Analysis of Age Categories For women Infected by cervix inflammation by using Variance Analysis(ANOVA)

تحليل الفئات العمرية للنساء المصابات بالتهاب عنق الرحم بواسطة تحليل التباين (ANOVA)

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Abstract

The research dealt with an applied study about the infection of cervix in women recorded for the years 2005, 2006 and 2007 in AL-Sadir Hospital collected data were arranged and classified into age categories together with causes of infection and then were analysis by variance analysis .The statistical program(STATISTICA) was used to indicate the women of most affection by this disease and which of the causes of most effect on women to be infected by cervix inflammation.

الملخص:-

يتناول هذا البحث دراسة تطبيقية حول الإصابة بعنق الرحم لدى النساء المسجلة في مستشفى الصدر للأعوام 2005, 2006, 2007 حيث تم جمع البيانات وترتيبها وتبويبها من حيث الفئات العمرية وأسباب الإصابة ومن ثم تحليلها بواسطة تحليل التباين.

استخدم البرنامج الإحصائي (STATISTICA) لبيان أكثر الفئات العمرية تأثراً بهذا المرض وأي الأسباب الأكثر تأثيراً

INTRODUCION

In This research we have dealt with an applied study about the infection by cervix inflammation recorded in AL- Sadr Hospital in AL-Najaf for the years 2005,2006, and 2007, were collected data concerning this disease were arranged and classified to be analyzed by variance analysis. It was found that Bacteria, fungi and vaginal Hairs caused this disease .

The aim of This research is to determine which of the age cartage riese of women of most affection by this disease and which of the causes of most effect. This was done by classifying women in to some age categories STATISTICA and Excel were used to analyses the data and 0.05 level was used. The data obtained by there searcher whereas following:

Theoretical aspect

Analysis of variance:

Analysis of variance is one of the procedures that are used to compare between more than two treat mints and then it can be Known which of the treatments are of the most affection using LSD formulas.

The table below indicates the formulas used in the table of analysis of variance.

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Test Result
Between treatment	k-1	ssk	mst	$\frac{mst}{mse}$	Found from the table [(k-1),(n-k) ,α]	Determine weather there are significant differences or no by comparison between calculated and tabulated F.
Within treatment (error)	n-k	ssE	mse			
Total	n-1	ssT				

were

LSD = $\sqrt{\frac{2mse}{r}}$ * $T_{tab}[(n-k).\alpha]$

1- SSt = $\sum \frac{yi^2}{r}$ - $\frac{(\sum Y_{ij})^2}{n}$

2- SST=$\sum Y_{ij}^2$ - $\frac{(\sum Y_{ij})^2}{n}$

3- SSE=SST-SSt

And k refers to number of classes used in this research

n refers to total sample size

= 0.05 α

MST = $\frac{SST}{k-1}$

MSE =$\frac{SSE}{n-k}$

Applied aspect

1- Introduction:-

The data was arranged and analysis by using the statistical program SAISTICA to known which of the categories of the most subjection to cervix inflammation disease and the which of the causes of the most effect or affection on women what the researcher obtained is indicted in the results .

2- Results and Discussion

2.1 : Tables (1), (2), and (3) represents the number of women infected by cervix inflammation for the years 2005,2006 and 2007 respectively.

Table (1) represent the number of women infected by cervix inflammation for the years 2005

Age category	Cones of infection			Total
	Bacteria	Fungi	Vaginal hairs	
17-23	3	1	2	6
24-30	10	4	4	18
31-37	30	20	14	64
38-44	20	12	9	41
45-51	8	4	3	15
52-58	2	2	2	6
Total	73	43	34	150

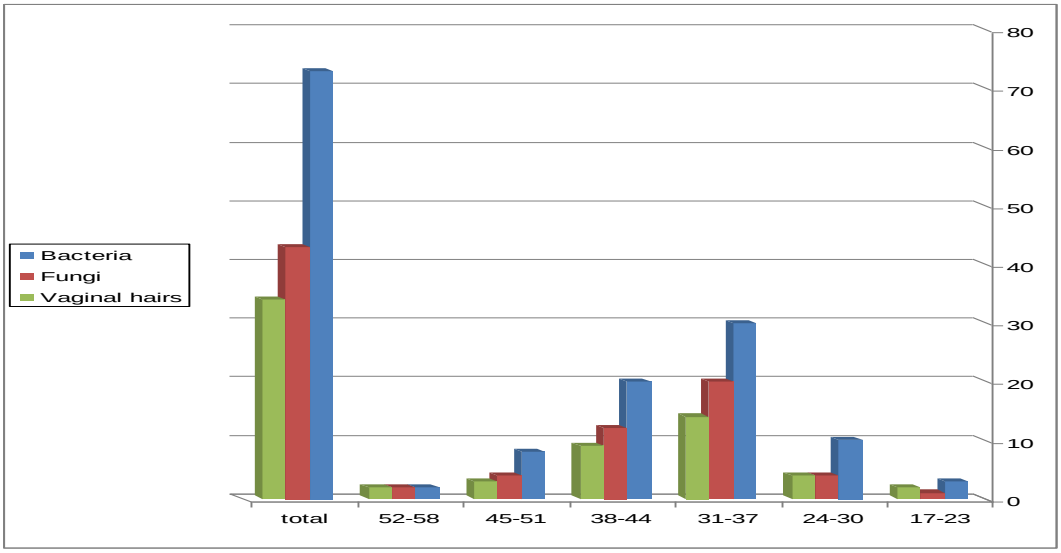
Table (2) represent the number of women infected by cervix inflammation for the years 2006

