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Effect of an education program on nurses' knowledge regarding pregnancy induced hypertension at primary health care centers

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Abstract---Background: Pregnancy-induced hypertension is a major health issue in the obstetric population, as it is one of the leading causes of maternal and perinatal morbidity and mortality. The Present study aims to determine the nurses' knowledge, effect of education program about pregnancy induced hypertension, and find out the association between the effect of education program with their demographic characteristic such as (age, gender, level of education, year of experiences, and training course. Method: A quasi-experimental study design was carry out in the primary health care centers at Holy Karbala City between the periods 15th of November 2021 to 5th of April 2022. A non-probability (purposive) sample of (52) nurses were selected. Results: The results of the study indicated that there were high statistical significant difference between the pre and post-test of the education program related to the pregnancy induced hypertension. The study found no statistical significant association between the effects of the education program related to the pregnancy induced hypertension with the demographic characteristics. Conclusion: The study concluded that the education program had a positive impact on nurses' knowledge concerning pregnancy induced hypertension. Recommendations: Recommendation, Continuous educational program to improve nurses' knowledge regarding pregnancy induced hypertension.

Keywords---Education Program, Nurses' Knowledge, Pregnancy Induced Hypertension.

Introduction

Hypertension, also known as high blood pressure, is a serious medical condition that increases the risk of heart, brain, kidney, and other diseases. Pregnancy hypertension is one of the leading causes of maternal mortality worldwide. Hypertensive disorders, such as preeclampsia, eclampsia, and HELLP syndrome, are responsible for approximately 30,000 deaths each year. Pregnancy hypertension affects approximately 10% of all pregnant women worldwide (Ayed, & Ibrahim, 2021). Preeclampsia is a condition that only occurs during pregnancy and the postpartum period. It is a rapidly deteriorating condition marked by high blood pressure and the presence of albumin in the urine. Swelling, sudden weight gain, headaches, and changes in vision are all significant symptoms; however, some women with rapidly progressing disease report few symptoms. Preeclampsia typically develops after 20 weeks of gestation (in the late second or third trimesters, or in the middle to late stages of pregnancy), though it can occur earlier (Shaheen, 2020). Eclampsia, a complication of severe preeclampsia, is commonly defined as new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with preeclampsia signs or symptoms (Warrington, 2015). The risk factors for Pregnancy induced hypertension Null parity, multiple pregnancy, history of chronic hypertension, gestational diabetes, fetal malformation, obesity, extreme maternal age (less than 20 or more than 40 years), history of Pregnancy induced hypertension in previous pregnancies and chronic diseases such as renal disease, diabetes mellitus, cardiac disease, unrecognized chronic hypertension, family history of gestational Hypertension indicating genetic susceptibility, psychological stress, alcohol use, rheumatic arthritis, extreme underweight, overweight, and low level of socioeconomic status (Gudeta, & Regassa, 2019). When Preeclampsia is detected early on, the mother is usually recommended to stay in bed and her blood pressure is regularly monitored. If the condition worsens, the doctor will be forced to induce labor or perform a Caesarean section, regardless of whether the baby has reached full term or not. Preeclampsia can cause problems with the arteries that provide blood to the placenta. The fetus receives less oxygen and nutrition as a result of this, low birth weight, prematurity, or stillbirth (EL-BAHY, et al., 2013). When pregnant women are cared for during pregnancy and after childbirth to prevent and treat preeclampsia, eclampsia is an important step toward maternal health performance. Maternal health providers' health managers and other stakeholders require current, evidence-based recommendations to guide clinical policies and practices (World Health Organization, 2018).

Method

Design and setting of the study: A quasi-experimental study design was carried out in the primary health care centers at Kerbala Holy City from the period 15th of the November 2021 to 5th of April 2022, in order to find out the effect of education program on nurses' knowledge regarding pregnancy induced hypertension. **Sample of the study:** A purposive sample was consists of (52) nurses were selected according to study criteria and after obtain verbal and written consent permission from them. (25) Nurses in study group and (27) nurses in control group. **The study instrument:** First part, concerned with the nurses' demographic characteristics. Second part, concerned with nurses'

knowledge regarding pregnancy induced hypertension includes (30) items. Statistical Analysis: The IBM Statistical Package of Social Sciences (SPSS) Version 22 was used to analyze the results. Both descriptive statistical analysis and inferential statistical analysis approaches were used in order to investigate or predicts the relationships between variables.

