

Sudan University of Science and Technology
College of Graduate Studies

***The Effect of Hymenolepis nana on
Cellular Immune and Hemoglobin
Level***

***The thesis submitted in partial fulfillment
For the degree of M.Sc. in
Parasitology and Medical Entomology***

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DEDICATION

The candle which burn to my life my
mother

The one whom I live for making his
dreams become true My Father

My sisters

My brothers

My friends

To all whom I love them

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I would like to express my thanks and gratitude to my supervisor Dr .Ali suliman Elhussein , I thanks him for his kind unlimited academic and supports .

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Abstract

The study of *Hymenolepis nana* infection was carried out in Khartoum state hospitals. This study was done to observe the effect of *Hymenolepis nana* infection on hemoglobin level, total white blood cells count and differential white blood cells count, 168 stool specimens were examine using direct wet preparation and formal ether concentration technique, 68 were diagnosed with *Hymenolepis nana*, 50 for individuals infected before and 50 specimens were collected from healthy persons and considered as control. Hemoglobin concentration, total white blood cells count and differential white blood cells count were tested to all population.

The study showed that the prevalence of *Hymenolepis nana* was found to be 40.5%, also showed that the infection with *Hymenolepis nana* among males (63.7%) higher than that of females(36.3%).

The study demonstrated that infection with *Hymenolepis nana* decrease the hemoglobin level with mean value (9.8 g /dl), increase the total white blood cells count with mean value(9.944×10^3) . In differential white blood cells count the results showed that *Hymenolepis nana* infection increase the eosinophils with mean value 2%, and monocytes count with mean value5.7%, and does not affect the neutrophils, basophils and lymphocytes count.

الخلاصة

أجريت الدراسة في مستشفيات ولاية الخرطوم لمعرفة تأثير الدودة القزمية على تركيز الهيموقلوبين وعدد كريات الدم البيضاء والعد التفرقي لكريات الدم البيضاء.

تم اخذ 168 عينة فسحة ثم تم فحصها باستخدام المسحة الرطبة المباشرة وتقنية التركيز باستخدام الفورمالين، 68 منها شخصت بالديدان القزمية، 50 لأفراد أصيبوا من قبل، و 50 جمعت من أفراد أصحاء باعتبارها عينات ضبط، تركيز الدم، وعدد كريات الدم البيضاء والعد التفرقي لكريات الدم البيضاء تم اختبارها لكل العينات.

أوضحت الدراسة إن انتشار الإصابة بنسبة 40.5 % ونسبة الإصابة لدى الذكور 63.7% أعلى من النسبة لدى الإناث 36.3% .

أوضحت الدراسة أن الإصابة بالديدان القزمية أدت إلى انخفاض تركيز الهيموقلوبين 9.8 جرام /دل ، وازدياد عدد كريات الدم البيضاء ، 9.944 $\times 10^3$ ، وفي العد التفرقي أوضحت الدراسة ازدياد الخلايا الحامضية 2% ، والخلايا الآكلة الكبيرة 5.7% ، في حين لم تتأثر كل من الخلايا المتعادلة، الخلايا القاعدية والخلايا اللمفية.

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