

# Women's health in the occupied Palestinian territory

## The prevalence of reported anemia and its determinants among 15-54 years old Palestinian women

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### Summary

To assess the prevalence of reported and tested anemia among women living in occupied Palestinian territory and to explore the factors associated with reported anemia.

Main findings reveal a significant difference between women's reports of having anemia and anemia tests conducted during the survey. Fourteen percent of pregnant women reported having anemia in contrast to a high of 49% found to have anemia upon testing (haemoglobin levels < 11 g/dL). Likewise, 6% of non-pregnant women reported having anemia in contrast to 21% found anemic upon testing (haemoglobin level <12g/dL).

Analysis was based on the Palestinian Family Health Survey (2010) conducted by the Palestinian Central Bureau of Statistics (PCBS).

Results reveal that pregnancy status, age, marital status, education, residence (if living in camps, urban or rural areas), family wealth status, self-rated health and acute illness (having an illness in the two weeks preceding the survey) are factors associated with reported anemia.

## Background

Anemia is one of the most common health problems that affect women especially in low-income countries [1, 2]. According to the World Health Organization (WHO), one third of women in the Mediterranean region is estimated to be anemic [3].

Anemia is usually assessed by testing hemoglobin levels in blood.

Hemoglobin levels below 12g / dL among non-pregnant women, and below 11 g/dL among pregnant women are the usual cut-off points for diagnosing anemia [3].

### Anemia Levels by Pregnancy Status

Category	Normal	Mild	Moderate	Severe
Non-pregnant women	$\geq 12.0$ g/dL	10.0-11.9 g/dL	7.0-9.9 g/dL	$< 7.0$ g/dL
Pregnant women	$\geq 11.0$ g/dL	10.0-10.9 g/dL	7.0-9.9 g/dL	$< 7.0$ g/dL

Several factors are associated with the prevalence of anemia and the most common is iron deficiency. Chronic fatigue, general weakness and drowsiness are the most commonly reported symptoms. Anemia is the main reason why women would visit a doctor [4].

In the Palestinian context, the long-term occupation and the economic hardship that Palestinian families suffer from make it difficult

for them to maintain balanced diets including iron-rich food. This might increase the risk of developing anemia especially among women who have been noted to prefer their children over themselves and prioritizing giving children foods high in iron and other essential nutrients [5, 6].

## Methods

A sample of 15,734 women aged 15-54 years was selected from the Palestinian Family Health Survey of 2010 conducted by the Palestinian Central Bureau of Statistics (PCBS). Women were asked to answer a question on whether they had anemia or not at the time of the survey.

Three reported health indicators (self-rated health; self-reported chronic diseases; and self-reported acute illness two weeks preceding the survey), in addition to selected demographic and socio-economic variables were used in our analysis checking for factors associated with reported anemia. A sub sample of 3779 women 15-54 years old was tested during the survey to check for women's haemoglobin levels and was used in this analysis for comparison with reports of having anemia.

## Results

The mean age of participating women was 29 years, with 21% reporting they were above 40 years

old. Sixty one percent reported having less than secondary education, 73% were living in urban areas, 66% were not working and 88% were not pregnant at the time of the survey.

Seven percent reported having anemia, 11% reported having at least one chronic illness, 21% reported moderate to bad health and 22% reported having health problems two weeks preceding the survey.

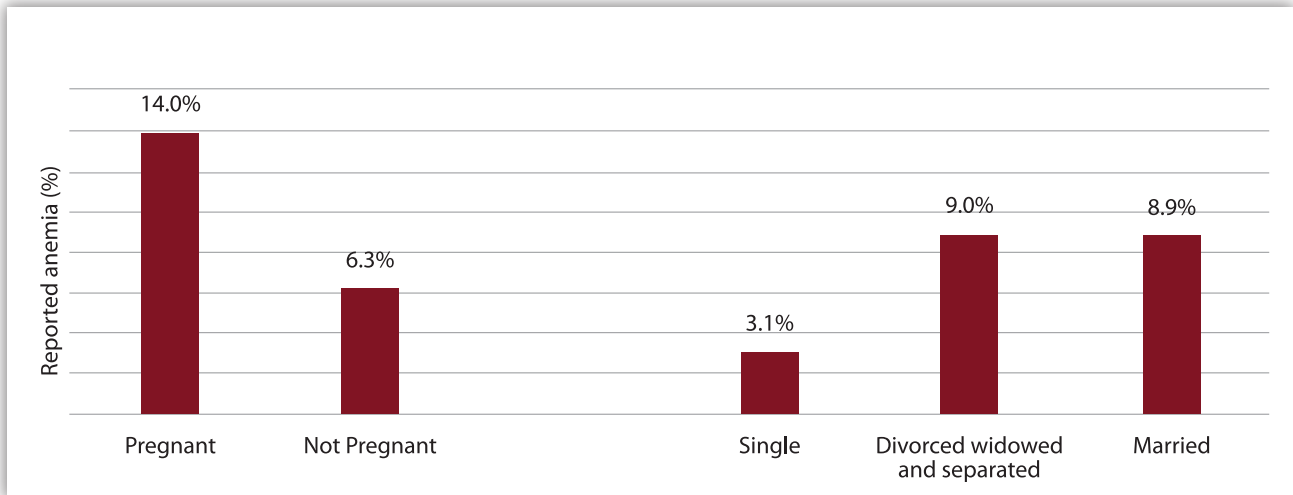
## Factors associated with reported anemia