Age category	Cones of infection			Total
	Bacteria	Fungi	Vaginal hairs	
17-23	4	1	2	7
24-30	13	5	2	20
31-37	54	13	8	75
38-44	23	7	3	33
45-51	9	2	1	12
52-58	1	1	1	3
Total	104	29	17	150

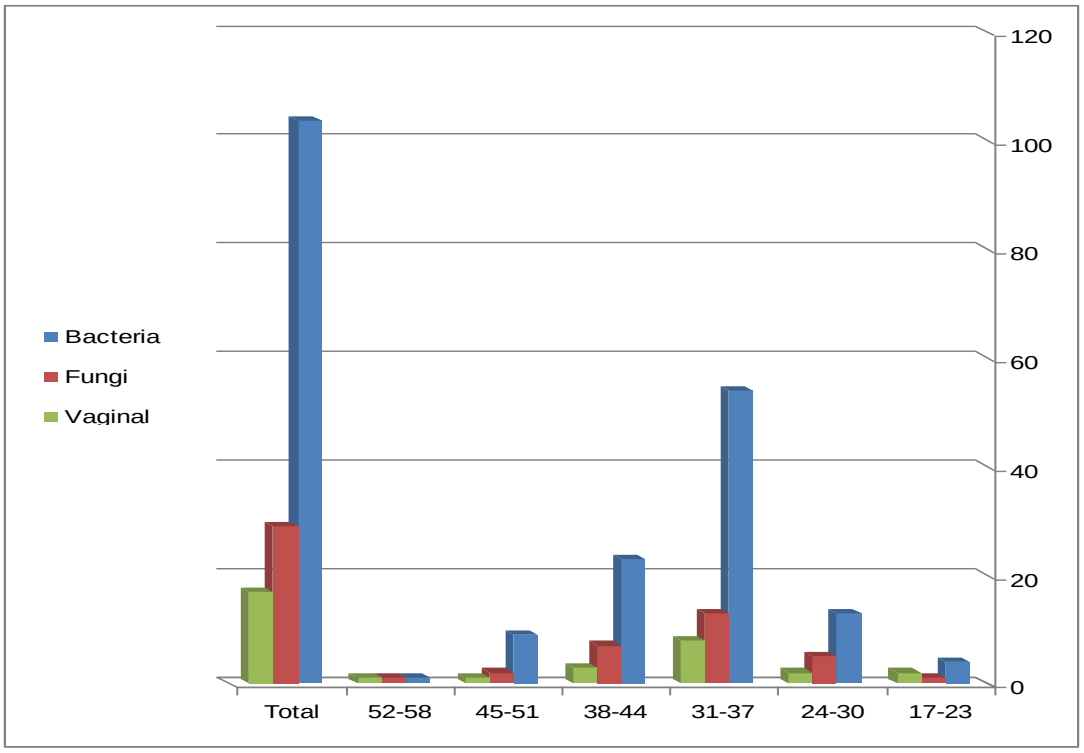
Table (3) represent the number of women infected by cervix inflammation for the years 2007

Age category	Cones of infection			Total
	Bacteria	Fungi	Vaginal hairs	
17-23	5	2	1	8
24-30	18	6	1	25
31-37	40	15	4	59
38-44	22	9	3	34
45-51	10	5	2	17
52-58	4	2	1	7
Total	99	39	12	150

