RESULTS

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A total of 200 successive pregnant females between 30 and 36 weeks of pregnancy participated in this study. One hundred females who had risk factors for gestational diabetes constituted group "A" and 100 females without risk factors constituted group "B".

Twenty-eight (28%), of the females in group "A" had an abnormal glucose challenge test (GCT). Eight (28.5%), out of these 28 women with abnormal GCT, had an abnormal oral glucose tolerance test (OGTT) i.e. were diabetics. These diabetic cases constituted 8% of all group "A" women. The details of blood glucose level in these cases is shown in table (4).

Fourteen (14%), of the females in group "B" had an abnormal GCT. Three (21.5%), out of these 14 women with abnormal GCT, had an abnormal OGTT i.e. were diabetics. These diabetic cases constituted 3% of all group "B" women. The details of blood glucose level in these cases is shown in table (5).

Of the total population of 200 women, 42 (21%), had an abnormal GCT and 11 of these women (5.5%), had an abnormal OGTT.

Thirty-one females with abnormal GCT and normal GTT, in both groups were subjected to another OGTT at 38-40 weeks of pregnancy, but none had an abnormal OGTT.

Table (4)

Group A. Blood glucose level in cases with abnormal GCT (28 cases) and glucose level in their OGTT

Case No.	Abnormal GCT mg/100ml	OGTT			
		Fasting mg/100ml	1-hour mg/100ml	2-hour mg/100ml	3-hour mg/100ml
1	150	77	169	137	118
2	154	71	154	90	78
3	156	85	155	140	88
4	158	88	163	138	102
5	162	117	152	109	88
6	163	103	163	138	121
7	166	86	158	130	118
8	168	88	166	141	120
9	168	84	159	143	122
10	172	89	161	139	118
11	174	86	168	143	112
12	175	78	157	133	121
13	176	92	148	122	98
14	178	81	152	137	113
15	180	79	164	140	119
16	183	87	166	131	97
17	184	95	192	160	146 *
18	185	85	161	146	103
19	186	98	159	137	94
20	189	79	167	136	91
21	190	80	158	128	106
22	198	96	250	180	130 *
23	218	98	199	160	136 *
24	220	85	275	270	186 *
25	254	102	201	168	146 *
26	284	93	268	228	185 *
27	293	118	213	186	141 *
28	296	93	198	173	138 *

* = Cases with abnormal OGTT

Table (5)
Group B. Blood glucose level in cases with abnormal GCT (14 cases) and glucose level in their OGTT.

Case No.	Abnormal GCT mg/100ml	OGTT			
		Fasting mg/100ml	1-hour mg/100ml	2-hour mg/100ml	3-hour mg/100ml
1	150	84	147	134	118
2	153	92	152	132	121
3	155	88	158	137	123
4	156	86	148	136	117
5	159	78	152	137	112
6	160	87	166	141	119
7	163	94	162	139	121
8	164	92	161	133	119
9	164	96	186	167	132 *
10	166	86	162	141	122
11	167	83	168	143	123
12	168	89	151	129	101
13	182	111	213	186	168 *
14	194	99	197	176	148 *

* Cases with abnormal OGTT

Table (6)

Shows the incidence of abnormal GCT and abnormal OGTT among the 200 screened patients

Screened patients		Abnormal GCT			Abnormal OGTT		
Criteria	No.	No.	%		No.	%	
With risk factors	100	28	28	P<0.05	8	8	P>0.05
Without risk factors	100	14	14		3	3	
T O T A L	200	42	21		11	5.5	

In group "A", the number of females with abnormal OGTT were 8 out of 28 women with abnormal GCT, while in group "B", the number was 3 out of 14 women. This difference between the 2 groups was not statistically significant (P>0.05).

