

## Nurses' practical skills provided for mother With Toxemia of Pregnancy

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### Abstract

**Background:** Toxemia of pregnancy remains an important cause of maternal mortality throughout the world; it is a common problem in developing countries **Aim:** Aim of the study was to assess nurses' knowledge and practical skills provided for mothers with toxemia of pregnancy. **Setting:** The study was conducted at obstetrics and gynecology departments at Benha university hospital. **Design:** A descriptive study design was utilized. **Sampling:** A convenient sample included 50 nurses. **TOOLS:** structured interviewing schedule, an observational check list and satisfaction assessment sheet. **Results:** The present study revealed that 66.7% of the studied nurses had correct knowledge regarding toxemia of pregnancy, 68.9% of the nurses had satisfactory regarding total practice score, 31.1% of them had unsatisfactory practice score, while 68.9% of the studied mothers had satisfied score regarding nursing practice. while, only 8.9% of them had dissatisfied score., **Conclusion:** nurse's knowledge and practices regarding care provided to toxemic mothers had correct & satisfactory score for nurses working in obstetric department at Benha university hospital. Most of studied mothers with toxemia of pregnancy are satisfied regarding nursing care provided for them. **Recommendations:** Developing continuous educational programs for nurses working in obstetrics and gynecology department to enhance their knowledge and practices regarding care with toxemia of pregnancy, Establishing design and implement standard of care for toxemic mothers. While in-services, pre services & on job training programs.

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**Key words:** Toxemia of pregnancy, Nurses, knowledge , practical skills, mortality rate.

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### Introduction

Toxemia of pregnancy remains one of the major obstetrical problems in less developed countries. It is defined as the new onset of elevated blood pressure and proteinuria after 20 weeks of gestation. It is considered severe if blood pressure and proteinuria are increased substantially or symptoms of organ damage occur (Ling, et al., 2014).

Toxemia of pregnancy complicates around 5% of pregnancies and is a major cause of iatrogenic preterm birth and is responsible for over 60,000 maternal deaths worldwide annually (WHO, 2013). In Egypt, the prevalence of toxemia of pregnancy is 10.7% in a community based study. While, in hospital based studies it ranged from 9.1% to 12.5% of all deliveries (Mohammed, 2009).

Toxemia of pregnancy remains an important cause of maternal mortality throughout the world; it is a common problem in developing countries because illiteracy, lack of health awareness and education, poverty, and superstitious beliefs prevent women from seeking medical advice during pregnancy. Despite all preventive measures, diagnostic modalities and intensive treatment (Duley, et al., 2013).

However, diagnosing toxemia of pregnancy remains a challenge. It is characterized by hypertension and features of multiple organ disease. Clinical presentation is highly variable and the disease often progresses over the course of weeks before diagnosis is confirmed. Women may present with mild late-onset hypertension, proteinuria, and a normally grown baby, which appear to have few long-term sequel for mother or infant. Conversely, early-onset severe maternal disease may be complicated by fetal intrauterine growth restriction; yet even with severe disease and grossly abnormal blood pressure and other test values, a woman can be asymptomatic. (Shennan, et al., 2012).

The severity of symptoms can accelerate rapidly, leading to life-threatening seizures (eclamptic fit) or the necessity for immediate delivery regardless of gestational age. One in twenty stillbirths without congenital abnormality are complicated by, toxemia of pregnancy and may represent a cohort of women in whom fetal compromise is unrecognized (Roberge, et al., 2012). Meanwhile medical researchers are yet to determine the exact cause of toxemia of pregnancy. However, it has been found to be common among those with a history of previous preeclampsia, gestational diabetes, obesity and renal/kidney problems, hyperthyroidism. It is generally seen in the first pregnancy and the 5<sup>th</sup> and subsequent pregnancies and is less common in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> pregnancies (Andraweera, et al., 2013).

