Frequency Of Hypertension Associated With Pregnancy Among The Pregnant Women Attending Maternal And Child Care Centers In Belbeis City.

Thesis submitted by

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List of abbreviations

ARDS	Acute respiratory distress syndrome
BCE	Before century
BP	Blood pressure
CBC	Complete blood count
DASH	Dietary Approaches to Stop Hypertension
DM	Diabetes mellitus
Hb	Hemoglobin
HDP	Hypertensive disorders of pregnancy
HELLP	Haemolysis, Elevated Liver Enzymes, and Low Platelets
HTN	Hypertension
IPV	Intimate partner violence
IUD	Intra uterine device
IUGR	Intra uterine growth retardation
JNC	Joint National Committee
LL edema	Lower limb edema
MCH	Maternal and Child Health Centers
MG	Multi gravida
MOHP	Ministry of health and Population
OCP	Oral contraceptive pills
PE	Pre-eclampsia
PG	Primi gravida
PIH	Pregnancy-induced hypertension
SD	Standard deviation
SGA	Small for gestational age
TOD / CCD	target organ damage / clinical cardio – vascular disease
UK	United Kingdom
UNICEF	United Nations Children's Fund
US	United States
WHO	The World Health Organization
WHOMCS	World Health Organization Multi country survey

Abstract

Back ground: Hypertensive disorders of pregnancy are a major cause of maternal and fetal mortality and morbidity, and affect approximately 8% of all pregnancies.

Objective: To identity frequency of hypertension among pregnant women attending (MCH) centers in Belbeis city and to identify probable factors associated with hypertension.

Study design: A cross–sectional study included 554 pregnant women after 20 weeks of gestation enrolled from 2 rural primary heath care centers in Belbeis City (Sharkia governorate) during the period from the first of September 2014, to end of April 2015.

Result: The study revealed that, the percentage of hypertension among pregnant women was 4.5% and there were no cases of preeclampsia. The significant risk factors predisposing development of hypertension during pregnancy were age of mother, smoking, family size, weight of mother, presence of diabetes mellitus, renal diseases and history of hypertension in previous pregnancy. By logistic regression only age of mother was independent predictor of hypertension in pregnant mother.

Recommendation: The health care physicians in the (MCH) Centers should increase their efforts to provide the high risk pregnant women as early possible with proper antenatal care and management of hypertension during pregnancy.

Key words: hypertension, pregnancy

Introduction

Introduction

Gestational hypertension or pregnancy induced hypertension (PIH) is the development of new hypertension in pregnant women after 20 weeks gestation without the presence of protein in the urine or other signs of preeclampsia. Hypertension is defined as greater than 140/90 mm Hg **(Lo et al, 2013)**.

Pre-eclampsia (PE) is a disorder of pregnancy characterized by high blood pressure and a large amount of protein in the urine (>300 mg of protein in a 24-hour urine sample) with additional medical signs and symptoms. HELLP syndrome is a type of preeclampsia. It is a combination of three medical conditions: Hemolytic anemia, Elevated Liver Enzymes and Low Platelet count **(Eiland et al, 2012)**. The disorder usually occurs in the third trimester of pregnancy and gets worse over time **(Al-Jameil et al, 2014**) and **(Report of the American college, 2013)**.

Eclampsia is considered when tonic-clonic seizures appear in a pregnant woman with high blood pressure and proteinuria. Pre-eclampsia and eclampsia are sometimes treated as components of a common syndrome **(Dorland's Medical Dictionary for Health Consumers)**.

The word eclampsia is from the Greek term for lightning. The first known description of the condition was by Hippocrates in the 5th century BCE **(Mohler, 2006)**.

Hypertensive disorders in pregnancy resulted in 29.000 deaths worldwide on 2013 down from 37.000 deaths in 1990 **(GBD, 2015)**.

They are one of the three major causes of death in pregnancy (16%) along with postpartum bleeding (13%) and puerperal infections (2%) **(Hoffman et al, 2014).** In Egypt, maternal mortality ratio is reported to be 45 per 100000 live births according to **(WHO, 2013)**.

About (10%) of pregnancies globally are complicated by hypertensive diseases **(WHO recommendations, 2011)**. In United Stated hypertensive disease of pregnancy affect about (8%) to 13% of pregnancies and Rates have increased in the developing world **(Lo et al, 2013)**.

