1- Tital : ESTIMATION OF INSULIN HORMONS AND INSULIN RESISTANCE IN DIABETIC PATIENTS INFECTED WITH COVID-19

Abstrect: COVID-19 was for the last two years was the one of the bigest problems that the man kind face in this pass two decades, many studies was published in this matter that covers most sides of this infection which includes many factores like (age, sex, severe obesity and diabetes are well-established as risk factors that increase morbidity and mortality). although, the hypothesis in which insulin resistance contributes to these associations is not well studied and keept in the dark and it's may be substantial. That's why and for other personal reasons I want to sudies and search for the effect that caused by corona virus in insulin resistance, in the contrary of the most poblished artical and thises that all involved with how diabetic patients are more susceptible for infection and they will be in greater dengerous than the normal people, so my study based on the measuring of insulin directly by using ELISA not measuring C-peptides as most of privious studies as an indication for insulin activity, because I want it my study to be more precise and more accurate. and fasting blood sugar to evaluate the Insulin resistance for diabetic patiens during their period of infection. The relashionship between Covid-19 and insulin resistance is found, consideration should be given to assessing therapeutic interventions to reduce insulin sensitivity and improve outcomes on diabetic patients.

Keywords: Insulin, Insuline resistance, Diabetic patients, Covid-19

2- Objectives of Study

- The purpose of this study is to estimate the insulin and insulin resistance in diabetic patints during their infection period with covid-19, which caused by the infection it self.
- How that will affect their heath and their body resistance to the virus.
- How that will affect their healing process.
- And how that will effect the therapeutic medicin, as it's also includes glucocorticoids which assist to increase BS as well.

3. MATERIALS AND METHODS

The two tests I used in this study are, BS and Insuline masurments

Studied groups:

a- diabetic patients type one with an age range of 20 to 40 yearsinfected with Covid-19.
b- diabetic patients type one with an age range of 20 to 40 years notinfected with Covid-19.
c- includes 30 diabetic patients type two with an age range of 40 to 70 years infected with Covid-19 Table 4.3, Figure 4.5 and Figure 4.6.
d- includes 30 diabetic patients type two with an age range of 40 to 70 years not infected with Covid-19 Table 4.4, Figure 4.7 and Figure 4.8.

4- Results & Discussion

First axis-This includes the correlation and effect between the FBS inf & FBS not inf with Covid-19 :

A- First Hypothesis there is a significant correlation between FBS inf and FBS not inf with Covid-19 for the age group (20-39) type one DM according to the results above and statical analysis below that shows that there is a significant correlation between FBS inf and FBS not inf with Covid-19 for the age group (20-39) Table 4.5.

Table 4.5 Results of correlation coefficient values between FBS INF and FBS not inf for the age groups (20-29) and (30-39)

Variable	Pointer	FBS not inf
FBS INF (20-29)	Correlation coefficient	.013-
	Morale level	0.957
FBS INF (30-39)	Correlation coefficient	0.241-
	Morale level	0.475

We note from the results shown in the Table 4.5 that there is negative statistical correlation between FBS inf and FBS not inf for the samples under study at the total level, with a correlation coefficient of (0.013- ,0.241-) at a level of significance (0.957-0.475), and the negative value in the correlation coefficients indicates that The direction of the weak negative inverse relationship between FBS inf and FBS not inf for this group of age, type one DM patients, and this result confirms the validity of the first hypothesis.

B- Second Hypothesis: The correlation and effect between FBS inf and FBS not inf with Covide-19 patient in the age group (40-49) and (50-59) type two DM according to the results above and statical analysis below taht shows that there is a significant correlation between FBS inf and FBS not inf with Covid-19 Table 4.6.

Table 4.6 Results of correlation coefficient values between FBS inf and FBS not inf for the FBS inf group (40-49) and (50-59)

Variable	Pointer	FBS not inf
FBS inf	Correlation coefficient	.801-
	Morale level	0.009
FBS inf	Correlation coefficient	.579-
	Morale level	0.024

We note from the results shown in the Table 4.6 that there is a negative statistical correlation between FBS inf and FBS not inf for the samples under study at the aggregate level, with a correlation coefficient of (-0.579,-0.801) at a level of significance (0.024-0.009)), and the negative

value in the correlation coefficients indicates The trend of the mean negative inverse relationship between FBS inf and FBS not inf with Covide-19 patient, and this result confirms the

C- The Third Hypothesis: The correlation and effect between FBS inf and FBS not inf with Covide-19 patient in the age group (60-69) type two DM according to the results and statical analysis above showes that there is a significant correlation between FBS inf and FBS not inf with Covid-19 Table 4.7.

Table 4.7 Results of correlation coefficient values between FBS inf and FBS not inf for the FBS inf group (60-69).

