ASSESSMENT OF NUTRITIONAL HABITS AND LIFE STYLE OF PREGNANT WOMEN IN WARAK EL-HADER FAMILY MEDICINE CENTER

Thesis

Submitted for Partial Fulfillment of the M.Sc. Degree in Family Medicine

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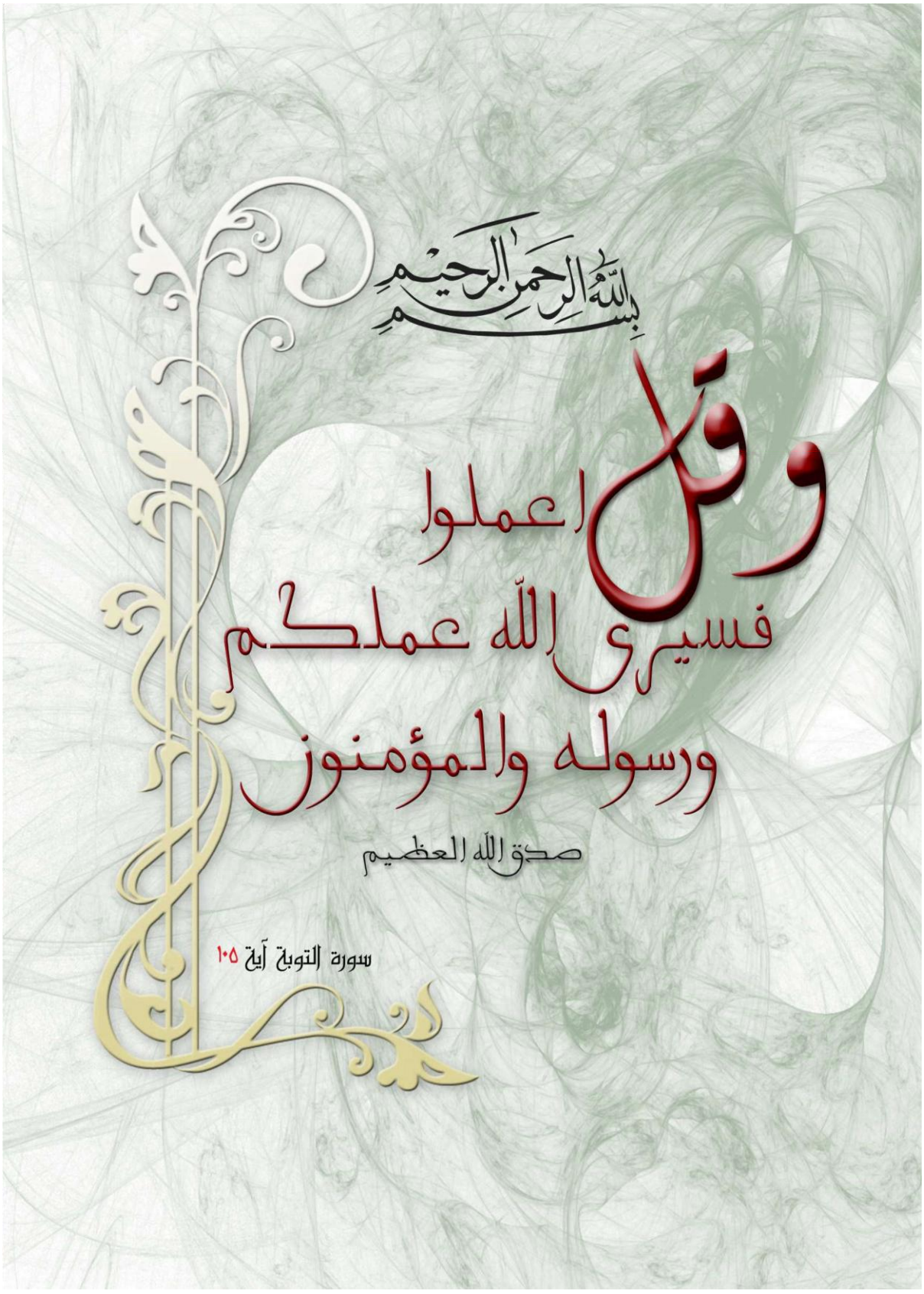
بسم الله الرحمن الرحيم
وقل اعملوا
فسيرى الله عملكم
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Abstract

This is an interventional study using health education about nutrition and lifestyle during pregnancy with pre/post assessment. The study was aiming to test Knowledge, Attitude and Practice (KAP) of women attending to the antenatal clinic for follow up, to conduct health educational sessions, to improve the nutrition status of the pregnant females attending for antenatal care in primary health care facilities.