I- Data in 100 women without risk factors for gestational diabetes (group B) were as follows:

Table (7)

Shows the relation between GCT and OGTT in 100 women without risk factors

	Cases with abnormal GCT and normal OGTT	Cases with abnormal GCT and abnormal OGTT(diabetic)
No. of women	11	3
Range of GCT (mg / 100 ml)	150 - 168	164 - 194
Mean of GCT (mg / 100 ml)	160.5	180
SD ±	5.5	15.1

The values of abnormal GCT in patients without risk factors ranged from 150-194 mg/100ml. The number of cases of abnormal OGTT were found to increase as the glucose level in GCT increased (Table 5). It is important to mention that no patients with a GCT, below 164 mg/100ml showed abnormal OGTT.

Clinical data obtained from 11 women without risk factors who demonstrated abnormal GCT and normal OGTT, and from the 3 women with abnormal GCT and abnormal OGTT were as follows:

Period of gestation is shown in table (8)

Table (8)

Period of gestation	Cases with abnormal GCT&normal OGTT(11)	Cases with abnormal GCT&abnormal OGTT(3)	Total (14)
30-33 ws.	7 (63.6%)	1 (33.3%)	8 (57%)
34-36 ws.	4 (36.4%)	2 (66.7%)	6 (43%)

Age is shown in table (9)

Table (9)

Age in years	Cases with abnormal GCT&normal OGTT(11)	Cases with abnormal GCT&abnormal OGTT(3)	Total (14)
15-19	0 (00.0%)	1 (33.3%)	1 (7%)
20-24	3 (27.3%)	1 (33.3%)	4 (28.6%)
25-29	5 (45.4%)	1 (33.3%)	6 (43%)
30-34	3 (27.3%)	0 (00.0%)	3 (21.4%)

Parity is shown in table (10)

Parity Table (10)

Parity	Cases with abnormal GCT&normal OGTT(11)	Cases with abnormal GCT&abnormal OGTT(3)	Total (14)
Primi-gravida	2 (18%)	0 (00.0%)	2 (14%)
1-2	4 (36%)	2 (66.7%)	6 (43%)
3-4	5 (45%)	1 (33.3%)	6 (43%)

Table (11): Shows the result of the glucose tolerance tests in the 3 diabetic women.

Table (11)

Time	Case(1)	Case(2)	Case(3)	Mean
Fasting (mg/100ml)	96	111	99	102
1-hour (mg/100ml)	186	213	197	198.7
2-hour (mg/100ml)	167	186	176	176.3
3-hour (mg/100ml)	132	168	148	149.3

II- Data in 100 women with risk factors for gestational diabetes (group A) were as follows:

Table (12): Shows the relation between GCT and OGTT in 100 women with risk factors.

Table (12)

	Cases with abnormal GCT and normal OGTT	Cases with abnormal GCT and abnormal OGTT(diabetic)
No. of women	20	8
Range of GCT (mg/100ml)	150 - 190	184 - 296
Mean of GCT (mg/100ml)	171.7	243.4
SD±	11.9	44.4

The values of abnormal GCT in patients with risk factors ranged from 150mg% to 296 mg%. The number of cases of abnormal OGTT were found to increase as the glucose level in GCT increased (table 4). It is important to mention that no patients with a GCT, below 184 mg% showed abnormal OGTT.

Clinical data obtained from the 20 women with risk factors who demonstrated abnormal GCT and normal OGTT, and from the 8 women with abnormal GCT and abmormal OGTT are as follows:

Period of gestation is shown in table 13

Table (13) [14]

Period of gestation	Cases with abnormal GCT&normal OGTT(20)	Cases with abnormal GCT&abnormal OGTT(8)	Total (28)
30-33 ws	13 (65%)	3 (37.5%)	16 (57.2%)
34-36 ws	7 (35%)	5 (62.5%)	12 (42.8%)

Age is shown in table 14

Table (14) [15]

Age in years	Cases with abnormal GCT&normal OGTT(20)	Cases with abnormal GCT&abnormal OGTT(8)	Total (28)
15-19	3 (15%)	1 (12.5%)	5 (18%)
20-24	4 (20%)	0 (00.0%)	4 (14.2%)
25-29	5 (25%)	2 (25%)	6 (21.4%)
30-34	5 (25%)	3 (37.5%)	8 (28.4%)
35+	3 (15%)	2 (25%)	5 (18%)

