

# **Dietary Diversity, Gestational Weight Gain and Iron Deficiency Anemia of Mothers Attending Antenatal Clinics in Northern Jordan**

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## OUTLINE

- **Conflict of interest: Nothing to declare**
- **Research background**
- **Research aims; Research question/hypothesis, expected outcomes**
- **Methodology**
- **Policy and Program Implications**
- **Acknowledgements**
- **References**

## RESEARCH BACKGROUND

- Normal gestational weight gain is associated with the birth of a healthy child, avoids maternal overweight after pregnancy, and reduces the risk of chronic diseases for both the mother and the child [1].
- Most of women with insufficient weight gain had a poor dietary diversity and their intakes of energy, vitamins and minerals were the lowest [2].
- Iron needs increase during pregnancy to meet the increased fetal and maternal demands.

## RESEARCH BACKGROUND

- Jordan has no progress towards achieving the target of reducing anemia and 99% of pregnant mothers have low adherence to dietary guidelines [3].
- Overall, low dietary diversity scores and weight gain during pregnancy is associated with increasing the infant and maternal mortality and morbidity [4].

## RESEARCH AIMS

- To assess dietary intake, hemoglobin and iron status, and weight gain of pregnant mothers who will be attending the antenatal care clinics in the North of Jordan.
- To identify the various factors associated with low food consumption and not achieving the minimum dietary diversity or access to nutritious foods during pregnancy in Northern Jordan.
- To study the impact of dietary diversity scores on gestational weight gain and iron status.
- To estimate the prevalence of iron deficiency anemia among the study participants and to determine the rate of compliance to iron supplementation.
- To assess the pregnant mothers' dietary knowledge, attitudes, and practices during pregnancy.

## RESEARCH AIMS

### Research question/hypothesis

- Women who did not eat variety of foods, not stick to iron as a supplement and not attend antenatal clinics experience abnormal weight gain during pregnancy and are more likely to develop iron deficiency anemia.

### Expected outcomes

- The results of this research will make us reconsider many health, nutrition, and economic policies that address the problems related to the health and nutrition of the pregnant mother.

## METHODOLOGY

### Study design, participants, and approval

- Across-sectional and it will be conducted on pregnant women who attending the antenatal care clinics in Northern Jordan.
- Jordanian mothers with singleton pregnancy, aged between 19-45 years old, and attending the MOH antenatal care clinics in the North of Jordan will be included in the study.
- Women diagnosed with gestational diabetes, pre-eclampsia, chronic diseases as diabetes mellitus, renal and liver diseases, and autoimmune disorders and suffer from severe nausea and/or vomiting and women with unrecorded pre-pregnancy weight will be excluded from the study.
- IRB approval from MOH and signed consent form from each participating women is required.

## METHODOLOGY

### Sampling

- Based on the prevalence of low-birth-weight newborns (13.8%) in Jordan according to Islam et al., 2020 [5], the estimated sample size is 183 and it will be increased by 10%.
- The selected pregnant mothers will be categorized into three groups: 1<sup>st</sup> trimester (0-13), 2<sup>nd</sup> trimester (14-26) and the 3<sup>rd</sup> trimester (27-40) and each group should at least include 60 pregnant mothers.

## METHODOLOGY

### Data collection

- ***Sociodemographic, medical, antenatal care and KAP data***

A structured and valid questionnaire will be used to collect the sociodemographic, health and medical history, nutritional knowledge, attitudes, practices, and dietary lifestyle characteristics [6] and the pattern of antenatal care.

- ***Anthropometric data:*** weight, height and BMI.

- ***Physical activity:*** A semi-quantitative pregnant physical activity questionnaire will be used to assess the participants' physical activity duration (minutes/day) and intensity [7].

## METHODOLOGY

### Data collection

- **Biochemical data:** CBC and serum ferritin level
- **Dietary intake:** 24-hour recall, validated Arabic language food frequency questionnaire (FFQ) [8], Minimum Dietary Diversity Score (MDDS) for women [9] and the Prime Diet Quality Score (PDQS) [10].

## POLICY AND PROGRAM IMPLICATIONS

- The proposed research will provide baseline data regarding the dietary intake of pregnant mothers, their compliance with iron supplementation and the impact of that on gestational weight gain and pregnancy outcomes.
- The findings of this proposed study could encourage the antenatal care clinics to put more effort on pre and post conception nutritional education of future mothers.
- Motivate mothers to comply with the antenatal visits and iron supplementation.



## ACKNOWLEDGEMENT

- Thank you for the **JNIL and Tufts University** the sponsor of this research
- Thank you for the **USAID** for their financial support

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