

High blood pressure and its relationship to the standards of the blood in sadr general hospital

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Abstract

This paper deals with an applied study on high blood pressure and its relationship to liver enzymes and some of the elements and standards of the blood. Where the study has carried out in the Sadr General Hospital on a sample of (150) people infected with blood pressure and for different age groups and both sexes (75) male and female, in order to study the relationship between injury and age groups as well as to describe any of the greater factors affected by the greater for the blood pressure as well as a statement the relationship between these elements using correlation coefficients and the statement of the regression line, which links between these factors and blood pressure Statistical program (SPSS) has been used

الخلاصة

هذه الورقة تتناول دراسة تطبيقية على ضغط الدم العالي وعلاقتها بإنزيمات الكبد والبعض من العناصر ومعايير الدم. حيث ان هذه الدراسة نفذت في مستشفى الصدر العام على عينة تتكون من (150) أصابة بضغط الدم ولمجموعة الأعمار المختلفة وكلتا الأجناس (75) ذكر و(75) أنثى، لكي يدرس العلاقة بين الجرح ومجموعة الأعمار ايضا استعملنا معامل الارتباط وبيان خط الارتداد، الذي يربط بين هذه العوامل وضغط الدم. حيث استعمل البرنامج الإحصائي SPSS

Introduction

Blood pressure is a common disease in the community and for both sexes. It is the pressure of the blood on the walls of blood vessels.

There are several factors that affect blood pressure:

heart rate, venous blood flow rate, and energizes the constriction of blood vessels, the viscosity of blood, alcohol, smoking, diabetes, the causes of heredity, nervousness What concerns us in this research is that there are standards in human blood [ESR, Hb, PCV, WBC] required statement of the impact of these standards in blood pressure and the relationship between them.

Theoretical aspect

Correlation Analysis of variance and Regression equation

The correlation coefficient (Pearson) in the metrics that measure the strength of the relationship between the variables of that was used in this research as a measure of the relationship between the ages of infected blood and standards(WBc, ESR,PCV,Hb). The regression determined the nature of the relation among of these phenomenon were selected by choosing this link t

The correlation coefficient is

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$

$$t_c = r \sqrt{\frac{n-2}{1-r^2}}, \quad |r| \leq 1$$

Also we study the comparison between males and females infected blood pressure to check whether there are significant differences between the injury of the disease using gender selection of t_c

$$t_c = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2}} \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

For the purpose statement of the most influential factor in blood pressure Use the Table of analysis of variance and LSD

Source of variation	Df	ss	ms		Test result
Between treatmet	k-1	ssk	mst	$\frac{mst}{mse}$	Comparison of calculations with F values seriously and Mechanism for the purpose of acceptance or rejection of the null hypothesis
within treatmet (error)	n-k	sse	mse	Found from the table[(k-1),(n-k), α]	
Total	n-1	ssT			

$$LSD = \sqrt{\frac{2mse}{r}} * t_{(n-k), \alpha}$$

$$SS_t = \frac{\sum y_i^2}{r} - \frac{(\sum y_{ij})^2}{n}$$

$$SS_T = \sum (y_{ij})^2 - \frac{(\sum y_{ij})^2}{n}$$

$$SSe = SS_T - SS_t$$

$$mst = \frac{SS_t}{k-1} \Rightarrow \Rightarrow \Rightarrow mse = \frac{SSe}{n-k}$$

the regression equation is

$$\beta_0, \beta_1 \text{ are constant}, \quad \beta_0 + \beta_1 + \varepsilon_i \quad Y =$$

Applied aspect

Table (1) the relationship between the standards of the blood and in the age groups (male patients blood pressure)

Age groups	WBC	PCV	Hb	ESR
1 – 15	2.8	1.9	6.1	3.6
16 – 30	3.04	2.5	6.9	3
31 – 45	8.6	0.5	1.2	6.7
46 – 60	8.4	0.5	1.5	3
61 – 75	5.7	0.2	1.1	5
R	0.63	-0.84	-0.84	0.28
T	3.59	5.53	5.53	1.12

Note in the table show that there is a direct correlation between blood standards (WBC, ESR) which means that any increase in age leads to increase in these standards.

