RESULTS

The study results are presented in seven parts and shown in tables from (1 to 3 4):

Part I: Socio demographic characteristics of care givers, families and mentally retarded children, medical and obstetric history of caregivers (Table 1 to 5)

Part II: Care givers' knowledge about mental retardation and school's role in caring of mentally retarded children (Table 6 to 12).

Part III: Child's practice regarding daily living skills, communication, social & motor skills (Table 13 to 20)

Part IV: Observation of home environment of mentally retarded children (Table 21)

Part V: Relations between total care givers' knowledge and child's practice with socio demographic characteristics of care givers pre and post educational implementation (Table 22to 24)

Part VI: Relations between total care givers' knowledge and child's practice with socio demographic data of child's family pre and post educational implementation (Table 25 to 30).

Part VII: Relations between total care givers' knowledge and child's practice regarding socio demographic characteristics of mentally retarded children pre and post educational implementation (Table 31 to 34)

Table (1): Age and relation to child of the care givers in percentage distribution (n =70).

Item	N	%
Age		
20-	14	20.00
30-	27	38.57
40-	22	31.43
50- 60	7	10.00
Mean ± SD	37.5 ± 14.790	
Relation to child		
Grand Mother	2	2.85
Mother	68	97.16

Table (1) showed that the caregivers' age ranged between (20 – 60) years old and the care givers who aged from 30 to less than 50 years were (70 %) of the sample while only 10% of care givers were (50 – 60) years old. However, majority of care givers (97.16%) were mothers while only 2.85% of them were grandmothers.

Table (2): Family socio demographic characteristics among mentally retarded children (n = 70).

Characteristics	N	%	Chi-square	
			X^2	P-value
Father education				
Illiterate	24	34.29	17.086	<0.001
Read and write	8	11.43		
Secondary school	28	40.00		
University education	10	14.29		
Mother education				
Illiterate	37	52.86	46.229	<0.001
Read and write	2	2.86		
Secondary school	25	35.71		
University education	6	8.57		
Father Job				
Worker	24	34.29	17.657	<0.001
Employee	25	35.71		
Farmer	18	25.71		
Don't work	3	4.29		
Mother Job				
House wife	58	82.86	30.229	<0.001
Work (employee - worker)	12	17.14		
Family type				
Extended family	30	42.36	13.229	<0.001
Family without mother	2	2.85		
Nuclear family	31	44.29		
Family without father	7	10.00		
Income / pound				
Enough and save	10	14.29	11.429	0.003
Enough	30	42.86		
Don't enough	30	42.86		
Number of family members				
3 – 4	18	25.71	10.400	0.006
5 – 7	36	51.43		
8-	16	22.86		
Residence				
Rural	66	94.29	54.914	<0.001
Urban	4	5.71		

Table (2) denoted that socio demographic data of child's family. It showed highly statistical significant difference ($P < 0.001$) and more than one third of Fathers (40%) and (34.29%) were secondary school and illiterate respectively while only 11.43% of them read and write. Concerning mother education, more than half of the sample (52.86%) was illiterate while only 8.57% of them were university education and 2.86% read and write. Regarding father Job, more than one third of the sample (35.71%) and (34.29%) were employees and workers respectively while 4.29% of them have no work, mean while 82.86% of mothers were house wives and 17.14% were employees and workers. In relation to family type, (42.86%) and (44.29%) were extended family and nuclear family respectively while only 2.85% were family without mother. Incomes were enough and save for only 14.29% of families. Concerning number of family members, more than half of the sample (51.43%) was 5 – 7 members and only 5.71% of families from urban area.

Table (3): Distribution of Medical and obstetric history among care givers of mentally retarded children (n = 70).