**Marital status:** Nine percent of divorced, widowed and separated women reported being anemic compared to 8.9% among the married and 3.1% among single women figure (1).

**Pregnancy status:** Fourteen percent of pregnant women reported having anemia compared to 6.3% among non-pregnant women figure (1).

**Education:** 8.2% of women with less than secondary schooling reported having anemia compared to 6.1% for women who have completed their secondary education and 4.8% for

**Figure 1: Reported Anemia by Pregnancy and Marital Statuses**

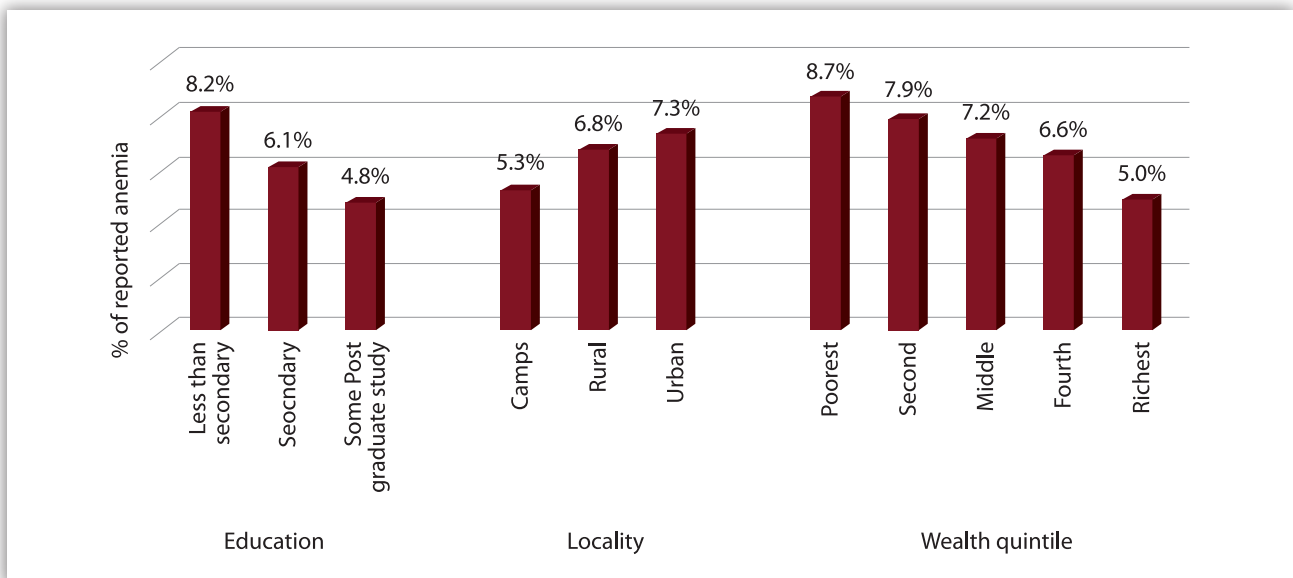


women with post-secondary schooling (Figure 2).

**Locality:** 5.3% of women living in Palestinian refugee camps reported having anemia in comparison with 6.8% living in rural areas and 7.3% in urban areas (Figure 2).

**Wealth:** 8.7% of women whose families were in the lowest wealth quintile reported having anemia at the time of the survey compared to 7.2% of women in the middle, and 5.0% of women in the well-off quintiles (Figure 2).

