Results

This study was done in a number of primary school-children in Benha City including five schools.

The schools included in this study were:

1- Ebn khaldon primary school.
2- Taha Hussein primary school.
3- El Imam Mohamed Abdou primary school.
4- Hamza Ebn Abd Elmotaleb primary school.
5- Monshaet Boadawi primary school.

The material of our study comprised six thousands ; 3561 boys and 2439 girls

These children were examined and screened for the detection of glucose in urine, utilizing glucotest. Out of these children, fifty were depicting glucose in their urine, but only eleven ones were found to be positive cases of diabetes by blood tests "fasting blood glucose and 2hr-post prandial"

Since then, full clinical examination and blood glucose determination, both fasting and 2 hours-post prandial were done for the eleven pupils. The fasting blood glucose level was found higher than normal (60-100 mg/dl) for all cases.

The **first** case was a girl 12 years old with fasting blood glucose level 126 mg/dl, while 2hr- post prandial was 210 mg/dl, with positive family history, negative consanguinity; she is a known case of DM since age of 10 years old.

The **second** case was a boy 11 years old with fasting blood glucose level 170 mg/dl, while 2hr- post prandial was 250 mg/dl, with negative family history, negative consanguinity, it was first presentation.

The **3rd** case was a boy 12 years old with FBS: 300 mg/dl, while 2hr post prandial was 500 mg/dl, with positive family history, positive consanguinity, she is a known case of DM since age of 11 years old.

The **4th** case was a girl 12 years old with FBS: 160 mg/dl , while 2hr post prandial was 320mg/dl, with negative family history, positive consanguinity, she is a known case of DM since age of 9 years old.

The **5th** case was a boy 10 years old with FBS 200mg/dl, while 2hr post prandial was 300mg/dl, with negative family history, negative consanguinity, she is a known case of DM since age of 8 years old.

The **6th** case was a boy 7 years old with FBS: 150mg/dl, while 2hr post prandial was 200mg/dl, with negative family history, negative consanguinity, she is a known case of DM since age of 4 years old.

The **7th** case was a girl 12 years old with FBS: 130 mg/d; , while 2hr post prandial was 305mg/dl, with positive family history, positive consanguinity, she is a known case of DM since age of 10 years old.

The **8th**case was a boy 6 years old with FBS: 180 mg/dl, while 2hr post prandial was 322mg/dl, with negative family history, negative consanguinity, it was first presentation.

The **9th** case was a boy 11 years old with FBS: 180 mg/dl, while 2hr post prandial was 553mg/dl, with negative family history, negative consanguinity, it was first presentation.

The **10th** case was a boy 11 years old with FBS: 190 mg/dl, while 2hr post prandial was 350mg/dl, with positive family history, positive consanguinity, she is a known case of DM since age of 8 years old.

The **11th** case was a girl 12 years old with FBS: 170mg/dl , while 2hr post prandial was 400mg/dl, with positive family history, negative consanguinity, she is a known case of DM since age of 10 years old.

From these findings we conclude that the prevalence of juvenile diabetics among Benha school children was 1.8 per thousand.

The growth pattern of the eleven diabetic children was studied, aiming to procure the effect of diabetes on growth. Thus we take the different measurements for most of all normal pupils as a control, to be compared with those of diabetic children.

The normal Egyptian pupils in Benha have been categorised into six groups, from 6 up to 12 years. Weight and height had been measured for most of the pupils. These measurements are statistically analyzed and put in the following tables and figures:

Table (9) :Clinical profile of the study

Total number of cases **(**6000 cases)

Males	3561
Females	2439
Mean of age	10..4 +1.11
Mean of weight males	39.4 +11.3
Mean of weight females	33.8+11.6
Mean of height males	133.2 +13.06
Mean of height females	139.9 + 13.5

Diabetic cases (11 cases)

Prevalence	1.8/1000
diabetic males	7
diabetic females	4
Mean of age of diabetic cases	10..2 +2.11
Mean of weight of diabetic cases	37.2+13.4 (49.9 +36.66)
Mean of height of diabetic cases	140.6+16.3 (54.4 +36.2)
Mean of RBS of diabetic cases	339.5 +110.2

Table (10): show the mean values and standard deviation of weight (kg) for for normal children of different age groups

age group	Male	Female
6-7 years	22.5 + 3.7	21.6+3.7
> 7-8 years	26.8 +5.2	25.4+4.8
> 8-9 years	29.05+4.8	28.06+4.9
> 9-10 years	31.6+6.7	29.6+5.8
> 10 – 11 years	36+6.9	35.06+7
> 11–12 years	46.6+8.1	45.7+9.2

From these findings, it was found that the weight of boys was greater than the weight of girls by about one kg/year . It was also found that the weight of Egyptian children increases by about (2 – 4) kg/year

