they are accounted 15(37.5%), and 14(35.0%) in the study and controlled groups respectively, as well as the most of training named concerned with the studied subjects previously was at CCU unit, since they are accounted 21(52.5%), and 22(55.0%) in the study and controlled groups respectively.

**Table (3): Descriptive Statistics of the studied groups according to (Nurses knowledge concerning in management of Third degree heart block (Td)) along studied periods with comparisons significant**

Nurses knowledge concerning in management of Third degree heart block (Td)	Period	N o.	Study						Control					C.S.
			MS	S D	R S %	A ss .	Co m.	C. S.	M S	S D	R S %	Ass .	C o m.	
Third-degree AV heart block is also called	Pre	40	0.18	0.38	18.0	M	12	H S	0.33	0.47	33.0	L	12	NS
	Post1	40	0.88	0.33	88.0	H	13	H S	0.22	0.42	22.0	L	13	NS
	Post2	40	0.90	0.30	90.0	H	23	N S	0.22	0.42	22.0	L	23	NS
A third degree heart block is best characterized by	Pre	40	0.13	0.33	13.0	M	12	H S	0.08	0.27	7.5	L	12	NS
	Post1	40	0.85	0.36	85.0	H	13	H S	0.08	0.27	7.5	L	13	S
	Post2	40	0.85	0.36	85.0	H	23	N S	0.18	0.38	18.0	L	23	S

Nurses knowledge concerning in management of Third degree heart block (Td)	Period	N o.	Study						Control					
			MS	S D	R S %	A s s.	C o m.	C. S.	M S	S D	R S %	As s.	C o m.	C.S.
In third degree AV heart block both atrium and ventricle work	Pre	40	0.35	0.48	35.0	M	1 X 2	H S	0.25	0.44	25.0	L	1 X 2	NS
	Post1	40	0.75	0.44	75.0	H	1 X 3	H S	0.28	0.45	28.0	L	1 X 3	NS
	Post2	40	0.75	0.44	75.0	H	2 X 3	N S	0.35	0.48	35.0	M	2 X 3	NS
Third degree heart block is alethal dysrhythmia because it may progress to	Pre	40	0.32	0.47	32.0	M	1 X 2	H S	0.10	0.30	10.0	L	1 X 2	NS
	Post1	40	0.75	0.44	75.0	H	1 X 3	H S	0.10	0.30	10.0	L	1 X 3	S
	Post2	40	0.83	0.38	83.0	H	2 X 3	N S	0.23	0.42	23.0	L	2 X 3	S
With third degree AV heart block the atrial rate is	Pre	40	0.18	0.38	18.0	M	1 X 2	H S	0.13	0.33	13.0	L	1 X 2	NS
	Post1	40	0.83	0.38	83.0	H	1 X 3	H S	0.10	0.30	10.0	L	1 X 3	NS
	Post2	40	0.90	0.30	90.0	H	2 X 3	N S	0.20	0.41	20.0	L	2 X 3	S
Nursing management of third degree heart block is	Pre	40	0.15	0.36	15.0	M	1 X 2	H S	0.13	0.33	13.0	L	1 X 2	NS
	Post1	40	0.88	0.33	88.0	H	1 X 3	H S	0.05	0.22	5.00	L	1 X 3	NS
	Post2	40	0.95	0.22	95.0	H	2 X 3	N S	0.18	0.38	18.0	L	2 X 3	S

(\*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing based on repeated Measurement test; Com. : Combination of all probable pair wised.

Assessments Intervals Scoring Scales of Relative Sufficiency Coefficient (RS%): [L: Low (0.00 – 33.3)]; [M: Moderate (33.3 – 66.7)]; [H: High (66.7 – 100)]

Table (3) shows a summary statistics of knowledge concerning in management of third degree heart block Results of testing

significant reported highly significant differences at P<0.01 toward impact of applied program through raising knowledge

grades of studied respondents at post1 period and the results shows the level of comparison was significant in all items of study group while non significant in all control group except in (third degree heart block is alethal dysrhythmia because it may progress to) that could be enable to

confirms importance and successfulness of applying the proposed program The results of the controlled group has recorded completely immovable responses over the three periods of times with low level of assessed.

