

Assessment of Maternity Nurses' Knowledge and Practice Regarding Management of Eclamptic Women

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Abstract

Background: Eclampsia proceeds to be a major problem in pregnant and post-partum women. Maternity nurses can play a major role in prevention of maternal deaths related to eclampsia. Aim of the study: to assess nurses' knowledge and practice regarding management of Eclamptic women at obstetric, gynecological and child minia university and general minia hospitals. Research design: A descriptive research design was utilized in the present study. Sample: A total of 78 female nurses recruited at convenience which classified as 60 nurse who work in obstetric, gynecological and child minia university hospital and 18 nurses who work in general mina hospital. Tool of data collection: a structured interview questionnaire which included three parts:1: personal and Socio demographic data part 2: nurses' knowledge about eclampsia and it is management part3: observational checklist Results: The findings of this study revealed that, more than half of the study sample (53.2%) had good knowledge and near to two-third (64.9%) had poor practice / skills level in managing eclampsia. There was statistically significance different in nurse's knowledge working in Obstetric & Gynecological and Child Minia University Hospital and Minia General Hospital (p =002) while, there were not statistically significance differences between nurse's practices in these two hospital Conclusion: The study concluded that there were a gaps between knowledge and practice in the area of managing women with eclampsia. Recommendations: Regular training programs to encourage nurses to update and improve their practice.

Key Words: Eclampsia, Knowledge, Maternity nurses, Practice

Introduction

Eclampsia is commonly defined as a new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs and symptoms of preeclampsia, it typically occurs during or after the 20th week of gestation or in the postpartum period. (1) Eclamptic seizure seems to be self-limiting, typically lasting no more than 3-4 minutes followed by a post-ictal period of confusion and agitation, and even coma. (2) Most cases of eclampsia present in the third trimester of pregnancy, with about 80% of eclamptic seizures occurring intrapartum or within the first 48 hours following delivery. (3)

The nurse role and consistent nursing care is very important in Eclamptic cases and must be competent in knowledge and practices as should be aware how to deal accurately before, during and monitoring after fits. (4) Moreover, nurse should provide emotional support for the mothers & their families, and inform them how to cope with eclampsia during pregnancy, encourage elevation of edematous arms and legs to increase venous blood return and compliance with bed rest in lateral recumbent position to avoid uterine pressure on the vena cava and supine hypotension syndrome. (5)

In addition, maternity nurses provided pharmacological agents according to physician's orders, and promoting women health through utilizing safety measures regarding to drugs administration as intravenous magnesium sulphate as a first-line agent. The nurses must be aware of action related drugs (muscle relaxant, prevents seizures), as well as the five rights during drugs administration and how to deal with drug toxicity. (6)

Many studies showed a woman in a developing Countries are seven times more likely to develop pre – eclampsia, three times more likely for it to progress to eclampsia, and 14 times more likely to die with eclampsia than a pregnant woman in a Developed Countries. (7)

The nurse at three Indian hospitals stated that they had neither the knowledge nor the skills to manage eclampsia patients at the same time; they accepted that there was some hesitancy to manage such complicated cases. (8) The authors go on to report that; they feared being blamed for any negative outcomes that could result, even when those outcomes were a natural consequence of the condition.

A study done in Port Said hospitals revealed that nurse-midwives had knowledge and practice gaps in areas of managing eclampsia. Provider's practices were not at appropriate level or in line with guidelines. Few Nurse-midwives reported to have attended in-service training on managing eclampsia. Resuscitation equipment and essential drugs for managing eclampsia are not enough and not regularly available. (9)

The aim of the Study:

To assess Nurses' Knowledge and Practice regarding management of Eclamptic women at obstetric, gynecological and child minia university hospital and general minia hospitals.

Significance of the study:

The incidence of eclampsia has been relatively stable at 1.6 to 10 cases per 10,000 deliveries in developed countries. In developing countries, however, the incidence varies widely: from 6 to 157 cases per 10,000 deliveries. Incidence of 76 patients out of a total 5562 deliveries presented with eclampsia in Canada (excluding Quebec) 5.9/10,000 cases between 2009-2010 Thus, despite rate of eclampsia declining in the developed world, Eclampsia remains a worldwide problem so important to assess nurses knowledge and practices (10) The number of deliveries with a complication of eclampsia at Minia University Hospital and Minia General Hospital (2017) was 177 out of 5696 deliveries (3.1%).