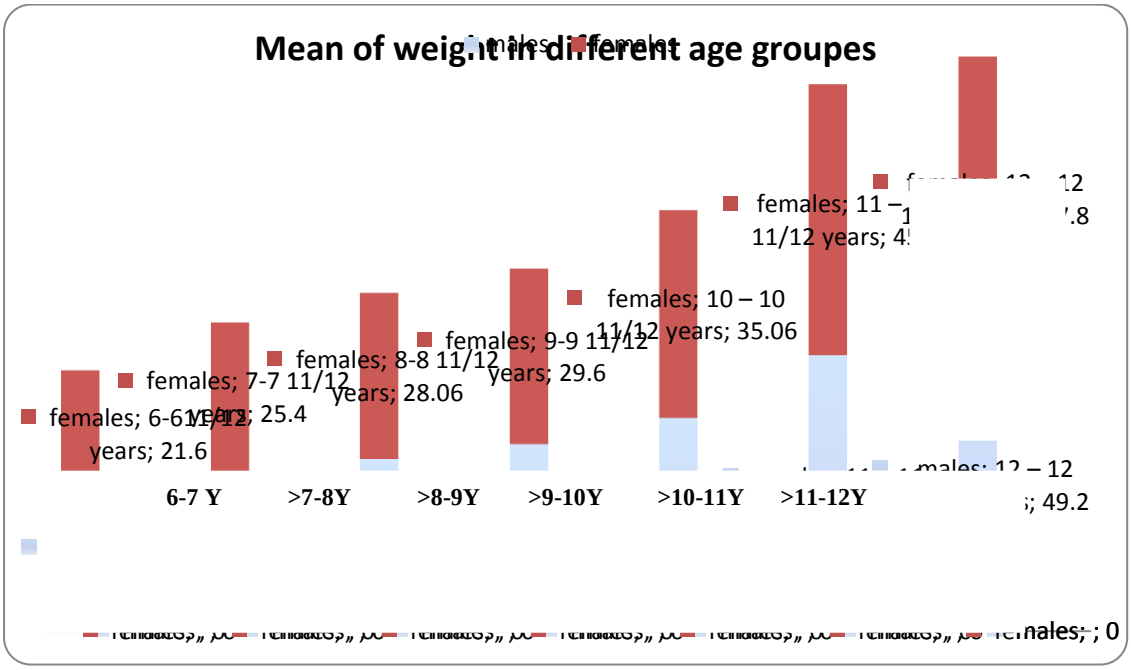


Fig.(14) : Mean weight in different age groups

Table (11): show the mean values and standard deviation of height (cm) for normal children of different age groups

age group	Male	Female
6-7 years	116.34+7.17	116.1+7.2
> 7-8 years	123.88+6.3	126.4+12.04
> 8-9 years	127.17+6.9	126.99 +6.8
> 9-10 years	134.7+6.9	134.5 +6.8
> 10 – 11 years	136+8.6	137.3 +7.7
> 11– 12 years	144.96+7.4	145.6 +7.9

It is revealed from this table that the height of boys exceeds that of girls till the age of 10 years, but this is reversed after the age of 10 years.

It is also found that the height of both boys and girls increases by about (3 – 8) cm every year

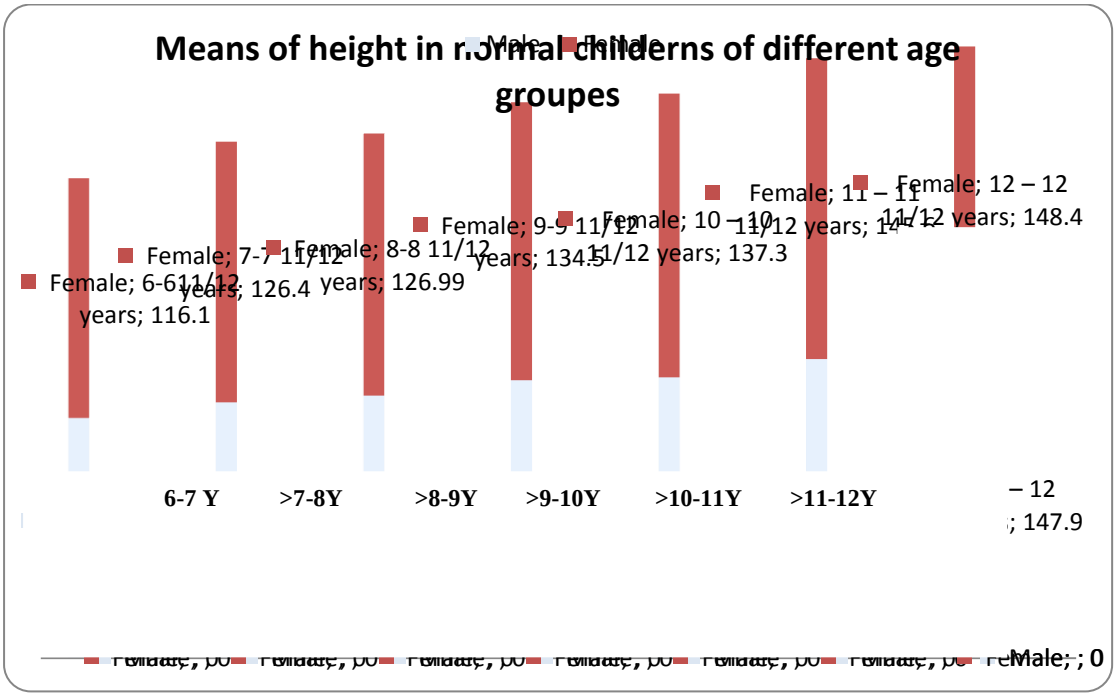
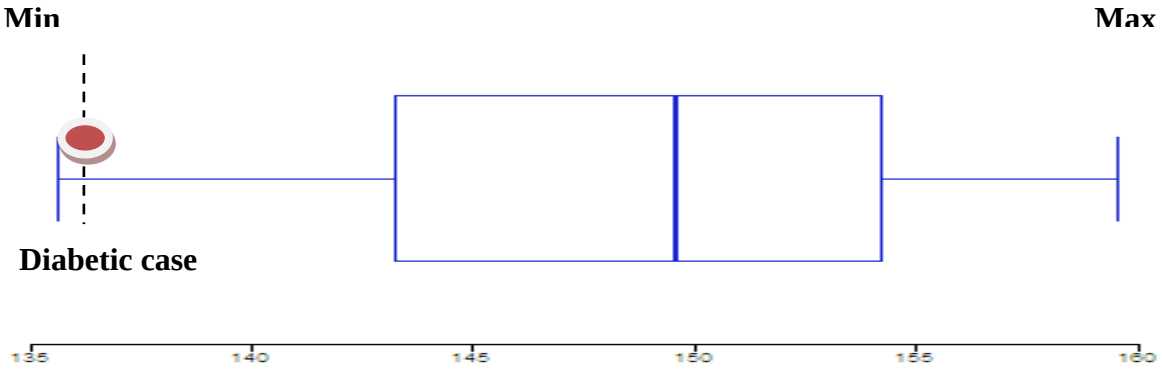