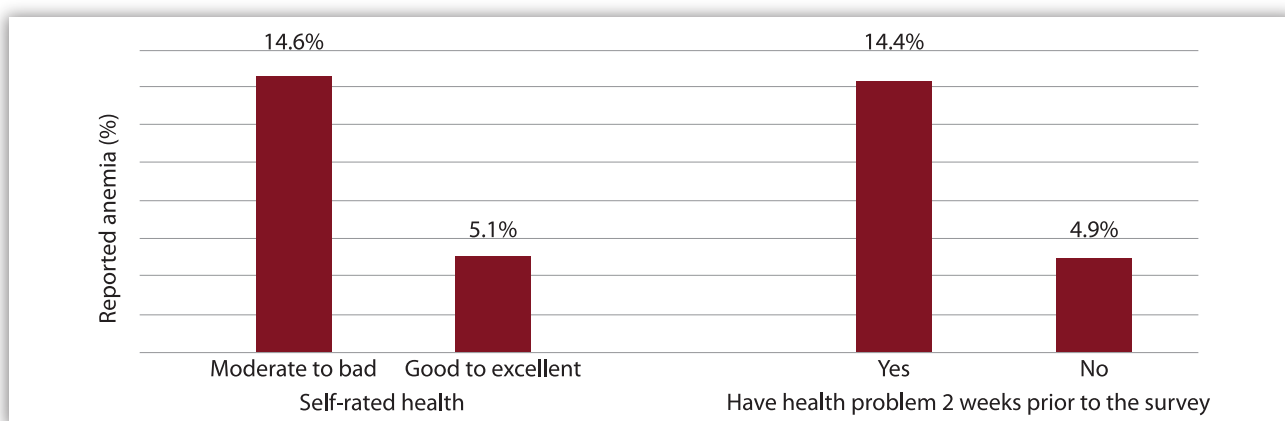
**Figure 2: Reported Anemia by Education, Locale and Wealth**



**Self-rated health:** 14.6% of women who rated their health as moderate to bad reported themselves as having anemia compared to 5.1% of women who rated their health as good to excellent figure (3).

**Acute illness:** 14.4% of women who reported having a health problem two weeks preceding the survey reported having anemia significantly compared to 4.9% of those who did not report having a health problem figure (3).

**Figure 3: Reported Anemia by Self-rated Health and Having Health Problem Two Weeks Prior to the Survey**



**Overall,** women above 45 years were less likely to report anemia compared to women 15-19 years old. This may be due to the cessation of the menstrual cycle and childbearing with menopause which are usually associated with anemia[7, 8]. Married women were more likely to report anemia compared to divorced or widowed and single women. Being married entails pregnancy and childbirth which can take their toll on women's bodies. In addition, it has been noted

that Palestinian mothers prioritize their children over themselves when providing iron-rich foods leaving themselves with less nutritious food, which could be a contributing factor for the presence of anemia among women.

Women with low education were more likely to report having anemia compared to those better educated. Low educational levels are linked to poverty but may also be linked the lack of sufficient information on nutrition among those with low

levels of education. Women residing in Palestinian refugee camps and rural areas were less likely to report anemia in comparison to women living in urban areas. This finding may be related to UNRWA's food supplementation programs in Palestinian refugee camps supporting better nutrition among camp women; and to kitchen gardening and eating from what is produced in rural areas compared to urban areas where food, including processed foods, must be purchased in the main. Finally, the finding that anemia reports were significantly lower than the levels of anemia found upon testing alert us to the need for testing for anemia periodically among all women, regardless of pregnancy status.

## Recommendations

- The above results alert us to the need to screen women for anemia regardless of their pregnancy and marital status as our results show significant differences between tested and reported anemia percentages.
- Special attention should also be given to women from poor families

as anemia is mainly linked to poor quality diet and poor intake of iron-rich food. This raises the need to introduce nutrition education and effective supplementation programs or interventions to target vulnerable women, especially those who are not pregnant and are in their reproductive age. Women need to be aware of anemia symptoms and their effect on their health and well-being.

- Even though women living in urban areas might have better access to information and health care, their urban way of living, which can limit land use and kitchen gardening compared to rural areas, can also have a negative effect on their nutritional status. This is why special programs targeting this group should also be initiated.
- Further research is needed to identify the factors associated with the discrepancy between reported and tested anemia levels among women.

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We would like to thank the Palestinian Central Bureau of Statistics for the continued support, including their willingness to provide us with survey data sets.

This project was funded by Emirates Foundation



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