History	N	%	Chi-square	
			X^2	P-value
Mother age during pregnancy				
below 20	4	5.71	36.286	<0.001
20-	22	31.43		
30-	36	51.43		
40 – 50	8	11.43		
Kind of delivery				
Normal	51	72.86	52.829	<0.001
Cesarean	16	22.86		
Forceps or suction	3	4.29		
Place of delivery				
House	29	41.43	2.057	0.151
Hospital	41	58.57		
Baby weight after delivery				
Normal but obstructed	47	67.14	38.600	<0.001
Over weight	6	8.57		
Low birth weight	17	24.29		
Discovery child's disability				
During follow up with doctor	1	1.43	31.143	<0.001
Immediately after delivery	17	24.29		
During immunization	6	8.57		
Incidental check up	27	38.57		
Through the school	19	27.14		

Table (3) documented medical and obstetric history during pregnancy of child revealed that the mother age during pregnancy ranged between below 20 – 50 years while the mothers whose age from 30 to less than 40 were (51.43%) of the sample. Concerning kind of delivery, more than two thirds of the sample (72.86%) was normal but obstructed delivery and only 4.29% of them were by forceps or suction. Hospital deliveries were (58.57%) compared with 41.3% at home. Regarding baby weight, two thirds of the sample (67.14%) was at normal weight after delivery, and only 8.57% were over weight. In relation to discovery of disability, more than one third of the sample (38.57%) discovered that their children were mentally retarded Incidental during check up and 27.14% of them discovered that through school while only 8.57% and 1.43% of them discovered their children during immunization and follow up with doctor respectively with the majority of highly statistical significant differences ($P < 0.001$).

Table (4): Risk factors among care givers or mentally retarded children in percentage distribution (n = 70).

Items	Yes		No	
	N	%	N	%
Parents are relatives	25	35.71	45	64.29
Hemorrhage during pregnancy	19	27.14	51	72.86
Taking unprescribed medication during pregnancy	9	12.86	61	87.14
Rubella during pregnancy	15	21.43	55	78.57
Hypothyroidism	17	24.29	53	75.71
Follow up during pregnancy	19	27.14	51	72.86
Placed in incubator	20	28.57	50	71.43
History of mental retardation in the family	14	20	56	80
Child exposed to trauma	12	17.14	58	82.86

Table (4) described the risk factors among care givers and their mentally retarded children. It showed highly statistical significant difference ($P < 0.001$) and parents who are relatives were more than one third of the sample (35.71%) also more than one quarter of the sample (27.14%) had hemorrhage during pregnancy but only 12.86% of them taking un prescribed medication during pregnancy. More than one fifth of the sample (21.43%) and (24.29%) affected with rubella or hypothyroidism respectively. More than one quarter of the sample (27.14%) make follow up during pregnancy and more than one quarter (28.57%) of care givers placed their children in incubator when born while 20% of care givers had history of mental retardation and 17.14% of care givers had children exposed to trauma..

Table (5): X^2 and percentage distribution of socio demographic characteristics of mentally retarded children (n = 70).

Characteristics	N	%	Chi-square	
			X^2	P-value
Gender				
Male	49	70.00	11.200	0.001
Female	21	30.00		
Age				
6 -	31	44.29	3.800	0.150
7 -	19	27.14		
8 – 9	20	28.57		
Mental age (IQ)				
50 -	9	12.86	38.229	0.000
55-	39	55.71		
60-	16	22.86		
65-70	6	8.57		
Rank of child				
First	12	17.14	12.600	0.050
Second	17	24.29		
Third	12	17.14		
Fourth	10	14.29		
Fifth	9	12.86		
Sixth	8	11.43		
Seventh	2	2.86		

As observed by table (5) that children who are males were 70% of the sample while females were 30% of the sample with highly statistical significant difference ($P < 0.001$). The children age ranged from 6 – 9 years old and more than one third of them (44.29%) were 6 to less than 7 years old and 55.71% of the children were 7 – 9 years old with highly statistical significant difference. Concerning mental age, more than half of children (55.71%) were 55 degree while only 8.57% of them were 65-70 degree. Regarding rank of child, 24.29% of them were the second and 17.1% of the children were the first and the third respectively while only 2.86% of them were the seventh with statistical significant difference.

Table (11): Total knowledge scores among care givers of mentally retarded children pre / post educational implementation (n = 70).

practice	Range			Mean	±	SD	Paired t-test	
							t	P-value
Pre	2.0	-	21.0	12.314	±	3.709	-37.368	0.000
Post	22.0	-	43.0	30.943	±	4.600		

Table (11) revealed highly significant differences between pre and post care givers' knowledge as the total knowledge pre test was 12.314 ± 3709 compared with increasing tendency of knowledge in the post test (30.943 ± 9600).

Table (12): Frequency distribution of school role in caring of mentally retarded children as responded by the care givers (n = 70).