Research questions

- What are levels of knowledge and practice of maternity nurses regarding management of eclamptic women?
- Is there a difference between the nurses' knowledge and practice who working in Obstetric, Gynecological and Child Minia University Hospital and Minia general Hospital?

Subjects and methods:

Study Design:

A descriptive research design was utilized to fulfill the aim of this study.

Research Setting

The study was conducted in inpatient units at Obstetrics & Gynecological and Child Minia University and Minia General Hospitals. the study was conducted within 9 Months, during the period from the beginning of September 2016 and finished at May 2017

Sample

A total of 78 female nurses recruited at convenience which classified as (60) female nurses who worked at Minia University Hospital and (18) female nurses worked at Minia General Hopital which dealing with Eclamptic women.

Inclusion criteria:-

- Nurses worked at Minia university hospital and Minia General Hospital in antenatal, labor, post natal ward and intensive care units.

Exclusion criteria:-

- Nurses who are attending training program from 6 months ago regarding management of eclamptic women.
- Nurses who refuse to participate in the study

Tools of the study:

Tool for data collection was developed by the researchers after extensive review of literature to fully meet the demands of this research study and it was structured from Jhpiego (2011) in collaboration with the Ministry of Health. After that the developed tool were revised by panel of Obstetrical and Gynecological experts in nursing field as A structure interview questionnaire (Appendix,1) and it was consisted of the following three parts:

- Part 1: It consisted of five questions regarded to Socio demographic data as age, the current nursing role. qualifications, years of experience and place of work.
- Part 2: Included 28 questions to assess level of nurse's knowledge regarded to eclamptic women and its management such as (Definition, main physical findings, organ affected, risk factors, recommended IV line, drugs and dose, toxicity and its prevention, etc....)
- Part 3: Observational Checklist Questionnaire to assess nurse's performance during care provide to women with eclampsia, it consisted of (55) skills/tasks related to nurses practice and each correct or complete performance was marked as two and incorrect or incomplete performance was

marked as one and other skills as not done or not applicable (N/A)

Scoring system for total level of knowledge/ practice

KNOWLEDGE	PRACTICE	PERCENTAGES
Very good	Higher	(85% - 100%)
Good	Moderate	(70% - 84%)
Average	Average	(50% - 69%)
Poor	Poor	(0% - 49%)

Validity and reliability:

To establish validity, the questionnaire was be piloted on panel of 3 experts of Obstetrics and Gynecological staff, and Nursing professors who reviewed the tool for clarity, relevance, comprehensiveness, understanding, applicability and easiness.

Also, the tool was tested for internal reliability (reliability referred to the consistency of measurement and was frequently assessed using the test-retest reliability methods) to achieve reliability of knowledge and practice questionnaire by using Cronback's Alpha test were 0.72 and 0.75 respectively.

Pilot study:

Conducted on 10% of female nurses (8 nurses) from Minia University Hospital and General Minia Hospital, to test feasibility of tool and time required to be applied. Modifications were done of some points of the questionnaire that did not consistent with the aim of this study.

Ethical Consideration:

- Research proposal was approved from ethics committee in faculty of nursing
- Oral consent was obtained from nurses that are willing to participate in the study, after explaining the nature and purpose of the study
- Study subject have the right to refuse to participate and /or withdraw from the study without any rational at any time
- No health hazards were present.
- Participants were assured that all obtained data are highly confidential, anonymity was also assured through assigned number for each nurse instead of names to protect their privacy.

Study Procedure

An official permission was obtained from the research ethics committee of faculty of nursing and director of the two hospitals before the conduction of the pilot study as well as the actual study.

The researcher attended units where providing care for Eclamptic women (in patient and intensive care units) three days per week, at the beginning of interview the researcher greet each nurse, utilized proper channel of communication and explained the purpose of the study and took their oral consent. Questionnaire was filed by researcher through 1/2 to 1 hour for each nurse. This was done to determine the actual knowledge of study sample which used in managing eclampsia.

