Results

The result of the present study included the following parts:

Part1: demographic characteristic of the studied samples and their families table (3).

Part 2: Present history of diabetic disease, daily activities, home environment and home care of the studied sample. Table (4-6).

Part (3) Knowledge of the studied sample and their families regarding diabetes mellitus,table 7-9.

Part (4) Factors affecting adolescent practice of daily activities, knowledge, and home care .Table (10-14).

Table (1) Demographic characteristic of the studied sample. (n=100)

Demographic categories	%
Age in years	
13-	**41**
15-	**50**
>16	**9**
Mean± SD=14.80±1.30	
Sex	
Male	**52**
Female	**48**
Level of adolescent education	
Illiterate	**9**
Preparatory education	**61**
Secondary education	**30**

Table (1) revealed that ,the mean age of studied sample was (14.80±1.30) years, 50%of them were 15years, 52% of them were males, and 61% of them were engaged in preparatory education.

Table (2) Demographic characteristic of adolescent parents. .(n=100)

Demographic characteristic	%
Level of adolescent fathers 'education	
Illiterate	**7**
Read and write	**34**
Secondary education	**47**
Universal education	**12**
Adolescent fathers job	
Not work	**9**
Governmental work	**86**
Private work	**5**
Level of adolescent mothers 'education	
Illiterate	**20**
Read and write	**30**
Secondary education	**12**
Universal education	**38**
Adolescent mothers job	
House wife	**68**
Work	**32**

Table (2) revealed that, 47%of adolescent fathers had a secondary level of education and 86% of them were governmental workers. While 30 and 38% of adolescents' mothers can read and write and University education respectively and 68% of them were housewives.

Table (3) Family characteristic of the studied adolescents .(n=100)

characteristic	%
Type of adolescent family	
-Nocular family	**53**
-Extended family	**47**
Family income	
No income	**10**
Not enough	**76**
Enough and save	**14**
Family numbers	
>3 individuals	**7**
3-5 individuals	**58**
>5 individuals	**35**
Type of house	
Separated house	**43**
shared house	**57**

Table (3) revealed that 53% of adolescents were belonged to nuclear family, the family numbers ranged from 3-5 individuals, among 58% of them and 57% of them live at shared house.

Table (4): Characteristic of home environment as reported by the study subject (n=100)

Items	Inadequate	Adequate	Highly adequate
	%	%	%
Ventilation	49	20	31
Water supply	19	75	6
Rooms' light	36	55	9
Bathroom light	46	27	27
Cleaning	54	36	10
Home sanitation	45	43	12
Bath room	49	19	32

Table (4) revealed that 75%, 55% of the studied adolescent home had a water supply, and lights were adequate, while 54%, 49%of their home were cleaning and bathroom was inadequate respectively.

Table (5): Present medical history of diabetes among studied adolescents. (n=100)

Categories	%
Onset of the disease in years	
1-	**48**
6-	**33**
>10	**19**
Mean ±SD=3.84±0.97	
Times of hospital admission	
-Never	**5**
- One time	**87**
-Two times	**8**
Times of outpatient follow up	
Every 2 weeks	**8**
Every 3 weeks	**26**
Every month	**24**
More than one month	**42**
Type of medication	
Insulin	**94**
Oral hypoglycemic drug	**6**
Insulin administration by	
- Themselves	**74**
-Care giver	**26**

Table (5) revealed that ,the onset of the diabetes was ranged from(1-5 years among 48% of studied adolescent, 87% of them admitted to the hospital one time, 26% of them visit outpatient clinics every three weeks for follow up, and insulin was the type of treatment among 94% of them and 74% of them administer insulin to themselves .