School role	N	%	Chi-square	
			X^2	P-value
School has an effective role				
Yes	42	60.00	23.771	<0.001
No	10	14.29		
Don't know	18	25.71		
Communication with school				
Yes	19	27.14	14.629	<0.001
No	51	72.86		
Parent council participation				
Yes	5	7.14	23.343	<0.001
No	28	40.00		
Don't know	37	52.86		
Recreational facilities				
Yes	24	34.29	30.971	<0.001
No	4	5.71		
Don't know	42	60.00		
Perceptible aspects of learning				
Yes	31	44.29	30.029	<0.001
No	2	2.86		
Don't know	37	52.86		

Table **(**12**)** illustrated the school role in caring of mentally retarded children where more than half of the sample (60%) agreed that school has an effective role in caring of child while only 14.29% of them didn't agree. Regarding communication with school, 72.86% of the sample didn't communicate with school but the rest of the sample (27.14%) communicates. It was noticed that more than half of the sample (52.86%) didn't know if there is parent council or not while only 7.14%. Also sixty percent of caregivers didn't know if recreational facilities in school or not. As regards perceptible aspects of learning, more than three quarters of care givers (52.86%) didn't know perceptible aspects of learning in school or not and 44.29% of them said that there is perceptible aspects of learning in school also highly statistical significant differences were detected.

Table (20): Total practical scores among mentally retarded children pre / post educational implementation (n = 70).

practice	Range			Mean	±	SD	Paired t-test	
							t	P-value
Pre	2.0	-	44.0	11.686	±	7.895	-33.064	0.000
Post	32.0	-	55.0	41.857	±	5.572		

The above table illustrated a highly significant increase change between total children's practice pre / post educational implementation. It was seen that total mean practice pre test was 11.68 ± 7.89 while post test was 41.857 ± 5.57.

Table (21) Observation of home environment of mentally retarded children (n = 70).

Items	Good		Moderate		Poor		Chi-square	
	N	%	N	%	N	%	X2	P-value
Sewage disposal	23	32.86	21	30.00	26	37.14	9.942	0.007
Refuse disposal	5	7.14	9	12.86	56	80.00	74.902	<0.001
Kitchen	10	14.29	20	28.57	40	57.14	32.444	<0.001
Drug storage	8	11.43	12	17.14	50	71.43	67.565	<0.001
Safety of electricity sources	9	12.86	21	30.00	40	57.14	26.752	<0.001
Safety of fire sources	6	8.57	24	34.29	40	57.14	58.336	<0.001

Table (21) described home environment of mentally retarded children as regarding sewage and refuse disposal, kitchen, drug storage, safety of electricity sources & safety of fire sources. It showed highly statistical significant differences (P <0.001) as seen there is good sewage disposal system in (32.86%) of children's homes, while there is poor refuse disposal in 80% of children's homes but only 8.57% and 12.86% had good safety of fire sources and good safety of electricity sources respectively.

Relations between total care givers' knowledge and child practice with socio demographic characteristics of care givers pre / post educational implementation

Table (22): Care givers' age in relation to total knowledge after educational implementation (n=70)

care givers' age	Total knowledge(post)		ANOVA	
	Range	Mean ± SD	f	P-value
20-	25.0 - 43.0	31.571 ± 6.345	1.187	0.322
30-	24.0 - 41.0	31.481 ± 4.173		
40-	22.0 - 37.0	29.455 ± 4.149		
50-60	29.0 - 35.0	32.286 ± 2.812		

Table (22) displayed the relation between care givers' knowledge with their age after the program implementation. As seen there is no statistically significant difference was detected

Table (23): Care givers' age in relation to total child's practice after educational implementation (n=70)

care givers' age	Total Practice(post)		ANOVA	
	Range	Mean ± SD	f	P-value
20-	32.0 - 49.0	38.571 ± 4.894	2.751	0.050
30-	37.0 - 53.0	42.407 ± 5.220		
40-	36.0 - 55.0	43.636 ± 5.076		
50-60	32.0 - 49.0	40.714 ± 7.566		

Table (23) displayed the relation between care givers' age with total child's practice after program implementation. As seen there is statistically significant relation between caregivers' age and child's practice.

