

Fractures of the patella are generally caused by a direct blow that results in a transverse or slightly oblique fracture of the mid-portion of the patella. Occasionally, fractures can occur from the strain placed on the patella from exertion of the quadriceps muscles. Many patellar fractures have separated fragments due to the strong pull of the quadriceps.

In this study, patient treated non-operatively for minimally to none displaced patellar fracture, fitting the inclusion criteria were having no risk of further displacement and their functional out come in the long term were favorable. Patellar fractures are relatively common and the displaced ones may be treated by a variety of methods with different complication risks (knee stiffness, loss of reduction, osteoarthritis, hardware irritation, infection and nonunion). In an experimental investigation by Fortis et al<sup>1</sup> of the tension in fractures of the patella it showed that there are 2 forces acting on patella surfaces. In principle, compression force posteriorly on the articular surface due to femoral condyles, tensile force anteriorly with 22% displacement and 18.5% loosening or malunion. A study of 104 transverse by Sanderson,<sup>2</sup> comminuted and polar patella fractures with a follow up period ranging from 3-11 years after being treated by conservative, open reduction internal fixation or patellectomy (partial or total).<sup>2</sup> It was noted in his study that conservative treatment was good when indicated. Braun et al<sup>3</sup> looked at 40 patients with congruous, stable patella fractures followed up for 30 months. They found 80% pain free and 90% full range of motion while Levack et al<sup>4</sup> concluded that anatomical open reduction internal fixation is difficult when they studied 64 patella fractures and found out that patellectomy gave 60% versus 31% for open reduction and internal fixation. In a study by Pritchett,<sup>5</sup> an evaluation of nonoperative treatment of widely displaced patella fractures with up to 1 cm gap in 18 low-function and low-demand patients with 4 patients were available in the end of 2 years follow-up with no severe pain.

Several investigators have performed different studies including biomechanical study of cadaver knees and various clinical studies, which have shown what we concluded in our study. We concluded that undisplaced patella fractures could safely be treated by conservative means without risk of further displacement. Prophylactic surgery is not indicated and finally good functional out come can be expected in the long-term.

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## Frequency of anemia in pregnancy in Northern Jordan

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Anemia is the most common medical disorder in pregnancy in developing countries.<sup>1</sup> According to the World Health Organization, the prevalence of anemia in pregnancy ranges from 18% in developed countries to more than 55% in developing countries.<sup>2,3</sup> The development of anemia early in pregnancy is associated with increased risks of inadequate gestational gain, low birth weight, preterm delivery, and increased risk of maternal mortality.<sup>4</sup> Furthermore, anemia in pregnancy is associated with an increased risk of iron deficiency anemia in infants which may cause adverse behavioral and cognitive development if it is not corrected.<sup>5</sup> In 1996, the Jordanian Ministry of Health reported a 29% prevalence of anemia in non-pregnant women, which rose to 38% in rural areas.<sup>5</sup> These values are high enough to require alertness and concern. The present situation of this common and serious health problem is less than ideal and indicates that a lot has to be carried out to detect women at risk and to correct anemia at an earlier stage during pregnancy.

This study attempts to determine the current prevalence of anemia during pregnancy in Northern Jordan, to investigate the possible etiology of anemia in the study region, and to assess the use of iron and folate supplementations. Two-hundred pregnant women were randomly selected from different hospitals in Northern Jordan, during a 3-month period. All subjects were interviewed during regular antenatal visits. The hemoglobin level during first, second and third trimester were

recorded for all patients. Anemia was defined as hemoglobin values of less than 11 g/dl, and severe anemia if hemoglobin was less than 7 g/dl. Data were analyzed using Statistical Package for Social Sciences (SPSS) program. Correlation studies were carried out by using paired T test. A *p*-value of 0.05 or less was considered as indicative of statistical significance. Anemia during pregnancy was detected in 84 pregnant women (42%). A significant association was found with education and socioeconomic status, family income, parity and rural residence. Thirty percent of the subjects were anemic during the first trimester. Sixty percent of anemic women had a monthly income of less than 200 JD. The prevalence of anemia increases among pregnant women living in rural areas and among pregnant women of low educational level. Multiple parity was also associated with increased risk of anemia 45.2% (had more than 3 children).

The study showed that 59.5% of pregnant women with anemia were prescribed folic acid, and 92.9% iron supplementation. Prophylactic iron was given to 67.2% of pregnant women. Compliance with iron supplementation use was 62.6%. Forgetting the drug was the major reason for poor compliance, whereas side effects were not a major problem. Around 30% of the subjects did not like drugs and were afraid of taking them during pregnancy. Only few patients (5.3%) didn't comply with iron therapy due to side effects (Table 1). Among the reported side effects are constipation (12.8%), diarrhea (2.6%), epigastric pain (5.8%), vomiting (0.6%) and heartburn (1.9%). The overall prevalence of anemia in our study was 42%. This value is close to that found in other studies in the region,<sup>5</sup> which means that the problem is persistent and practical solutions are needed. The following factors were associated with increased anemia frequency: low income, low level of education, living in a rural area, and higher number

of previous children. An effort should be made to improve women's health during and in-between pregnancies. Improving economic, educational, and social conditions of women might help. Anemia during pregnancy compromises the health of mothers in traditional cultures as Jordan where women tend to have multiple pregnancies soon after marriage, with inadequate intervals between pregnancies to replenish nutritional stores. Infants born to anemic women also appear to be at increased risk of developing iron-deficiency anemia. Infants with anemia have been shown to have delay cognitive and psychomotor development with long-term consequences.<sup>4,5</sup> For better infant and mother health, it is important to encourage family planning schemes for lower number of children and proper childbirth spacing.

In this study, poor compliance was observed with iron supplementation, mainly due to forgetting to take supplementation and being afraid of taking drugs during pregnancy. Side effects of iron were not very common, probably as most of the women were taking low prophylaxis doses. The side effects increase as the doses increase. Strategies to overcome poor compliance with supplementation such as fortification of food items and dietary changes resulting from education interventions were somehow successful in developed countries.<sup>6</sup> Fortunately, a study in Jordan to evaluate folate concentration during pregnancy showed that most mothers had an adequate serum folate concentration antenatally. That was expected to be due to high content of leafy salads in Jordanian diet, so enough folic acid can be taken in spite of traditional prolonged heating of cooked food.<sup>7</sup>

We conclude that anemia is a significant problem during pregnancy in Jordan. It is difficult to have a single identifiable cause of anemia, so solutions should cover different aspects; social, economical and medical, to be successful.

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Table 1 - Iron supplementation.

Classification	Anemic %	Non-anemic %	Total %
<b>Prescribed</b>			
Yes	92.9	67.2	<b>78</b>
No	7.1	32.8	<b>22</b>
<b>Regular use</b>			
Yes	61.5	63.6	<b>62.6</b>
No	38.5	36.4	<b>37.4</b>
<b>Reasons of poor compliance</b>			
Side effects	0	11.1	<b>5.3</b>
Forgetting	70	55.6	<b>63.2</b>
Hating drugs	30	33.3	<b>31.6</b>

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