The criteria for blood (PCV, Hb), there is an inverse relationship between these standards and any age that any increase in age there is a decrease in the standards.

$t_{0.05} = 1.9974$

Table (2) explain that the relationship between the standards of the blood and the age groups (females infected blood pressure).

Age groups	WBC	PCV	Hb	ESR
1 – 15	2	2.7	7.6	4.8
16 – 30	2.7	1.9	5	4.5
31 – 45	9.2	0.5	1.2	9.5
46 – 60	8.6	0.4	1.1	6.5
61 – 75	5.1	0.3	1.2	6.7
R	0.61	-0.92	-0.89	0.90
T	2.77	8.6	7	7.44

we notice that there is a positive relationship between the standards of blood (ESR, WBC) and ages of females infected with any blood pressure that any increase in the age offset by an increase in living standards.

The criteria for blood (Hb, PCV), there is an inverse relationship between them and between the ages of females infected blood pressure means that any increase in the age of female offset by the decrease of these standards, where the value of (t) the table below the level of significance (0.05) and the degree of freedom of 74 is 1.99

Table (3)a comparison between male and female patients blood pressure based on the criteria for blood

Test result	T Spreadsheet below the level of Significance 0,05	t Calculation	Females		Males		Gender Criteria for blood
			variance	Mean	variance	Mean	
non sign non sign non sign non sign	2.05	0.54	10.9	5.5	7.8	5.7	WBC
	2.05	0.87	1.2	1.2	1.03	1.12	PCV
	2.05	0.81	8.7	3.2	8.3	3.36	Hb
	2.05	0.06	3.9	6.4	2.5	9.24	ESR

we notice that the above table shows that there is no there are significant differences between male and female infected blood pressure based on the standards of the blood where it was noted that the value t calculated is smaller than $t_{0.05,148} = 1.96$

Table (4) comparison between the slandered of the blood to determine which one of the standards is more effective in any age group for males with high blood pressure.

Source of variation	df	ss	ms	F _{cal}	F _{lab}	Test result
Between treatment	4	58.4	14.6			Sign 31 - 45 (WBC,ESR)
Within treatment (error)	15	56.5	3.8	3.84	3.08	
Total	18	114.9				

Lsd = 1.3

We note that the most impact factor is the WBC and ESR at the age 31-45 category

Table (5) comparison between the standards of the blood to determine which one of the standards is most influential people in any age group for females infected blood pressure

Source of variation	df	ss	Ms	F_{cal}	F_{tab}	Test result
Between treatment	4	88.7	22.2	4.36	3.08	Sign 31 - 45 (WBC,ESR)
Within treatment (error)	15	76.4	5.09			
Total	19	165.1				

Lsd = 1.52

Note in the above table and the value of Lsd that the factors are more affected by WBC, ESR in category 31 to 45. Under $t_{0.05}$

