

Updating Nurses' knowledge about Preeclamptic Patients' Care by Using a Poster in Minia Maternal and Child University Hospital

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Abstract: Aim of the study: To up to date nurses knowledge about preeclamptic patients' care. **Research design:** Cross sectional design. **Setting:** This study was conducted at Maternal and Child Health Minia University Hospital in the period from September 2011 till December 2011. **Subject and Methods:** A structured pre and post test used questionnaire about preeclamptic patients' care knowledge was used and included 17 basic knowledge questions. A total of 25 nursing staff participated in this study who works in Obstetrics and Gynecology Department at Minia University Hospital. **Tools:** Interviewing sheet was used for data collection which included, educational level, years of experience, number of training courses the nurse attended. **Results:** Data analysis revealed that a sizable proportion of the participants have incorrect, improper knowledge about preeclampsia (a basic knowledge about preeclampsia and how to care women) in pre test. Concerning knowledge of nurses in post test, significantly improved in their knowledge. **Conclusion:** Experience is an important source of knowledge but education is a neglected area that impact on how nurses update their knowledge. **Recommendation:** Only through adequate knowledge and hard-working follow through, we can move women to care earlier and thus improve the worst of the adverse outcomes, so the study results have indicated the following recommendation, more attention must be paid to health educational programs for nurses by the policy makers and health services.

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1. Introduction

Hypertensive disorders of pregnancy are an important cause of severe morbidity, long term disability and death among both mothers and their babies. Hypertensive disorders of pregnancy affect about 10% of all pregnant women around the world. In Africa and Asia, nearly one tenth of all maternal deaths are associated with hypertensive disorders of pregnancy, whereas one quarter of maternal deaths in Latin America have been associated with those complications (Duley, 2009, Steegers et al, 2010).

Among the hypertensive disorders that complicate pregnancy, pre-eclampsia and eclampsia stand out as major causes of maternal and prenatal mortality and morbidity. The majority of deaths due to pre-eclampsia and eclampsia can be avoidable through the provision of timely and effective care to the women presenting with these complications. Optimizing health care to prevent and treat women with hypertensive disorders is a necessary step towards achieving the goals. (WHO, 2011, Campbell and Graham, 2006).

Preeclampsia is a disorder that occurs only during pregnancy and the postpartum period. It is a rapidly progressive condition characterized by high blood pressure and the presence of albumin in the urine. Swelling, sudden weight gain, headaches and

changes in vision are important symptoms; however, some women with rapidly advancing disease report few symptoms. Typically, preeclampsia occurs after 20 weeks gestation (in the late 2nd or 3rd trimesters or middle to late pregnancy), though it can occur earlier. Proper prenatal care is essential to diagnose and manage preeclampsia. Pregnancy Induced Hypertension (PIH) and toxemia are outdated terms for preeclampsia. HELLP syndrome and eclampsia (seizures) are other variants of preeclampsia. Globally, preeclampsia and other hypertensive disorders of pregnancy are a leading cause of maternal and infant illness and death. By conservative estimates, these disorders are responsible for 76,000 maternal and 500,000 infant deaths each year (Preeclampsia foundation, 2011).

Poster is any piece of printed paper designed to be attached to a wall or vertical surface. Typically posters include both textual and graphic elements, although a poster may be either wholly graphical or wholly text. Posters are designed to be both eye-catching and informative. Posters may be used for many purposes (<http://en.wikipedia.org/wiki/Poster> 2012).

Posters are commonly used at research conferences for communicating information and in education as an alternative way of teaching and

assessing students. Some researchers report the use of posters as a means of teaching and assessing part of the up to date knowledge of nursing staff. Tutors felt it was a valuable exercise enabling nurses to develop a number of skills, alongside the learning and revision of knowledge, including working as a team, condensing information and word and graphic processing. Lecturers and guided study/tutorials were preferred to posters as teaching methods (**Wharrad et al 1996**).

Posters have long been recognized as an effective medium for spread of information, particularly with respect to evidence-based practice. (**American Association of Critical-Care Nurses, 2002**).

Research question:

Is poster has effect on updating nurses' knowledge?