As soon as the only known cure for toxemia of pregnancy is delivery. However, if the new born is still considered to be pre-term, treatment aims to control the disease and delay/prevent development of complications from the disease using medications. Labour is induced as soon as the fetus has a good chance of survival outside of the womb. In moderate to severe cases patients are usually hospitalized while mild ones are managed on an outpatient basis; with careful monitoring of blood pressure, urine checks for protein, and ultrasound to measure the baby's growth (Karahasanovic, et al., 2014).

The nurse had an important role as provided care to toxemic mother, although toxemia of pregnancy is not completely preventable, many deaths from the disorder can be prevented throughout nursing preventable and promotion measures. Women who do not receive prenatal care are seven times more likely to die from complications related to preeclampsia-eclampsia than women who receive some level of prenatal care to decrease toxemia of pregnancy-related mortality, appropriate prenatal care must be available to all women (Kumasawa, et al., 2013).

Moreover early detection, careful monitoring, and providing high quality of nursing practical skills to mothers with toxemia of pregnancy are crucial in preventing mortality related to this disease. So this study was carried out to improve the nurses' practice and to gain knowledge and skills on caring with toxemic mothers. Result of this study may be used to enhance the body of knowledge for nursing profession, in nursing education, in training schools, nursing practice and MCH area to decrease the incidence of toxemia of pregnancy (Ling, et al., 2014).

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### Significance of the study

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Toxemia of pregnancy is one of the leading causes of maternal and perinatal morbidity and mortality worldwide, toxemia's affect about 10% of all pregnant women; it is the third leading cause of maternal mortality in Egypt (WHO, 2014).

Toxemia of pregnancy lead to several complications related to mothers' health as preterm labor, abruption placenta and increase the risk of hemorrhage during pregnancy. Also affects the fetus which may lead to intra uterine growth retardation, increase fetal hypoxia, prematurity, intra uterine death (Eiland, et al., 2012). Furthermore, it is evident that there are rare studies evaluating nursing practical skills for mothers suffering from toxemia of pregnancy. Still toxemia of pregnancy is a preventable disease among pregnant mothers through promoted nursing and preventable measures.

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### Aim Of The Study

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Aim of the study was to assess nurses' knowledge and practical skills provided for mothers with toxemia of pregnancy.

#### Research Question

- What are nurses' knowledge regarding care provided to mother with toxemia of pregnancy?
- Are nurses correctly practices care of toxemia of pregnancy?
- What are mothers' satisfaction regarding care provided by nurses?

#### Subjects And Methods

**Research design:** A descriptive design has been adopted to fulfill the aim of the present study.

**Research Setting:** The study was conducted at obstetrics and gynecology department in Benha university hospital

#### Sampling:

\***Type:** convenient sample was selected.

\***Sample size:** (50) nurses working at obstetrics and gynecology department in Benha university hospital &(50) toxemic mothers upon which nurses provided care.

#### Tools of Data collection:

##### 1. Structured interviewing schedule:

Was developed by the researcher under supervision of experts through relevant review of literature. It was written in simple clear Arabic language and it is consisted of the following two parts:

##### Part (1):

Was designed to collect data about the general characteristics of nurses involved in the study as: age, educational level, years of experience, duration of working in obstetric department, residence, current job, qualification, and previous training program and its duration.

##### Part (2):

Knowledge assessment sheet included (15) questions in the form of multiple choice questions to study nurse's knowledge about toxemia of pregnancy such as: definition, etiology, sign and symptoms, etc.

##### Knowledge scoring system:

A score of each question was given as follows:

Correct answer scored = (2), Incorrect answer scored = (1)

As well as nurses' total knowledge score was classified as the following:

- Total knowledge considered satisfactory when the total score is  $\geq 60\%$ .
- Total knowledge considered unsatisfactory when the total score is  $< 60\%$ .

## 2. An observational check list:

Was used to assess nurses' practical skills provided for mothers with toxemia of pregnancy.

Was related to technical procedures as admission care, blood pressure measurement, abdominal palpation, fetal heart rate estimating level and degree of edema, measuring proteinuria, perinatal care and care of pre-eclampsia & eclampsia, etc.