The observation checklist was used in observing nurses while managing Eclamptic women and performing their daily nursing activities each nurse was observed for 2-3 hours or more to avoid observing each nurse more than once write the code number for each nurse on questionnaire.

Limitation of study

- 1- Interruption during interview was occurred between nurses so researcher made effort and useless time to complete questionnaire.
- 2- The current study had few numbers of nurses; therefore findings may not be representative of the general population.
- 3- Some nurses were reluctant to be interviewed for fear that the information could be used against them.

- 4- Because decrease the number of eclamptic cases the researcher take longer time until complete observational checklist from sample size.

Statistical analysis

The collected data was tabulated, computerized, analyzed and summarized by using descriptive statistical tests to test research questions by using SPSS version (20). The level of significance was accepted at P- value <0.05

Results

Table 1: Distribution of studied sample regarding to their socio-demographic data. (n= 77).

Demographic Data	NO.	%
Age / years		
Less than 25	20	26.0
25 – 30	38	49.3
More than 30	19	24.7
Mean ± SD	28.1 ±5.9 years	
Nursing Job		
Staff nurse	38	49.3
Practice nurse	29	37.7
Supervisor nurse	10	13.0
Educational qualifications		
Diploma nursing	51	66.2
Technical nursing	18	23.4
Bachelor	8	10.4
Years of experience		
Less than 5	21	27.3
5- 10	25	32.5
More than 10	31	40.2
Mean ± SD	9.4 ± 6.1 years	
Place of work		
Antenatal	15	19.4
Labor	26	33.8
Post	16	20.8
ICU	20	26.0
Total	77	100

Table 1: Shows nurses' age, near half of the study sample (49.3%) their age ranged from 25-30 years, while near one quarter of them (24.7%) were more than 30 years with mean age was 28.1 ±5.9 years. Moreover, around half of the study sample (49.3%) was staff nurse while more than one third of the study sample (37.7%) were practice nurse and minority (13.0%) was supervisor nurses. Regarding nurses' education it was found that more than half of the study sample (66.2%) were diploma nurse, while, (10.4%) were bachelor degree. According to years of experiences it was observed that (40.2%) had years of experiences more than 10 years and near quarter of study sample (27.3%) had < 5 years with mean of(9.4 ± 6.1 years) . Regarding place of work more than one third of study sample (33.8%) were work in labor ward and (19.4%) in ante natal unit and (20.0%) in post natal unit while more quarter of study sample (26.0%) were work in ICU.

Table 2: Distribution of the study sample related to total level of knowledge (n = 77)

Knowledge	No.	%
Poor (0- 49%)	0	0
Average (50- 69%)	4	5.2
Good (70- 84%)	41	53.2
Very good (> 85%)	32	41.6

Table 2: presents that more than half of study sample (53.2%) had good knowledge and (41.6%) had very good while the minority (5.2 %) had average knowledge regarding management of Eclamptic women.

Table 3: Distribution of the study sample related to their level of practices (n = 77)

Practice	No.	%
Poor (0- 49%)	50	64.9
Average (50- 69%)	23	29.9
Moderate (70- 84%)	3	3.9
Higher (> 85%)	1	1.3

Table 3: shows that near to two- third of studied sample (64.9%) had poor level in practice and more than quarter of them (29.9%) had average level, while, the minority had moderate and higher levels in practice (3.9% , 1.3%) respectively.

Table 4: Relations between level of nurse’s knowledge and demographic data (n=77)

Demographic data	Knowledge level						F	P-value
	Average (n= 4)		Good (n=41)		Very good (n= 32)			
	No.	%	No.	%	No.	%		
Age / years								
Less than 25	3	75.0	9	22.0	8	25.0	8.553	.073 NS
25 – 30	0	.0	19	46.3	19	59.4		
More than 30 year	1	25.0	13	31.7	5	15.6		
Nursing Job								
Staff nurse	2	50.0	22	53.7	14	43.8	2.487	.647 NS
Practice nurse	1	25.0	13	31.7	15	46.9		
Supervisor nurse	1	25.0	6	14.6	3	9.4		
Educational qualification								
Diploma nursing	2	50.0	34	82.9	15	46.9	17.163	.002*
Technical nursing	2	50.0	7	17.1	9	28.1		
Bachelor	0	.0	0	.0	8	25.0		
Years of experience								
Less than 5	2	50.0	9	22.0	10	31.2	1.915	.751 NS
5- 10	1	25.0	14	34.1	10	31.2		
More than 10	1	25.0	18	43.9	12	37.5		
Place of work								
Antenatal	0	.0	10	24.4	5	15.6	16.278	.012*
Labor	4	100.0	15	36.6	7	21.6		
Post	0	.0	10	24.4	6	18.8		
ICU	0	.0	6	14.6	14	43.8		