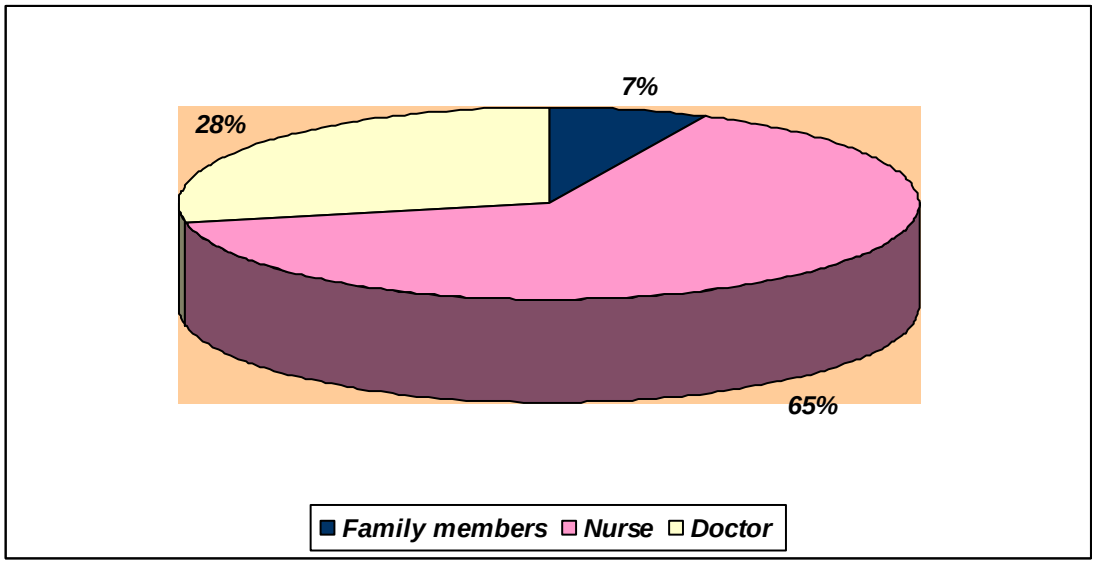

Figure (1): Revealed that 65% of the source of educating adolescent about insulin injection is nurse, 7% family member and 28% is doctor.

According to Research Question No. 2: Relationship Between Adolescent Knowledge Regarding their Practices diabetes mellitus (Table 6-7).

Table (6) Distribution of studied adolescent regarding homecare n=(100)

Items	Yes	No
	%	%
Eating healthy food	40	60
Get regular exercises	22	78
Take diabetes drugs (medications)	75	25
Sleep proper time	54	46
Avoid stressful situation	43	47
Foot care	20	80
Personal hygiene	38	62
Family support	75	25
Participation of recreational activities	34	66

Table(6) revealed that 75% of the studied adolescent take diabetic drugs and their eating healthy food, while 80%, 78%of them don't perform foot care and don't get regular exercises respectively.

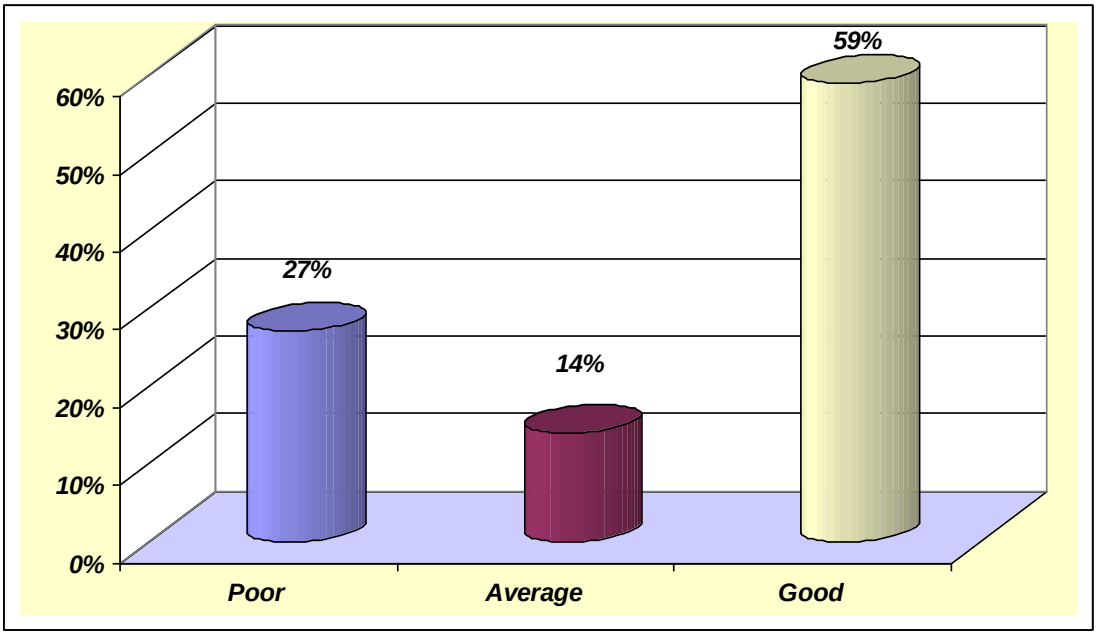

Figure (2) Revealed that 59% distributions of level of adolescents homecare 14% a verge distraction and 27% poor distribution of level of adolescents homecare.