Table (24): T-test of care givers' knowledge, child practice with relation to child pre/post educational implementation

Items		Relation to child							
		Grand Mothers			Mother			**T-test**	
		Mean	±	SD	Mean	±	SD	t	P-value
Knowledge	Pre	9.333	±	2.121	12.754	±	3.700	-2.698	0.009
	Post	30.444	±	4.391	31.016	±	4.660	-0.346	0.730
Practices	Pre	10.444	±	5.918	11.869	±	8.170	-0.503	0.617
	Post	40.556	±	6.673	42.049	±	5.430	-0.748	0.457

Table (24) displayed the relation between care givers' knowledge and child practice with relation to child pre / post educational implementation. It documented highly statistically significant negative relationship between knowledge scores and relation to child at pre implementation phase. Mean while there is no statistically significant relation regarding relation to child at post implementation phase. As seen there were negative relationships concerning relation to child with child's practice pre / post implementation without statistically significant difference.

Relations between total care givers' knowledge and child practice with socio demographic data of child's family pre and post educational implementation

Table (25): Care givers' knowledge with mother education post educational implementation

Items	Knowledge post		ANOVA	
	Range	Mean ± SD	f	P-value
Illiterate	22.0 - 37.0	29.027 ± 3.782	8.963	0.000
Read and write	29.0 - 29.0	29.000 ± 0.000		
Secondary school	26.0 - 43.0	32.480 ± 4.370		
University education	33.0 - 41.0	37.000 ± 3.578		

Table (25) displayed the relation between care givers' knowledge with mother education post educational implementation. As seen there is highly statistically significant relation between care givers' knowledge with mother education post educational implementation

Table (26): Total child's practice with mother education post educational implementation (n=70)

Items	Practice post		ANOVA	
	Range	Mean ± SD	f	P-value
Illiterate	32.0 - 55.0	42.162 ± 5.444	0.739	0.532
Read and write	41.0 - 41.0	41.000 ± 0.000		
Secondary school	32.0 - 53.0	42.240 ± 6.457		
University education	38.0 - 40.0	38.667 ± 1.033		

Table (26) displayed the relation between child's practices with mother education post educational implementation. As seen there is no statistically significant relation between child's practice with mother education at post implementation phase.

Table (27) Relation of care givers' knowledge according to family income pre / post educational implementation.

Income	Knowledge		ANOVA	
*** Pre implementation**	**Range**	**Mean ± SD**	**f**	**P-value**
- Enough and save	10.00 - 21.00	16.100 ± 4.040	11.757	<0.001
- Enough	8.00 - 18.00	12.833 ± 3.086		
- Not enough	7.00 - 17.00	10.533 ± 3.104		
*** Post implementation**				
- Enough and save	25.00 - 41.00	32.900 ± 5.507	1.756	0.181
- Enough	25.00 - 43.00	31.300 ± 4.284		
- Not enough	22.00 - 37.00	29.933 ± 4.479		

This table revealed the relation between care givers' knowledge and family income pre / post educational phases. As seen, there were highly statistical significant difference between care givers' knowledge and family income pre educational implementation. However, there is no statistically significant difference between care givers' knowledge and family income post educational implementation.

Table (28): Relation of family income with child's practice pre / post educational implementation.

Income	Practice		ANOVA	
*** Pre implementation**	**Range**	**Mean ± SD**	**f**	**P-value**
- Enough and save	6.00 - 34.00	10.400 ± 8.449	0.844	0.435
- Enough	2.00 - 44.00	13.100 ± 9.998		
- Not enough	4.00 - 21.00	10.700 ± 4.750		
*** Post implementation**				
- Enough and save	37.00 - 52.00	40.900 ± 4.458	0.457	0.635
- Enough	32.00 - 55.00	42.567 ± 5.923		
-Not enough	32.00 - 53.00	41.467 ± 5.625		

The above table documented the relation between child's practice and family income pre / post educational implementation. It displayed no statistical significant difference between child's practice and family income pre / post educational implementation.

Table (29): Relation of number of family members with care givers knowledge pre / post educational implementation.

number of family members	Knowledge		ANOVA	
*** Pre implementation**	**Range**	**Mean ± SD**	**f**	**P-value**
3 - 4	8.00 - 21.00	13.222 ± 4.918	3.126	0.050
5 - 7	7.00 - 21.00	12.722 ± 3.086		
8-	7.00 - 14.00	10.375 ± 2.872		
*** Post implementation**				
3 - 4	24.00 - 43.00	32.222 ± 6.348	1.254	0.292
5 - 7	25.00 - 37.00	30.833 ± 3.393		
8-	22.00 - 35.00	29.750 ± 4.612		

Table (29) illustrated the relation between number of family members and care givers' knowledge throughout educational phases. It documented statistical significant difference between number of family members and care givers' knowledge pre educational implementation.