NS = not statistically significance * Statistical significantly differences

Table 4: shows that there were statistically significance differences between Nurses Educational qualifications and place of work with total knowledge level in which P- value <= (.002 & .012 respectively).

Table 5: Relation between level of nurse’s practice and demographic data(n=77)

Demographic data	Practice level								F	P-value
	Poor (n= 50)		Average (n= 23)		Moderate (n= 3)		High (n= 1)			
	No.	%	No.	%	No.	%				
Age / years										
Less than 25	13	26.0	5	21.7	2	66.7	0	.0	5.971	.426 NS
25 -	22	44.0	14	60.9	1	33.3	1	100.0		
More than 30	15	30.0	4	17.4	0	.0	0	.0		
Nursing job										
Staff nurse	26	52.0	10	43.5	1	33.3	1	100.0	4.206	.649 NS
Practice nurse	16	32.0	11	47.8	2	66.7	0	.0		
Supervisor nurse	8	16.0	2	8.7	0	.0	0	.0		
Educational qualification										
Diploma nursing	33	66.0	15	65.2	2	66.7	1	100.0	1.151	.979 NS
Technical nursing	12	24.0	5	21.7	1	33.3	0	.0		
Bachelor	5	10.0	3	13.0	0	.0	0	.0		
Years of experience										
Less than 5	14	28.0	6	26.1	1	33.3	0	.0	3.474	.747 NS
5- 10	14	28.0	10	43.5	1	33.3	0	.0		
More than 10	22	44.0	7	30.4	1	33.3	1	100.0		
Place of work										
Antenatal	12	24.0	3	13.0	0	.0	0	.0	28.559	.001*
Labor	20	40.0	6	26.1	0	.0	0	.0		
Post	14	28.0	2	8.7	0	.0	0	.0		
ICU	4	8.0	12	52.2	3	100.0	1	100.0		

NS = not statistically significance * Statistical significantly differences

Table 5: Findings of this study found that there was statistically significance difference related to place of work and total nurses practices score in which (P – value .001*) .

Table 6: Relations between level of nurse’s knowledge & practices and hospital type (n=77)

Hospital type	Hospital type				F	P-value
	Minia University Hospital (n= 60)		Minia General Hospital (n= 17)			
	NO.	%	No.	%		
Knowledge level					5.231	.05*
Average	3	5.0	1	5.9		
Good	28	46.7	13	76.5		
Very good	29	48.3	3	17.6		
Practice level					1.348	.718 NS
Poor	39	65.0	11	64.7		
Average	17	28.3	6	35.3		
Moderate	3	5.0	0	.0		
High	1	1.7	0	.0		

NS = not statistically significance

Table 6: Findings of this study revealed that there were statistically significance differences between total knowledge level related nurses working in Obstetric, Gynecological and Child Minia University Hospital and Minia general Hospital score in which P value .05* while there were not statistically significance differences related to total practice level between two hospital.

Discussion

Although eclampsia remains a cause of maternal and fetal morbidity and mortality in developed countries, it is for this reason knowledge of managing eclampsia among health workers is essential in reducing maternal morbidity and mortality. Nurse can play a major role in prevention of maternal death related to eclampsia. It is therefore important to assess nurse knowledge and practice in managing eclampsia and requires skilled personnel, well established guidelines and premises equipped with the necessary instruments.⁽¹¹⁾

As regard personal characteristic of the studied sample, it was found that near half of study sample (49.3%) their age ranging from 25-30 years with mean of age were 28.1 ±5.9 years. this finding is not consistent with ⁽¹²⁾ which found that most participants were from age group of 31- 40 years followed by age group 41-50 and ⁽¹³⁾ did a study on management of pre-eclampsia and eclampsia in Dar-el-Salaam public health facility and found nearly two third of health care workers were between 31-40 years and the majority were nurses, followed by the age of 40 and above.