### Scoring system:

Each item in the observational check list was graded as:

Correct practice scored (2), Incorrect practice scored (1)

As well as nurses' total practice score was calculated as following:

- The total practical skills were considered satisfactory if the percentage of total practices scored  $\geq 60\%$
- The total practical skills were considered unsatisfactory if the percentage of total practices scored  $< 60\%$ .

### Satisfaction assessment sheet:

Was used to evaluate mothers' satisfaction regarding care provided by nurses.

### Mothers' satisfaction sheet was evaluated as:

Satisfied, dissatisfied and uncertainly dissatisfied according to mothers' satisfaction regarding care provided by nurses.

### Ethical Considerations:

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An official permission from the selected hospitals was obtained for the fulfillment of the study, The aim of the study was explained to all nurses before applying the tools to gain their confidence and trust. The researcher took oral consent from nurses to participate in the study and confidentiality was assured. The data was collected and treated confidentially. All nurses have the freedom to withdraw from the study at any time.

### Operational Design:

#### Preparatory Phase:

A review of current and past national and international relevant literature related to emergency contraception measures, is carried out by using local and international books, journals, periodicals and computer search was done to develop the study tools and contents.

#### Pilot Study:

A pilot study is conducted to test the clarity and applicability of study tools and the time needed to fill in the questionnaire. It was carried out on 10% of the total sample (5 nurses). Accordingly, the necessary modifications were done in the form of adding and omitting some questions. Nurses included in the pilot study were excluded from the sample.

#### Field work:

The actual field work was carried out from the beginning of March 2015 to the end

of November 2015. The study was conducted three days per week, started from 9.0 a.m. to 3 p.m. at inpatient obstetrics and gynecology departments at Benha University Hospitals.

- Data were collected by the researcher through administration of the tools to each nurse at their work place which included general characteristics, baseline data about nurse's knowledge and practice regarding care provided for woman with toxemia of pregnancy. The average time needed for the completion of each individual interview with nurses was around 15:20 minutes. Each day four nurses were interviewed until all nurses were interviewed to fill the structured interviewing schedule.
- Practical skills were evaluated by utilizing observational check list. Each day three nurses were evaluated

regarding practical skills providing for toxemic mother, until all nurses were evaluated.

- Mothers' satisfaction was assessed by mothers' satisfaction sheet. Each day four mothers were interviewed.

**Limitations of the study:**

- Organization of meeting the nurses who were working in obstetrics and gynecology department was difficult, Lack of detected nursing protocol of care and disposable supplies and equipment of the unit was the main obstacle for accurate care.

