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بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

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Prevention of Pre-eclampsia Among Pregnant Women in the Second Trimester in Rural Area

Thesis

Submitted for Partial Fulfillment of the Requirements of Master Degree in ***Community Health Nursing***

By

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Asmaa Mahmoud Abd El Halim

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List of Abbreviations

BMI : Body mass index

DBP : Diastolic blood pressure

GDM : Gestational diabetes mellitus

GERD : Gastro esophageal reflux disease

GP : General practitioner

HG : Hyperemesis gravidarum

HDP : Hypertensive disorder of pregnancy

IUGR : Intrauterine growth restriction.

LMC : Lead maternity care

MCH : Maternal and child health centers

NICE : National Institute for Care and Health Excellence

PE : Pre-eclampsia.

PIs : Plasticity indices.

PIGF : Placenta Intra Gestational Fetus.

RIs : Resistance indices.

SBP : Systolic blood pressure

SDOH : Socialdeterminant s of health.

SGA : Small for gestational age

SFlt-1 **:** Soluble fms-like tyrosine kinase-1

VLBW : Very low birth-weigh

VEGF : Vascular endothelial growth factor

WHO : World Health Organization

Abstract

Prevention of Pre-eclampsia among Pregnant Women in the Second Trimester in Rural Area

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Background: Early identification of women at risk may help in prevention of preeclampsia and complications of this disease. **Aim of study**: the study aimed to assess prevention of preeclampsia among pregnant women in the second trimester. **Subjects and methods**: Design: Descriptive exploratory research design. Setting: The study was conducted at the selected maternal and child health centers affiliated to the Beni-Suef governorate, El-Wasta center that include 24 MCH centers. **Sample:** Purposive sample of 550 pregnant women was used. **Tools:** Two data collection tools were used to carry out the current study namely; Interviewing questionnaire tool, include Part I: concerned with demographic characteristics of the pregnant women. Part II: Assess pregnant women's knowledge about pre-eclampsia Part III: Assess indicators of pre-eclampsia among pregnant women. Part IV: Assess pregnant women's practices about the prevention of pre-eclampsia and risk factors assessment tool. **Results**: 56.8% of the pregnant women have unsatisfactory total knowledge about preeclampsia. Also, 91.8% of the pregnant women have satisfactory total practices regarding preeclampsia. 83.8% of them had normal body mass index as risk factor of preeclampsia and 98.8% of them had edema in their feet as indicator of preeclampsia. **Conclusion**: More than half of the pregnant women have unsatisfactory total knowledge about preeclampsia. Also, most of the pregnant women have satisfactory total practices regarding preeclampsia. Majority of the pregnant women had normal blood pressure as indicator of preeclampsia. Majority of the pregnant women had normal body mass index as risk factor of preeclampsia. **Recommendations**: Providing sufficient training for women regarding pre-eclampsia to enhance their knowledge, providing sufficient training for women regarding pre-eclampsia to enhance their performance.

Keywords: Prevention of preeclampsia, Pregnant women, Second trimester

Introduction

Preeclampsia is a hypertensive disorder that is associated with pregnancy, there is elevation in blood pressure" systolic blood pressure 140 mm Hg and diastolic blood pressure 90 mm Hg" and presence of proteinuria after 20 weeks' should be documented to be persistent over 2 determinations at least 4 hours apart, unless it is greater than or equal to 160 mm Hg systolic or greater than or equal to 110 mm Hg diastolic. This severe elevation may be confirmed in a shorter interval for prompt therapy. Proteinuria is defined as 300 mg of protein in 24 hours or there is protein/creatinine in urine this ratio of 0.3 mg/dL. Urine dipstick can only be used if the other methods are not available **(Assis et al., 2018).**

Pre-eclampsia is associated with maternal effects that may lead to significant maternal morbidity and even mortality. It includes and not limited to intracerebral hemorrhage, transient blindness, and cardiorespiratory arrest. Permanent neurologic sequelae from brain ischemia or hemorrhage are the most common causes of maternal death, with the maternal mortality rate ranging from 0-14%. Not only pre-eclampsia affect on mother, but also affect on fetus, there is decrease in placental perfusion in pre-eclampsia result in intrauterine growth restriction of the

fetus and oligohydramnios. Perinatal death is primarily related to premature delivery, placental abruption, and intrauterine asphyxia. Fetal morbidity and mortality due to gestational age at the time of eclampsia **(Coroyannakis & Khalil, 2019).**

There are many indicators of preeclampsia that involve many organs, such as the liver, kidneys, heart, lungs, brain, and systematically involve central nervous system that includes headache, visual disturbances and seizures, on the level of renal system includes proteinuria, oliguria, abnormal kidney tests and hypertension, vascular system includes severe hypertension, cardiorespiratory system includes chest pain, dyspnea, low oxygen saturation and pulmonary edema. Hepatic system includes abnormal liver function, epigastric pain, nausea and hematologic system includes hemorrhage, coagulation impairment, intravascular disseminated coagulation and shock **(Cripe et al., 2017).**

A woman is at risk for pre-eclampsia if she has no more than one risk factors that involve antiphospholipid syndrome, previous pre-eclampsia, diabetes mellitus type I or II, multiple pregnancy, first pregnancy, familiar history of pre-eclampsia, BMI 35 Kg/m, maternal age <20 or >40 years old, chronic hypertension, chronic autoimmune

disease, venous thromboembolism, intergestational interval 10 years similar to multiple pregnancy and chronic kidney disease **(Cuesta et al., 2019).**

Prevention of preeclampsia may be primary, secondary, or tertiary. Primary prevention involves avoiding pregnancy in women at high risk for PE, modifying lifestyles or improving nutrients intake in whole population in order to decrease the incidence of the disease. Therefore, probably the majority of cases of PE are unpreventable. Give routine advice on healthy eating, smoking cessation, alcohol intake and mild to moderate exercise to all women in the antenatal period, as well as weighing them regularly **(Ding et al., 2018)**.

Community health nurses had great role in management of pregnant women with eclampsia, therefore they are the main actors in stopping complications of this condition. Eclampsia has been documented to occur as from 20 week of gestation, third trimester of pregnancy and even six weeks' post-partum. The period is known to be a very delicate for the mother and fetus. Despite the attention given to this pathology, it still remains a greater cause of preterm births and even neonatal and maternal death **(Seyed et al., 2018)**.

Significance of the study:

In Egypt, maternal mortality ratio is reported to be 45 per 100000 live births according to WHO. The incidence of hypertensive disorders in pregnancy is estimated to range between 3%-10% among all pregnancies. In Egypt 4.2% had pregnancy induced hypertension, 3.8 % had preeclampsia and eclampsia was 0.3%. Incidence of preeclampsia was reported in women aged more than 40 years **(Gabal and Abousaif, 2017).**