Results

Results of the study are presented in the following parts:

PART I: Socio-demographic characteristics of mothers and their children: tables 1-5 and figure: (1-5)

PART II: Mothers' knowledge about childhood cancer pre / immediate post and after three months of educational intervention: tables (6-8) and figure: (6)

PART III: Mothers' practice about childhood cancer pre / immediate post and after three months of educational intervention: table (9) and figure: (7)

PART IV: QOL of children with cancer pre / and after three months of educational intervention: tables (10 – 12)

PART V: **Correlation coefficient between mothers' knowledge, practice and QOL of their children with cancer during pre / immediate post and after three months of educational intervention:** table (13-15)

Part I:- Socio-demographic characteristics of the studied sample

Table (1): Percentage distribution of the studied children according to their characteristics

Characteristics of children	(No) N=60	(%)
Age in years		
1:< 4	22	36.7
4 : < 8	20	33.3
8: < 12	11	18.3
12 -15	7	11.7
$\overline{X} \pm S.D = 5.6 \pm 1.95$		
Gender		
Male	43	71.7
Female	17	28.3
School Stage:		
Nursery	30	50
Primary	23	38.3
Preparatory	3	5
Secondary	4	6.7
Rank of the child		
Only	6	10.0
First	17	28.3
Middle	16	26.7
Last	21	35.0

Table (1): showed that the socio-demographic data of children, the mean age were 5.6 ± 1.95 years. Regarding to gender, less than three quarters 71.7% were males. In relation to child's school stage, the half (50%) of them were in nursery school. As regards birth order, more than one third (35%) of children were the last child in the family.

Table (2) Percentage distribution of the studied children according to their diagnosis and period of disease

Items	(No) N=60	(%)
Medical diagnosis		
Leukemia	29	48.3
Lymphoma	10	16.7
Wilm's tumor	11	18.3
Neuroblastoma	5	8.4
Bone tumor	2	3.3
Liver tumor	2	3.3
Retinoblastoma	1	1.7
Period of disease		
Less than one year	37	61.7
More than one year	23	38.3

It is clear from table (2) that, less than half (48.3%) of children had leukemia, 16.7% had lymphoma compared to the minority (1.7%) had retinoblastoma, while regarding the period of disease less than two thirds (61.7%) of children had the disease since less than one year.

Table (3): Percentage distribution of the studied mothers according to their characteristics

Mothers characteristics	(No) N=60	(%)
Age in years		
20 :<25	9	15.0
25 :<30	26	43.3
30 :≤35	25	41.7
$\overline{X}$ ±S.D = 32.9 ± 6.9		
Level of education		
Illiterate	4	6.7
Technical education	22	36.6
High education	34	56.7
Occupation		
House wives	55	91.7
Working mother	5	8.3

Table (3): describe the characteristics of mothers; it were found that, less than half (43.3%) of them aged between 25 : > 30 years, their mean age were 32.9 ± 6.9 years. While more than half (56%) of the mothers had higher education and the majority (91.7%) were house wives.

Table (4): Percentage distribution of the studied children according to the characteristics of their family

Items	(No) N=60	(%)
Family size		
3 – 6 members	58	96.7
7 – 10 members	2	3.3
Family history of cancer		
-Yes	24	40.0
- No	36	60.0
Degree of kinship to the child (for family history):	**N= 24**	**(%)**
•Relative from first degree	6	25.0
•Relative from second degree	6	25.0
•Relative from third degree	12	50.0

As clear in table (4) that the majority (96.7%) of mothers had family size ranged from 3-6 members. According to family history of cancer, the highest percentage of children (60%) reported no family history of cancer, meanwhile, (40 %) reported had family history of cancer and half (50%) of children's relatives are from the third degree.