The study will included two phases: phase one: the attendant pregnant females completed a base line assessment which included the personal, obstetric history, history of morbidities, assessment of the nutrition and the life style and routine examination and investigations. ANC visits were recorded monthly along three months.

Phase two: Health education sessions were done. The session was preceded by a pretest which was formed from 20 questions then the health education message. The pregnant women who attended health education intervention were evaluated through the post test one month later.

Analysis of the food intake of the pregnant women showed that half of the study group of the pregnant women consumed three main meals with no snacks daily, 29.0% consumed average amount of water and only 18.0% consumed two cups or more of milk daily. None of the study group of the pregnant practiced exercise, smoke actively or consumed alcohol or cigarettes and most of them believed that there is no forbidden food during pregnancy.

Keywords: pregnancy-nutrition-lifestyle- health-body mass index

Contents

List of Abbreviations

ALT	**: Alanine Transaminase**
ANC	**: AnteNatalCare**
AST	**: Aspartate aminotransferase**
ALP	**: Alkaline phosphatase**
ASA	**: Acetyl Salicylic Acid**
ADA	**: American Dietetic Association**
BMI	**: Body Mass Index**
BUN	**: Blood Urea Nitrogen**
DH	**: Department of Health**
DIC	**: Disseminated Intravascular Coagulation**
FAS	**: Fetal Alcohol Syndrome**
FSA	**: Food Standards Agency**
GFR	**: Glomerular Filtration Rate**
GWG	**: Gestational Weight Gain**
GDM	**: Gestational Diabetes Mellitus**
GP	**: General Practitioner**
HCT	**: Hematocrit**
Hb	**: Hemoglobin**
IDA	**: Iron Deficiency Anaemia**
IOM	**: Institute of Medicine**
KAP	**: Knowledge Attitude Practice**
LBW	**: Low Birth Weight**
LDH	**: Lactate Di Hydrogenase**
LGA	**: Large for Gestational Age**
NTDs	**: Neural Tube Defects**
NVP	**: Nausea and Vomiting of Pregnancy**
NEC	**: Nutrition Education and Counselling**

PCBs	**: PolyChlorinated Biphenyls**
PCO2	**: Partial Pressure of Carbon dioxide**
PIH	**: Pregnancy-Induced Hypertension**
RCOG	**: Royal College of Obstetricians and Gynecologists**
RDA	**: Recommended Dietary Allowance**
RNI	**: Reference Nutrient Intake**
SIDS	**: Sudden Infant Death Syndrome**
SPSS	**: Statistical Package for Social Science**
SVR	**Systemic Vascular Resistance**
SGA	**: Small Gestational Age**
TSH	**: Thyroid-Stimulating Hormone**
UTIs	**: Urinary Tract Infections**
WBC	**: White Blood Cell**
WHO	**: World Health Organization**
T3	**: Triiodothyronine**
T4	**: Thyroxine**

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INTRODUCTION

A healthy diet during pregnancy is essential to provide all the nutrients needed by a mother and her growing baby. It is the quality of the food not the quantity which matters most. In fact, most of the additional nutrients needed during pregnancy can be obtained by selecting appropriate foods and eating high quality nutrient dense diet (**Imdad and Bhutta, 2011).**

Malnutrition is a dominating problem among millions of pregnant women especially in developing countries which affects their health and the outcome of pregnancy. Inadequate maternal diet leads to maternal depletion and impeding normal fetal growth and development. Over or subclinical malnutrition exposes the women, the fetus and the infant to a significant risk of morbidity, disability and even mortality **(Yakoob et al., 2009** & **Mehta et al., 2010).**

The American Dietetic Association (ADA) considers women of childbearing age should maintain good nutritional status through a lifestyle that optimize maternal health and reduce the risk of birth defects, suboptimal fetal development, and chronic health problems in their children. The key components of a health-promoting lifestyle during pregnancy include appropriate weight gain; appropriate physical activity; consumption of a variety of foods and timely vitamin and mineral supplementation; avoidance of alcohol, tobacco, and other harmful substances; and safe food handling. Pregnant women with inappropriate weight gain, hyperemesis, poor dietary patterns, phenylketonuria, certain chronic health problems, or a history of substance abuse should be referred to a registered dietitian for medical nutrition therapy. SO, eating

well balanced meals is important at all times, but it is even more essential during pregnancy. There are essential nutrients, vitamins, and minerals that your developing baby needs. Most foods are safe; however, there are some foods that you should avoid during pregnancy **(Paul et al., 2011).**

More than 135 million women give birth per year and about 20 million of them experience pregnancy-related illness after childbirth. The list of morbidities is long and diverse, and includes fever, anemia, fistula, incontinence, infertility and depression **(WHO and UNICEF 2014).**

Proper nutrition education and counseling during pregnancy may improve gestational weight gain, reduce the risk of anemia in late pregnancy, increase birth weight, and lower the risk of preterm delivery. This intervention may be more effective when women are also provided with nutrition support such as food or micronutrient supplements.

