NURSE'S KNOWLEDGE REGARDING MANAGEMENT OF ECLAMPSIA AT SELECTED PRIVATE HOSPITAL IN BANGLADESH

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ABSTRACT

Introduction: Eclampsia affects 5 to 10% of all pregnancies and contributes to 10 to 15% of maternal deaths worldwide. Estimated case fatality rate due to eclampsia is 14 times higher in developing countries compared to developed countries. Eclampsia is a potentially fatal disorder of pregnant women that has been prevalent since the time of Hippocrates; it remains an important cause of maternal mortality throughout the world, accounting for about 50,000 deaths worldwide. This study was aimed to assess the level of nurse's knowledge regarding management of eclampsia.

Materials and Methods: A descriptive cross-sectional study was carried out from September 2016 to January 2017. A total of 105 nurses were selected purposively during the period of this study, the data was collected using self-administered semi-structured questionnaire and it was analysed using SPSS version 20.0.

Results: In this study the mean of the respondents was 31.6 years. Slightly above half (51.4%) of the respondents were unmarried and the rest of them were married. Majority of the participants (52.5%) had B.Sc. nursing; however 70.5% of the respondents knew about the current management of Eclampsia.

Conclusion: The findings of this study revealed that the majority of the nurses that participated in this study had somehow enough level of knowledge about the management of eclampsia.

However it has been observed that the nurses had some lapses regarding the knowledge on drugs use in the management of eclampsia.

Keywords: Eclampsia, Knowledge, Management, Maternal, Nurses

Introduction

Eclampsia is new onset of grand mal seizures activity and/or unexplained coma during pregnancy or post partum in a woman with signs and symptoms of pre eclampsia (Sibai, 2005). Eclampsia is the occurrence of convulsions in association with signs and symptoms of preeclampsia. The syndrome of pre-eclampsia normally affect all maternal organ systems, however it is usually detected by the presence of new hypertension, proteinuria, and edema in pregnancy. Primary symptoms of eclampsia are seizures or convulsions in a pregnant woman, woman in labour or within 42 days after delivery who does not have a history of epilepsy. Other symptoms of eclampsia include muscle aches and pain, agitation, loss of consciousness and stroke, coma and death can occur to a mother and fetus (Douglas & Redman, 1994; Ginzburg & Wolff, 2009).

Family history of eclampsia or previous history of pre-eclampsia and eclampsia, patient above 35 years of age, teenage pregnancy, multi-fetal gestation, primigravida and poor outcome of previous pregnancies including intrauterine growth retardation, abruption in placenta and fetal death are the risk factors associated with eclampsia (Hadad et al., 2000; Mattar & Sibai, 2000).

Eclampsia affects more than 5% of all pregnancies and contributes to almost 15% of maternal deaths worldwide. Approximated case fatality rate as a result of eclampsia is 14 times higher in developing countries compared to developed countries (Duley, 2009). In developing countries, the prevalence of eclampsia differs widely, from 1 in 100 to 1 in 1700 (WHO, 1988; Crowther, 1985; Bergstorm et al., 1992). This problem has become a common problem in developing countries because of illiteracy, poverty, inadequate health awareness and education, and sometimes the superstitious beliefs prevent women from seeking medical advice during pregnancy. In developed countries, eclampsia complicates about 1 in 2000 deliveries (Douglas and Redman 1994). Eclampsia is a potentially deadly disorder of pregnant women that

has been prevalent since the time of Hippocrates; the problem remains a vital cause of maternal mortality throughout the world, accounting for almost 50,000 deaths worldwide (Duley, 1992).

The occurrence of eclampsia is very much high in Bangladesh 7.9% (not including pre-eclampsia), according to the results of a house-to-house survey (BIRPERT, 1994). In this country, only 2.3% women end their pregnancy under medical supervision (whether it is abortion or delivery) the rest have no access to obstetric care (Yasmin et al., 1995). As a result, most preeclampsia cases remains unrecognized until severe complications, such as eclampsia, occur.

Eclampsia is the third (16%) among the major cause of maternal death in Bangladesh, preceded by hemorrhage and sepsis (Fauveau et al., 1988). In developed countries, deaths from hemorrhage and infection have almost vanished and eclampsia has become the prime killer, indicating that death from eclampsia is particularly tough to prevent (Redman, 1988). The postpartum hemorrhage and sepsis can be managed efficiently in the hospital (e.g., reversing shock due to postpartum hemorrhage) if patients can get there; because deaths from these conditions normally occur outside the hospital setting. Patients with eclampsia, nevertheless, develop complications gradually; by the time they reach the hospital, complications have become so severe that they cannot be reversed easily.