Fig.(15) : Mean height in different age groups

Table (12): first diabetic case data of sex, weight (kg) and height (cm).

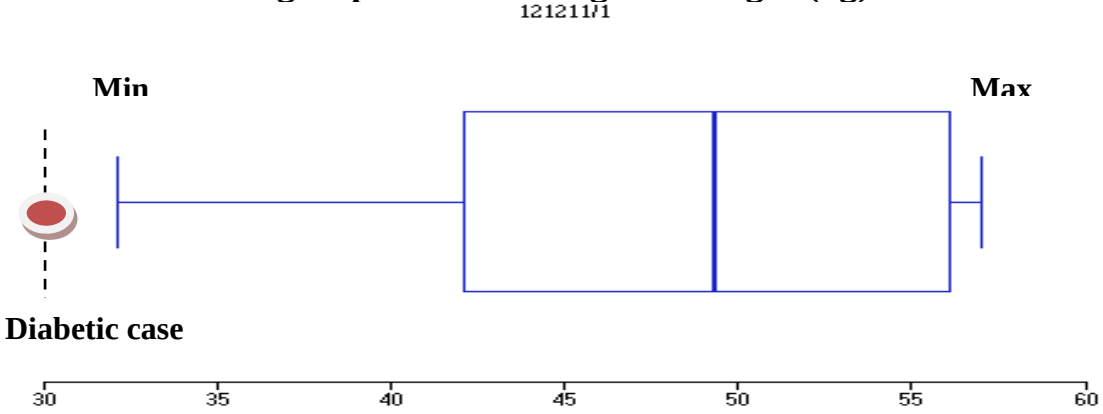
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
12	female	30	<5	136	<5

Fig (16): 1st diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



Less than mean but within normal range

Fig (17): 1st diabetic case data of weight (kg) on polt box presenting data of normal group of the same age for weight (kg) &sex

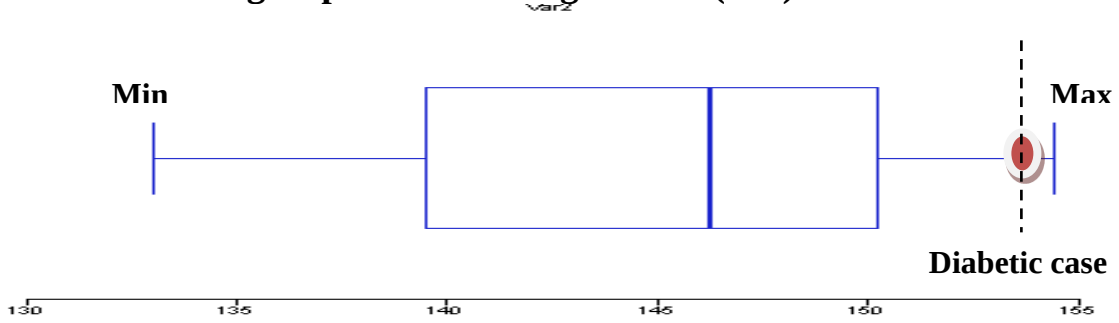


Less than minimum of normal cases

Table (13): second diabetic case data of sex, weight (kg) and height (cm).

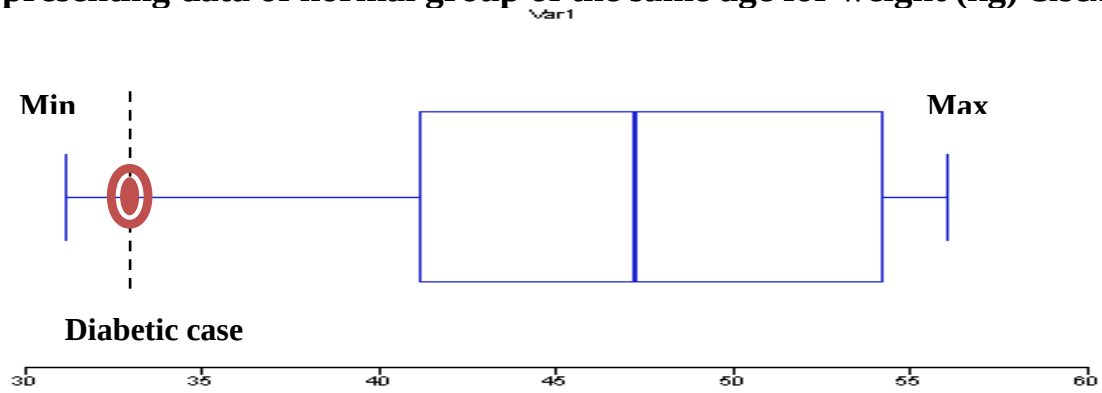
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
11	male	33	35	154	95