**Results:**

**Table (1): Distribution of the studied sample regarding general characteristics (n=45)**

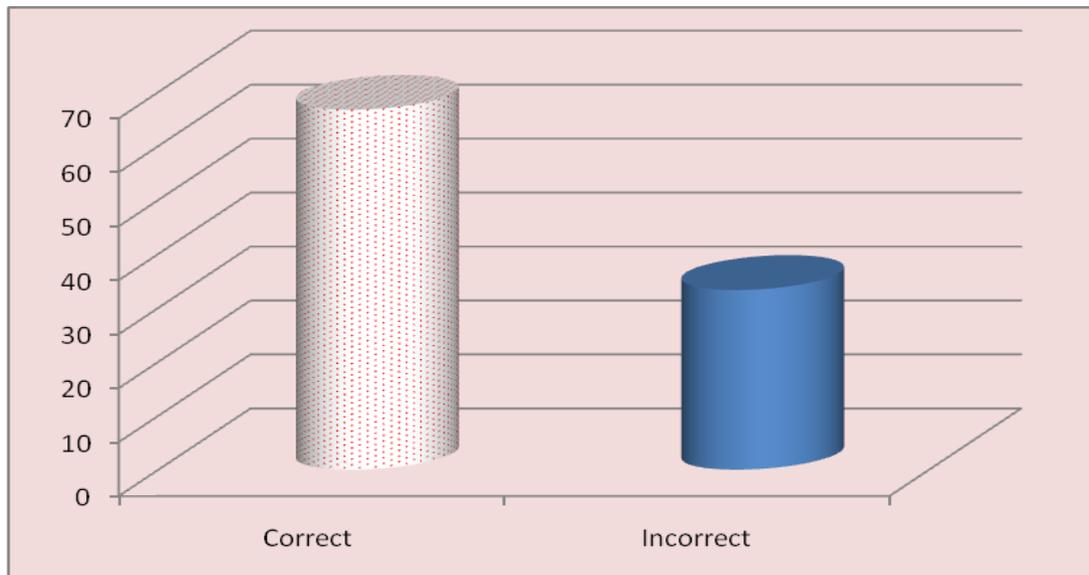
Socio-demographic characteristics	No.	%
<b>Age/year</b>		
<20	19	<b>42.2</b>
20-	19	42.2
30-	4	8.9
40 +	<b>3</b>	6.7
mean± SD	<b>24.6±7.8</b>	
<b>Educational level</b>		
Nursing diploma	24	<b>53.3</b>
Diplome	16	35.6
Becalore of nursing	5	<b>11.1</b>
<b>Years of experience</b>		
< 5	27	<b>60.0</b>
5-	7	15.6
10-	5	11.1
>15	6	<b>13.3</b>
mean± SD	<b>6.8±7.9</b>	
<b>Duration of working in obstetric department</b>		
<5	31	<b>68.9</b>
5-	6	13.3
10-	5	11.1
15+	3	<b>6.7</b>
<b>Current position</b>		
Nurse	40	88.9
Head nurse	5	11.1
<b>Place of residence</b>		
Urban	28	62.2
Rural	17	37.8

**Table (1)** shows that, less than one half (42.2%) of the nurses aged below 20 years equal with age from 20-25 years and only (6.7%) aged above 40 years with the mean age 24.6±7.8. Regarding educational level, more than half (53.3%) had secondary level of education while only (11.1%) were completed university education. More than half (60.0%) of the studied nurses had less than of five years of working experience. While only (11.1%) of them were head nurse, and more than half (62.2%) of the were living in urban area.

**Table (2): Distribution of nurses' knowledge regarding toxemia of pregnancy**

Variables	satisfactory		Unsatisfactory	
	No.	%	No.	%
Definition of toxemia	28	62.2	17	37.8
Predisposing factors	32	71.1	13	28.9
Physiological changes	25	55.6	20	44.4
Classification	16	35.6	29	64.4
Mother's deterioration signs	29	64.4	16	35.6
Complications	12	26.7	33	73.3
Medication given for toxemic mother	42	93.3	3	6.7
Precautions of magnesium sulfate administration	33	73.3	12	26.7
Time of giving magnesium sulfate	35	77.8	10	22.2
Signs of toxicity	32	71.1	13	28.9
Signs of convulsion	35	77.8	10	22.2
Toxemic mother's diet	25	55.6	20	44.4

**Table (2)** reveals that, more than half of studied nurses (62.2%) had satisfactory knowledge regarding definition of toxemia of pregnancy, while about one quarter (73.3%) of them had unsatisfactory knowledge about complications of toxemia, and most (93.3%) of them had satisfactory knowledge about medication given for toxemic mother.