Table (5): Percentage distribution of the studied mothers regarding the impact of childhood cancer on their children and family

Items	Yes		No	
	(No) N=60	(%)	(No) N=60	(%)
- Child impact				
- Physical impact	55	91.6	5	8.4
- Psychological impact	48	80.0	12	40.0
- Cognitive impact	41	68.4	19	31.6
- Family impact				
- Financial impact	57	95.0	3	5.0
- Social impact	58	96.6	2	3.4

Table (5): reflected that, the impact of childhood cancer on children and their family were found that, the majority (91.6%) of mothers reported physical impact, meanwhile, 80.0% and 68.4% of them reported psychological and cognitive impact, respectively. In relation to family impact from childhood cancer the greatest majority (95.0%), (96.6%) of them reported financial and social impact respectively.

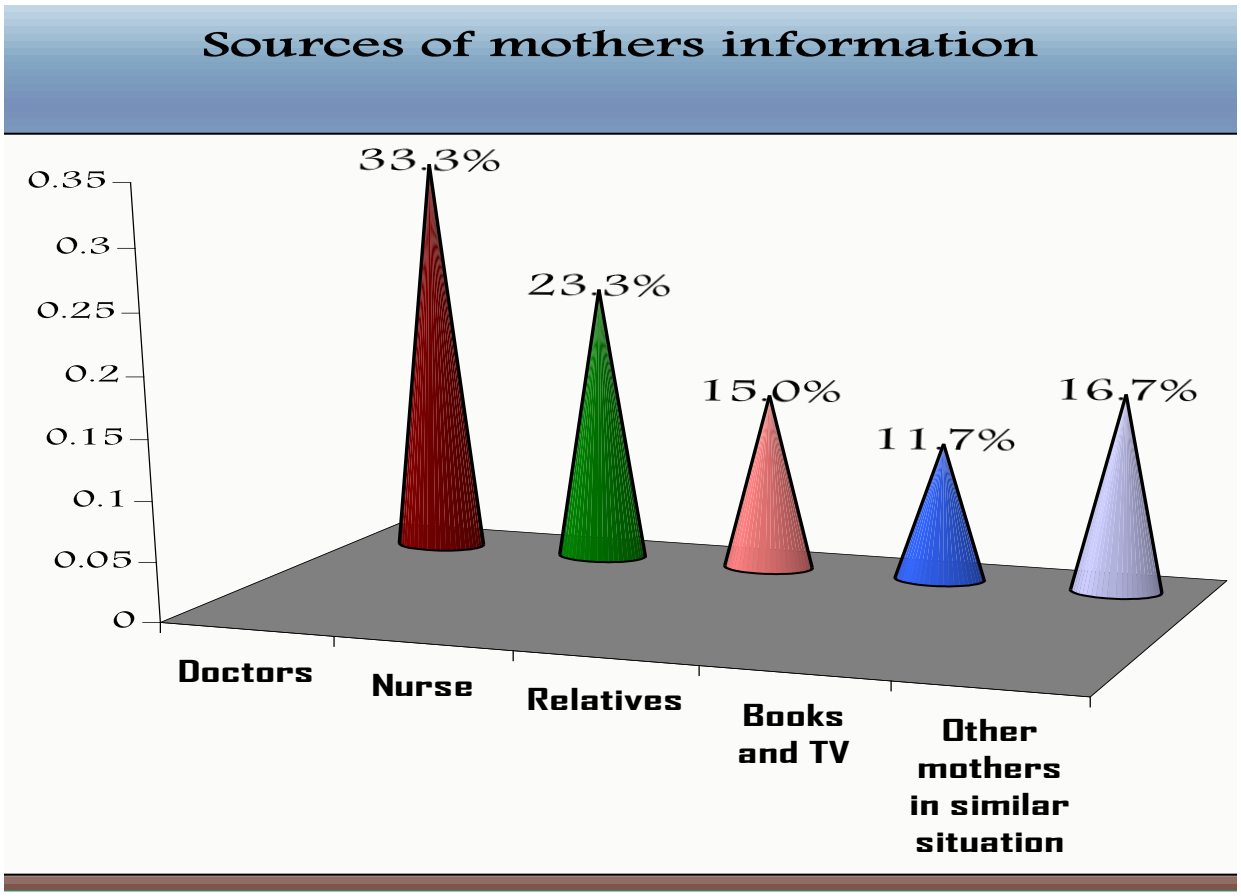

Figure (1): Percentage distribution of the studied mothers regarding the source of their information about childhood cancer

Figure (1): showed that, more than one thirds (33.3%) of mothers acquired their information from child's doctor, meanwhile (23.3%) of them obtained their information from nurses.