AIM OF THE WORK

Goal:

Aim: The aim of this study is to provide nutritional knowledge to group of pregnant women attending for antenatal care in primary health care facility. .

Main objectives were:

1. To conduct a knowledge, attitude and practice (KAP) analysis of women during pregnancy as regards healthy lifestyle and eating habits.
2. To conduct a health educational intervention, to encourage and help pregnant women to make good choices about their food, through raising their level of awareness and knowledge about healthy nutrition.
3. To emphasize the importance of having healthy lifestyle during pregnancy.
4. To compare the life style and nutritional habits among pregnant women pre-and post the health education sessions.

MATERNAL PHYSIOLOGICAL CHANGES IN PREGNANCY

Pregnancy represents a serious challenge to all body systems. The progressive physiological changes that occur are essential to support and protect the developing fetus and also to prepare the mother for parturition **(Langenfeld et al., 2003).**

While the fertilized ovum is developing from a mass of dividing cells to an embryo, and then into a fetus, changes are occurring in the body of the mother as well. These changes occur as the result of various hormones, secreted mainly by the placenta (**Paul et al., 2011**).

Progesterone exerts important functions in implantation and parturition to include promotion of endometrial decidualization, inhibition of smooth muscle contractility, decrease in prostaglandin formation, all of which help maintain myometrial quiescence and prevent the onset of uterine contractions **(Duhl et al., 2007).**

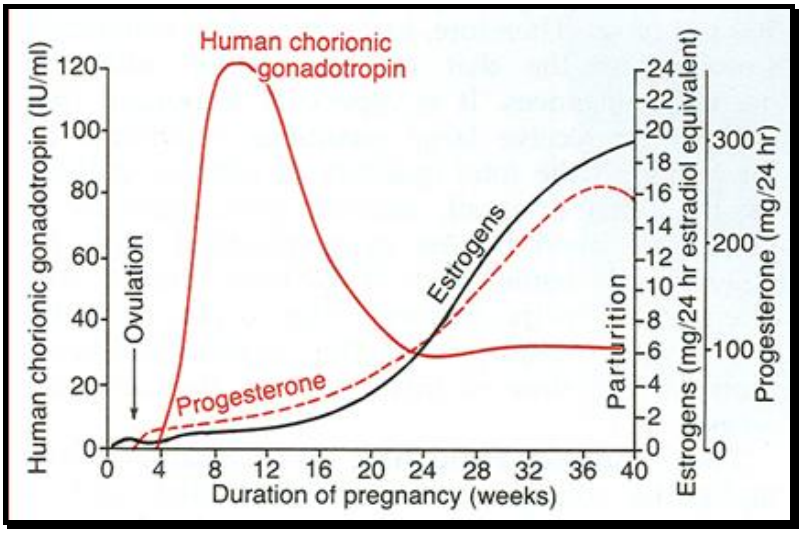

Figure 1: Hormonal changes during pregnancy (Kimberly et al., 2012).

Maternal circulation changes during pregnancy to accommodate an increase in blood volume of up to 50%. Because of the increase in workload, upon auscultation of the heart a split first sound, a systolic murmur, or even a third heart sound could be heared. The increased blood volume peaks in the third trimester and returns to pre-pregnant state somewhere around two to three weeks postpartum (**Blackburn, 2008**).

During pregnancy, the systemic vascular resistance (SVR) of the blood vessels lowers due to increased levels of hormones. This decreasing SVR is an expected result of the increasing progesterone and prostaglandin levels, which relax smooth muscle, producing vasodilatation **(Van Leeuwen et al., 2013).**

As a result of the increased volume and decreased resistance, cardiac output rises. Therefore, is normally lower the blood pressure, especially in the second trimester. This sometimes causes dizziness or feeling faint in women as they rise to standing during the second trimester. Blood pressure should stabilize and approach pre-pregnancy numbers by the third trimester. An abnormal rise in blood pressure could be an indication of preeclampsia, which involves multiple systems of the patient **(Murray and McKinney 2010).**

The increased blood supply includes a 45% to 50% increase in plasma volume and 20% to 30% increase in red blood cells. Since these percentages are not equal, the subsequent hemoglobin (Hb)/hematocrit (HCT) will reflect a normal physiologic anemia of pregnancy. The HCT will appear to fall as the volume increases more than the packed cell count **(Wickstrom et al., 2004).**