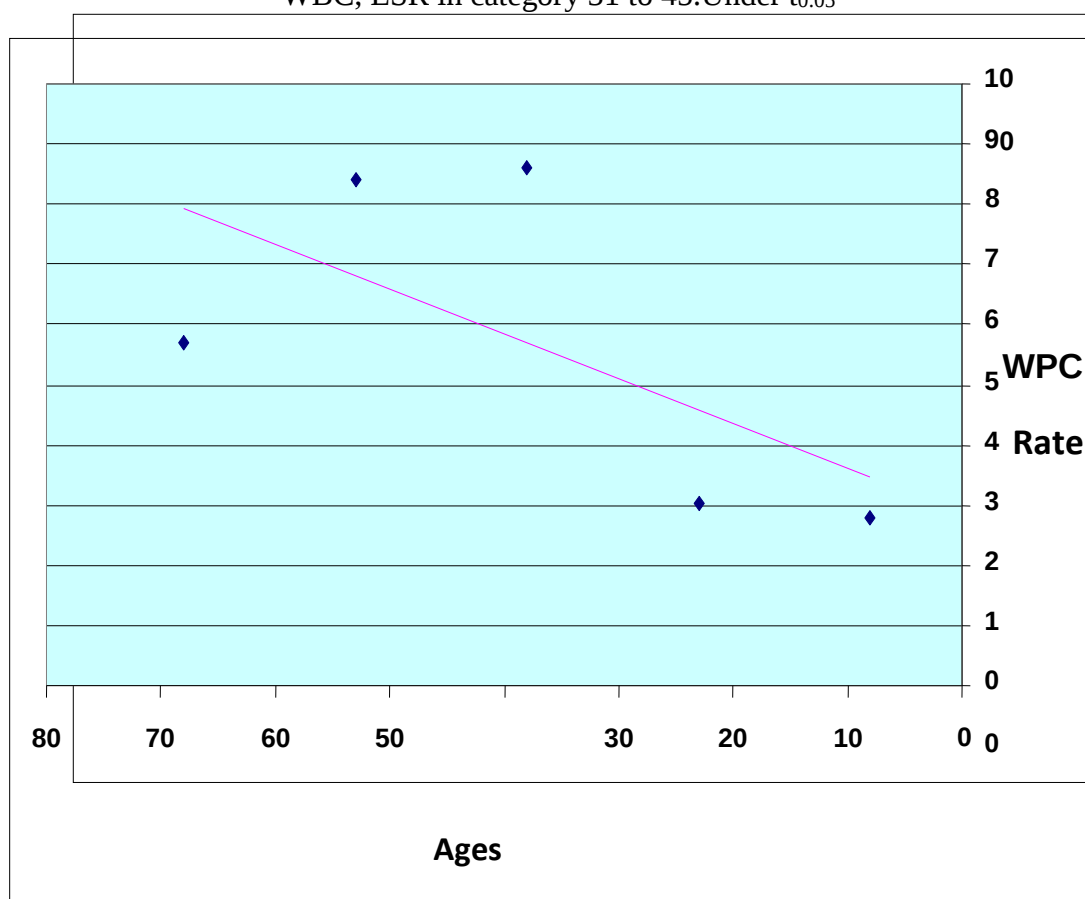


Figure (1)
the relationship between blood pressure with age (male) with a standard blood WBC

$$r = 0.63, y = 1.1 - 2.2x$$

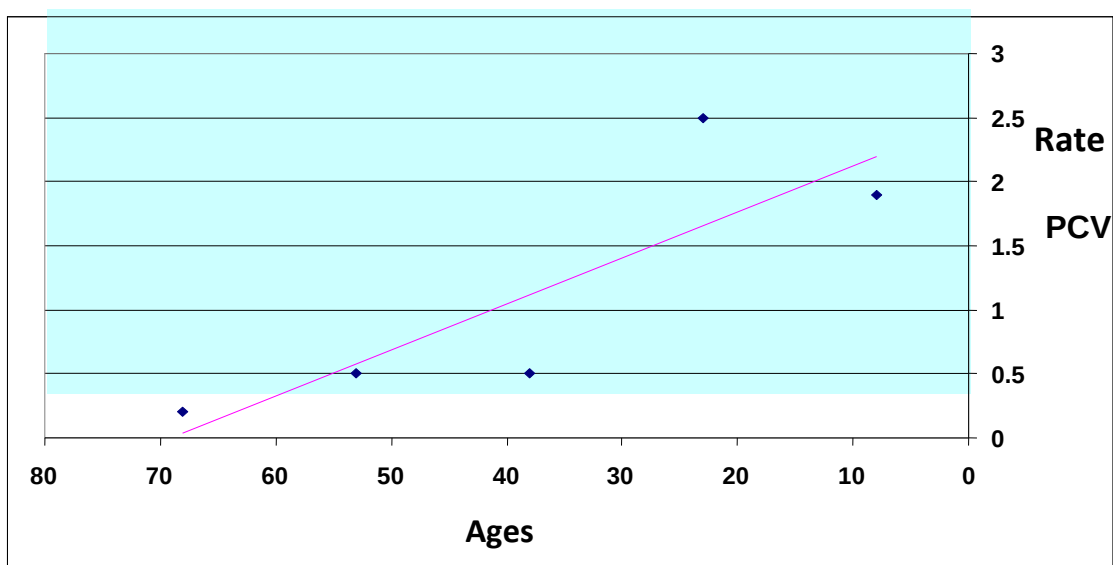


Figure (2)
the relationship between blood pressure with age (male) with a standard blood PCV