Significant of the study:

Among the hypertensive disorders that complicate pregnancy, pre-eclampsia and eclampsia stand out as major causes of maternal and prenatal mortality and morbidity. The majority of deaths due to pre-eclampsia and eclampsia can be avoidable through the provision of timely and effective care to the women presenting with these complications (**WHO, 2011**). Several studies have demonstrated that knowledge decreases with time. The inability to keep up with evolving medical knowledge has potentially serious implications on quality of care. Traditional forms of continuing medical education are ineffective. Resources that can provide learning at the point of care have great promise in facilitating continual learning. Use of one such resource (Up-To-Date) proved to be an independent predictor of performance on a standardized test of medical knowledge (**Denise and Basow, 2010**).

2. Material and Methods:

Research design: Cross sectional design

Setting:

This study was conducted at Maternal and Child Health Mina University Hospital in the period from September 2011 till December 2011.

The present study represents a work to support the use of evidence-informed policies and practices in nursing work. Thousands of women and babies die or get very sick each year from preeclampsia, a life-threatening disorder. Preeclampsia and related disorders can be avoided by work with the woman and give her the care in suitable approach. The nurses should have good information about the diseases and how to care and up to date their knowledge (**Preeclampsia foundation, 2011**).

In the meantime, because all pregnancies are at risk, our best defence against the worst outcomes is to ensure nurses and patients understand and appropriately respond to the warning signs of

preeclampsia. The problem is few people are aware and adequately informed. (**Geneva, World Health Organization, 2010**).

The idea of using posters for staff education emerged from an evidence-based practice put on by the researcher.

Subjects:

The target audience of this study included all nurses in the hospital who are working with the mother. The guidance provided is a poster put on it a selected topic related to the nursing management of pre-eclampsia and eclampsia.

There were 25 nurses working in the hospital who participated in this study. An educational intervention "using a poster" was developed to up to date knowledge among nurses in the study.

Implementation of an educational intervention:

An educational intervention designed for nursing staff member based on nurses' needs assessment in relation to knowledge and practice. The main aim of this intervention is to improve the nurses' knowledge about preeclampsia and care given for the woman. An educational intervention was conducted as a printed poster (2 meter * 1.5 meter) attached to the wall of preeclamptic patients room to cover all information towards preeclampsia and care given for the woman.

Data collections:

The necessary approvals were secured from the head manager of Minia Maternal and Child Health University Hospital. The purpose of the study was explained to nursing staff member. It took about 25-30 minutes for most of the member to fill the form. Questionnaire was used to collect the data from nurses.

Questionnaires were used to collect two types of data from subjects in this study. These data were collected before (pre-) and after (post-) poster used and included:

1) Socio-demographic characteristics of study subjects including, age, qualification, years of experiences, training courses attended, and other personal data were obtained.

2) Basic knowledge questions and a scoring system for data collected were implemented. A total of 17 questions were used to assess the basic knowledge of the nurses' about the preeclampsia and eclampsia care (definition, signs and symptoms, management, nursing care, fetal assessment).

A score of two was given for each correct and complete answer and one for each correct and incomplete a zero for incorrect answer with best basic knowledge score being 34.

3) Knowledge assessment questions: The questions were developed by the researchers to collect data related to assess staff nurses' knowledge related to

preeclampsia and care given for the woman among the nurses in their different settings. Questions consisted of 17 questions for nurses. Each correct and complete question answer was counted as two points. A score was made for each participant and were assigned to be significant or poor knowledge score.

Statistical analysis:

All data of the study were entered and analyzed according to the SPSS- version 11.5 (statistical software). Comparison between groups of variables in pre and post test was done by (T test). P value was considered significant when $P < 0.05$.

3. Results:

This table illustrates the distribution of the study group according to their general characteristics. Regarding years of experiences, it was found that 72% of the nurses have more than 6 years in the obstetrics and gynecology department.

As regards to the level of education of the nurses it was noticed that more than half 52% of the nurses are diploma nurse. Regarding receive of training course about hypertensive disorders our research shows that all nurses 100% did not receive regular nursing training courses. In spite of this finding almost of nurses (88%) deal with preeclamptic patient in the present time.