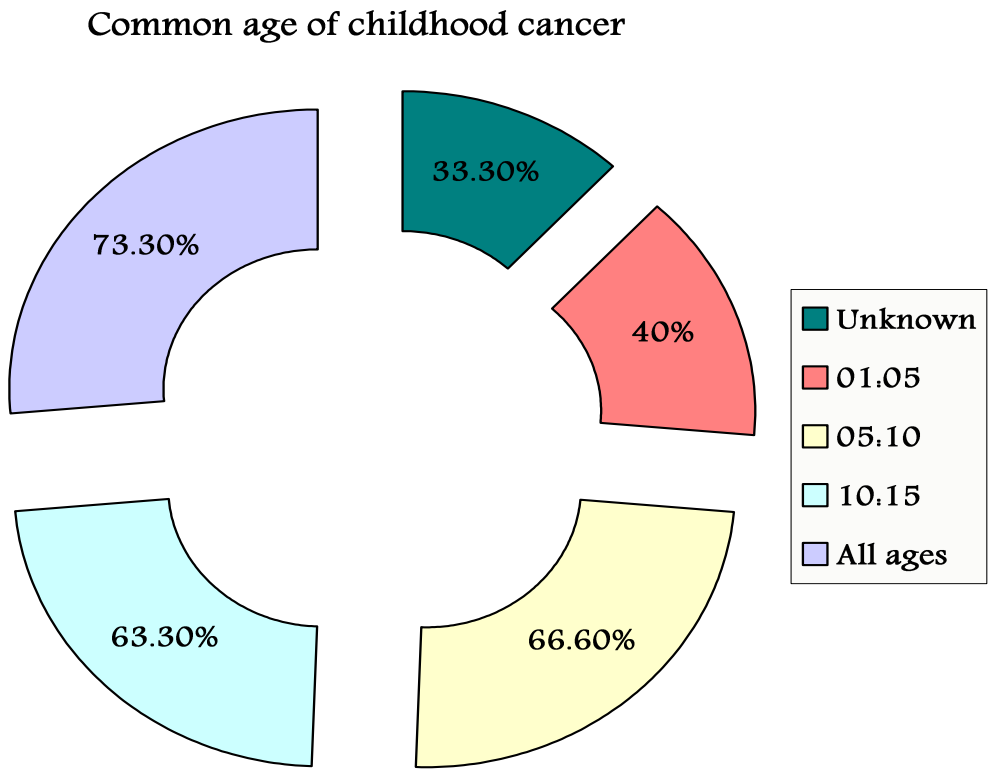

Figure (2): Percentage distribution of the studied mothers regarding the common age of childhood cancer

N.B: Total numbers are not mutually exclusive

Figure (2): showed that, more than two third (73.3) of mothers reported the common age of childhood cancer at all ages. Meanwhile that more than one third (33.3%) of them reported unknown about the common age of childhood cancer.

