

## Endorsement

### Thesis title

FACTORS ASSOCIATED TO COMPLIANCE WITH IRON  
SUPPLEMENTATION AMONG PREGNANT WOMEN IN THREE  
LOCALITIES IN THE GAZA STRIP

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# Abstract

**Overall objective:** To assess factors associated to compliance with iron supplementation among pregnant women. This is to provide reliable information that may help for planning to improve the quality of antenatal care in Palestine.

**Specific objectives:**

- ◆ To assess level of adherence with iron supplementation among pregnant women as a preventive measure to control pregnancy-related anemia.
- ◆ To examine the procedures of providing iron supplementation for pregnant women in PHC facilities at MoH, as a preventive measure to control anemia.
- ◆ To identify problems of iron supplement delivery system.
- ◆ To explore the presence of written guidelines for control measures to pregnancy-related anemia and whether they are implemented in the PHC facilities at the MoH.
- ◆ To suggest measures for improving compliance with iron supplementation in pregnancy.

**Design of study:** Cross-sectional design.

**Area of study:** Jabalia town is a peri-urban conservative area, Rimal locality is in Gaza city, an urban area and Sourani locality is in ancient area of Gaza city, comprising a diverse mixture of social classes.

**Setting of study:** Jabalia, Rimal and Sourani ANC clinics that are located in MCH centers which are administered by the MoH in the Palestinian authority.

**Sample:** The study population was 300 pregnant women, 100 of each clinic.

**Sampling method:** The sample was attained irrespective of age, parity or any other variable of pregnant women who passed the first trimester of pregnancy, presented at the antenatal care clinic and who gave verbal consent during the days of data collection.

**Tools of study:**

1. Interviews with pregnant women using structured questionnaire.
2. Structured interviews with some involved staff.
3. Revision of relevant documents.
4. Observations of student investigator.

## Results:

1. The rate of compliance with iron supplementation among the pregnant women who received it was 56.1%:[in Jabalia 67.3%, in Rimal 59.2% and in Sourani 43.1%
2. The procedures of providing iron supplementation to pregnant women were as follows:
  - ◆ The ANC doctor prescribes iron supplementation for the pregnant women who attend the clinic only in case of her blood hemoglobin level is below 11g/dl.
  - ◆ The pregnant women who were prescribed iron supplementation must follow series of procedures to stamp the prescription of iron supplement as co-payment exempted, then go to the pharmacy to receive it.
  - ◆ The pharmacy staffs check the prescription then offer iron supplementation but with poor dispensing procedures.
3. The iron supplementation offered to the pregnant women could not be assured to maintain the same characteristics of composition due to unexpected donations of the supplementation.
4. As any other drugs intermittent shortages had occurred especially at the last days of the months, because of periodic supplies.
5. There were no clear written guidelines for control measures to pregnancy-related anemia. Standing orders were present but the implementation of these standing orders was not suitable.
6. Many factors were associated to compliance with iron supplementation among pregnant women, which were as follows:
  - ◆ Personal related factors like education that was inversely proportional to the compliance rate but with no statistical significance.
  - ◆ Drug related factors like palatability that was statistically significant with compliance rate.
  - ◆ Service related factors like intervals of visits that were also statistically significant with compliance.
7. Main source of instructions to the pregnant women was the ANC doctor.
8. The knowledge about necessity of iron supplementation to the pregnant women was vague among them.

## Conclusions:

- ◆ There is a compliance rate with use of iron supplementation relevant to the rate in studies conducted in some developing countries.
- ◆ The low rate of compliance with iron supplementation can be attributed to the time consuming procedures for receiving.
- ◆ The significant factors associated to the non-compliance were palatability of iron supplementation “an output of drug-related characteristics” and interval between visits “ a factor related to program management”.