The treatment of eclampsia follows well-defined guidelines aiming at preventing low oxygen to mothers, controlling maternal blood pressure, preventing ongoing seizures and preparing to deliver the baby by the safest method possible (Drost et al., 2010; Sibai, 2013). Supportive care for eclampsia include close monitoring, air way support, adequate oxygenation, anti convulsant therapy and blood pressure control (Sibai, 2005). Placing the patient in left lateral position to decrease the risk of aspiration and helps to improve uterine blood flow by relieving obstruction of venacava by gravid uterus, protecting the patient against injury during the seizures, using a padded tongue blade between the teeth and suctioning the oral secretions as needed (Nahar et al., 2013;Thompson, Neal & Clark, 2004). This study was aimed to assess the level of nurse's knowledge regarding management of eclampsia.

Materials and Methods

A cross-sectional type of study was conducted among all nurses working in Ibn Sina Medical College Hospital situated in Dhaka Bangladesh. The nurses working in the selected hospital

those who were available and willing to participate in this study were included. However non-nursing staff in the selected hospital and also nurses who declined to participate in this study were excluded. A total of 105 participants were selected conveniently at Ibn Sina Medical College Hospital, Dhaka Bangladesh.

A set of self-administered semi-structured questionnaire developed by the researcher was used to collect the data. The questionnaires were divided into two parts i.e. Socio-demographic Characteristics; which included variables such as age, sex, marital status, religion, qualification, years of service experience etc. The other part of the questionnaire contained well-defined questions about the knowledge regarding management of eclampsia. Data was collected directly from the participants after taking their consent of participation. All the data collected were coded numerically and entered into the SPSS version 22.0 software program for analysis. The descriptive analysis of data was presented as tables. A p-value less than or equal to 0.05 was considered significant.

Results

Socio-demographic characteristics of the respondents

In the socio-demographic distribution of the respondents, more than half of the respondents (58.1%) were in the age group 23-33 years. The majority (65.7%) of the respondents were females. Slightly above half (51.4%) of the respondents were unmarried. Little above seven-tenth (70.5%) were Muslims, followed by Hindu 28.6%. Based on qualification, above half of the participants (52.5%) had B.Sc. in nursing, followed by diploma in nursing (27.6%). Slightly below half (49.4%) of the respondents had service experience <10 years. However only 64.8% of the respondents have attended training regarding eclampsia.

Nurses knowledge regarding managing eclampsia

Table 2 shows that 70.5% of the respondents knew about the current management of Eclampsia. Slightly above three-fifth (61.9%) of the respondents knew about the immediate management during fit, nevertheless 61.9% knows the signs of magnesium sulphate toxicity. More than half (52.4%) of the respondents can specify maintenance dose of magnesium sulphate. Above two-third (68.6%) knows when to deliver a woman with eclampsia (from the onset of fits). Slightly above 70% of the participants knows about the care of women after convulsion. Nifedipine should be given orally not sublingually as mentioned by 62.9% of the respondents. Magnesium

sulfate is the therapy of choice presently as stated by more than half (56.2%) of the respondents. If diastolic Blood Pressure remains above 110mmhg, the recommended group of drug used is Antihypertensive as mentioned by more than 70% of the participants.

Associations between socio-demographic factors and other variables

Table 3 reported that knowledge about the current management of eclampsia was associated with qualification of the respondents and attending training regarding eclampsia.

Knowledge Score

Table 4 showed that 63.8% of the participants had somehow enough level of knowledge regarding management of eclampsia however the rest of the participants lack enough knowledge about the management of eclampsia.

Table 1: Socio-demographic characteristics of the respondents (n=105)

Age group	Frequency	Percentage
≤22	9	8.6
23-33	61	58.1
34-44	22	21
45-55	13	12.4
Mean=31.6 SD±16.6		
Sex		
Male	36	34.3
Female	69	65.7
Marital status		
Married	51	48.6
Unmarried	54	51.4
Religion		
Muslim	74	70.5
Hindu	30	28.6
Christian	1	1
Qualifications		
Diploma in nursing	29	27.6

B.Sc. nursing	55	52.4
Masters	21	20.0
Years		
<10 years	52	49.5
10-20years	36	34.3
>20 years	17	16.2
Training		
Yes	68	64.8
No	37	35.2
Total	105	100

Table 2: Nurses knowledge regarding managing eclampsia (n=105)

Variables	F	%
Knows current management of Eclampsia		
Yes	74	70.5
No	31	29.5
The immediate management during fit		
Yes	65	61.9
No	40	38.1
Knows the drug(s) recommended for the control of fits		
Yes	65	61.9
No	40	38.1
Knows the signs of magnesium sulphate toxicity		
Yes	60	61.9
No	45	38.1
Can you specify maintenance dose of magnesium sulphate		
Yes	55	52.4
No	50	47.6
Knows when will you deliver a woman with eclampsia (from the onset of fits)		