**Distribution of total nurses' knowledge regarding toxemia of pregnancy (n=45)**

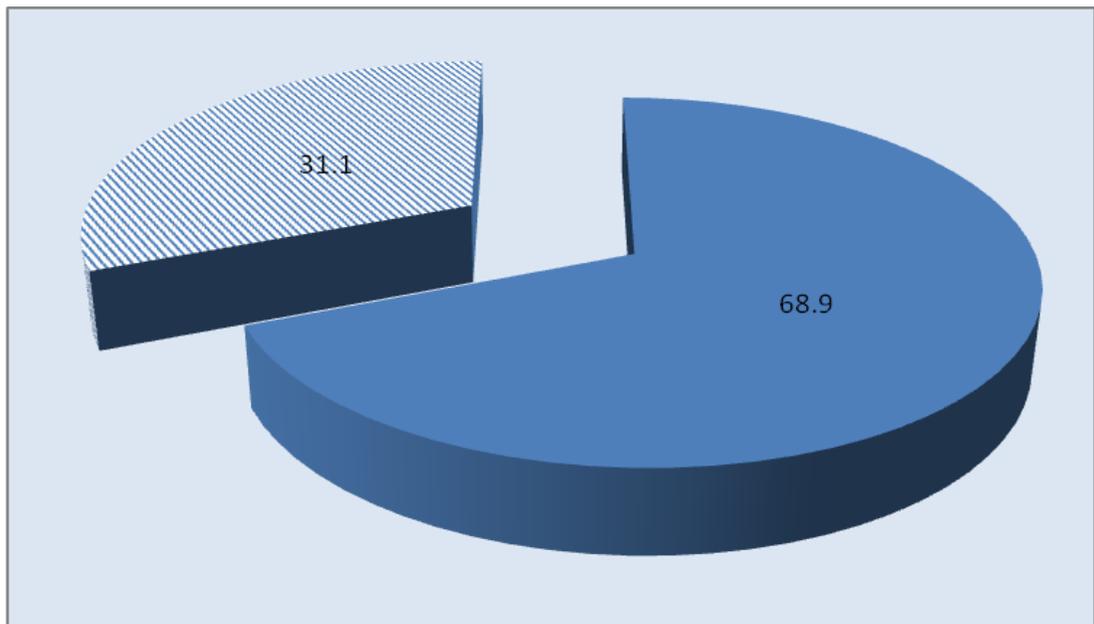
**Table (3): Distribution of studied sample according to care provided for mothers with toxemia (n=45)**

variables	Satisfactory		Unsatisfact		x <sup>2</sup>	p-value
	No.	%	No.	%		
Blood pressure measurement	36	80.0	9	20.0	16.2	0.000**
Abdominal palpitation	26	57.8	19	42.2	1.08	0.29
Clinical examination	35	77.8	10	22.2	13.88	0.000**
Protein urea examination	31	68.9	14	31.1	6.4	0.011*
Perennial care	42	93.3	3	6.7	33.8	0.000**
Nursing care of preeclampsia	31	68.9	14	31.1	6.42	0.011*

\* Statistical significant at p<0.05

\*\* highly statistical significant at p<0.001

**Table (3)** shows that, more than three quarter 80% of the studied nurses had satisfactory practice related to blood pressure measurement. While, 42.2% of them had unsatisfactory practice regarding abdominal palpation.



**Figure (4): Distribution of the studied sample regarding care of toxemic mothers**

**Table (4): Frequency distribution of mothers' satisfaction regarding care provided by nurses (n=45)**

Variable	Satisfied		Dissatisfied		Uncertainly Dissatisfied	
	No.	%	No.	%	No.	%
Greeting on admission	40	88.9	1	2.2	4	8.9
Nurses practices	35	77.8	0	0.0	10	22.2
Nurses dealing	40	88.9	1	2.2	4	8.9
Nurses active responsiveness	25	55.6	15	33.3	5	11.1
Information given by nurses	22	48.9	20	44.4	3	6.7
Active listening	25	55.6	13	28.9	7	15.5
Notification of health team	30	66.7	8	17.8	7	15.5
Explaining the purpose & method of nursing procedure	30	66.7	10	22.2	5	11.1
Explaining change in health state during hospitalization	25	55.6	15	33.3	5	11.1
Cleanliness and ventilation supervision	30	66.7	5	11.1	10	22.2
Privacy during speaking or medical examination	35	77.8	0	0.0	10	22.2
Giving treatment on time	40	88.9	5	11.1	0	0.00
Explaining the danger signs	25	55.6	14	31.1	6	13.3
Health teaching about proper nutrition	22	48.9	15	33.3	8	17.8

**Table (4)** reveals that, more than three quarter 88.7 of mothers were satisfied with nurses' practices about greeting on admission, nurses dealing and giving treatment on time. In addition 44.4% of them were dissatisfied about information giving by nurses, while 22.2% of them were uncertainly dissatisfied with nursing care provided.