Table (7) Distribution of the studied adolescents knowledge regarding their practice toward daily activities.(n=100)

Daily activities	Complete	In complete	Not done
	%	%	%
Times of bathing	39	56	5
Times of dressing	40	48	12
Number of diabetic meals	7	85	8
Amount of fluid intake	21	70	9
Exercises sport	4	94	2
Sport precaution followed by diabetic adolescent	59	8	33
Foot care	12	16	72

Table (7) revealed that, 56%, 93%, and 94%of the studied adolescents respectively practice personal hygiene, diets and sport in complete, while and only 59 % of them aware of precaution during practice sport ,and 72% of them not practice foot care.

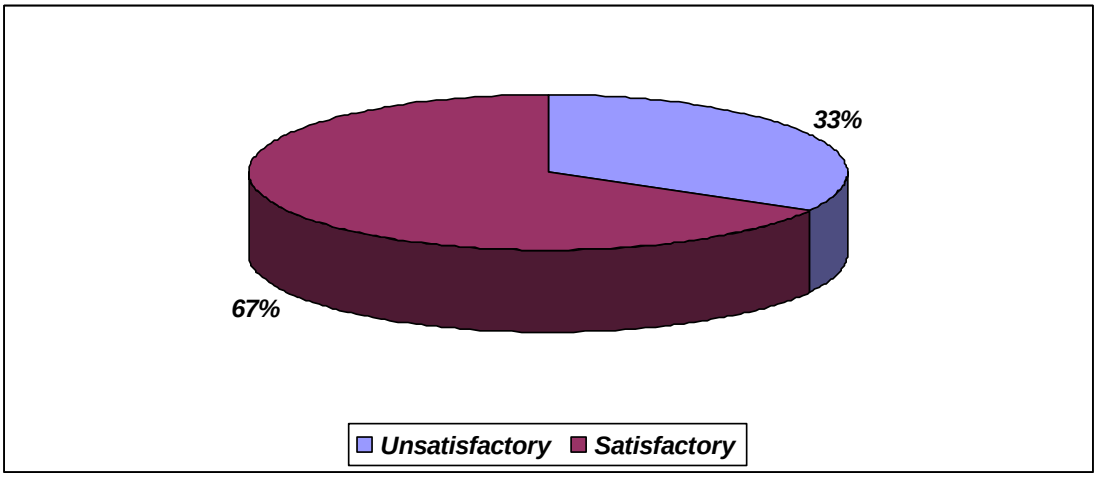

Figure (3) Revealed that distribution of total daily activities practice score of adolescents is 67% unsatisfactory 33% satisfactory