Parity is shown in table 15

Table (15)

Parity	Cases with abnormal GCT&normal OGTT(20)	Cases with abnormal GCT&abnormal OGTT(8)	Total (28)
Primi-gravida	3 (15%)	0 (00.0%)	3 (10.7%)
1-2	7 (35%)	3 (37.5%)	10 (35.6%)
3-4	9 (45%)	3 (37.5%)	12 (43%)
5+	1 (5%)	2 (25%)	3 (10.7%)

Table (16)

Shows distribution of risk factors for gestational diabetes among 100 cases screened for risk factors

Risk factors	single(40 cases)		Combined(60 cases)		Total(100cases	
	No.	%	No.	%	No.	%
Glycosuria	20	20	30	30	50	50
Obesity	10	10	28	28	38	38
Family history	2	2	22	22	24	24
Monilia	-	00.0	16	16	16	16
Age>35 ys.	-	00.0	12	12	12	12
Parity 5+	-	00.0	12	12	12	12
Perinatal death	2	2	10	10	12	12
Recurrent abortion	2	2	6	6	8	8
Macrosomia	-	00.0	6	6	6	6
Prematurity	2	2	4	4	6	6
Polyhydramnios	2	2	-	00.0	2	2
Congenital mal-formation.	-	00.0	2	2	2	2

Data obtained from the 28 women who demonstrated abnormal GCT:

Table (17)

Shows the relation between various risk factors for gestational diabetes and abnormal GCT

Risk factors	Abnormal GCT					
	With single risk factor(7 cases)		With more than one risk factor(21cases)		Total (28cases)	
	No.	%	No.	%	No.	%
Glycosuria	5	25	10	33	15	30
Obesity	2	20	8	28.5	10	26
Family history	-	00.0	12	54.5	12	50
Monilia	-	00.0	4	25	4	25
Age>35 ys.	-	00.0	5	41.5	5	41.5
Parity 5+	-	00.0	3	25	3	25
Perinatal death	-	00.0	4	40	4	33
Macrosomia	-	00.0	1	17	1	17
Prematurity	-	00.0	1	25	1	17
Recurrent abortion	-	00.0	1	17	1	12.5

It was found that the most prevalent factors in cases with abnormal GCT were family history, age 35, perinatal death, glycosuria and obesity. The incidence of abnormal GCT was more in women with more than one risk factor, being present in 7 women (17.5%) with one risk factor, compared to 21 women (35%) with more than one risk factor. These incidences were not statistically different. $p > 0.05$.

Table (18)

Shows the incidence of abnormal GCT in relation to number of risk factors

No. of risk factors	Total No. of cases (100)	Abnormal GCT	
		No. (28)	% (28)
1	40	7	17.5
2	36	11	30
3	21	8	38
4+	3	2	66.5

This table shows that the incidence of abnormal GCT increased steadily as the number of risk factors increased.

Table (19)

Shows the relation between risk factors for diabetes and abnormal OGTT

Risk factors	Abnormal OGTT					
	With single risk factor (0)		With more than one risk factor(8cases)		Total (8cases)	
	No.0	00.0 %	No. 8	13 %	No.8	8%
Family history	-	00.0	4	18	4	17
Glycosuria	-	00.0	3	10	3	6
Obesity	-	00.0	2	7	2	5
Age>35 ys.	-	00.0	2	17	2	17
Parity 5+	-	00.0	2	17	2	17
Perinatal death	-	00.0	2	20	2	17
Monilia	-	00.0	2	12.5	2	12.5
Macrosomia	-	00.0	1	17	1	17

Table (20)

Shows the incidence of abnormal GTT in relation to number of risk factors

No. of risk factors	Total no. of cases (100)	Abnormal OGTT	
		No. (8)	% (8)
1	40	-	00.0
2	36	2	5.5
3	21	5	24
4+	3	1	33

This table shows that the incidence of abnormal OGTT increased steadily as the number of risk factors increased.