Regarding nurse's years of experiences this study showed that more than half (59.8%) were have for 1 - 10 years and (40.2%) have years of experiences more than 10 years. This result was in agreement and supported by the study of the ⁽¹⁴⁾ which had found that slightly above half of the respondents had worked for 1- 10 years while 48% of respondents had worked for over 11years and above. This indicated that more nurses working in this hospital have years of experience's less than 10years.

The data were obtained through interview questionnaire on knowledge in managing eclampsia revealed that near than half of study sample as (46%) of study sample working in obstetric and gynecological and child Minia university hospital were had good knowledge on managing eclampsia the result is similar to study done by ⁽¹²⁾ who found that (43%) and the result is similar to study done at Dar- es –salaam in public health facilities by ⁽¹³⁾ that found out that the overall proportion of nurses with knowledge in managing patient with pre-eclampsia/eclampsia was (45%). Similarly a study done by

⁽¹⁵⁾ this showed that (42%) of Nurse-midwives were knowledgeable on managing eclampsia.

The finding of the current study observed that near to two third of studied sample were poor in practice and more than quarter of them (29.9%) were average while the minority had moderate and higher in practice (3.9%,1.3%) respectively. This finding similar to study done by ⁽¹²⁾ which determine that data obtained from observation checklists in managing eclampsia revealed that more than half of respondents had poor skills in managing eclampsia. Only more than one to third score average and no one of respondents scored higher skills or moderate skills. In Pakistan, a study done by ⁽¹⁶⁾ found that majority of nurses scored poorly in competency of managing eclampsia. Only 6.1% scored well and there was no one who had higher skills. Also, similar a study conducted by ⁽¹⁷⁾ on quality of care for screening and management of pre-eclampsia and eclampsia in six countries revealed that only 44% of health care providers score well in four areas including management of severe pre-eclampsia and eclampsia.

Regarding the relationship between selected variable like (age , nursing role , educational qualification ,years of experiences and place of work) and knowledge in managing eclampsia it was found that; there were statistically significance differences regarding place of work with total knowledge level in which P-value (.012*) this similar to ⁽¹²⁾ which founded that there were significant association was found between place of getting expertise in managing eclampsia, on job training workshop

In the present study there were statistically significance between Nurses Educational qualification and total nurses knowledge in which P- value (.002*) this result were contradiction with finding of ⁽¹²⁾ which founded that professional qualification were not statistically significant associated with nurse’s knowledge in managing eclampsia and the findings of ⁽¹⁸⁾ which indicate that there is no significance association between knowledge level of staff nurse and selected variable like professional qualification.

In this study there were not statistically significance between nurses knowledge level and years of experiences but this differ from finding of ⁽¹⁸⁾ it was observe

that significance association was found between knowledge level and total year of experiences and in-service education.

From the study there were statistically significance between level of practice and place of work in which P-value (.001*) while there were not statistically significance in other selected variable like (age, nursing role, educational qualification years of experiences) These results are comparable to those reported from the study done in Nepal by ⁽¹⁹⁾ which found providers who completed skilled birth attendant's in-services training performed better and year of experiences. Of the 250 providers who participated in a various round of assessment, 70 trained providers scored on average of 89% versus 61% among the 180 non trained providers.

Conclusion

Based on the findings of this current study, it was concluded that: There were a gaps between nurses knowledge and practice in the area of managing eclampstic women. there were statistically significance differences in the nurse's knowledge level who are working in Obstetric & Gynecological and Child Minia University Hospital and Minia General Hospital in which p- value (.002*) on the other hand there were not statistically significance differences between nurse's practices in these two hospitals

Recommendation

Based on the findings of the present study and are suggested as the following:

1. Periodic training program should be carried out for nurses who are dealing with eclampstic women to develop their Skills.
2. Continuing health educational programs, seminars for nurses.
3. Replication of the current study on a larger probability sample from different geographical areas to assess the real picture of Nurse Practice in managing eclampsia and to achieve generalization.

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