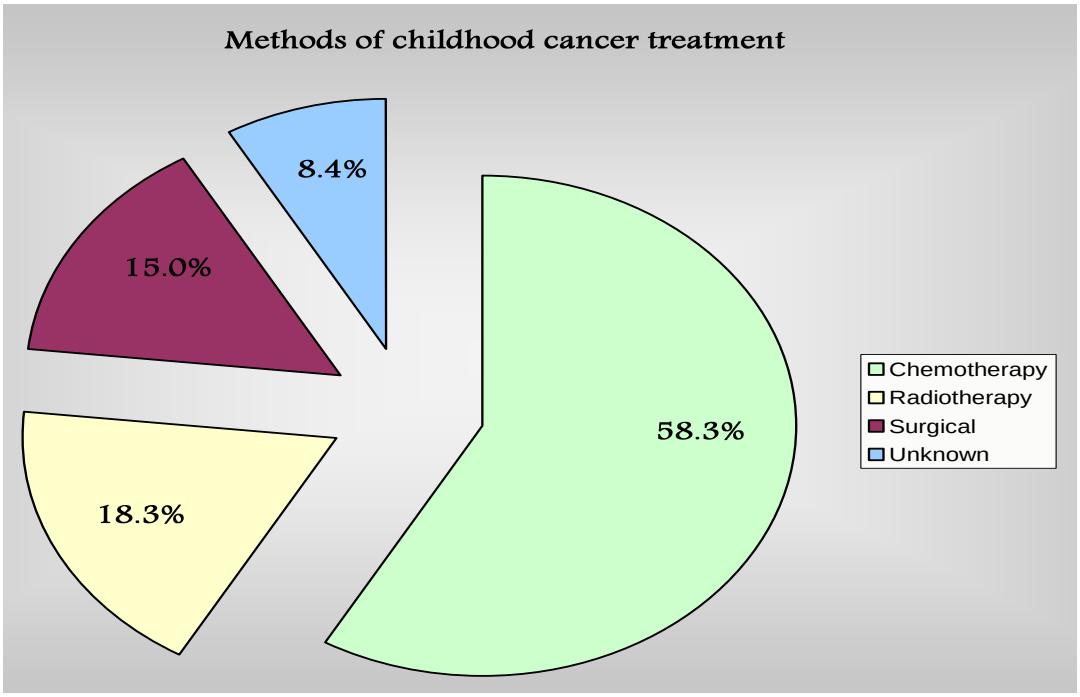

Figure (3): Percentage distribution of the studied mothers regarding the method of childhood cancer treatment

Figure (3): showed that, more than half (58.3%) of mothers reported chemotherapy as a treatment of cancer.

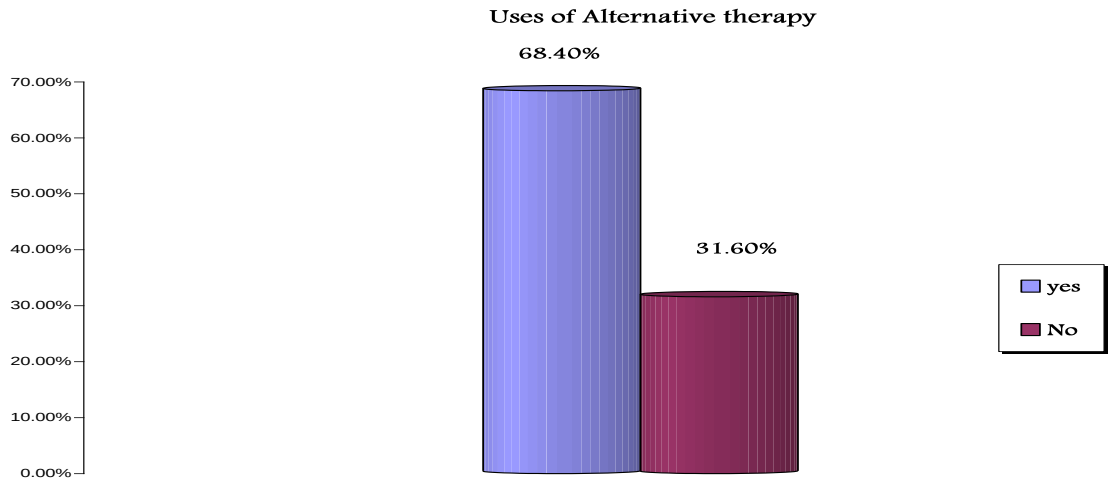

Figure (4): Percentage distribution of the studied mothers regarding uses of alternative therapy