Yes	72	68.6
No	33	31.4
Knows the cares of women after convulsion		
Yes	75	71.4
No	30	28.6
Knows the kind of assessment/physical examination needed after convulsions/Fits		
Yes	77	73.3
No	28	26.7
Nifedipine should be given orally not sublingually		
Yes	66	62.9
No	39	37.1
Knows the recommended intravenous line for managing eclampsia		
Yes	67	63.8
No	38	36.2
The loading dose of injection magnesium sulphate		
4gm intravenously	61	58
10gm intravenously	30	28.6
15gm intravenously	14	13.4
Drugs which is the therapy of choice presently		
Magnesium sulfate	59	56.2
Diazepam	25	23.8
Phenytoin	21	20.0
The Recommended drug used to control convulsion in management of eclampsia		
Phenebarbitone	8	7.6
Diazepam (Valium)	28	26.7
Magnesium sulfate	60	57.1
Phenytoin sodium	9	8.6
Diastolic Blood Pressure remains above 110mmhg, the recommended group of drug used		

Analgesic drugs		10	9.5
Anticonvulsant drugs		11	10.5
Antihypertensive drugs		75	71.4
Anti-emetics drugs		9	8.6
Total		105	100

Table 3: Associations between socio-demographic factors and other variables (n=105)

Variables	Knows about the current management of Eclampsia			P-value
Qualifications	Yes	No	Total	
Diploma in Nursing	22	7	29	0.050
B.Sc. in Nursing	45	10	55	
Masters	14	7	21	
Training on Eclampsia				
Yes	64	4	68	
No	17	20	37	0.008
Total	81	24	105	

Table 4: Knowledge Score (n=105)

S/NO	Level of knowledge	Frequency	Percentage
1	Not Enough	38	36.2
2	Enough	67	63.8
	Total	105	100

DISCUSSION

In the present study majority of the respondents (58.1%) were of age group 23-33 years. This is inconsistent with the finding of Maembe in year 2012, did a study on management of pre-eclampsia and eclampsia in Dar-esSalaam public health facility and found nearly two third of health care workers were between 31-40 years (Maembe, 2012).

According to the Nurses knowledge on managing eclampsia, 70.5 percent of the respondents knew the current management of Eclampsia. Our finding is inconsistent with that of a review done by Kavitha et al., who found that 48.3% of the staff nurses had adequate knowledge regarding managing eclampsia (Kavitha et al., 2014). Little above three-fifth of the respondents knew the immediate management during fit and also 61.9 percent knows the signs of magnesium sulphate toxicity. Our finding is lower than the finding of another study done by Nepal society for obstetrics and gynecologist (2009) which indicated 74% of health care providers were not knowledgeable on monitoring of toxicity of magnesium sulphate at a baseline (USAID/NESOG, 2009). Little above 70 percent of the participants knows the care of women after convulsion. This findings is somehow consistent but lower than the finding in the study done by Plotkin et al. (2010) which revealed that 83% of the nurse scored highly on the knowledge of drug controlling convulsion (Plotkin et al., 2010).

The information was collected using self-reporting questionnaire, however 63.8 percent of the participants reported to have enough knowledge regarding management of eclampsia. Our finding is lower than that of a study done by Maembe who reported 45% had enough knowledge (Maembe, 2012). Similarly another study showed that 42% of Nurse-midwives were knowledgeable on managing eclampsia (Plotkin et al. 2010). In this study it has been found that professional qualification was associated with knowledge on the current management of eclampsia. There was also a significant association between attending training regarding eclampsia and knowledge on the presently therapy of choice. This result is comparable to the finding of a study done in Nepal by USAID and Nepal Society for obstetrician and gynecologists 2009 which found providers who completed skilled birth attendant's in-services training performed better (USAID/NESOG, 2009).

Conclusion

The findings of this study revealed that the participants of this study had good level of knowledge regarding managing eclampsia. However it has been observed that the nurses has lapses regarding the knowledge on drugs use in the management of eclampsia. It further reveals that attending training regarding eclampsia was associated with level of knowledge regarding present therapy of choice.

Recommendation

**There should be a need for development of in-service training programs for nurses regarding the managing eclampsia.

**Hospital administrators should make sure that improvement of Nurses' knowledge and practice should be parallel with the improvement of resuscitative equipment and essential drugs for managing eclampsia. This could be achieved through continuing education, seminars and in service training.

**Hospital administration should organized operational team that will assess and ensure the adherence of Guideline use in managing women with eclampsia; this will help in improving quality of care in the management of eclampsia.

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