DEDICATION

To the heart of my life my mother and Soul of my father. To my brothers and sister, to my teachers and colleagues. I dedicate this work.
ACKNOWLEDGEMENT

First of all thank to my **GOD** for being whom am I, and help me to participate in M.Sc program.

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الخلاصة

هذه دراسة وصفية تحليلية مقطعية هدفت لمعرفة انتشار نقص الدم المنجلى في قبيلة المسيرية. وتم تجميع العينات من مائة شخص من المسيرية (بطن أولاد عمران) وأجريت الدراسة في منطقة الهلال جنوب كردفان في الفترة من أكتوبر 2008 وحتى فبراير 2009 وقد هدفت إلى معرفة وجود مرض نقص الدم المنجلى وحالته الاصابة وعدهم في قبيلة المسيرية وفحصت لجميع العينات صورة الدم الكامل والفحص المنجلى والرحلان الكهربائي.

نتائج الفحوصات أظهرت أن ترد مرض نقص الدم المنجلى هو 12% وحاملى المرض 35% والاصحاء 53% وقد خلصت هذه الدراسة إلى أن: المصابين بالمرض مستوى الهيموغلوبين لديهم أقل من 12 جرام في دبسيلتر وأغلبهم في سن أصغر من 30 سنة، وأن حاملى المرض من أولاد العمومة و الدم الواحد مرتفع جدا نصل 77% نتيجة التزاوج بينهم ونقص المعرفة عن هذا المرض وطريقة انتقاله.

وان متوسط خضاب الدم في كربة الدم الواحدة في المرضى 25.39 وحاملى المرض 24.62 متقارب وكذلك متوسط حجم الخلية في المرضى 87.1 وحاملى المرض 77.03 وتوزيع توزيع خضاب الدم في الخلية الواحدة عند المرضى 31.97 وحاملى المرض 31.89 وعدد الصفائح الدموية في المرضى 394000 وحاملى المرض 238000 وهي نسبة متقاربة. ولكن يكم الاختلاف بين المرضى وحاملى المرض في عدد كريات الدم البيضاء الذي يكون مرتفع عند المرضى وطبيعي عند حاملى المرض. وكذلك الاختلاف يكم في حجم الكريات الحمراء المصغوجه وعدد الكريات الحمراء اللدان متوسطهما منخفض عند المرضى وطبيعي عند حاملى المرض.

وعند اجراء الفحص المنجلى لحاملى المرض كانت نسبة النتيجة السلبية 36.4% ونسبة النتيجة الإيجابية 63.6% مما يعني ان الفحص المنجلى ليس دقيق وأنما هو فحص مبديئ فقط.
ABSTRACT

This was cross-sectional, analytical and prospective study conducted in El hejlij area during period of October 2008 to February 2009. The study was aimed to determine the occurrence of Sickle cell disease and Sickle cell traits among Messira tribe. The study was carried out in 100 predetermined random samples: from Messira tribe (Old Omran). All Samples were tested for the hemoglobin S using Complete blood count (CBC), Sickling test and Hb-electrophoresis. Results were showed that the frequency of Hb SS was 12%, Hb AS was 35% and Hb AA was 53%. The conclusion of the study was that Hemoglobin levels in sickler patients (Hb SS) always under 12g/dl, and these patients were under 30 years of age. The frequency of Hb AS among consaminity cousins was very high due to marriage between them and absent of education about sickle cell disease.

The means of MCH in Sickle cell disease (SCD) was 25.39pg, MCV was 87.15fl, MCHC was 31.97g/dl, PLT was 394×10³. parameters were so close to the Sickle cell trait (SCT) which was MCV 77.03fl, MCH 24.62pg, MCHC 31.89g/dl, PLT238×10³. The difference was in WBC which was high in SCD, but normal in SCT. RBC and PCV were very low in SCD, normal in SCT.

In Sickle cell trait patients Sickling test showed 36.4% negative results, and 63.6% positive results, which meant that Sickling test insignificant for detection of Sickle cell disease, but only Screening test.
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<thead>
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<th>Abbreviations</th>
<th>Meaning</th>
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<tr>
<td>Hb</td>
<td>Hemoglobin</td>
</tr>
<tr>
<td>SCD</td>
<td>Sickle cell disease</td>
</tr>
<tr>
<td>$O_2$</td>
<td>Oxygen molecule</td>
</tr>
<tr>
<td>Hb S</td>
<td>Hemoglobin of sickle cell</td>
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<tr>
<td>Hb A</td>
<td>Hemoglobin of normal person</td>
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<tr>
<td>Hb AS</td>
<td>Hemoglobin of sickle cell Trait</td>
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<tr>
<td>Hb C&amp; Hb D &amp;Hb E</td>
<td>Hemoglobinopathy</td>
</tr>
<tr>
<td>CBC</td>
<td>Complete Blood Count</td>
</tr>
<tr>
<td>NaCl</td>
<td>Sodium Chloride</td>
</tr>
<tr>
<td>TWBC</td>
<td>Total of white blood cell count</td>
</tr>
<tr>
<td>RBC</td>
<td>Red blood cell count</td>
</tr>
<tr>
<td>PCV</td>
<td>Packed cell volume</td>
</tr>
<tr>
<td>MCH</td>
<td>Mean cell Hemoglobin</td>
</tr>
<tr>
<td>MCV</td>
<td>Mean cell volume</td>
</tr>
<tr>
<td>MCHC</td>
<td>Mean cell Hemoglobin Concentration</td>
</tr>
<tr>
<td>PLT</td>
<td>Platelet count</td>
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<tr>
<td>Symbol</td>
<td>Description</td>
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<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>L%</td>
<td>Percentage of lymphocytes in 100 WBC</td>
</tr>
<tr>
<td>N%</td>
<td>Percentage of Neutrophil in 100 WBC</td>
</tr>
<tr>
<td>M%</td>
<td>Percentage of Monocytes &amp; Eosinophils &amp; Basophils in 100 WBC</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Division</td>
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