### Recommended action:

- ◆ The staff, focusing on prophylactic measures rather than curative ones must implement the standing orders for control of pregnancy related anemia.
- ◆ Increasing the amount of iron supplement must bridge the gap between the amount of iron supplement, received by the pregnant woman and the interval of visits.
- ◆ Universal iron supplementation for every pregnant woman attending the ANC center may improve the rate of compliance with it and hence lower the prevalence of anemia. This may improve the quality of life of pregnant women and improve the maternal and fetal outcomes.
- ◆ Adequate efforts should be considered for health education to pregnant women and in-service training to caregivers on matters related to control of gestational anemia.
- ◆ Further research is recommended; First, to identify the lower outcomes of gestational anemia control programs. Secondly, qualitative research on health education delivery in antenatal-care settings and communication skills of the staff. Thirdly, compliance with iron supplementation in community-based studies.

# بسم الله الرحمن الرحيم

## الملخص

### الهدف العام:

تقدير العوامل المرتبطة بالالتزام باستخدام الحديد التعويضي الوقائي بين السيدات الحوامل المترددات على مراكز رعاية الحوامل في ثلاثة مناطق من قطاع غزة . القصد من ذلك تقديم معلومات موثوقية قد تفيد في التخطيط لتحسين نوعية خدمات الرعاية المقدمة للسيدات الحوامل في فلسطين.

### الأهداف الخاصة:

1. تقدير مستوى الالتزام باستخدام الحديد التعويضي بين السيدات الحوامل كإجراء وقائي.
2. فحص الإجراءات المتعلقة بتزويد السيدات الحوامل بالحديد التعويضي في مؤسسات الرعاية الأولية بوزارة الصحة كإجراء وقائي للتحكم بمشكلة فقر الدم المرتبط بالحمل.
3. تحديد المشاكل المتعلقة بوصف وصرف الحديد التعويضي.
4. التحقق من وجود أنظمة مكتوبة للتعامل مع مشكلة فقر الدم المرتبط بالحمل ومدى تطبيقها في مراكز الرعاية الأولية بوزارة الصحة.
5. اقتراح إجراءات قد تفيد في زيادة الالتزام باستخدام الحديد التعويضي أثناء الحمل.

### تصميم الدراسة: دراسة وصفية مقطعية.

**منطقة الدراسة:** بلدة جباليا كمنطقة محافظة نتجة نحو التمدين, منطقة الرمال كمنطقة متمدنة في مدينة غزة ومنطقة الصوراني كمنطقة تحوي خليطا من السكان بدرجات متفاوتة من التمدين في مدينة غزة.

**موقع الدراسة:** عيادات رعاية الحوامل في مراكز الرعاية الأولية التابعة لوزارة الصحة الفلسطينية في جباليا, الرمال والصوراني.

**عينة الدراسة:** كانت عينة الدراسة 300 سيدة حامل, من كل مركز 100 سيدة حامل.

**أسلوب الاختيار:** تم اختيار العينة من بين السيدات الحوامل المترددات على المراكز المذكورة بصرف النظر عن عوامل العمر أو عدد الولادات السابقة إلا أن السيدة الحامل يجب أن تكون قد تجاوزت الفصل الأول من الحمل وأن تعطي إقرارا شفهيًا بالموافقة على المشاركة, وذلك خلال أيام جمع المعلومات الخاصة بالدراسة.

### أدوات الدراسة:

1. مقابلات مع السيدات الحوامل باستخدام استبانة .
2. لقاءات مع بعض المعنيين باستخدام أسئلة محددة.
3. مراجعة الوثائق ذات الصلة بالموضوع.
4. ملاحظات الباحث.