Result

Table (1)
Descriptive Statistic of Demographic Characteristics of the Study – Control Groups

Demographic data		Study group		Control group	
		F.	%	F.	%
Age	20-24	12	48.0	8	29.6
	25-29	8	32.0	11	40.7
	30-34	1	4.0	3	11.1
	35 and >	4	16.0	5	18.5
	Total	25	100.0	27	100.0
Gender	Male	10	40.0	6	22.2
	Female	15	60.0	21	77.8
	Total	25	100.0	27	100.0
Level of education	school	8	32.0	7	25.9
	Nursing Diploma in	13	52.0	15	55.6
	Nursing Bachelor in nursing	4	16.0	5	18.5
	Total	25	100.0	27	100.0
	Years of Experience	1-5	15	60.0	13
6-10		6	24.0	8	29.6
11 and >		4	16.0	6	22.2
Total		25	100.0	27	100.0
Training Courses	Yes	6	24.0	3	11.1
	No	19	76.0	24	88.9
	Total	25	100.0	27	100.0

f.: Frequency; %: percentage

Table (1) refers to an assessment of the nursing staff demographic characteristics. In the present study were high percentage of them 80% and 70.3% at age group (20–29) years old, in the study and control groups. The study results indicated that (60%) and (77.8%) of the nursing staff are female, (52 %) and (55.6%) graduated from Technical Institute / Nursing, and (60%) and (48%) have < 5 years of experience. (76%) and (88%) of the nursing staff no participate in the training courses.

Table (2)
Comparison between Pre and Posttests in Study Group Responses Pregnancy
Induced Hypertension Knowledge

Level of knowledge	Total knowledge pretest				Level of knowledge	Total knowledge posttest			
	F.	%	Mean	SD.		F.	%	Mean	SD.
Poor	16	64.0	1.36	.489	Fair	3	12	1.88	.33
Fair	9	36.0			Good	22	88		1
Total	25	100.0			Total	25	100.0		

F. =Frequency; %= percentage; *SD.* = standard Deviation ;(poor=1-1.4; Fair= 1.5-1.7; Good 1.8-2)

Table (2) the results reveal that the total mean of score (1.36) of nurses expressed a poor level of knowledge at the pretest period of measurement. While, after application of education program, findings demonstrated that the mean score (1.88) of nurses expressed a good level of knowledge at the posttest.

Table (3)
Paired Samples Test (difference between pretest and posttest study group
Knowledge

	Paired Differences		T	df	Sig.
	M	S.D.			
Total knowledge pretest – total knowledge posttest	-1.52	.585	-12.970	24	.000

M= Mean, *SD* = Standard Deviation, *T*- value= T-Test, *d.f*= Degree of Freedom, *Sig*= significance

Table (3) shows that there is statistical significant difference between pre and post tests in study group this indicate that education program have positive effect on nurses knowledge about pregnancy induced hypertension.

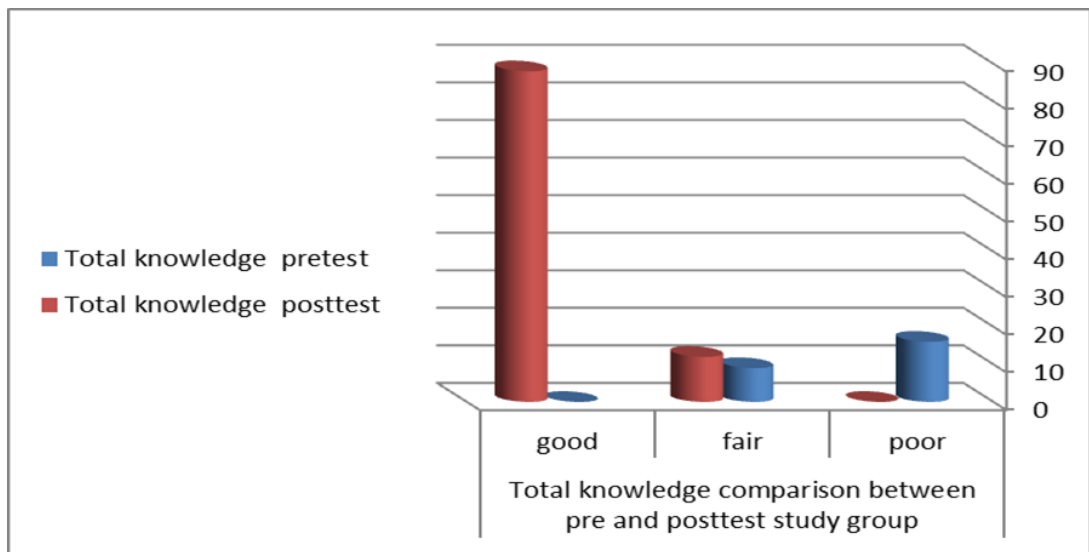


Figure (1): Total Knowledge Comparison between Pre-Posttests Study Group

Table (4)
Statistical Differences between Nurses Knowledge regarding Pregnancy Induced Hypertension and type of Demographic Characteristic