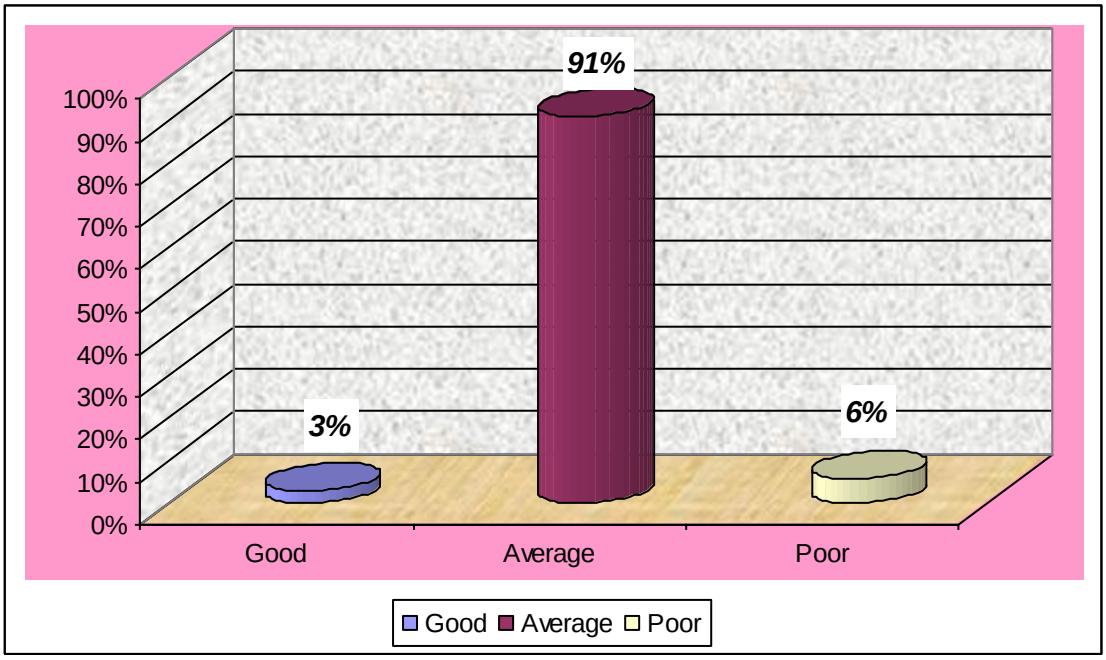

Figure (4) Revealed that distribution of total adolescent knowledge score is 91% average, 3% good and 6% poor.

Part (II): Studied adolescent and their families knowledge regarding diabetes mellitus.

Table (8) Distribution of the studied adolescent and their family regarding to their knowledge about diabetes mellitus (n=100).

Items	Adolescent knowledge			Family knowledge			X^2	P value
	Complete %	Incomplete %	Don't know %	Complete %	Incomplete %	Complete %		
Meaning of diabetes	38	61	1	5	51	44	2.77	>0.05
Types of diabetes	59	32	9	7	21	72	2.08	>0.05
Causes of diabetes	0	96	4	7	61	32	0.698	>0.05
Signs &symptoms of diabetes	80	18	2	30	35	35	14.16	<0.05
Complication of diabetes	17	83	0	6	60	34	4.90	>0.05
Measures to avoid complication	28	72	0	5	74	21	2.58	>0.05

This table revealed that 59%,80% of the studied adolescents had complete knowledge regarding the types and signs and symptoms of diabetes. while only 30% of family knowledge was complete .Also there was a statistically significant difference regarding adolescent and their families knowledge about signs and symptoms of diabetes.

Table (9) Distribution of the studied adolescent and their family regarding to their knowledge about diabetic coma (n=100).

Items	Adolescent knowledge			Family knowledge			X^2	P value
	Complete %	Incomplete %	Don't know %	Complete %	Incomplete %	Don't know %		
Types of diabetic coma	44	54	2	13	32	55	3.76	>0.05
Causes of hypoglycemic coma	18	80	2	5	75	20	6.27	<0.05
Signs &symptoms of hypoglycemic coma	13	64	23	5	71	24	26.00	<0.001
Measures to avoid hypoglycemic coma	7	93	0	5	81	14	5.69	<0.05
Causes of hyperglycemic coma	10	85	5	14	70	16	90.30	<0.001
Signs &symptoms of hyperglycemic coma	21	59	20	12	73	15	6.71	<0.05
Measures to avoid hyperglycemic coma	11	69	20	4	44	52	8.30	<0.05
Reaction at the occurrence hyperglycemic coma	45	54	1	9	76	15	0.331	>0.05

This table revealed that 93%, 85% of the studied adolescents had incomplete knowledge regarding measures to avoid hypoglycemic coma, and its causes. On the other hand 81%, 76%of family knowledge was incomplete regarding measures to avoid hypoglycemic coma .Also there was a highly statistically significant difference regarding adolescent and their families' knowledge about signs and symptoms of diabetes.

Table (10) Distribution of the studied adolescent and their family regarding their knowledge about follow up and insulin treatment. (n=100)

Items	Adolescent knowledge			Family knowledge			X^2	P value
	Complete %	Incomplete %	Don't know %	Complete %	Incomplete %	Don't know %		
The importance of follow up	35	60	5	8	80	12	0.461	>0.05
Diagnostic tests	4	94	2	10	46	44	27.47	<0.001
Effect of regular treatment	35	61	4	13	40	47	15.13	<0.05
Importance of insulin	6	89	5	10	27	63	43.62	<0.001
Insulin injection sites	50	35	15	31	53	16	40.62	<0.001
Insulin storage technique	72	21	7	41	11	49	15.94	<0.05
Side effects of insulin treatment	1	85	14	20	30	50	8.73	<0.05

This table revealed that 89%, 85% of the studied adolescents had incomplete knowledge regarding to importance and side effect of insulin .While 80% of their families had incomplete knowledge regarding the importance of follow up and 63%of them don't know the importance of insulin .There was a highly statistically significant difference regarding adolescent and their families' knowledge about diagnostic tests, importance of insulin and insulin injection sites.