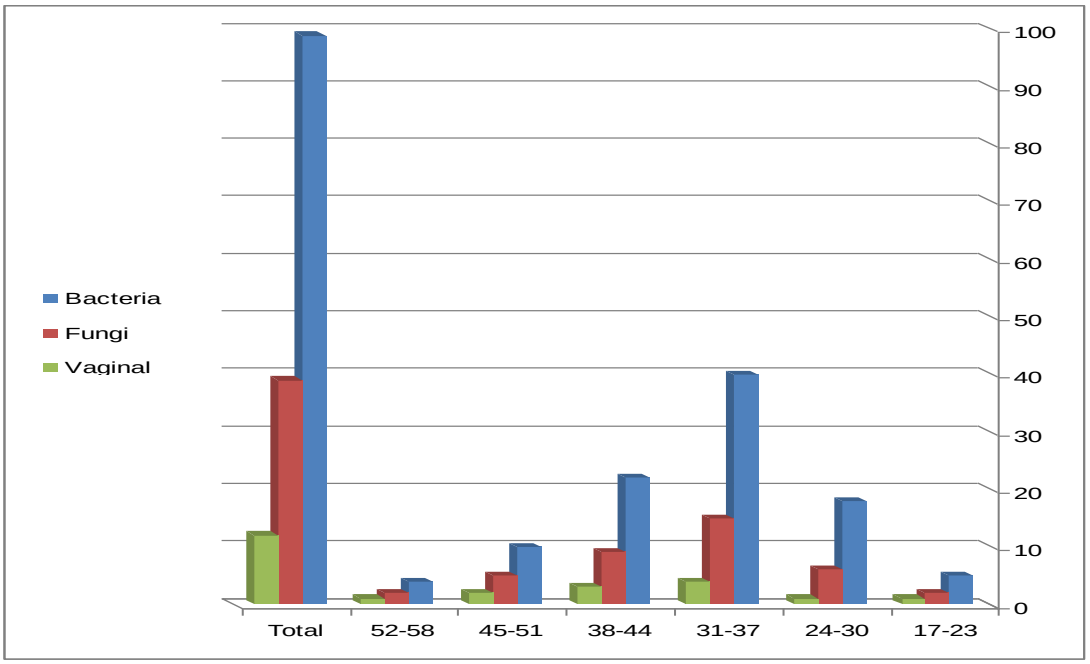
2.2: Graphs (1), (2), and (3) represents the number of women infected by cervix inflammation for the years 2005, 2006 and 2007 respectively.



Figure(1) represent the number of women infected by cervix inflammation for the years 2005



Figure(2) represent the number of women infected by cervix inflammation for the years 2006



Figure(3)represent the number of women infected by cervix inflammation for the years 2007

2.3- Tables (4),(6) and (8)

Represents the variance analysis for the categories of the most subjection to cervix inflammation disease for the year 2005,2006 and 2007 respectively . while Tables (5), (7) and (9) Represents the variance analysis for the causes of the most effect on women to be infected by cervix inflammation disease for the years 2005,2006, and 2007 respectively.

Table (4) Represent the variance analysis for the categories of the most subjection to cervix inflammation disease for the year 2005

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	5	882.6	176.7	9.01	3.11	2 6 21.3 13.7 5 2	sign
Within treatment (error)	12	235.4	19.6				
Total	17	1118					

1-The categories of most subjection are (31-37), (38-44).

2-The value of F refers to the sing fiancé of the age effect on the infection by cervix inflammation disease below the level α = 0.05.

3-LSD value = 7.88

Table (5) Represent the variance analysis for the causes of the most effect on women to be infected by cervix inflammation disease for the years 2005

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	2	439	219.5	4.8	3.68	12.2 7.2	sign
Within treatment (error)	15	679	45.3			5.7	
Total	17	1118					

1-The cause of most effect on women is Bacteria
2-value of F refers to sing fiancé of the cause effect on women below the level α = 0.05
3-LSD value = 8.3.

Table (6) Represent the variance analysis for the categories of the most subjection to cervix inflammation disease for the year 2006

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	5	1688.7	337.7	3.7	3.11	2.3 6.7	sign
Within treatment (error)	12	1105.3	2.1			25 11 4 1	
Total	17	2794					

1-The categories of most subjection are (31-37) , (38-44)
2-The value of F refers to the sing fiancé of age effect on the infection by cervix inflammation disease below the level α =0.05
3-LSD value = 17.08.

Table (7) Represent the variance analysis for the causes of the most effect on women to be infected by cervix inflammation disease for the years 2006

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	2	1041	520.5	4.2		17.3 4.8	sign
Within treatment (error)	15	1853	123.5		3.68	2.8	
Total	17	2794					

1-The cause of most effect on women is Bacteria.
2-value of F refers to the sing fiancé of the cause effect on women below the level α = 0.05.
3-LSD value = 13.7.

Table (8) Represent the variance analysis for the categories of the most subjection to cervix inflammation disease for the year 2007

Source of variation	d.f	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	5	1468.5	293.7	3.3	3.11	2.7 8.3 19.3	sign
Within treatment (error)	12	1068.5	89.04			11.3 5.7 2.3	
Total	17	2537					

1-The categories of most subjection are (31-37) , (38-44)
2-The value of F refers to the sing fiancé of age effect on the infection by cervix inflammation disease below the level α =0.05
3-LSD value = 16.8.

Table (9) Represent the variance analysis for the causes of the most effect on women to be infected by cervix inflammation disease for the years 2007

Source of variation	df	ss	ms	F_{cal}	F_{tab}	Mean	Test Result
Between treatment	2	861	430.5	3.85	3.68	16 6.5	sign
Within treatment (error)	15	1676	111.7			2	
Total	17	2537					

1-The cause of most effect on women is Bacteria.
2-value of F refers to the sing fiancé of the cause effect on women below the level α = 0.05.
3-LSD value = 12.5

Conclusions

1-The categories of the most subjection to be infected by cervix inflammation disease are (31-37) and then (38-44).
2-The cause of the most effect on women to be infected by cervix inflammation disease is Bacteria and then Fungi.

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