Study on Estimation of Fasting Glucose Levels Among Students of NRIIMS

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Absract: *NRIIMS is a medical institute situated in the outskirts of the port city of visakhapatnam*
Aim:*To know the prevalence of impaired fasting glucose in students of NRIIMS*
Material And Methods:*Fasting samples were taken from 300 medical students belonging to NRIIMS and were analysed for fasting glucose.*
Observation*: Out of 300 students 12 students glucose was in the range of 110mg/dl to 126 mg/dl(impaired levels).The Mean in males was 91.21 with SD of 8.81 and SE0.98 and t value of 0.9865.The Mean value in females was 90.24 with SD of 7.61.*
Conclusion*:The prevalence of impaired levels in NRIIMS is 4%.These students need to be counseled further and advise lifestyle changes in order to prevent them from developing diabetes.*
Keywords :*Impaired fasting glucose,medical students,NRIIMS*

I. Introduction

Diabetes is a chronic disease characterized by hyperglycemia and produced due to insulin deficiency[1]. An estimated 23.6million people are affected by this disease in the US. It is classified into type 1 and type 2diabetes[2]. Other types includes MODY (Maturity onset Diabetes Mellitus), diabetes due to mutant insulin, diabetes due to mutant insulin receptors, wolfram syndrome etc[3]. There is also what is called metabolic syndrome[4] where obesity plays a role in development of diabetes mellitus thru insulin resistance[5]. It is diagnose by biochemical parameters like FBS PPBS and GTT.It leads to complications like Diabetic Ketoacidosis[6].Improer use of OHGs and insulin may lead to hypoglycaemia[7].Uncontrolled diabetes over a certain period might lead to diabetic nephropathy[8].

II. Materials And Methods

300 medical students both male and female were taken belonging to 6th and 8th Semester of NRIIMS in june 2017.
Inclusion Criteria:
Students belonging to 6th and 8 th semester only
Students belonging to NRIIMS only

Exclusion Criteria

Students belonging to other medical colleges were excluded Nursing and dental students belonging to NRIIMS were exluded Head of the institute was informed and students informed about the ongoing project.Ethics committee was informed. All fasting samples were taken from the students and the samples were analysed by semiautoanalyser CHEM5.Kits were purchased from Pavan Diagnostics,Visakhapatnam.Glucoe was estimated by GOD POD method[9]. Other methods include Nelson Somogyi[10],Astoon and King[11],Mac Leans method[12].

III. Results:

Table No.1 Age & Sex-wise Distribution of subjects:

Male (n1=100)			Female (n2 =200)		
Age group	Number	Percentage	Age group	Number	Percentage
19 years	50	50.0	19 years	100	50.00
20 years	50	50.00	20 years	100	50.00
Total	100	100.0	Total	200	100.0

Table No.2 Age distribution of subjects: (n_1=10, n_2=200)

Parameters		Male (n_1=200)	Female (n_2=200)
1.	Means	19.0	19.75
2.	Standard deviation	0.00	0.43
3.	Mean difference	-0.75	
4.	SE	0.043	
5.	t value	17.4272	
6.	Degrees of freedom	298	
7.	Confidence Interval	-0.8347 to -0.6653	
8.		P < 0.0001	

Table No.3 Sex-wise Distribution of subjects according to FBS GLUCOSE:

Male (n_1=100)			Female (n_2 =200)		
Glucose (FBS)	Number	Percentage	Glucose FBS	Number	Percentage
<100	94	94.00	< 100	192	96.00
>100	06	06.00	>100	008	04.00
Total	100	100.0	Total	200	100.0

Parameters		Male (n_1=100)	Female (n_2=200)
1.	Means	91.21	9.24
2.	Standard deviation	8.81	7.61
3.	Mean difference	0.97	
4.	SE	0.98	
5.	t value	0.9865	
6.	Degrees of freedom	198	
7.	Confidence Interval	-0.9651 to 2.9051 Impaired Glucose Levels	
		12 Students(4%)	

IV. Observations

Out of 300 students 12(4%) students glucose was in the range of 110mg/dl to 126 mg/dl(impaired levels).The Mean in males was 91.21 with SD of 8.81 and SE0.98 and t value of 0.9865.The Mean value in females was 90.24 with SD of 7.61.

About 150 students (50%) were in the age group of 19 yrs out of which 50 were males(16.3%) and 100 were females(33%)).150 students were in the age group of 20 yrs out of which 50 were male s and 100 were females(33%)

Inference:

4%of the students were showing impaired glucose levels. Rest all atudents were in normal range These 4 %students have to be counseled with regards to their diet and lifestyle changes and to decrease their stress levels. Care should be taken for them not to develop overt Diabetes.

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