Part III Factors affecting adolescent home care knowledge and, practice of daily activities.

According to Research Questions No. 1: Relationship regarding their practices diabetes and their demographic characteristic status.

Table (11): The relation between parent demographic characteristic and their total adolescent knowledge about diabetes mellitus n=(100).

Adolescents' families socio-economic state	Total adolescent parent knowledge			X^2	P value
	Good	Average	Poor		
Educational Level of adolescents' fathers					
Illiterate	0	4	3	13.24	<0.05
Read and write	0	7	27		
Secondary education	25	20	2		
Universal education	6	4	2		
Adolescent fathers job					
Not work	0	1	8	9.69	<0.05
Governmental work	4	33	50		
Free work	3	2	0		
Educational Level of adolescent s 'mothers					
Illiterate	2	7	11	12.99	<0.05
Read and write	2	6	22		
Secondary education	4	6	2		
Universal education	20	12	6		
Adolescent mothers job					
House wife	2	22	44	23.19	<0.05
Work	2	13	17		

Table (11) Indicated significant statistical relation between parents demographic characteristic and their adolescent total score knowledge about diabetes mellitus P<0.005.

According to Research Questions No. 3: Factor affecting the care of adolescent with type 1 diabetes mellitus (Table 12-14)

Table (12): Factors related to family income, and onset of the disease and total level of home care n=(100).

Factors	Total home care score			X^2	P value
	Good	Average	Poor		
Age	%	%	%	7.47	<0.05
13-	8	7	26		
15-	18	5	27		
>16	1	2	6		
Sex					
Male	18	10	24	13.19	<0.05
Female	9	4	35		
Family income					
No income	3	2	4	13.48	<0.05
Not enough	23	11	46		
Enough and save	1	1	9		
Level of adolescent education					
Illiterate	2	2	5	3.31	>0.05
Preparatory education	20	7	34		
Secondary education	5	5	20		
Onset of the disease					
-1-5years	5	9	34	15.27	<0.05
-6-10years	16	2	15		
->10years	6	3	10		

Table (12) revealed that there was a significant relation between adolescent age, sex, and onset of the disease and total home care score this while there was no significant relation between their level of education and level home care.

Table (13): Relation between demographic characteristic of the studied adolescent and their total knowledge score n=(100).

Demographic state	Total adolescent % knowledge			X^2	P value
	Good	Average	Poor		
Age					
13-	5	30	6	23.63	<0.05
15-	2	40	8		
>16	1	5	3		
Sex					
Male	9	40	3	3.38	>0.05
Female	3	42	3		
Level of adolescent education					
Illiterate	3	5	1	9.69	<0.05
Preparatory education	6	50	5		
Secondary education	3	20	0		
Family income					
No income	0	9	1	2.47	>0.05
Not enough	3	71	2		
Enough and save	0	11	3		
Onset of the disease					
-1-5years	13	34	1	20.44	<0.001
-6-10years	5	20	7		
->10years	4	10	5		

Table (13) shown that there was a significant relation between adolescent age, and level of education and their total knowledge score .In addition it is shown that there was a highly significant relation P<0.001 between their onset of the disease and their total knowledge score.

Table (14): Demographic factors of adolescent and their practice score of daily activities. n=(100)

Demographic characteristics	Total adolescent practice		X^2	P value
	Unsatisfactory	satisfactory		
Age				
13-	7	34	17.54	<0.001
15-	24	26		
>16	2	7		
Sex			16.30	<0.05
Male	27	25		
Female	6	42		
Family income				
No income	0	9	4.87	<0.05
Not enough	29	51		
Enough and save	4	7		
Level of adolescent education				
Illiterate	1	8	9.06	<0.05
Preparatory education	27	34		
Secondary education	5	25		
Onset of the disease				
-1-5years	6	42	26.42	<0.001
-6-10years	22	11		
->10years	5	14		

Table (14) revealed that there was a highly significant relation between adolescent age and onset of the disease and their total practice score this while there was only significant relation between their both sex and level of education.