

قال الله تعالى

وَقُلْ اَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ  
وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ اِلَىٰ عَالِمِ الْغَيْبِ وَالشَّهَادَةِ  
فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُونَ

صدق الله العظيم

سورة التوبة الآية 105

## ***Dedication***

***To:***

***MY NATIONAL,***

***Dedicated with Love to my great Mother  
and Father, whom I***

***Will be thankful and grateful  
forever***

***To my lovely wife and sons***

***To my brothers& sisters***

***To all my family and friends***

***Who made the ultimate sacrifice and fight  
through hard times***

***To make things possible for me***

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## **Abstract**

This is descriptive case control study, from April 2013 to April 2014, aimed to determine the effect of khat chewing on CBC parameters in Yemen - sana, a .The 329 blood samples were collected from selected were adult Yemenis healthy individuals (289 male and 40 females) at age range between 18-65 =years. Informed consent was obtained from participants (269 khat chewers and 60 control), then 5ml of venous blood was collected in EDTA container, was withdrawn to investigate CBC component for each participant following a well design questionnaire .The result of this study showed that, the means values for Hb , PCV , RBC ,WBC , MCV , M,CH , MCHC and RDW were 15.63g/dl, 47.02%, 5400000c/cmm, 6.400 mm<sup>3</sup>, 84.61 fl, 28.61 pg , 32.83 g/dl , and 14.32 % respectively. This results indicated that the mean values of CBC components were not statistically different from that of control (P >0.05), except the platelets count (P <0.05). The result also showed that the blood film was normal in all individuals except platelets in some cases were inadequate (less than normal). The results of khat consumption when combined to smoking showed that the mean values of Hb, PCV, RBC and platelets count were statistically different from that of control. The study also found no associated between duration of khat chewing, dose of khat on one hand and change on values of tested CBC components on the other. The result of the study showed that, the mean values for differential count white cell Nutro, Lymph and Mono, were 49.82%, 38.89% and 6.59%

respectively. This results indicated that the mean values of differential count white cell were not statistically different from that of control ( $P > 0.05$ ), except the Eosnophil count ( $P < 0.05$ ) This study concluded that, khat consumption has no effect on all haematological parameters except reduced platelets, the action of khat was affected by duration but not affected by gender, and does of khat consumption has no effect on all CBC parameters tested in this study.

## ملخص الدراسة

هدفت هذه الدراسة الوصفية في الفتره الزمنيه من ابريل 2013 الي ابريل 2014 لتعيين قياسات الدم لاصحاء (329 يتعاطون) (يمضغون) القات يوميا في اليمن- صنعاء، تتراوح أعمارهم ما بين 18-65 سنة ، أخذت موافقة المشاركين ، (269 يتعاطون القات ، 60 المجموعة الضابطة) تم سحب 5مل من الدم الوريدي من كل وفقا لأستماره معده (CBC components) منهم .اجري اختبار قياسات الدم لذلك. لوحظ ان المتوسط الحسابي لكلا من: الهيموجلوبين، حجم الكريات المكدوسة، كريات الدم الحمراء، كريات الدم البيضاء، حجم الكرية الوسطى، هيموجلوبين الكرية الوسطى، التركيز الوسطى لهيموجلوبين و توزيع كريات الدم  $5400000\text{c/cmm}$ ،  $6.400\text{ mm}^3$ ،  $\text{fl}$   $15.63$  (RDW) الحمراء  $47.02\%$ ،  $\text{g/dl}$  هو  $32.83\text{g/dl}$ ،  $28.61$ ،  $84.61$ ،  $14.32\%$  بالتتابع .

أوضحت النتائج أن قيم قياسات الدم عند الذين يتعاطون القات تختلف اختلافا ( $P > 0.05$ )، (معنويا عن الناس الذين لا يتعاطون القات (المجموعة الضابطة) أختلفت أختلافا معنويا على (thrombocytopenia.) بأستثناء الصفائح الدموية ايضا شوهدت نتائج شكل خلايا الدم تحت المجهر ، ( $P < 0.05$ ) المجموعة الضابطة انها طبيعية عند كل الاشخاص المشاركين بأستثناء البعض لوحظ نقص في خلايا ( $\text{Hb}$  ,  $\text{PCV}$  ,  $\text{RBC}$  ,  $\text{plts}$ ) الصفائح الدموية. لوحظ ان المتوسط الحسابي لكلا من ( $P$ ) عند ماضعين القات المدخنين تختلف اختلافا معنويا مع المجموعة الضابطة ( $P < 0.05$ ).

ايضا لوحظ ان المتوسط الحسابي لكلا من: كريات الدم البضاء العدلة، كريات الدم البيضاء اللمفاوية و كريات الدم البيضاء الوحيدة هو  $49.82\%$  و  $38.89\%$  و  $6.59\%$  بالتتابع. أوضحت النتائج أن قيم قياسات الدم عند المخزنين لا تختلف بأستثناء ( $P > 0.05$ ) (اختلافا معنويا عن الناس الغير مخزنين (المجموعة الضابطة) كريات الدم البيضاء المحببة (اليوزينية) أختلفت أختلافا معنويا على المجموعة الضابطة ( $P < 0.05$ ).

خلصت الدراسة الى أن الناس الذين يتعاطون (يمضغون) القات معرضين لنقص تعداد الصفائح الدموية أكثر من الذين لا يمضغون القات .وان النقص يعتمد علي فترة تعاطي القات ولايعتمد على النوع ،العمر او كمية القات المتناول

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## **List of Abbreviations**

CBC	Complete blood count
Hb	Haemoglobin
MCH	Mean cell heamoglobin
MCV	Mean cell volume
MCHC	Men cell heamoglobin concentrate
PCV	<u>packed</u> cell volume
Plts	Platelet count
RDW	Red cell distribution width
RBC	Red Blood Cell
SD	Sprague-Dawley Rats
WBC	White blood cells
Monos	Monocytes
Neutr	Neutrophils
Lymphs	Lymphocytes
WHO	World health organization
FBC	Full blood count
Fl	Femtolitre
Pg	Picogram
MPV	Mean Platelet volume

PDW	Platelet distribution width
CFU-E	Colony-forming unit aerythroid
CFU-G	Colony-forming unit granulocyte
CFU-GM macrophage	Colony-forming unitagranulocyte,
CFU-Mega	Colony-forming unitamegakaryocyte
NK	Natural killer cell
Tpo	Thrombopoietin
Ig	Immunoglobulin
HDW	Haemoglobin distribution width