**APPENDIX 1**

Student T-test was used to determine the probability that the difference between the means of

the lung function test of subjects and control was significant.

X1 = Lung function value of subjects.

X2=Lung function values of control.

X1=321; X2= 433 ; X12103041 X22 =187489

X1=2.21; X2= 2.66 ; X12 =4.8841 ; X22 =7.0756

Σ x1=325.85 Σx2 =438.66 ; Σ x12 =103052.85 ; Σx22 =187505.08

The following formular was used in the student t-test.

 X1 – X2

√(Σx12/n+1 –X12)/nx1-1 + (Σx22/n+1 −X22)/nx1-1

**X**1 and **X**2 =mean values of the two groups.

Σx12 and Σx22 =sum of the squared values.

X12 and X22 =square of the mean of the two groups.

n=size of the observations.

Σx1=325.85; Σx2 =438.66; Σx12 =103052.85;Σx22 =187505.08

**X**1=325.85/3 =108.6; **X**2=438.66/3 =146.22

Substituting these values in the above t-test formulae, we thus have the following:

108.6 – 146.22

√ (103052.85/3x1 −108.62 ) +(187505/3x1 – 146.222)

 3x1−1 3x1−1

 37.62

t = √ (31838.71)

t = 0.211

The degree of freedom in t-test is calculated as

Df = N1+N2 – 2

Df = 3+3-2 =4

A two tailed test at 0.05 level of significance would be 2.78.This is the critical level at which

conclusion is made. Since the calculated t-value of 0.211 is less than the critical or table value, the null hypothesis is accepted. On this basis, we can conclude that the difference in the sum of the mean of the lung function tests between the subjects and control was significant.

**APPENDIX 2**

Student T-test was used to determine the probability that the difference between the means

of the quality of life between male and female patients was significant.

X1 = Male quality of Life

X2= Female quality of Li

Σx1 =**19.78,** Σx2 **= 18.89,** Σx12**= 94.54,** Σx22 **= 89.44**

The following formular was used in the student t-test.

 X1 – X2

√(Σx12/nx1 –x12)/nx1-1 + (Σx22/nx1 −X22)/nx1-1

X1 and **X**2 =mean values of the two groups.

Σx12 and Σx22 =sum of the squared values.

X12 and X22 =square of the mean of the two groups.

n=size of the observations.

**X**1=19.78/4 =4.94; **X**2=18.89/4 =4.72

Substituting these values in the above t-test formulae, we thus have the following:

 4.94–4.72

√ (94.54/4x1 −4.942 ) +(89.44/4x1 – 4.722)

4x1−1 4x1−1

 0.22

t = √ (23.63 – 24.40) +(22.36 −22.27)

/3 /3

 0.22

t = √ (0.68/3)

 0.22

t= 0.47 = 0.46

The degree of freedom in t-test is calculated as

df = N1+N2 – 2

df = 4+4-2 =6

A two tailed test at 0.05 level of significance would be 2.45.This is the critical level at which

conclusion is made. Since the calculated t-value of 0.46 is less than the critical or table value,the

null hypothesis is accepted. On this basis, we can conclude that the difference in the sum of the

mean of the Quality of life between male and female patients was significant.

**APPENDIX 3**

Correlation between QOL and asthma duration. Durations (years) used included =1-10, 11 - 20 , 21 - 30, ≥ 31.

**Mean duration (x) / Mean QOL mean(y)**

X=1 5.5 Y=5.29

X=2 15.5 Y=5.29

X=3 25.5 Y= 4.75

X=4 31 Y=3.31

XY= 29.09; X2=30.25; Y2= 27.98

XY=81.99; X2=240.25;Y2= 27.98

XY= 121.12; X2=650.25;Y2 =22.56

XY=102.61; X2=961; Y2=10.96

N=4 Σx=77.5 Σy=18.64 Σxy=334.81 Σ x2=1881.75 Σy2=89.48

According to Karl Pearson Formular

 nΣxy − (Σx) (Σy)

r = √ [nΣ X2− (Σx) 2][nΣy2− (Σy)2]

n = number of grouped duration

Substituting the values,

 4x334.81 − (77.5) (18.64)

r = √ [4x1881.75 −(77.5)2 ][4x89.48 −(18.64)2 ]

 − 105.36

 r = √ 15916.5

 r = −0.83

**APPENDIX 4**

Relationship between Quality of Life and drug administration.

Items Drug Used(x)

QOL (y) XY X2 Y2

None 1 4.49 4.49 1 20.16

BD 5 4.78 23.9 25 22.84

BDS 10 6.09 60.9 100 37.08

N=3 Σx=16 Σy=15.36 Σxy=89.29 Σ x2=126 Σy2=80.8

N/B= Patients that were not on any drug were assigned 1.Those on bronchodilators alone were

assigned 5 while patients who were treated with bronchodilators and steroid inhalers were

assigned 10 for statistical purpose.

According to Karl Pearson Formular

 nΣxy − (Σx) (Σy)

r = √ [nΣ X2− (Σx) 2][nΣy2− (Σy)2]

n = number of (items) groups according to drug use

Substituting the values,

 3x89.29 − (16)(15.36)

r = √ [3x126 −(16)2 ][3x80.08 −(15.36)2 ]

r = 22.11/22.9

r = 0.96