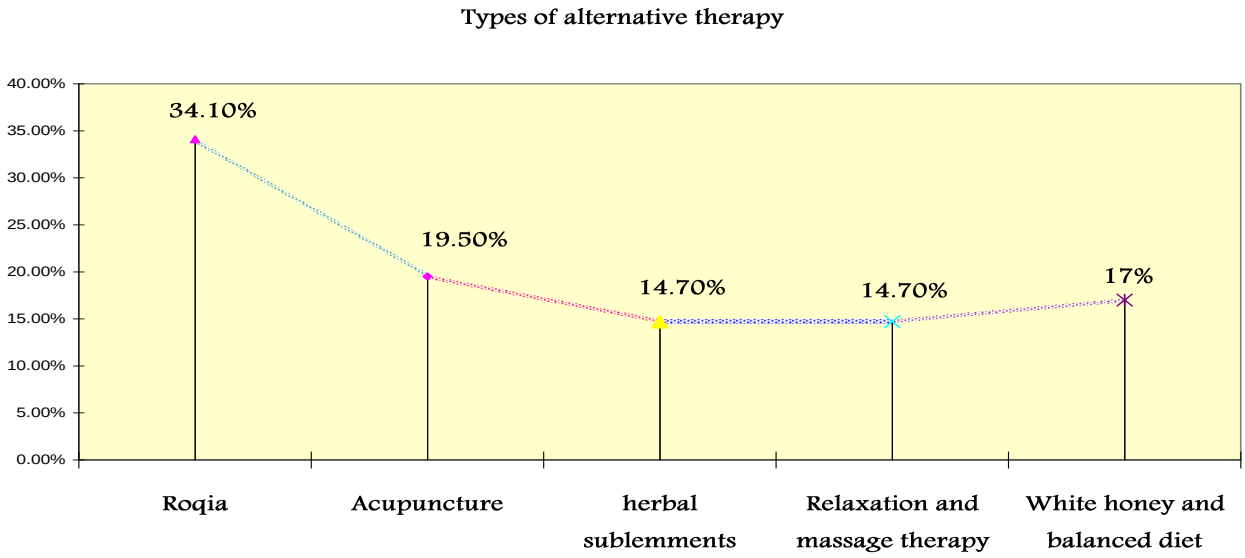

Figure (5): Percentage distribution of the studied mothers regarding used of types of alternative therapy

Figure (4-5): illustrated alternative therapy (68.4%) of mothers uses alternative therapy. Meanwhile (34.1%) of mothers that uses alternative therapy preferred Rouqia.

Part IV: Quality of life of children with cancer

Table (10): Mean Scores of the performance status of children according to Lansky-Performance Scale and HRQL pre and after three months of educational intervention

Attributes	HRQL				Paired T - test	(P) value
	n = 60 100%					
	Pre		3rd months			
	$\bar{X}$	SD	$\bar{X}$	SD		
- Sensation	1.26 ±	0. 50	1.49 ±	0. 32	17.47	< 0.05
- Mobility	1.23 ±	0.34	1.72 ±	0.26	12.11	< 0.05
- Emotion	2.26 ±	1.44	3.54 ±	1.06	15.80	< 0.001
- Cognition	1.10 ±	0.46	1.26 ±	0.27	13.58	< 0.001
- Self-care	2.87 ±	0.88	2.90 ±	0.70	16.11	< 0.001
- Pain	2.88 ±	0.95	3.94 ±	0.28	14. 89	< 0.001
Total attribute	8.60 ±	1.94	13.69 ±	1.77	21.16	< 0.001
Total performance status of children	53.60 ±	20.02	68.05 ±	14.51	31.16	<0.001

A statistical significant difference (P ≤ 0.05)
A highly statistical significant difference (P ≤ 0.001)

Table (10): showed that there were statistically significant difference in sensation and mobility (P<0.05), while there were highly statistical significant difference in other attributes of QOL and performance status of children (p < 0.001) in the pre- program and after three months.