## النتائج:

1. معدل الالتزام بين السيدات الحوامل اللواتي استخدمن الحديد التعويضي الموصوف لهن كان 56.1% على مستوى العيادات الثلاثة (جباليا 67.3%, الرمال 59.2% والصوراني 43.1%).
2. كانت الإجراءات المتبعة في إعطاء الحديد التعويضي للسيدات الحوامل كالتالي:
  - يقوم طبيب رعاية الحوامل بوصف الحديد التعويضي للمترددات من الحوامل, اللاتي بلغ معدل الخضاب في دمهن أقل من 11غم/100مل, أي أن ذلك يكون على أساس علاجي لا وقائي.
  - تتبع السيدات الحوامل اللاتي وصف لهن الحديد التعويضي سلسلة من الإجراءات لمهر الوصفة بخاتم المعفي من الرسوم.
  - يقوم أفراد طاقم الصيدلية بالتثبت من الوصفة ثم يسلمون الحديد التعويضي للسيدة الحامل بأساليب صرف ضعيفة.
3. لا يوجد ما يضمن استمرار الحديد التعويضي بنفس المواصفات وذلك بسبب ورود تبرعات غير متوقعة.
4. قد يحدث انحسار في كميات الحديد المتواجدة كأي دواء آخر خصوصا في الأيام الأخيرة من الشهر وذلك بسبب دورية التوزيع.
5. لا توجد هناك وثائق مكتوبة تضبط عمليات السيطرة على مشكلة فقر الدم بين السيدات الحوامل, لكن هناك أوامر إدارية إلا أن تطبيقها لم يكن متلائما مع أهمية المشكلة.
6. كان هناك العديد من العوامل المرتبطة بمستوى الالتزام باستخدام الحديد التعويضي بين السيدات الحوامل بعضها يعزى لأسباب خاصة بالسيدة الحامل وبعضها يعزى لعوامل تتعلق بالحديد نفسه كعقار أما البعض الآخر فيعزى لأنظمة التعامل مع المشكلة نفسها أما ما يتعلق بالسيدة الحامل كتحصيلها العلمي وعمرها وظروفها الاجتماعية, وأما ما يتعلق بالحديد نفسه فهي استساغته وهذه تعزى بدورها للونه وطعمه وما إلى ذلك من مواصفات, وأما ما يتعلق بأنظمة التعامل كمعدل الزيارات للعيادة والفترات بين الزيارات فقد وجد لها ارتباط إحصائي بمستوى الالتزام.
7. وجد أن المصدر الرئيسي للتعليمات المعطاة للسيدات الحوامل عن الحديد التعويضي الأطباء ثم الصيدلة ثم الممرضات.
8. وجد أن معلومات السيدات الحوامل حول ضرورة استخدام الحديد التعويضي أثناء الحمل كانت مبهمة

## الاستنتاج:

- إن هناك مستوى من الالتزام بين السيدات الحوامل باستخدام الحديد التعويضي متقاربا مع مستويات لدراسات أجريت في بعض دول العالم الثالث.
- المستوى المنخفض بالالتزام كان يعزى للإجراءات الطويلة.
- العوامل التي كان لها ارتباطا إحصائيا بمستوى الالتزام كانت متعلقة بالدواء كالاستساغة وأخرى بالأنظمة كالفترة بين الزيارات

## التوصيات:

1. على الطواقم العاملة أن تركز على الوقاية قبل العلاج في تطبيقها للقرارات المصدرة بخصوص السيطرة على مشكلة فقر الدم بين الحوامل.
2. زيادة الكميات المصروفة من الحديد التعويضي للسيدات الحوامل بما يغطي الفترات الزمنية بين الزيارات.
3. تعميم توزيع الحديد لكل السيدات الحوامل المترددات على مراكز رعاية الحوامل مما قد يؤدي لرفع مستوى الالتزام وبالتالي خفض معدلات فقر الدم المتعلق بالحمل, وهذا بدوره قد يؤدي لتحسين نوعية الخدمات المقدمة للسيدات الحوامل.
4. بذل جهود مناسبة فيما يتعلق بالتنقيف الصحي للحوامل والتدريب للطواقم فيما يتعلق بموضوعات ترتبط بالسيطرة على فقر الدم المرتبط بالحمل.
5. الأبحاث المطلوبة لاحقا, أولا تحديد العوامل المؤدية لضعف النتائج المتعلقة ببرامج السيطرة على فقر الدم المرتبط بالحمل, ثانيا أبحاث تتعلق بتقييم الأداء فيما يتعلق ببرامج التنقيف الصحي في مراكز رعاية الحوامل وثالثا أبحاث تتعلق بمستويات الالتزام باستخدام الحديد التعويضي على المستويات المجتمعية.

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# Chapter (1): Introduction

The title of this study, which was selected by the student investigator, is “Factors associated to compliance with iron supplement among anemic pregnant women in two Palestinian communities in the Gaza Strip”. It is an attempt to evaluate the iron supplement compliance among pregnant women for possible public health intervention in order to improve the quality of health care provided to women and children.