**Table (4): Descriptive Statistics of the studied groups according to (Nurses knowledge concerning in management of Bundle branch Block (BBB) along studied periods with comparisons significant**

Nurses knowledge concerning in management of Bundle branch block (BB)	Period	No.	Study						Control					
			M S	S D	R S %	A s s .	C o m .	C. S.	M S	S D	R S %	A s s .	C o m .	C.S .
Bundle branch block (BBB) occurs when there is an interruption in the cardiac electrical conduction system of either the right , the left or both	Pre	40	1.75	0.84	58.3	M	1X2	H S	1.68	0.83	56.0	M	1X2	NS
	Post1	40	2.63	0.59	87.7	H	1X3	H S	1.78	0.89	59.3	M	1X3	HS
	Post2	40	2.70	0.46	90.0	H	2X3	N S	1.90	0.84	63.3	M	2X3	S
With Bundle branch block the electrical impulses will takes more time to travel	Pre	40	1.98	0.92	66.0	M	1X2	N S	1.70	0.85	56.7	M	1X2	NS
	Post1	40	2.25	0.63	75.0	H	1X3	S	1.88	0.91	62.7	M	1X3	NS
	Post2	40	2.38	0.49	79.3	H	2X3	S	2.15	0.80	71.7	H	2X3	NS
The QRS complex usually narrowing than normal usually less than 0.12 second	Pre	40	1.63	0.77	54.3	M	1X2	H S	1.73	0.88	57.7	M	1X2	NS
	Post1	40	2.28	0.64	76.0	H	1X3	H S	1.88	0.91	62.7	M	1X3	HS
	Post2	40	2.58	0.50	86.0	H	2X3	H S	2.10	0.78	70.0	H	2X3	HS

If both Bundle branches are blocked the electrical impulses will reach both ventricles later than normal	Pre	40	1.83	0.87	61.0	M	1X2	H S	1.75	0.84	58.3	M	1X2	NS
	Post1	40	2.35	0.58	78.3	H	1X3	H S	1.90	0.87	63.3	M	1X3	HS
	Post2	40	2.47	0.51	82.3	H	2X3	N S	2.23	0.58	74.3	H	2X3	HS

(\*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing based on repeated Measurement test; Com. : Combination of all probable pair wised . Assessments Intervals Scoring Scales of Relative Sufficiency Coefficient (RS%): [L: Low (33.3 – 55.5)]; [M: Moderate (55.5 – 77.7)]; [H: High (77.7 – 100)].

Table (4) reported highly significant differences at P<0.01 toward impact of applied program through raising knowledge grades of studied respondents at post1 period, and that could be enable to confirms importance and successfulness of applying the proposed program. The results of the control group has illustrated marginal level of improvements grade over the three periods of times with a moderate and high level of assessed, since studied subjects hasprecedingassessedinitially.

**Table (5): Descriptive Statistics of the studied groups according to (Nurses knowledge concerning in drugs and pacemaker used in management of AV heart block (Pm)) along studied periods with comparisons significant**

Nurses knowledge concerning in drugs & pace-maker used in management of AV heart block (Pm)	Period	N o.	Study					Control						
			MS	SD	R S %	As s.	C o m .	C. S.	M S	S D	RS %	A ss.	C o m .	C.S .
In mobitz II AV heart block dopamine may be administer for systole blood pressure less than	Pre	40	0.30	0.46	30.0	M	1X2	H S	0.18	0.38	18.0	L	1X2	NS
	Post1	40	0.78	0.42	78.0	H	1X3	H S	0.18	0.38	18.0	L	1X3	S
	Post2	40	0.92	0.27	92.0	H	2X3	S	0.30	0.46	30.0	L	2X3	S