Table (12): Percentage distribution of the performance status of children according to Lansky-Performance Scale

frequency of performance status of children	N=60		100%	
	Pre		After 3rd months	
	No	%	No	%
• Fully active, normal	2	3.3	14	23.3
• Minor restrictions in physically strenuous activity	7	11.7	15	**25.0**
• Active, but tires more quickly	3	5.0	10	16.7
• Both greater restriction of, and less time spent in, active play	14	**23.3**	9	15.0
• Up and around but minimal active play, keeps busy with quieter activities	12	20.0	6	10.0
• Gets dressed, but lies around much of the day; no active play; able to participate in quiet play and activities	7	11.7	6	10.0
• Mostly in bed; participates in quiet activities	3	5.0	0	0
• In bed; needs assistance even for quiet play	6	10.0	0	0
• Often sleeping; play entirely limited to very passive activities	3	5.0	0	0
• No play; does not get out of bed	3	5.0	0	0
• Unresponsive	0	0	0	0
	X^2 = 21.15		p < 0.001	

Table (12): showed that (23.3%) of children had both greater restriction of, and less time spent in, active play before the program, while after three months one quarter (25 %) of children had minor restrictions in physically strenuous activity. There were statistical significant difference between performance status of children pre and after three months (X^2 = 21.15, P<0.001).

PART [V]: Correlation Coefficient between Mothers' Knowledge, Practice and QOL of their children

Table (13): Correlation between mothers' knowledge, practice, QOL and performance status of children with cancer with socio-demographic characteristics of their mothers

Research variables	Age		Educational level		Duration of disease		Family size	
	r	P	r	P	r	P	r	P
Total knowledge	0.424	0.08*	0.631	0.000*	0.097	0.461	0.209	0.159
Total practice	0.558	0.01*	0.327	0.08*	0.044	0.738	0.125	0.340
Total QOL	0.121	0.356	0.376	0.01*	0.144	0.272	0.090	0.444
Performance status of children	0.081	0.619	0.103	0.433	0.227	0.03*	0.218	0.03*

*** r: Correlation coefficient**

Table (13): pointed out that significant positive correlation of total mothers' knowledge and total practice with age and educational level, while regarding total QOL there were significant positive correlation were found with educational level. Finally regarding performance status of children there were significant positive correlation with family size and duration of disease.

Table (14): Correlation between total knowledge and practice scores of mothers during pre/immediate post and after three months of educational intervention

Variables	Total practice					
	Pre		Immediate post		After 3rd months	
	r	P	r	P	r	P
Total knowledge pre-program	0.249	<0.01	-	-	-	-
Total knowledge immediate post-program	-	-	0.354	<0.01	-	-
Total knowledge after three months-program	-	-	-	-	0.476	<0.01

A statistical significant difference (P ≤ 0. 01)

*** r: Coefficient correlation**

Table (14): revealed that there were statistically significant positive correlation between total mother's knowledge score and their total practice score at pre/ immediate post and after three months of program implementation (p <0.01).

Table (15): Correlation between total knowledge, practice scores of mothers and QOL of their children during pre/and after three months of educational intervention

Variables	Total Quality of life of children pre-program		Total Quality of life of children after 3rd months	
	r	p	r	p
* Total knowledge pre-program	0.296	< 0.01	-	-
* Total knowledge after three months-program	-	-	0.541	< 0.01
* Total Practice pre-program	0.266	<0.05	-	-
* Total Practice after three months-program	-	-	0.270	< 0.05

A statistical significant difference (P ≤ 0.05)
A statistical significant difference (P ≤ 0. 01)

* r: Correlation coefficient

Table (15): reflected that there were highly statistically significant positive correlation between total mothers knowledge scores, and QOL at pre/and after three months during program implementation (p <0.01). There were also, a statistically significant positive correlation between total practice scores and QOL at pre/and after three months during program implementation (p <0.05).