$$y=5.3-2.6x \quad r = - 0.84$$

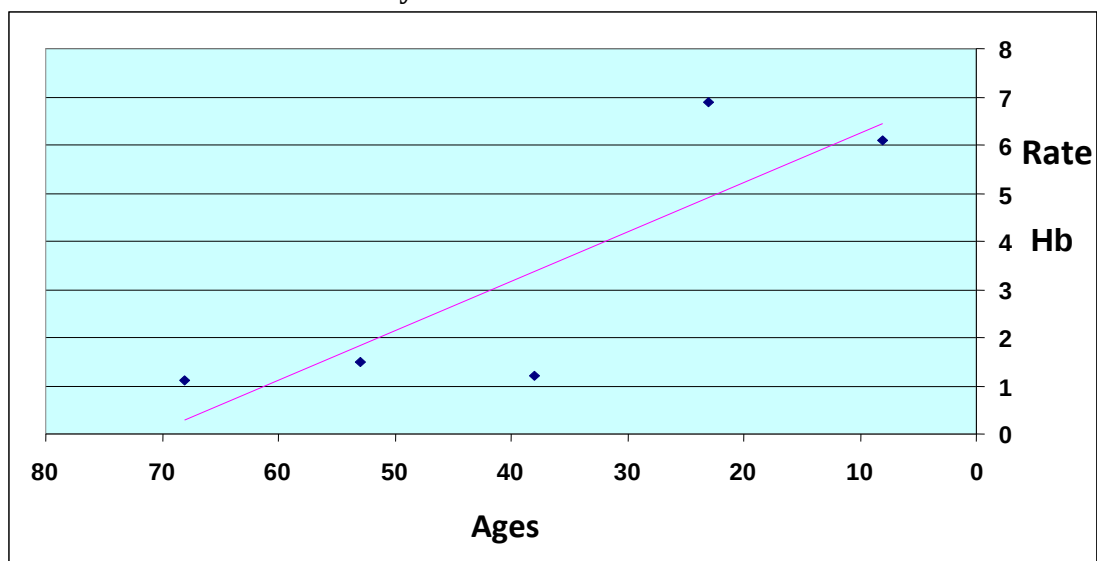


Figure (3)
the relationship between blood pressure with age (male) with a standard blood Hb

$$y=0.3-2.6x \quad r = - 0.84$$

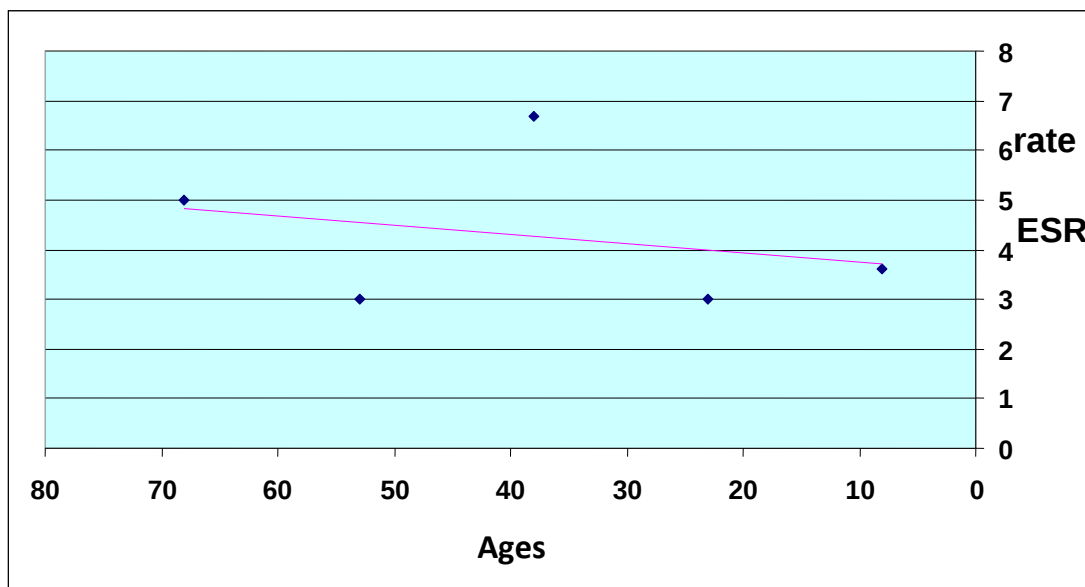


Figure (4)
the relationship between blood pressure with age (male) with a standard blood ESR