Epinephrin administer to patients who do not respond to	Pre	40	0.22	0.42	22 .0	M	1 X 2	H S	0. 20	0 .4 1	20. 0		1 X 2	NS
	Post1	40	0.80	0.41	80 .0	H	1 X 3	H S	0. 23	0 .4 2	23. 0	L	1 X 3	S
	Post2	40	0.95	0.22	95 .0	H	2 X 3	S	0. 32	0 .4 7	32. 0	L	2 X 3	S
In second and third heart block the type of pacemaker is	Pre	40	0.32	0.47	32 .0	M	1 X 2	H S	0. 30	0 .4 6	30. 0	L	1 X 2	S
	Post1	40	0.75	0.44	75 .0	H	1 X 3	H S	0. 15	0 .3 6	15. 0	L	1 X 3	NS
	Post2	40	0.83	0.38	83 .0	H	2 X 3	N S	0. 25	0 .4 4	25. 0	L	2 X 3	S
Pacemaker is a small battery – operated device that initiate electrical impulse in	Pre	40	0.30	0.46	30 .0	M	1 X 2	H S	0. 45	0 .5 0	45. 0	M	1 X 2	NS
	Post1	40	0.65	0.48	65 .0	H	1 X 3	H S	0. 45	0 .5 0	45. 0	M	1 X 3	NS
	Post2	40	0.72	0.45	72 .0	H	2 X 3	N S	0. 52	0 .5 1	52. 0	M	2 X 3	NS
Fixed pacemaker set to generate impulses at a constant rate usually	Pre	40	0.22	0.42	22 .0	M	1 X 2	H S	0. 22	0 .4 2	22. 0	L	1 X 2	HS
	Post1	40	0.78	0.42	78 .0	H	1 X 3	H S	0. 03	0 .1 6	2.5 6	L	1 X 3	NS
	Post2	40	0.88	0.33	88 .0	H	2 X 3	S	0. 20	0 .4 1	20. 0	L	2 X 3	HS

(\*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing based on repeated Measurement test; Com. : Combination of all probable pair wised. Assessments

**Intervals Scoring Scales of Relative Sufficiency Coefficient (RS%): [L: Low (0.00 – 33.3)]; [M: Moderate (33.3 – 66.7)]; [H: High (66.7 – 100)].**

Table (5) reported highly significant differences at  $P < 0.01$  toward impact of applied program through raising knowledge grades of studied respondents at post1 period, and that could be enable to confirms importance and successfulness of applying the proposed program. In addition to that, and rather than testing significant are too sensitive to improvements that occurred for repeated measurements statistic in the study group, but all of studied items are illustrated too highly and meaningful changeability with highly levels of assessments along pre-post1 periods concerning, as well as post2 period does required to studied process of application proposed of an educational program indeed, since supplementary improvements are accounted, and the observed outcomes were coverage to the greatest level of approved scale. The results of the controlled group has recorded completely immovable responses over the three periods of times with low level of assessed.

**Table(6): Relationships (Analysis of Covariance) concerning Compliance Regarding to Life Style Modification in the study group and SDCv.**

Group	Source of Variations	Type III Sum of Squares	d.f.	Mean Square	F Statistic	Sig. Levels	C.S. (*)
Study	Intercept	43205.15	1	43205	891.0	0.000	HS
	Gender	2.180	1	2.180	0.045	0.834	NS
	Age Group	90.90	3	30.30	0.625	0.605	NS
	Residency	168.20	1	168.20	3.469	0.072	NS
	Marital Status	2.160	2	1.082	0.022	0.978	NS
	Education Levels	203.19	2	101.60	2.095	0.141	NS
	Error	1454.71	30	48.49	R-Squared = 0.281		
	Total	282523	40				

(\*) **HS: Highly Sig. at  $P < 0.01$ ; Non Sig. at  $P > 0.05$ ; Statistical hypothesis based on Analysis of Covariance (ANCOVA).**

Results shows that weak relationships are a proved with (SDCv.), since no significant relationships were accounted at  $P > 0.05$ , and according to that it could be concludes that studied questionnaire of nurse's knowledge concerning management for patients with heart block improvements through applying the suggested of an educational program could be generalize on the studied population even though differences within their socio-demographical characteristics variables of studied subjects.

**Discussion:**

Throughout the course of data analysis of sample (40 ) nurse , the results shows 23 ( 57.5 %) were females and 17 (42.5%) were males. These finding is agreement with the

result of Ruhwanya and others (2018) who find More than three quarters of participants were females (79.4%).