In a study conducted to estimate the prevalence of hypertensive diseases of pregnancy in Egypt (4.2%) had pregnancy induced hypertension (3.8 %) had preeclampsia and eclampsiawas (0.3%) **(Eldeeb et al, 2015)**.

Gestational hypertension or PIH is associated with worse outcomes **(Arulkumaran & Lightstone, 2013)**. Women who have had preeclampsia are at increased risk of heart disease later in life **(Steegers et al, 2010)**.

Complications of preeclampsia can affect both the mother and the fetus. Acutely, preeclampsia can be complicated byeclampsia, the development of HELLP syndrome (hemolysis, elevated liver enzymes , low platelet count), hemorrhagic or ischemic stroke, liver damage and dysfunction, acute kidney injury, and acute respiratory distress syndrome (ARDS) **(Arulkumaran & LightStone, 2013).**An individual with preeclampsia is at increased risk for recurrence of preeclampsia in subsequent pregnancies.There is also an increased risk for cardiovascular complications, including hypertension and ischemic heart disease, and kidney disease (**Mustafa et al, 2012).**

Preeclampsia is also associated with increased frequency of Caesarian section, preterm delivery, and placental abruption. Furthermore, an elevation in blood pressure can occur in some individuals in the first week postpartum attributable to volume expansion and fluid mobilization **(Mustafa et al, 2012).**

Fetal complications include fetal growth restriction and a potentially fetal or perinatal death **(Mustafa et al, 2012)**.

Although much research into mechanism of preeclampsia has taken place, its exact pathogenesis remains uncertain. Preeclampsia is thought to result from an abnormal placenta **(Al-Jameil et al, 2014)**.

Known risk factors for preeclampsia include null parity (never given birth), Diabetes mellitus (DM), kidney disease, chronic hypertension, prior history of preeclampsia, family history of advanced maternal age (>35 years), obesity, anti-phospholipid antibody syndrome, multiple gestation, having donated a kidney and having sub-clinical hypothyroidism or thyroid antibodies **(Garg et al, 2014)**.

This study was conducted to estimate frequency of hypertension among pregnant women attending rural health care centers in Belbeis city and to identify probable factors associated with hypertension.Knowing prevalence of hypertension among a sample of pregnant women in rural area may helpstrengthen the role family physicians and health care centers in early detection and improvement of outcome in pregnancy associated hypertension.

Aim of the work and objectives

Goal of the study

The goal of this study is to improve the health status of the pregnant women and their infants and reduce morbidity and mortality rates of them.

Objectives

1- To identify frequency of hypertension among the pregnant women attending the maternal and child health care (MCH) centers in Belbeis City more than 20 weeks.
2- To identify probable factors associated with hypertension in pregnancy.

Review of literature

Definition

Definition of hypertension:

Hypertension, also known as high or raised blood pressure, is a condition in which the blood vessels have persistently raised pressure. Blood is carried from the heart to all parts of the body in the vessels. Each time the heart beats, it pumps blood into the vessels. Blood pressure is created by the force of blood pushing against the walls of blood vessels (arteries) as it is pumped by the heart. The higher the pressure the harder the heart has to pump **(WHO, 2013).**

Normal adult blood pressure is defined as a blood pressure of 120 mm Hg1 when the heart beats (systolic) and a d pressure of 80 mm Hg when the heart relaxes (diastolic). When systolic blood pressure is equal to or above 140 mm Hg and/or a diastolic blood pressure equal to or above 90 mm Hg the blood pressure is considered to be raised or high **(WHO, 2013).**

Definition of preeclampsia:

Hypertensive disorders of pregnancy (HDP) constitute the commonest medical disorder diagnosed by obstetricians representing 7% to 10% of all pregnancies **(Magee et al, 2009).**

Preeclampsia is a multiorgan disease process of unknown etiology characterized by the development of hypertension and proteinuria after 20 weeks of gestation **(davison et al, 2004).**

The frequency of preeclampsia varies between 2% and 7% in healthy nulliparous women **(vatten et al, 2004).**

Preeclmpsia is systolic blood pressure more than 140mmhg or the diastolic blood pressure more than 90mmhg that begins after 20 weeks of gestation and is accompanied by proteinuria **(Davison et al, 2004).**