$$y=0.1+0.7x \quad r = 0.28$$

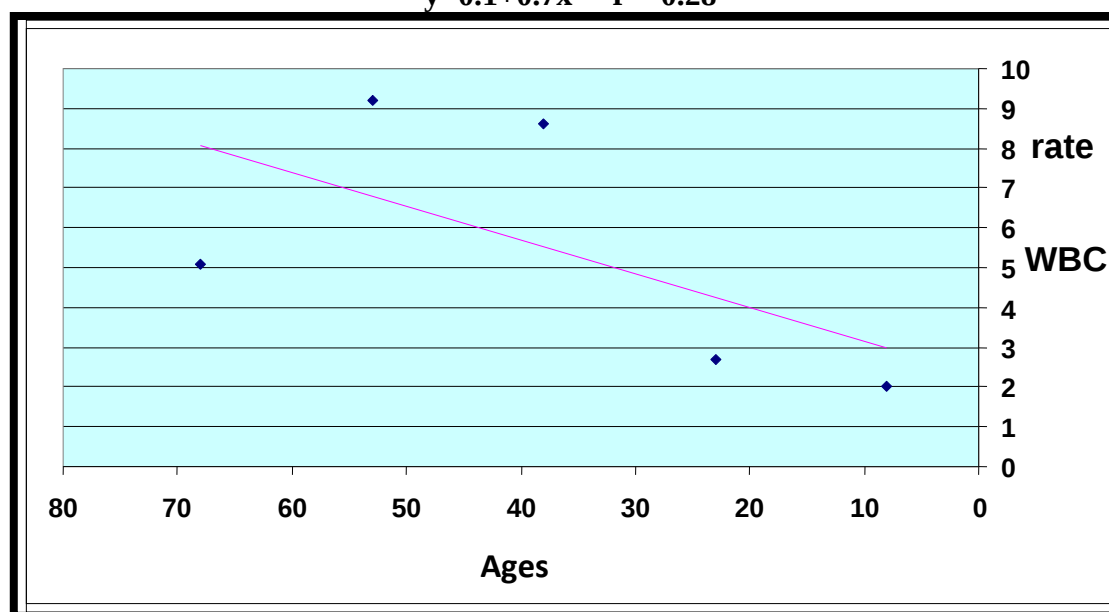


Figure (5)
the relationship between blood pressure with age (females) with a standard blood WBC