Fig.(18): second diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



More than mean but within normal range

Fig. (19): second diabetic case data of weight (kg) on polt box presenting data of normal group of the same age for weight (kg) &sex

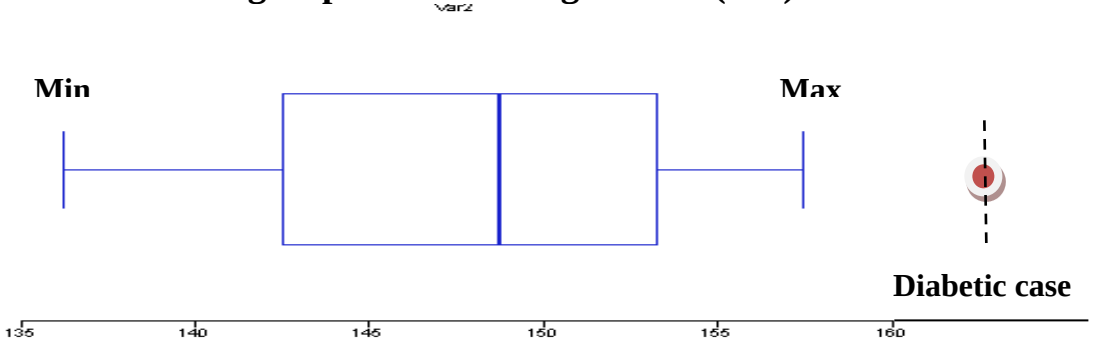


Less than mean but within normal range

Table (14): 3rd diabetic case data of sex, weight (kg) and height (cm).

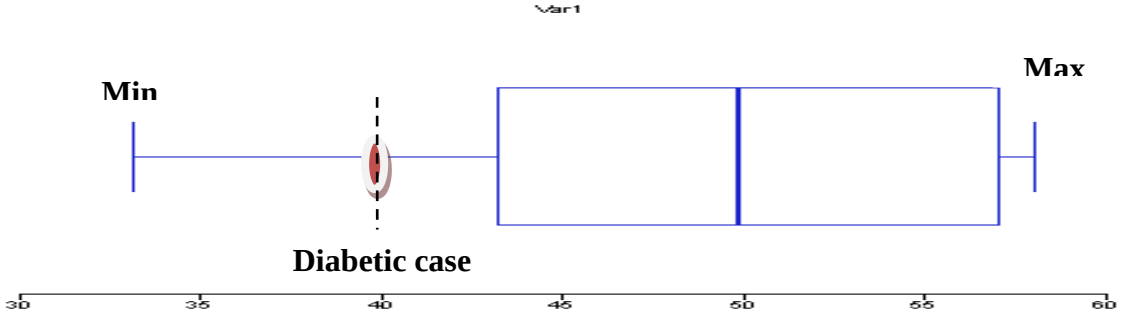
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
12	male	40	50	163	95

Fig.(20): 3rd diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



More than the maximum of normal range

Fig.(21): 3rd diabetic case data of weight (kg) on polt box presenting data of normal group of the same age for weight (kg) &sex

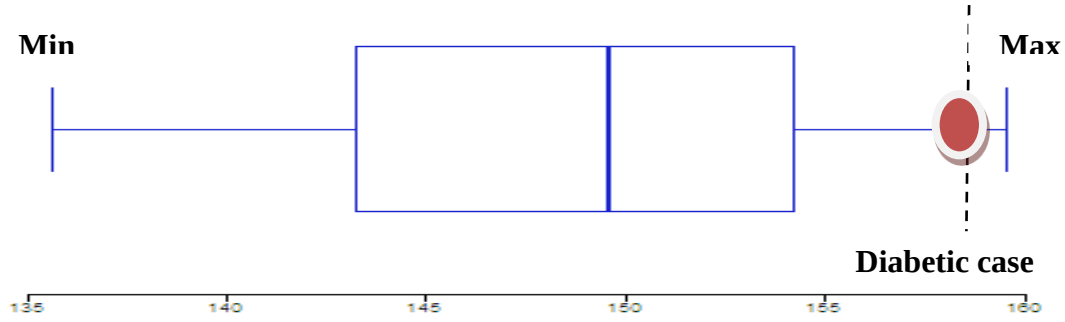


Less than mean but within normal range

Table (15):4th diabetic case data of sex, weight (kg) and height (cm).

Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
12	female	40	35	159	90:95

Fig. (22): 4th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



More than mean but within normal range

Fig. (23): 4th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex

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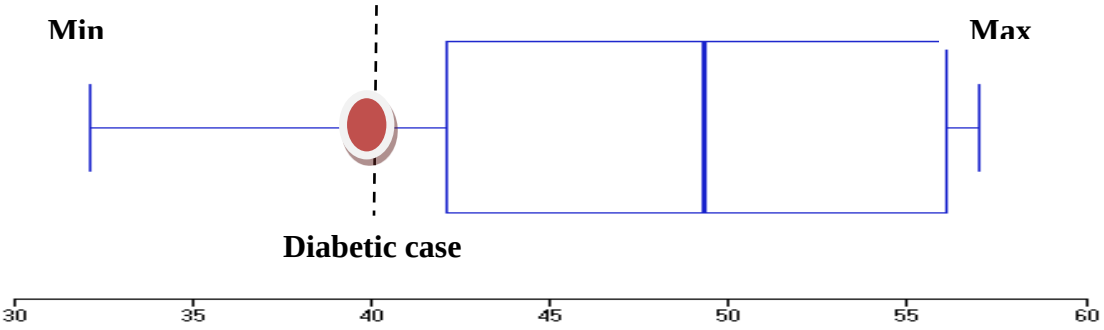
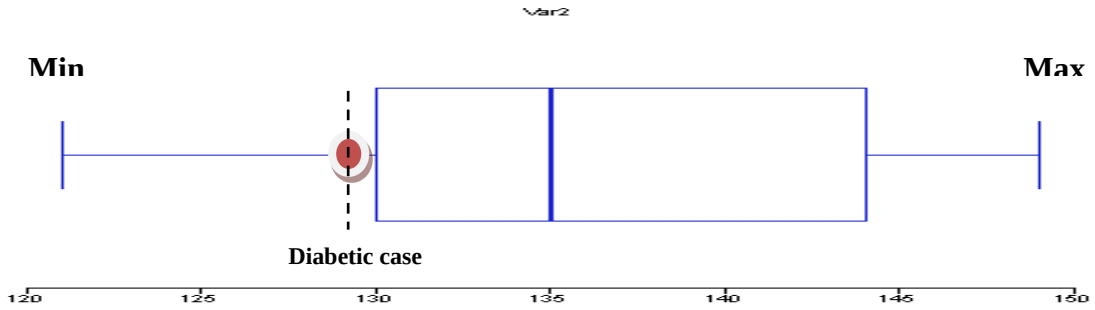


less than mean but within normal range

Table (16):5th diabetic case data of sex, weight (kg) and height (cm).

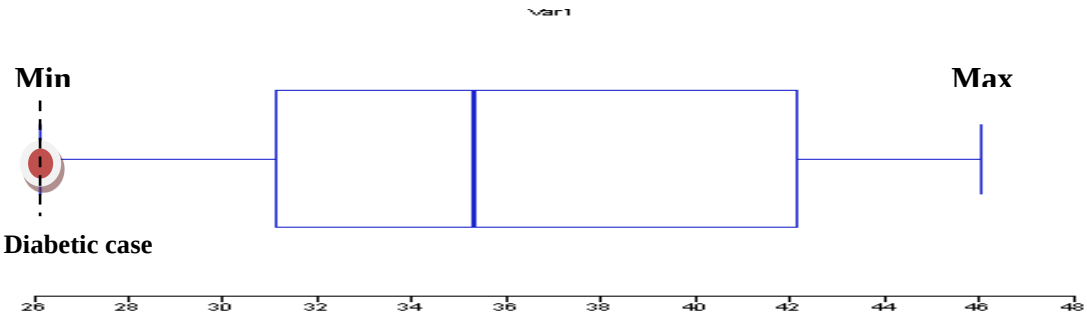
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
10	male	26	10	129	10

Fig. (24): 5th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



Less than mean but within normal range

Fig. (25): 5th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex

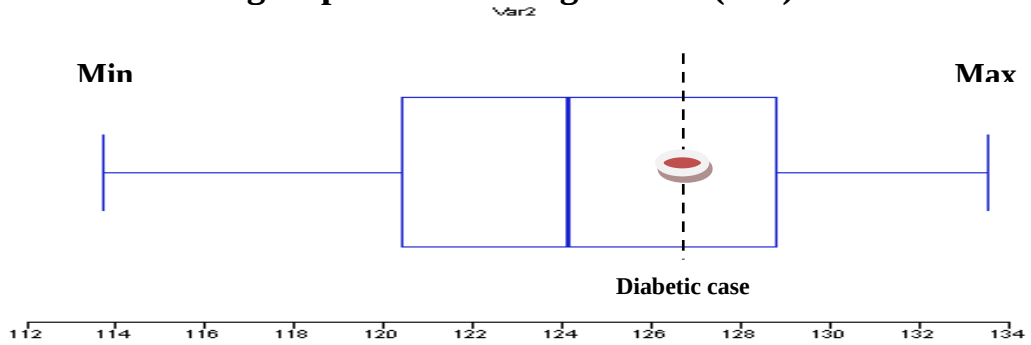


Less than mean but within normal range

Table (17):6th diabetic case data of sex, weight (kg) and height (cm).