Table (1): Socio - demographic data

Item	No.	%
Experiences		
• 1-5 years	7	28.0
• 6-11 years	13	52.0
• >11 years	5	20.0
Education		
• Diploma/high school	13	52.0
• Technical institution nursing	5	20.0
• B.Sc nursing	7	28.0
Training courses in care of preeclamptic patients		
• Training	0	00.0
• No training	25	100.0
Deal with Preeclamptic patient at the time		
• No	3	12.0
• Yes	22	88.0

Table (2): Knowledge of nurses about preeclampsia.

Knowledge of nurses about	Pre		Post	
	No.	%	No.	%
Definition of preeclampsia				
Didn't know	3	12	0	0
Correct and incomplete	18	72	7	28
Correct & complete	4	16	18	72
Signs and Symptoms				
Didn't know (wrong)	7	28	0	0
correct and incomplete	18	72	7	28
Correct & complete	0	00	18	72
Advice about sleeping position				
Wrong answer	11	44	4	16
Right answer	14	56	21	84
Why??				
Wrong answer	21	84	0	0
Right answer	4	16	25	100
Advice about salt in diet				
Wrong answer	12	48	4	16
Right answer	13	52	21	84
Advice about protein in diet				
Wrong answer	11	44	0	0
Right answer	14	56	25	100
Why??				
Wrong answer	16	64	4	16
Right answer	9	36	21	84

This table illustrates the knowledge of the study group about preeclampsia. Regarding definition, it was found that 72% of the nurses have an answer as correct but incomplete in pre test and 72% of nurses answer as correct and complete in post test. Regarding signs and symptoms, it was found that 72% of the nurses have an

answer as correct but incomplete in pre test and 72% of nurses answer as correct and complete in post test. The correct and complete answers are 16% and 0% for each question respectively in pre test.

Table (3): Knowledge of nurses about preeclamptic patient's care

Knowledge of nurses	Pre		Post	
	No.	%	No.	%
Timing of urine collection				
Wrong answer	13	52	9	36
Right answer	12	48	16	64
Why???				
Wrong answer	1	4	5	20
Right answer	24	96	20	80
Timing of blood pressure measure				
Wrong answer	5	20	5	20
Right answer	20	80	20	80
Deep tendon reflexes making				
Wrong answer	20	80	6	24
Right answer	5	20	19	76
Edema(Check patient's legs for edema)				
Wrong answer	6	24	3	12
Right answer	19	76	22	88
Weight of pt				
Wrong answer	7	28	3	12
Right answer	18	72	22	88
Magnesium sulfate administration				
Wrong answer	1	4	1	4
Right answer	24	96	24	96
Fetal assessment (advice to count movements)				
Wrong answer	2	8	0	0
Right answer	23	92	25	100
Why???				
Wrong answer	12	48	2	8
Right answer	13	52	23	92
Normal movements count/12 hours				
Wrong answer	13	52	6	24
Right answer	12	48	19	76

This table shows that nursing knowledge about care of preeclamptic women depend on nurses experiences and practicing. In relation to time of urine collection, it was found that 48% and 64% of nurses have an answer as right answer in pre and post test respectively. Regarding time of blood pressure measuring, it was found that 80% of the nurses have a correct answer in both pre and post test. In relation to deep tendon reflexes making, it was found that only 20% and 76% of the nurses have an answer as correct in pre and post test respectively.

Regarding Edema (Check patient's legs for edema), it was found that 76% and 88% of the nurses have an answer as correct in pre and post test respectively. Regarding Magnesium sulfate administration reason, it was found that 96% of the nurses have a correct answer in both pre and post test. In relation to fetal assessment "advice the mother to count fetal movements", it was found that 92% and 100% of the nurses have an answer as correct in pre and post test respectively.

Table (4): The level of knowledge of the study sample in pre and post test

Item	Mean*	± Std. D	T. test & P value
Total knowledge of nurses			
• Pre test	19.88(59%)	6.70	3.41& 0.002**
• Post test	24.80(74%)	2.35	

* The total points are 34

** Marked differences are significant at $P < 0.05$

This table summarizes comparison between the levels of knowledge about preeclampsia among study sample in pre and post test. It was found that the mean of knowledge in pre test is 19.88 (59%) and in post test 24.80 (74%). The std.D is 6.7 and 2.35 in pre and post test respectively.