$$y=0.4 +1.9x \quad r = 0.61$$

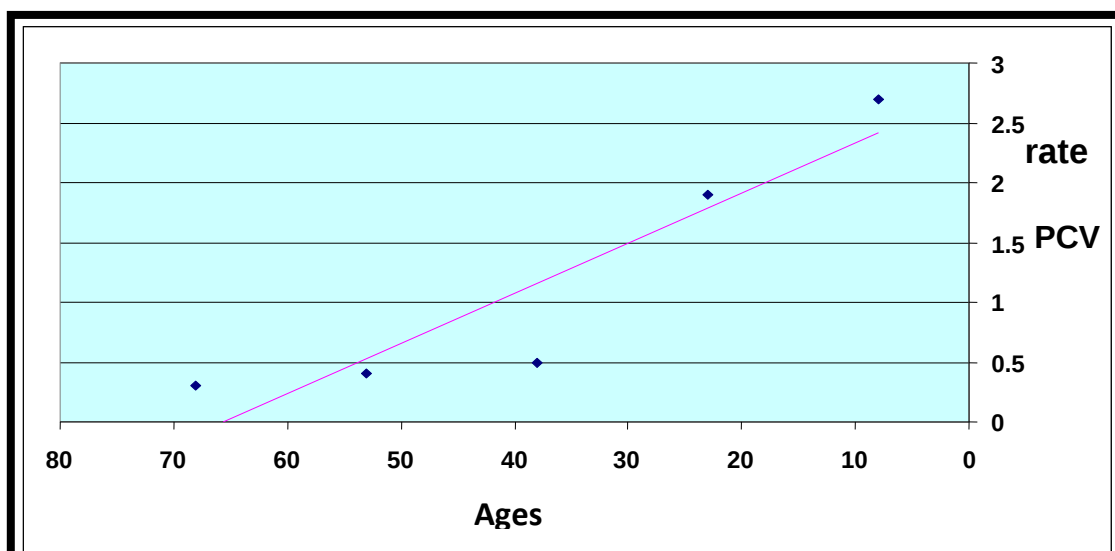


Figure (6)

the relationship between blood pressure with age (females) with a standard blood PCV

$$y=1.8-3.6x \quad r = - 0.92$$

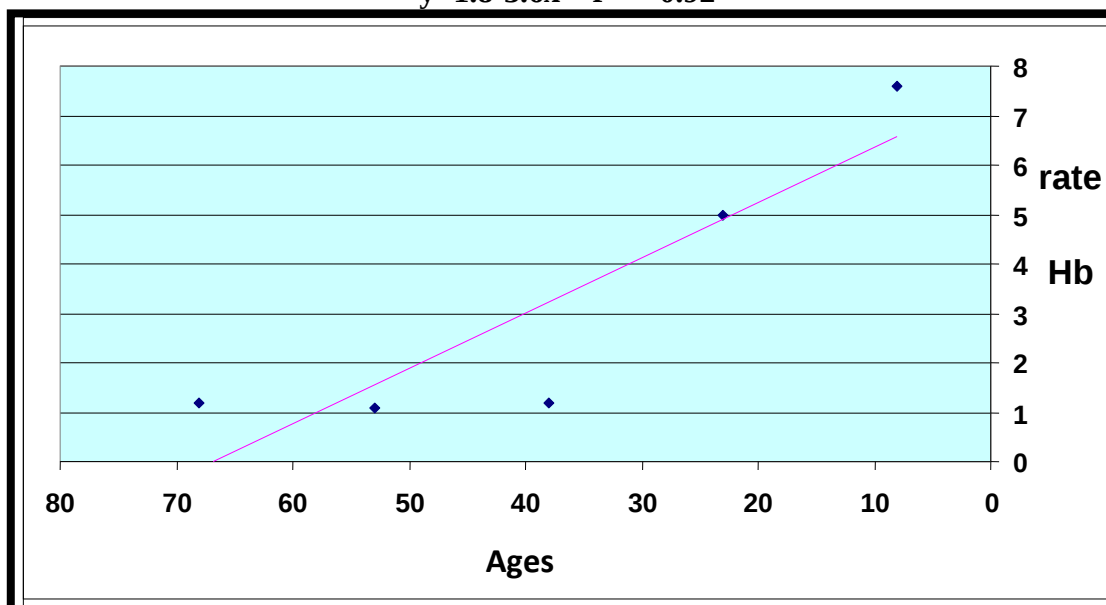


Figure (7)

the relationship between blood pressure with age (females) with a standard blood Hb