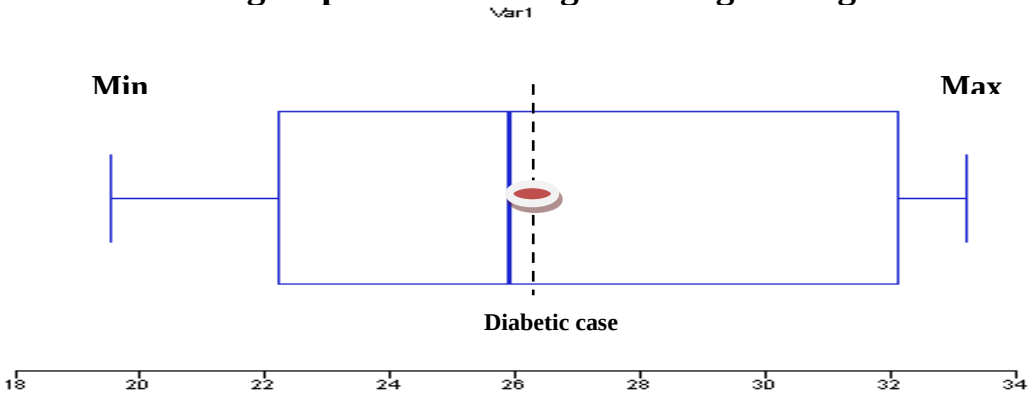
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
7	male	26.6	75	127	75

Fig. (26): 6th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



More than mean but within normal range

Fig. (27): 6th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex

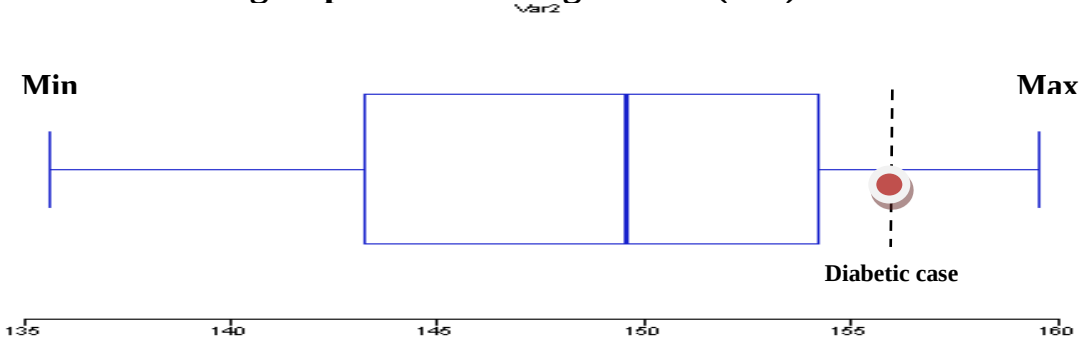


More than mean but within normal range

Table (18):7th diabetic case data of sex, weight (kg) and height (cm).

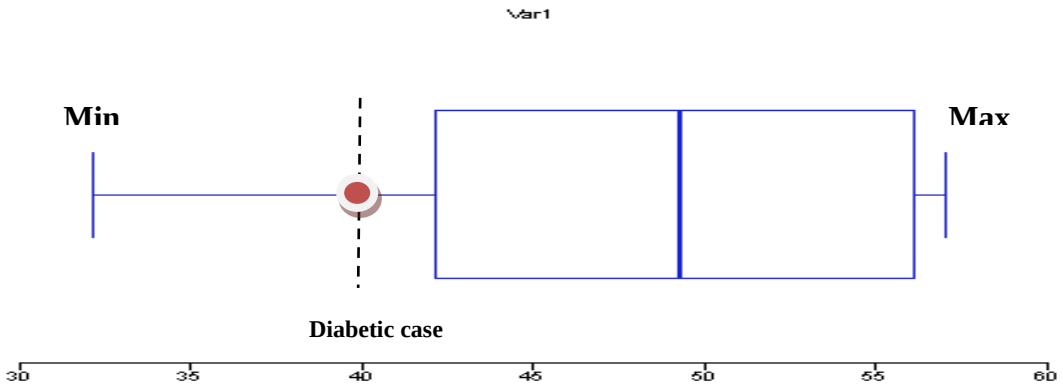
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
12	female	40	25:50	156	75

Fig. (28): 7th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



More than mean but within normal range

Fig. (29): 7th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex

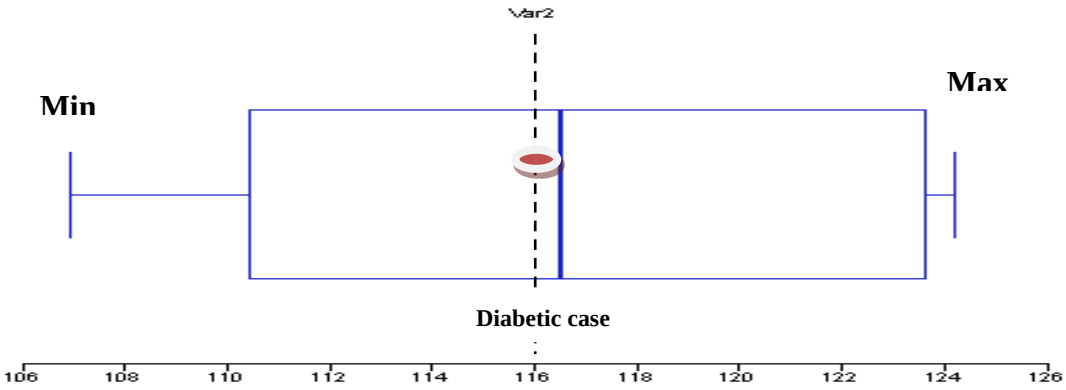


less than mean but within normal range

Table (19):8th diabetic case data of sex, weight (kg) and height (cm).