4. Discussion:

Nurses' knowledge is drawn from a multifaceted base and includes evidence that comes from science (research and evaluation), experience and personally derived understanding. Scientific knowledge is developed through enquiry and can use the research approaches. It is, however, not the only form of evidence used by nurses in their practice. Nurses also use experience gained from practice itself and their own personal learning (Moule & Goodman, 2011).

The inability to keep up with evolving medical knowledge has potentially serious implications on quality of care (Moule & Goodman, 2011).

Quality of care declines as physicians are further out of training. Several studies have demonstrated that a physician's knowledge base decreases with time (Ramsey et al, 1991). This also applied theoretically and practically on nurses.

Nurses are highly trained health-care professionals who must be licensed in their area of practice in order to gain employment and career advancement opportunities. Because of this requirement, it is essential that a nurse keeps his skills and knowledge up to date by taking further or continuing education, or refresher courses where appropriate (<http://www.ehow.com/how>, 2010).

With nurse's help, we can drive awareness, advance our scientific understanding and medical practices, and help create a world where preeclampsia and hypertensive disorders of pregnancy no longer threaten the lives of mothers and babies (Ramsey et al, 1991, <http://www.ehow.com/how>, 2010).

Because of the importance of this issue, nurses have been selected to be the focus of this study as they are the care givers upon whom responsibilities the preeclamptic women. In the present study, an attempt to assess the nurses' knowledge toward preeclampsia and up to date their knowledge about preeclampsia care.

Regarding the socio-demographic characteristics of the study sample. The present study results showed that, regarding years of experiences, it was found that 72% of the nurses have more than 5 years in the obstetrics and gynecology department. These finding in line with Chiari who find that nurses knowledge mostly depend on their experience (Chiari et al., 2010).

Regarding receive of training course about hypertensive disorders during pregnancy our research shown that all nurses 100% did not receive regular nursing training courses. This finding not in the same line with Chiari who finds that nurses that had attended courses of research or evidence based nursing read more frequently articles published in nursing or medical journals. (Chiari et al., 2010).

In our study, the mean of knowledge in pre test is 19.88 (59%) and in post test 24.80 (74%) This is slightly lower than what was reported by (El-Shenawi, 2002) who implement the study in Alexandria and found that the mean percentage of nurses' knowledge regarding hand decontamination was very good. Similar results were reported by (El-Shafie et al., 1995) who found that majority of nurses have good knowledge about hand washing. These finding are not in line with (Gordon et al., 2001) who found that knowledge of infectious disease and the necessary infection control procedures is very good among nurses.. Similar results were reported by (Abdelrazek and Abd el rahman, 2010) who made a study to identify the prevalence of needle stick injuries and their causes among nursing staff participating in an infection control training program at Minia University Hospital, almost of the participants were categorized as fair in basic knowledge regarding infection control.

These finding of the nurses knowledge may be attributed to lack of awareness of the importance of nurses knowledge as a source of mothers knowledge, daily high load of patients, insufficient percentage of training courses, lack of supervision, and careless behaviors of policy makers. Low level of nurse knowledge may be attributed to the fact that they are not concerned with reading updated information; no one attended conferences, also most nurses in the current study had Diplomas of Nursing degree with a curriculum that has little information and as mentioned by nurses in the present study that the main source of knowledge was from study.

5. Conclusion:

Our study highlights several important issues: First, Experience is an important source of knowledge but education is a neglected area that impact on how nurses update their knowledge. **Second**, this study could provide valuable information to policy makers to support their ongoing programs and develop appropriate strategies to improve the quality of nursing care for patient. **Third** positive change of knowledge regarding preeclamptic patient care after using a poster is significant and promising.

Recommendations:

Only through adequate knowledge and hard-working follow through, we can move women to care earlier and thus improve the worst of the adverse outcomes, so the study results have indicated the following recommendations:-

1. More attention must be paid to health educational programs for nurses by the policy makers and health services.
2. Nurses up to date education is very important to the nurse and has a helpful effect on maternal health.
3. Periodic training program should be developed to health care givers who are working with pregnant women.
4. Health care institutions should apprise themselves of developments in educational methods as a poster and should invest in appropriate methods related to the pattern of outcome within their organization or modify work practices that improve the work in the organization.

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