$$Y=1.7-3.2x \quad r = - 0.89$$

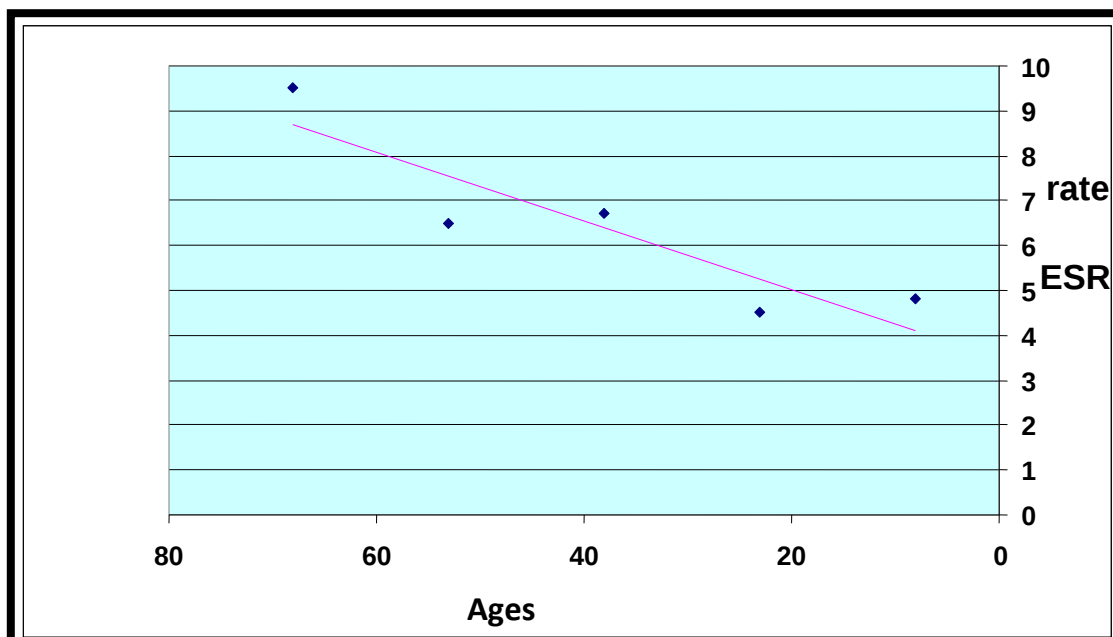


Figure (8)

the relationship between blood pressure with age (females) with a standard blood ESR

$$y=1.9+3.9 \quad r = 0.90$$

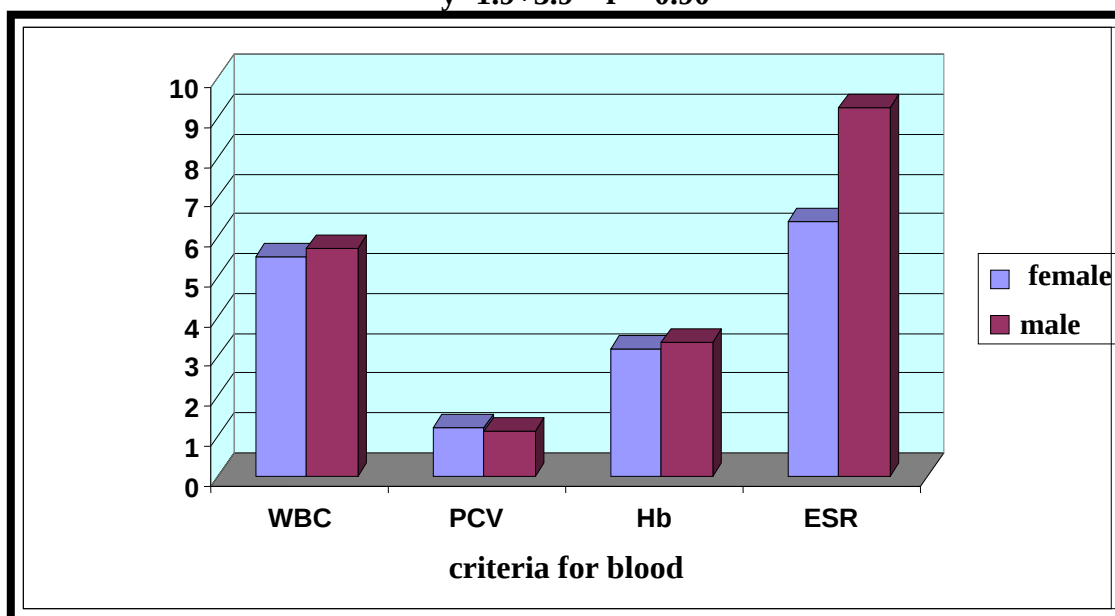


Figure (9)

the relationship between male and female patients blood pressure based on the criteria for blood

$$t = 0.34 \quad \text{non sign}$$

Conclusions

When studying the phenomenon of infection and blood pressure in both sexes (male and female) show that there is no there is no difference between the sexes. It also shows that there is a positive relationship and the inverse result of blood pressure between the blood and standards for those age groups.

It also shows that there are specific age groups are affected by the disease and is 45-31 classes from 0.60 to 46 and is due to the reasons Mykoluggih inside the human body and this known to the specialist in the field of medicine.

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