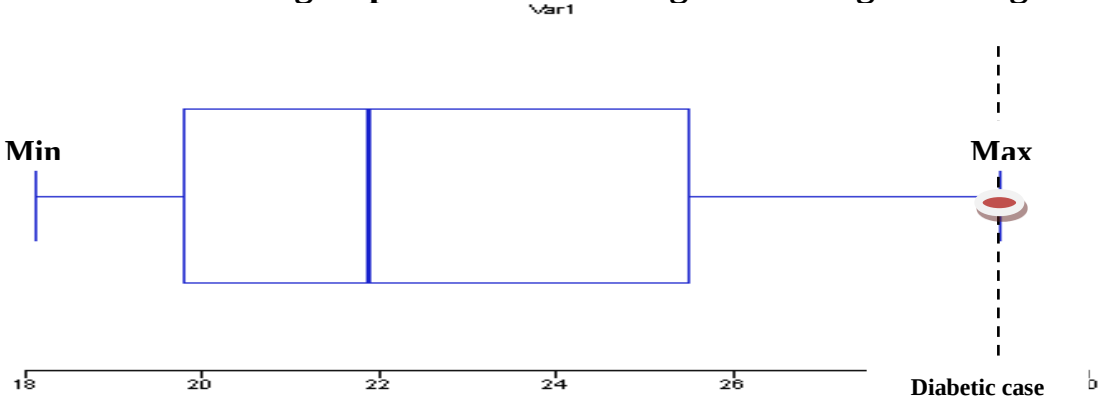
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
6	male	29	>95	116	50

Fig (30): 8th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



less than mean but within normal range

Fig (31): 8th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg&sex

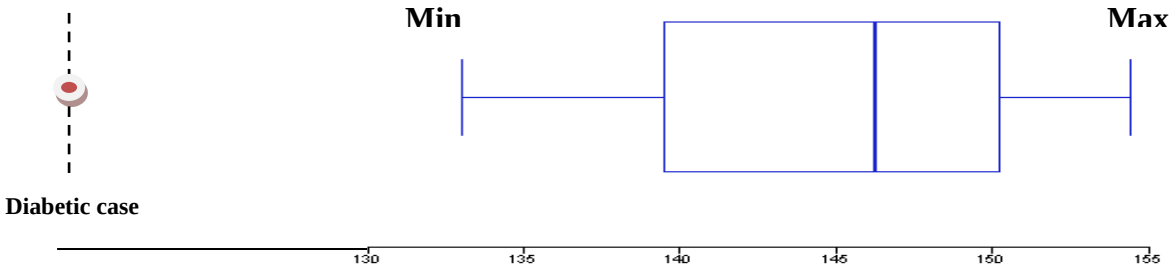


More than mean but within normal range

Table (20):9th diabetic case data of sex, weight (kg) and height (cm).

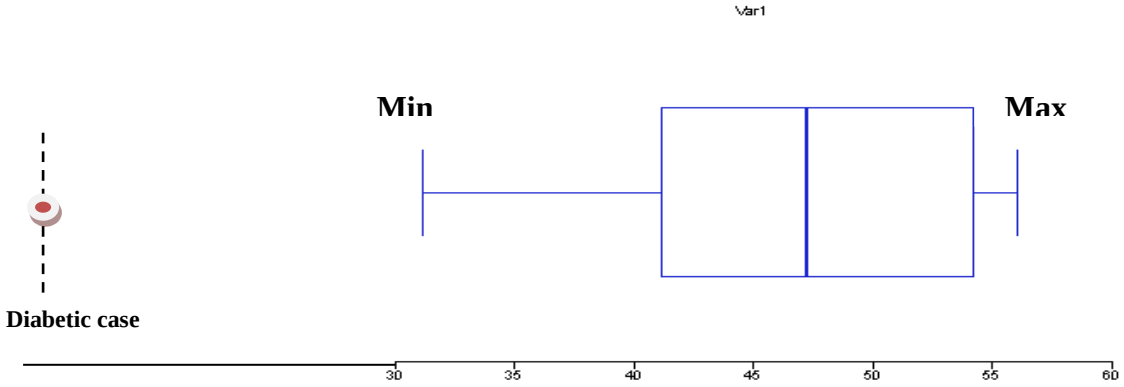
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
11	male	22	<5	120	<5

Fig (32): 9th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



less than minimum of normal range

Fig (33): 9th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex

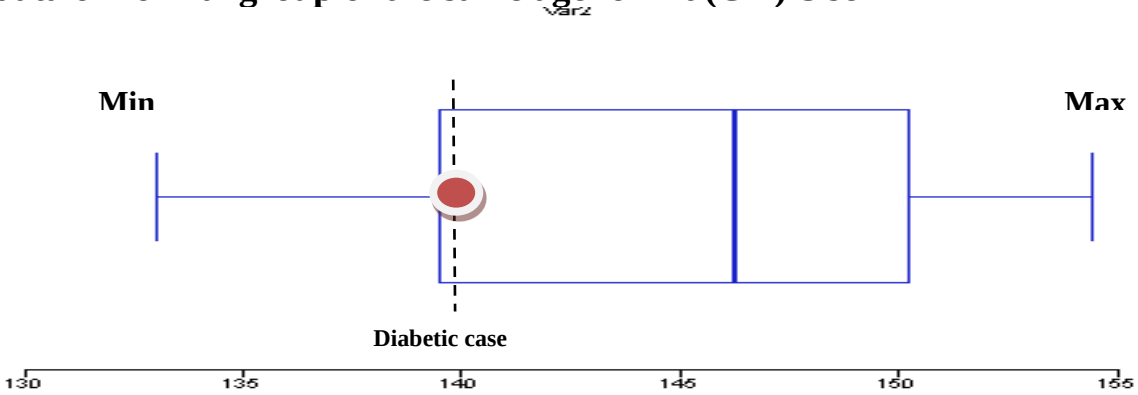


less than minimum of normal range

Table (21):10th diabetic case data of sex, weight (kg) and height (cm).