However, there is no statistically significant difference between number of family members and care givers' knowledge post educational implementation.

Table (30): Relation of number of family members with child's practice pre / post educational implementation

Number of family members	Practices		ANOVA	
*** Pre implementation**	**Range**	**Mean ± SD**	**f**	**P-value**
3 - 4	32.00 - 53.00	42.444 ± 6.564	0.131	0.877
5 - 7	36.00 - 55.00	41.667 ± 5.329		
8-	32.00 - 49.00	41.625 ± 5.214		
*** Post implementation**				
3 - 4	4.00 - 44.00	12.389 ± 9.900	0.702	0.499
5 - 7	2.00 - 34.00	12.250 ± 7.802		
8-	4.00 - 21.00	9.625 ± 5.265		

This table documented the relation between number of family members with care givers knowledge throughout intervention phases. It illustrated no statistically significant difference between number of family members and child's practice pre / post educational implementation.

Relations between total care givers' knowledge and child's practice regarding socio demographic characteristics of mentally retarded child pre and post educational implementation.

Table (31): T – test of child's gender with care givers' knowledge and child's practice pre / post educational implementation.

		Gender			
		Male	Female	T-test	
		Mean ± SD	Mean ± SD	t	P-value
Knowledge	Pre	11.531 ± 3.589	14.143 ± 3.395	-2.835	0.006
	Post	30.143 ± 4.778	32.810 ± 3.600	-2.290	0.025
Practices	Pre	12.204 ± 8.409	10.476 ± 6.570	0.837	0.405
	Post	41.857 ± 6.079	41.857 ± 4.293	0.000	1.000

The above table documented the relationship between child gender with care givers' knowledge and child's practice through educational phases. It displayed statistically significant negative relationships between child's gender and care givers' knowledge. Mean while there were no statistically significant positive relationships between child's gender and child's practice.

Table (32): Mental of the child with child's practice pre / post educational implementation.

Mental age of child (degree)	Practice		ANOVA	
*** Pre implementation**	**Range**	**Mean ± SD**	**f**	**P-value**
50-	6.00 - 27.00	17.000 ± 10.025	2.676	0.034
55-	2.00 - 34.00	11.103 ± 6.091		
60-	4.00 - 44.00	12.250 ± 10.305		
65-70	4.00 - 9.00	6.000 ± 2.366		
*** Post implementation**			0.125	0.945
50-	37.00 - 50.00	42.000 ± 5.172		
55-	32.00 - 53.00	41.615 ± 5.255		
60-	32.00 - 55.00	42.563 ± 7.598		
65-70	41.00 - 42.00	41.333 ± 0.516		

This table discussed the relation between child's mental age and child's practice through educational phases. As seen, there were statistically significant differences between child's mental age and child's practice at pre educational phase while there are no statistically significant differences between child's mental age and child's practice at post educational phase.

Table (33): Correlation coefficient between care givers' knowledge and child's practice regarding to rank of child pre / post educational implementation.

Variables	Knowledge				Practice			
	Pre		Post		Pre		Post	
	r	p	r	p	r	p	r	p
Rank of child	-0.450	<0.001	-0.349	0.003	-0.104	0.390	-0.003	0.978

This table reflected the correlation between rank of child with care givers' knowledge and child's practice throughout educational phases. It pointed to highly statistical significant negative correlations regarding rank of the child and caregivers' knowledge through educational phases. Meanwhile there were negative correlations regarding rank of child and child's practice without statistically significant differences through intervention.

Table (34): Correlation coefficient between care givers' knowledge and child's practice regarding to home environment pre / post educational implementation.

Variables	Knowledge				Practice			
	Pre		Post		Pre		Post	
	r	p	r	p	r	P	r	p
Home environment	0.831	<0.001	0.925	<0.001	0.728	<0.001	0.543	0.001

This table reflected the correlation between home environment with care givers' knowledge and child's practice throughout intervention phases. Highly statistical significant positive correlations were detected between care givers' knowledge and child's practice with home environment pre and post intervention phases.