Chapter Four

Discussion, Conclusion and Recommendations

4.1 Discussion

Pregnancy causes significant changes in metabolism, fluid balance, organ function and blood circulation which are driven by estrogen and the presence of the feto-placental unit. These dramatic changes influence a wide variety of hematological parameters. Acknowledge of these changes is essential when interpreting the result of hematological investigation to diagnose ormonitor illness pregnant woman.

The study revealed that Hb, PCV and RBCs were decreased significantly (p value =0.03, 0.004, 0.00) which agree with reports showed that the hematological indices changes during normal pregnancy with significant difference of the test group when compared to the control.(Patrick *et al,*2013, Haidar 2012, Mohamed 2015,Albadri 2015).

There wasno statistical significant difference between cases and controls in MCV, MCH and MCHC, this finding was similar to the result obtained by(Patrick *et al* 2013, Haidar 2012, Mohamed 2015, Albadri 2015).

Normally during pregnancy erythroid hyperplasia of the marrow occurs, and RBCs mass increases. However, a disproportionate increase in plasma volume results in hemodilution which cause physiological anemia (Hoffbrand*et al,* 2006). Also during pregnancy there is an increased need for iron. However, not all iron added to the maternal circulation is necessarily for the mother. There is also the need of iron for the development of the fetus. The deficiencies of iron and folic acid were some identified explanatory variables of anemia (Haidar 2012).

At the first trimester the physiological changes is less than other trimesters and the pregnant body can be adapt with this changes that explain not all heamatological parameters affect by physiological changes such as MCV, MCH and MCHC (Mello and Neme 2000),

White blood cells are responsible for body defense during pregnancy, TWBC and neutrophils was reported to be elevated significantly*(p.value*0.05, 0.01) respectively, lymphocytes of

pregnant women decreased significantly *(p.value* 0.00) and there was no significant difference in mixed count in the test group compared to those of the controls.This agrees with previous studies (Khalil 2012, Elgari 2013)who asserted that a TWBCs rising in early pregnancy will remain elevated through pregnancy. This may be as a result of the body building the immunity of the fetus and it is achieved by a state of selective immune tolerance, immunosuppression, and immunomodulation in the presence of a strong antimicrobial immunity.

The platelet count of pregnant women compared to non pregnant women decreased significantly*(P.value* =0.00) inagreement with studies reported that although platelet aggregation increase and the life span decline in uteroplacental circulation in normal pregnancy that explain the reduction in the count (Elgari 2013,Mohamed 2015, Albadri 2015).

According to age group, number of pregnancies in pregnant women and history of abortion the CBC showed no significant difference between groups, this agrees with previous studies (Mohamed 2015, Albadri 2015).

4.2 Conclusion

1- The most frequency 48.8% of pregnant women was divided between 20-30 years old, 65% of pregnant women had multigravidesprevious pregnancies and 77.5% had not previous abortion.

2- RBCs count, Hb and PCV of health pregnant women in first trimester decreased significantly compared to non pregnant women while MCV, MCH and MCHC ofhealth pregnant women increased insignificantlycompared to non pregnant women.

3- TWBCs count was increased significantly especially neutrophils and mixed count insignificantly increased but lymphocytes and Platelets count significantly decreased compared to control group.

4- There was no significant difference between groups of pregnant women according to age, number of pregnancies and abortion.

4.3 Recommendations

1- Hb, PCV, RBCs, TWBCs and platelets count should be perform regularly.

2- Iron profile (serum iron, ferittin) should be asses during pregnancy to minimize pregnancy complications.

3- In the antenatal care with daily oral folate tablets and iron supplements were recommended.

4- The national health systems and antenatal programs should be improvedto facilitate of regular following.

5- Lifestylemodifications, health care interventions and good dietary habits are cornerstones during pregnancy.