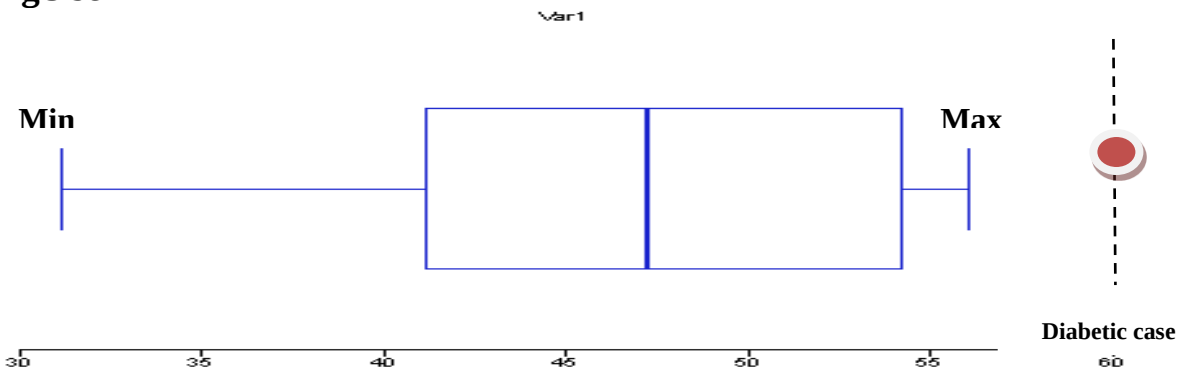
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
11	male	60	>95	140	25

Fig (34): 10th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



less than mean but within normal range

Fig (35): 10th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg&sex

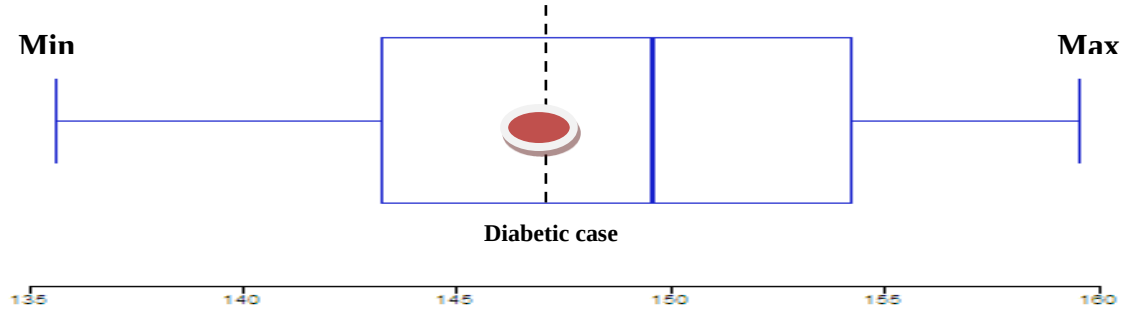


More than maximum of normal range

Table (22):11th diabetic case data of sex, weight (kg) and height (cm).

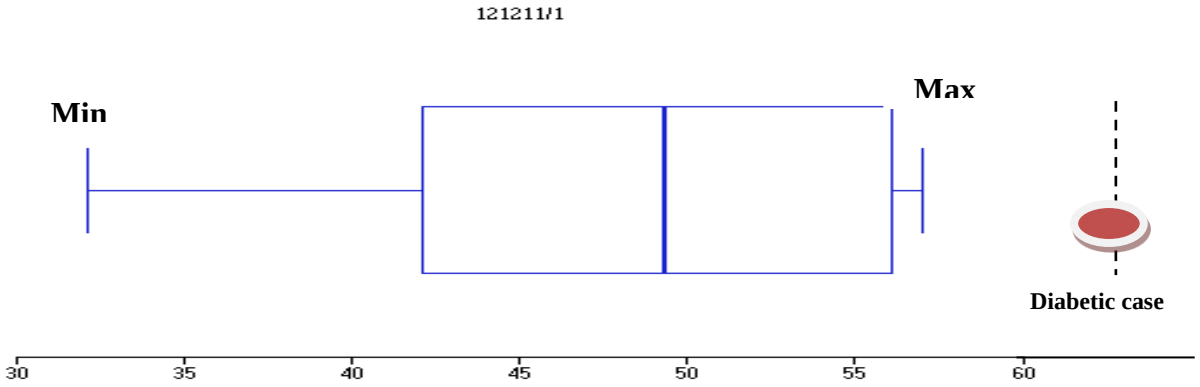
Age (Years)	sex	Weight		Height	
		kg	centile%	cm	centile%
12	female	63	>95	147	25

Fig (36): 11th diabetic case data of Ht (Cm) on plot box presenting data of normal group of the same age for Ht (Cm) &sex



less than mean but within normal range

Fig (37): 11th diabetic case data of weight in kg on plot box presenting data of normal group of the same age for weight in kg &sex



More than maximum of normal range