Also the the results shows the most of the nurses at age between (20-29 years) and constitute 26 (65.0% )

But these findings disagree with the study of Mohamed and others (2016) in Egypt, who reported that More than one third of the study sample aged between 40 to 49 years.

With regard to residence 28 (70.0%) were living in urban areas.Explanation of this result related to situation of hospitals at center of governorate there fore the

researcher find most of nurses from urban area . But these findings disagree with the study in Egypt by Mohamed and others (2016) in Egypt, who reported that more than half of the sample (62%), were living in rural areas

Most of the nurses were single and constituted 26 (65.0% ) .also the result shows high percentage from nurses were complete bachelor of nursing and more and constitute 20(50. 0%) . Respect to subjects of studied (SDCv.), results shows that studied groups recorded no significant differences at  $P>0.05$

Our study has revealed in table (2) the majority of studied subjects are worked at CCU unit, since they are accounted 15(37.5%), and 14(35.0%) in the study and controlled groups respectively as well as the most of training named concerned with the studied subjects previously was at CCU unit, since they are accounted 21(52.5%), and 22(55.0%) in the study and controlled groups respectively.

The explanation of this result because of the nurses worked at this site usually more faced like this cases (heart block ) there for need for more knowldge program about care of patients with arrhythmia there for find most of nurses from this site . This suggestion is in agreement with the finding obtained from Kingwood (2012) who has mentioned that education programs have been designed to keep nurses up to date with current practices and trends. They

ensure nursing staff' abilities through mandatory annual competency sessions .

In relative to the nurses knowldge to ward management third degree heart block the result shows in table (6) Results refers to significant with reference of studied items, as well as scoring scales assessments concerning effectiveness of applying an educational program were reported highly significant differences at  $P<0.01$  toward impact of applied program through raising knowledge grades of studied respondents while the cntrol group shows poor a sssessment of knowldg in all study level

Interpret of this result according to the researcher openion related to impact of an education program on nurses knowldge toward third degree heart block confirms importance and successfulness of applying this proposed program there for the results appeare low significant for pre test while the result range from medera to high significant for both post1 and post2 with regard to the control group the results range from low to moderate assessment during pre and post1 ,post

These findings agrees with study of Ruhwanya and others (2018) ) stated that the results is, a low knowledge score was noted regarding complete heart block in the ECG strip, with only 38.3% of participants being able to identify it correctly

Also other results confirmed by Schultz (2010) suggested that hospital administrators should encourage nurses to

participate in a clinical practice development programme, to increase their knowledge and skills in arrhythmia monitoring. This can encourage nurses to enjoy learning, which makes it easier for them to master the skill.

With regard to the nurses knowledge about Bundle Branch Block which shows at table (7) the results of testing significant with reference of studied items, as well as scoring scales assessments concerning effectiveness of applying an educational program were reported highly significant differences at  $P < 0.01$  toward impact of applied program through raising knowledge grades of studied respondents at post1 period, and that could be enable to confirms importance and successfulness of applying the proposed program while the results of the control group has illustrated marginal level of improvements grade over the three periods of times with a moderate and high level of assessed, since studied subjects has preceding assessed initially.

Our study finding is agreed with a similar study done by Nursing Patient - Cantered Collaborative Care (2013) who reported that more than two third of nurses, their knowledge regarding bundle branch block was unsatisfactory.

The result in table (5) about Nurses knowledge concerning in drugs and pacemaker used in management of AV heart block revealed that there is highly significant differences at  $P < 0.01$  toward impact of applied program through raising knowledge grades of studied respondents at post1 period, and that could be enable to

confirms importance and successfulness of applying the proposed program .With regard to the conrol group the results shows completely immovable responses over the three periods of times with low level of assessed.

As well, our finding is consistent with another similar study done by Ayad and others (2016) who assessed the critical care nurses' knowledge related to management of cardiac dysrhythmias by drugs and pacemaker at Benha University Hospital and find that majority of the nurses were having an unsatisfactory knowledge about cardiac dysrhythmias management . **Reference:** -

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