**Table (5): Relation between total mothers' satisfactions and total nurses' knowledge**

Variables	Total nurses' knowledge score				x <sup>2</sup>	p-value
	satisfactory		Unsatisfactory			
	No.	%	No.	%		
Unsatisfactory	2	6.7	2	13.3	2.54	0.28
Uncertainly Dissatisfied	5	16.7	5	33.3		
Satisfactory	23	76.6	8	53.4		

**Table (5)** shows that, there was no statistically significant relation between total mothers' satisfactions and total nurses' knowledge as 76.6% of mothers were satisfactory with correct knowledge while (13.3%) of they were unsatisfactory with incorrect total knowledge score.



**Discussion:**

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The present study aimed to assess nursing practical skills provided for mother with toxemia of pregnancy.

This aim was examined within the frame work of study research questions, **the first research question** was “what are nurses’ knowledge regarding care provided to toxemic mother?” this question was answered through the present study finding as it illustrated that, more than two third among the studied sample of nurses had correct knowledge regarding care provided to toxemic mothers. While, it was observed that, the majority of nurses were giving medications correctly to toxemic mothers, while few were correctly reported complications of toxemia. Moreover, more than half among the studied sample had correct knowledge regarding nutrition for toxemic mother. Compared to more than three quarter of nurses self-reported correct administration of Magnesium Sulfate. In addition, more than two thirds of studied sample had correct knowledge concerning classification of toxemia of pregnancy. Furthermore, the study revealed that more than two thirds among the sample had correct knowledge regarding toxemia warning signs.

Moreover, according to the results of this study, there were less than two thirds of the total studied sample had correct knowledge regarding toxemia of pregnancy, while about one third of them had incorrect knowledge about toxemia of pregnancy. These findings may be due to more than half of the studied nurses had nursing diploma and all of them didn’t attending training courses.

These finding agreed with **Lakshamma, T., et al., (2013)** who a proved that more than three quarters of studied nurses had correct knowledge about definition of toxemia of pregnancy, while the majority of them had incorrect knowledge

about complication of toxemia, and more than two thirds had correct knowledge about medical management for toxemic mother. These study findings disagreed with **Hayat Mohamed, et al., (2013)** who approved that, less than half of the studied nurses had correct knowledge about definition of toxemia of pregnancy, while more than one third had correct knowledge about complications of toxemia, while few had correct knowledge about medication needed to treat toxemia of pregnancy.

The finding of these studies disagreed also with **Munirathnamma M., et al., (2013)** in her study "Knowledge of Staff Nurses Regarding Management of Pregnancy Induced Hypertension (PIH)" who found that, more than half of the studied sample had correct knowledge regarding definition of toxemia of pregnancy, while about one quarter of the studied sample had correct knowledge about complication of toxemia, in addition the majority of them had incorrect knowledge about medication given for toxemic mother because this study subjects were from different cultural background and different educational level.

Concerning the **second research question**, “Are nurses correctly practices care of toxemic mothers?” The present study findings illustrated that, more than two thirds had correct calculated proteinuria, most of the studied sample had correctly measuring blood pressure. Also, more than three quarters among the studied sample correctly identified level of edema. In addition, more than half of the studied sample had correctly assessed abdominal palpation. Moreover the present study findings illustrated that, more than quarter among the studied sample had correctly clinically examined toxemic mother.

This finding is agreed also with **Sally Elmenshaw, et al., (2016)** who observed that, less than half of the sample had incorrect practices for preeclampsia women

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as nursing care for edema, assessing the warning signs for eclampsia seizure, assessment of fetal wellbeing and provide instructions to pre-eclampsia patient.

The present study finding is disagreed with **Munirathamma M., et al., (2013)** who found that staff nurses had more score in the area of nursing management. The study also clarified that, more than three quarters of the studied nurses had correct practice related to blood pressure measurement. While, less than half had incorrect nursing practice regarding abdominal palpation.

