الآية

بسم الله الرحمن الرحيم

قال تعالى:

وَأَنفِقُوا فِي سَبِيلِ اللَّهِ وَلَا تُلْقُوا بِأَيْدِيكُمْ إِلَى التَّهْلُكَةِ ۛ وَأَحْسِنُوا ۛ إِنَّ اللَّهَ يُحِبُّ الْمُحْسِنِينَ

صدق الله العظيم

سورة البقرة الآية **(١٩٥)**

Dedication

To my father…….

Who teaching me the meaning of the given

To my mother…….

Who lactating me the meaning of the patience and loyality

To my lovely husband……..

To my sisters and brothers…….

To the candles of science and acknowledgment

My teachers……..

To my friends who are sharing me in the roads

Acknowledgment

Praise to god who gave me the health, strength and patience to conduct this study.

Sincere gratitude goes to my supervisor Dr Mirghani Mohammed Ali for continuous supervision.

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Very special thanks to all Sudanese smoker and passive smokers who allow me to take blood samples for this study.

Abstract

This is an analytical observational descriptive study, conducted to determine the effect of cigarettes smoking and passive smoking of male Sudanese smokers in the period from January 2011 To June 2011.

Seventy (70) active smokers and thirty five (35) passive smokers were informed about the study and informed consent for participation was obtained . 2.5 mls of venous blood was collected in ethylene diamine tetra acetic acid (EDTA)containers and investigated for complete blood cell count (CBC)[using semi automated hematological analyzer(sysmex KX 21N)]. And statistical package for social science (SPSS) computer program version 16 was used for data processing.

The results showed that there was no significant difference between active smoking and passive smoking on CBC (p value<0.05).

Total erythrocytes, hemoglobin concentration and packed cell volume was significantly increased in smokers and passive smokers when compared with non smokers (p value= 0.000, 0.009, 0.000) respectively.

Total leukocytes count was significantly increased in smokers and passive smokers when compared with non smokers (p = 0.000).

There is no significant differences in smokers, passive smokers and non smokers in neutrophil%, lymphocyte%, MXD%, and platelet count (p = 0.084, p = 0.249, p = 0.821 and p=0.37) respectively

مستخلص الاطروحة

هذه دراسة تحليلية وصفية تم اجراؤها لتحديد اثر التدخين والتدخين السلبى على تعداد الدم الكامل عند الذكور السودانين فى فى الفترة من شهر يناير2011 الى يونيو2011.

تم تنوير سبعين(70) مدخنا" وخمسة وثلاثين(35) مدخن سلبى بأهداف البحث واخذت موافقتهم. ثم اخذت عينات الدم 2.5 مل من كل شخص فى حاويات تحتوى على مانع تجلط (ethylene diamine tetra acetic acid (EDTA)) ثم إجراء تعداد الدم الكامل بإستخدام جهاز (Sysmex) رقم (KX -21 N) يعمل اوتوماتيكيا وبرنامج الحزم الاحصائية للعلوم الاجتماعية نسخة رقم (16) للتحليل الاحصائى.

أظهـرت النتائج انه لايوجد فرق ذا دلالة احصائية فى اثر التدخين لدى المدخنين والمدخنين السلـبيين (P value <0.05). كما وجد انة هنالك زيادة ذات دلالة احصائية فى مجموع تعداد خلايا الدم الحمراء، وتركيز خضاب الدم للخلية وحجم الخلية المحشوة لدى المدخنين والمدخنين السلبيين مقارنة مع غير المدخنيين (0.000,0.009,0.000 ,P value = 0.000) على التوالى.

هنالك زيادة ذات دلالة احصائية فى مجموع تعداد خلايا الدم البيضاء لدى المدخنين والمدخنين السلبيين مقارنة مع غير المدخنيين (P value = 0.000) كما انه لم توجد فروق ذات دلالة احصائية فى التعداد التميزى لخلايا الدم البيضاء والصفائح الدموية لدى المدخنين والمدخنين السلبيين مقارنة مع غير المدخنيين (P = 0.084)، (P=0.249)، (P =0.821) و (P = 0.37).

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List of abbreviation

2,3DPG	2,3-diphosphoglycerate
ADP	adenosine diphosphate
ATP	adenosine triphosphate
BFU-S	brust forming unit-erythroid
BM	bone marrow
PM	particular matter
CBC	complete blood cell count
CD	cluster of differentiation
CFU-S	colony forming unit-stem
CFU-E	colony forming unit-erythroid
CFU-GEMM	colony forming unit-granulocyte eosinophil megakaryocyte monocyte
CGU-Meg	colony forming unit- megakaryocyte
COPD	chronic obstructive pulmonary disease
CO	carbon mono oxide

CO_2	carbon dioxide
EDTA	ethylene diamine tetra acetic acid
EMP	Embeden Meyerhof pathway
ETS	environmental tobacco smoke
EPO	erythropoietin
Hb	hemoglobin
HCT	haematocrit
HLA	human leukocyte antigen
HMS	hexose monophosphate shunt
IL-3	inter leukein-3
ICSH	international council for standardization of hematology
MCH	mean cell hemoglobin
MCHC	mean cell hemoglobin concentration
MCV	mean cell volume
NADH	nictotine amide adenine dinucleotide
NADHP	nictotine amide adenine dinucleotide phosphate
O_2	oxygen

PCV	packed cell volume
Plt	platelet
PPP	pentose phosphate pathway
RBCs	red blood cells
RCC	renal cell carcinoma
RDW	red cell distribution width
Retic	reticulocyte
RES	reticulo endothelial system
RNA	ribonucleic acid
SCF	stem cell factor
SD	standard deviation
SEM	scanning electron microscopy
SHS	second hand smoke
SIDS	sudden infant death syndrome
VWF	von Willebrand Factor
WBCs	white blood cells