Variable	Pointer	FBS not inf
FBS inf	Correlation coefficient	.410
	Morale level	0.273

We note from the results shown in the Table 4.7 that there is a positive

statistical correlation between FBS inf and FBS not inf for the samples under study at the aggregate level, with a correlation coefficient of (0.410) at a level of significance (0.273), and the positive value in the correlation coefficient indicates a trend The mean positive direct relationship between FBS inf and FBS not inf with Covid-19, and this result confirms the validity of the fifth hypothesis.

Second axis- This includes the Correlation and affect between INS inf and INS not inf with covide-19 for the age group (20-70)

at the overall level (20-69) which is divided in to three groups just like the above age groups (20-39) type one DM, (40-59) type two DM and (60-69) type two DM, but to shorten the discussion we toke it from over all level as you can notice in the table below Table 4.8:

Table 4.8 Results of correlation coefficient values between INS inf and INS not inf

Variable	Pointer	INS not inf
INS inf	Correlation coefficient	0.109
	Morale level	0. 493

We note from the results shown in the Table 4.8 that there is a positive statistical correlation between INS inf and INS not inf for the samples under study at the aggregate level, with a correlation coefficient of (-0.109) at a significant level of significance (0.394), and the positive value in the correlation coefficients indicates a trend The weak direct relationship between INS inf and INS not inf, and this result confirms the validity of the main hypothesis

Third axis-This includes the correlation between INS inf with covid-19 patients and age, INS not inf with Covide-19 patients and age, FBS inf with Covid-19 and age and FBS not inf with covid-19 and age at the overall level of age

A-First Hypothesis: there is a significant relationship between the INS inf with Covide-19 and Age at the overall level of Age Table 4.9.

Table 4.9 Results of correlation coefficient values between INS inf and Age.

Variable	Pointer	Age
INS inf	Correlation coefficient	0.659
	Morale level	0. 00

We note from the results shown in the Table 4.9 that there is a positive statistical correlation between the INS inf and the age of the samples under study at the total level, with a correlation coefficient of (0.659) at the level of significant (0.00), the positive value in the Correlation coefficients indicates the direct relationship and the strength between INS inf and age, and this result confirms the validity of the first hypothesis.

B- The second hypothesis there is a significant correlation between INS not inf with Covide-19 and Age at the overall level of Age as appears from the following Table 4.10.

Table 4.10 Results of correlation coefficient values between INS not inf and age.

Variable	Pointer	Age
INS not inf	Correlation coefficient	.469
	Morale level	0. 011

we note from the results shown in the Table 4.10 that there is a negative statistical correlation between the INS not inf and the age of the samples under study at the total level of the aforementioned category, with a correlation coefficient of (0.319) at the level of significance (0.011), the positive value of the Correlation coefficients indicates mean positive direct relationship between INS not inf and age, and this result confirms the validity of the second hypothesis.

C- Third hypothesis there is a significant correlation between FBS inf with Covide-19 and Age at the overall level of age as appears from the following Table 4.11.

Table 4.11 Results of correlation coefficient values between FBS inf and Age

Variable	Pointer	Age
FBS inf	Correlation coefficient	.489
	Morale level	0. 00

We note from the results shown in the Table 4.11 that there is a positive statistical correlation between the FBS inf and the age of the samples under study at the total level, with a correlation coefficient of (0.489) at the level of significant significance (0.00), and the positive value in the correlation coefficients indicates the direction of the direct relationship between FBS inf and Age, and this result confirms the validity of the third hypothesis.

D- Forth Hypothesis there is a signifigant correlation between FBS not inf with Covide-19 and Age at the overall level of age as appears from the following Table 4.12.

Table 4.12 Results of correlation coefficient values between FBS not inf and Age.

Variable	Pointer	Age
FBS not inf	Correlation coefficient	.313
	Morale level	0. 013

We note from the results shown in the Table 4.12 that there is a positive statistical correlation between FBS not inf and Age for the samples understudy at the total level, with a correlation coefficient of (0.313) at a level of significance (0.013), and the positive value of correlation coefficients indicates The mean direct relationship between FBS not inf and Age, and this result confirms the validity of the forth hypothesis.

The results of the first axis in the statical analysis of the results obtained in this research which is the correlation and effect between FBS inf and FBS not infected with Covid-19 shows a negative inverse relationship between them for the overall level of Age from 20 to70 years old type 1 and type 2.

Conclusion

- The results of the second axis in the statical analysis of the results obtained in this research which is the correlation between INS inf and INS not inf with Covid-19 shows a positive value of the correlation coefficient which tend a weak direct relationship between INS inf and INS not inf with Covid-19 for the overall level of Age.

- The result of the third axis in the statical analysis of the results obtained in this research which is the correlation between INS inf with Covid-19 and Age, INS not inf with Covid-19 and age shows a positive statistical correlation between the INS inf and the age of the samples under study at the total level of age, and the positive value in the correlation coefficients between FBS inf and age & FBS not inf and age indicates the mean directivity between FBS inf and age & FBS not inf and Age.