These findings disagreed with **Nahed, et al., (2016)** who found that, less than half of the sample had correct score about protein urea examination. Regarding abdominal palpation this study showed that, more than half of the studied sample had correct practice score.

In addition this finding disagreed with **Sally Elmenshawy, et al., (2016)** who found that, more than half studied sample had correct score regarding measuring and recording blood pressure and more than third of studied sample had practices of abdominal examination of mother and fetus wellbeing. This study findings revealed also that, less than three quarters of the studied sample had correct answers about protein urea examination.

Furthermore, the present study findings illustrated that, more than two thirds of the studied sample had correct total practice score while more than one third had incorrect practice regarding total practice score. Concerning distribution of the studied sample regarding during total care of toxemic mother, the present study findings revealed that, less than one third of the studied sample prefer patient isolation with care of toxemia, more than one quarter of them suggest protection from external hazards, and place in left position, while few of them prefer increase fluid intake.

These findings disagreed with **Abdel Aziz, et al., (2014)** who reported that more than one third of the studied nurse had correct practice about abdominal palpation of toxemic mother.

Also, this study disagreed with **NahedFikry, et al., (2016)** who found that more than one third of the studied nurse had correct result about nursing care of toxemia of pregnancy while, the finding of the current study revealed that less than three quarters of the studied nurses had correct result about care of toxemia of pregnancy, because this study subjects were may be from different cultural background and different educational level.

In relation of the **third research question**, "What are mothers' satisfactions regarding nursing care provided for them?" The present study findings revealed that, more than two thirds among the studied sample were satisfied compared to few among the total studied sample were dissatisfied related to the care provided for them by nurses.

According to the current study results revealed that, more than three quarter of mothers were satisfied with nurses' practices about greeting on admission, nurses dealing and giving treatment on time. In addition less than half of them dissatisfied about information giving by nurses, while less than quarter of them were uncertainly dissatisfied with nursing practical skills.

These findings are in agreement with **Dzomeku, et al., (2011)** who revealed that client's sources of dissatisfaction included negative behaviors of caregivers (ineffective communication, neglect and unfriendliness) such as shouting at them; ignoring them, frowning at them, belittling them, and whispering among caregivers that make clients uncomfortable. Other sources of dissatisfaction include characteristics of the hospital setting, which include the non-availability of human and material resources,

such as infrastructure, staffing and financial problems. In addition, clients did not understand their hospital bills and this made them dissatisfied with the hospital because they felt they were being exploited.

These findings are agreed with that found by **Jewkes et al., (2008)** who found in a study on 'why do nurses abuse patients' that the respondents reported that 'nice nurses' were those who explained procedures and did not shout at or speak rudely to women.

Another factor that determined satisfaction with care was the characteristics of the setting, for example the availability of human and material resources. In this respect **Dzomeku, et al., (2011)** stated that, maternal satisfaction with care during labor: "A case study of the Mampong-Ashanti district hospital maternity unit in Ghana" showed that, maternal satisfaction with care of mother with toxemia of pregnancy was influenced by multiple factors such as care givers and client's interactions. The positive attitudes led to satisfaction and encouraged future usage of the hospital.

### **Conclusion**

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Based on the findings of the current study, it was concluded that, nurses' knowledge and practices regarding care provided to toxemic mothers had correct and satisfactory score for nurses working in obstetric department at Benha University Hospital. Most of studied mothers with toxemia of pregnancy were satisfied regarding nursing care provided for them.

### **Recommendations:**

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Based on the findings of the present study, the following recommendations are suggested:

- Developing continuous educational programs for nurses working in obstetrics and gynecology department to enhance their knowledge and practices regarding care with toxemia of pregnancy.
- Establishing design and implement standard of care for toxemic mothers.
- Conducting in-services, pre services & on job training program regarding care with toxemia of pregnancy.
- Awareness raising program for those mothers who attended antenatal clinic to enhance and motivate them to attend regular antenatal care to prevent toxemia of pregnancy.

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