Non-compliance with iron supplement during pregnancy is a leading factor to gestational anemia, which is a multi-factorial disorder where several factors operate concurrently. Compliance of pregnant women with iron supplementation will affect the control of anemia in pregnancy. The study will be also country-specific and clinic based, this study is the first one to be conducted in Gaza, therefore it gains originality in research domain.

Successful interventions for improvement of compliance with iron supplement most likely improve prevention and control of gestational anemia. This can be achieved through appropriate mechanisms or procedures applied in different parts of the web of preventive health services.

## 1.1. Purpose of study:

The student investigator deemed it necessary to investigate the possibilities of anemia prevention through practical suggestions for the management of effective compliance to iron supplement among pregnant women. This research explores a part of primary screening for controlling one of the main risk factors during pregnancy. It is hoped that this may lead to the adoption of risk approach by MoH. The risk approach is an attempt to allocate existing resources according to a risk scoring system, reflecting need rather than according to access or demand, (Backet. et al, 1986).

The student investigator is concerned with developing the principles of Primary Health Care (PHC) as declared in Alma Ata Conference (WHO 1978). It has been considered by the World Health Organization (WHO) and many countries in the world to be the approach of providing promotional, preventive, curative and rehabilitative services in the community, (Ibraheem and Ranken 1988). The student investigator has been also concerned in focusing on the status of governmental commitment to reduce the prevalence of anemia. All governments committed themselves to reduce anemia by one third 1990 levels among women at child-bearing age by the end of the year 2000 ". The governments at the world summit took up this commitment for children

in 1990, and in the international conference on nutrition in 1992, (Verster. A, 1996).

Scientific knowledge based on research is of a paramount importance for solving the major health problems and improving the quality of care, particularly when they occur under diverse social, economic and political conditions, (Taylor 1984). The focus of this study is the problem of compliance with iron supplement therapy, as a crucial part of control of anemia during pregnancy. Furthermore the student investigator would like to draw the attention on issues of women's health in response to the safe motherhood initiative, which was addressed in Nairobi Conference under the auspices of WHO, and several international organizations in February 1987, (Starrs 1987).

The student investigator also would like to focus on the practical implications and the issue of noncompliance to address factors associated with the issue.

The main aim of this study, to assess factors associated to compliance with iron supplementation among pregnant women who visit the antenatal care governmental centers at two localities in the Gaza Strip. This study will hopefully allow us to develop some insight into planning to develop maternal health services in the Gaza Strip.

## **Possible interventions could be:**

- Introducing procedures and mechanisms that secure provision and availability of iron supplementation in MCH centers for preventive purposes.
- Improving the system of supply and administration of iron supplement.
- Improving monitoring and follow up to ensure best levels of compliance in taking the iron supplementation in pregnancy.

## **1.2. Research questions:**

1. What is the supply system of iron supplement at the PHC facilities?
2. Is the iron supplement prescribed to each pregnant woman visiting the ANC clinics at the PHC facilities?
3. What are the measures taken by the clinic staff to ensure the availability of the iron supplement to each client visiting the ANC clinics?
4. What are the measures of follow up to ascertain that clients comply with the advice given to them?
5. What is the rate of compliance to iron supplement during pregnancy?
6. What are the factors associated with compliance for iron supplement therapy among study population?

### 1.3 Objectives:

#### Overall aim:

"The overall aim of this study is to assess factors associated with compliance for iron supplementation among pregnant women, for providing reliable information that help in planning to improve the quality of antenatal care in Palestine."

#### Specific Objectives:

- 1-To assess the level of adherence to iron supplementation among pregnant women as a preventive measure to control anemia.
- 2-To examine the procedures of providing the iron supplementation to pregnant women, in the PHC facilities at the MOH, as a preventive measure to control anemia.
- 3-To identify problems of iron supplement supply and prescription.
- 4-To explore the presence of written guidelines for control measures to pregnancy associated anemia and whether they are implemented in the PHC facilities at the MOH.
- 5-To suggest measures for improving compliance with iron supplementation in pregnancy.