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	.701	1	.701	.577	NS. .455
	Within Groups	27.939	23	1.215		
	Total	28.640	24			
Gender	Between Groups	.242	1	.242	.968	NS. .335
	Within Groups	5.758	23	.250		
	Total	6.000	24			
Level of Education	Between Groups	.087	1	.087	.178	NS. .677
	Within Groups	11.273	23	.490		
	Total	11.360	24			
Years of experience	Between Groups	.175	1	.175	.288	NS. .597
	Within Groups	13.985	23	.608		
	Total	14.160	24			

d.f= Degree of Freedom, F=frequency, Sig= significance, NS= No Significant

Table (4): The result of present study indicates that there were no statistical significant association between the effect of education program on nurses' knowledge and their demographic characteristics.

Discussion

Discussion of the nursing staffs' demographic characteristics, as shown in table (1): The demographic characteristics of the participants in the present study were high percentage of them 80% and 70.3% at age group (20–29) years old, in the study and control groups. This finding is agree with (Ayed, & Ibrahim, 2021), who show that most (73.3) of the studies were ages (21-30) years old, (60.6%) and (77.8%) of the present study was females in both study and control groups. These findings consistent with (Olaoye, et al., 2019), who revealed that (70.9%) of the study sample had females. Level of education in the study and control groups, 52.0 and 55.6 percent of study participants had a diploma in nursing, The results agree with the (EL Sebaey Soliman, et al., 2021), show that (61.7%) of the study nurses graduated from an institute or had a diploma. Regarding the years of experience in nursing, the characteristics of the present study indicated that the majority of nurses have experience from (1-5 years) with percentages of (60%) and (48.1%). These findings agree with (Shaheen, 2020), who revealed that (51.3%) of the studied nurses had less than five years of experience. regarding the training related course the study results reveal in both study (76.0%) and control (88.9) groups didn't have training courses. these results consistent with (Abdelhakm, & Said, 2017), indicated that the majority (87.5%) of participants in both study and control groups did not have a training related course.

The effect of the program was clear improved the knowledge of nurses regarding pregnancy induced hypertension as shown in tables (2) and (3). which of their level was poor level in the pretest then improved to good level at posttest and the result revealed that were high statistically significant differences between the pre-test and the post-test.

The results reveal that the (64%) of nurses expressed a poor level of knowledge at the pretest period of measurement. while, after application of education program, findings demonstrated that (88%) of nurses expressed a good level of knowledge at the posttest. This study agree with (Ayed, & Ibrahim, 2021), who show that the significant improvement in nurses' knowledge results for study group in care for eclampsia Which the study group at pre-test is 53.34 % of them at Poor knowledge level, while in post-test are 70.0% of them at excellent knowledge level

Discussion the association between nurses' knowledge and their demographic characteristic, as shown in table (4): The result of present study indicates that there were no statistical significant association between the effect of education program on nurses' knowledge and their demographic characteristics, such as gender, age, education level, and years of experience in the pretest for study and control groups. These results agree with the findings of the study done by (EL-BAHY, et al., 2013) which showed that no statistically significant differences were found between mean knowledge scores towards age, place of work and years of experience in the health field.

Conclusion

Demographic the current study's characteristics for both the control and study groups reveal that the majority of nurses' participants were females between the

ages of 20 and 29, had a diploma, and had less than 5 years of nursing experience. The majority of the participants had not attended any training courses on pregnancy-induced hypertension. Prior to the implementation of the educational program, the results of the current study show that the majority of nurses' knowledge about pregnancy-induced hypertension was poor, with a low level of assessment at the pre-test in both groups (control and study group). The study concluded that the education program had a positive impact on nurses' knowledge concerning pregnancy induced hypertension.

Recommendations:

The researcher recommends that all pregnant women receive antenatal care during their pregnancy and that they continue to monitor the mother and fetus' health status to prevent complications. Nurses and midwives should also provide education about the complications of hypertension during pregnancy to pregnant women.

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