RESULTS

The results of the study are presented in the following sequence of tables;

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PART [I]: Characteristics of the Studied Subjects

Table (1): Percentage Distribution of the Studied Children Regarding to their Characteristics

Characteristics of Children	No. (N=80)	% (100.0)
- Age (in years):		
5 < 8	38	47.5
8 < 11	22	27.5
11- 14	20	25.0
$\overline{X}$ ± SD	**7.35 ± 1.69 years**	
- Sex:		
• Male	39	48.8
• Female	41	51.2
-Birth Order:		
• The first	36	45.0
• The second	22	27.5
• The third	17	21.2
• The fourth & more	5	6.3
- School Stage:		
• Nursery School	6	7.5
• Primary school	64	80.0
• Preparatory school	8	10.0
• Secondary school	2	2.5

Table (1): This table shows the socio-demographic data of children, where the mean age of them is 7.35 ± 1.69 years. Regarding to children sex, this table illustrates that 51.2% of them are females. As regards birth order, more than one third (45%) of children are the first child in the family. In relation to child's school stage, this table reflects that the majority (80%) of them are in primary school.

Table (2): Distribution of the Studied Mothers by their Characteristics

Characteristics of Mothers	No. (N=80)	% (100.0)
***Age (years):**		
< 20	6	7.5
20 - < 30	55	68.8
30 ±	19	23.7
$\bar{X}$ ± SD	27.48 ± 2.17	years
***Level of education:**		
-Illiterate	18	22.5
-Technical education	36	45.0
-High education	26	32.5
***Working status:**		
-Not working	63	78.7
-Working	17	21.3

Table (2): This table describes characteristics of the studied mothers, where their mean age is 27.48 ± 2.17 years. Regarding the level of education, more than one third (45%) of the mothers were had technical education. As regards working status of mothers, this table shows that more than two thirds (78.7%) of them are not working.

Table (3): Number and Percentage Distribution of Children Regarding to Time and Symptoms of their Asthma

Asthma Characteristics	Total N=80 (100.0)	
	No.	%
-Time of child complaints from asthma:		
- Since labor	26	32.5
< one year	5	6.3
One year - < 2 years	18	22.5
2 years - < 3 years	12	15.0
3 years - < 4 years	6	7.5
Four years & more	13	16.2
-Symptoms felt by child during asthma attack:		
- Dyspnea and shortness of breathing	33	41.2
- Chest pain and restlessness	24	30.0
- Wheezing	12	15.0
- Cough	11	13.8

Table (3): This table illustrates the time of child complaints from asthma, it was found that about one third (32.5%) of children complaints from asthma symptoms since labor, meanwhile 6.3% of them complaints from it since they were less than one year. According to symptoms that felt by the child during asthma attack, this table shows that more than one third (41.2%) of children complaints from dyspnea and shortness of breathing. On the other hand, this table reveals that 15%, 13.8% of these children are complaints from wheezing and cough respectively.

Table (4): Distribution of Children Regarding to Season of their Asthma Attack Occurrence

Season of Occurrence	Total N=80 (100.0)	
	No.	%
-Seasonal occurrence of attack:		
○ Winter	32	40.0
○ Summer	2	2.5
○ Autumn	27	33.8
○ Spring	3	3.7
○ During seasonal changes	16	20.0

Table (4): This table shows that more than one third of children have their attacks during autumn and winter (33.8%, 40%) respectively. Meanwhile the minority (2.5%) of them had their attack during summer.

Table (5): Distribution of Children Regarding to their Sensitivity

Child's Sensitivity	Total N=80 (100.0)	
	No.	%
- Child suffers from sensitivity:		
• Child suffer	24	30.0
• Not suffer	56	70.0
-Kind of sensitivity:		
• Eye sensitivity	3	3.8
• Skin sensitivity	2	2.5
• Nose sensitivity	19	23.7
• No sensitivity	56	70.0
- Relatives complaints from chest sensitivity:		
• Relative sensitivity	45	56.2
• No sensitivity	35	43.8
- Degree of kinship to the child:		
• Relative from first degree	18	22.5
• Relative from second degree	12	15.0
• Relative from third degree	15	18.7
• No relative sensitivity	35	43.8

Table (5): This table reveals that more than two thirds (70%) of children don't suffer from other kind of sensitivity. According to types child's of sensitivity, this table shows that 23.7% of children have nose sensitivity, while 2.5% has skin sensitivity. In relation to relatives' sensitivity, this table shows that more than half (56.2%) of children's relatives are complaint from chest sensitivity, 22.5% of children's relatives are from the first degree.

Table (6): Distribution of Children Regarding to Impact of Bronchial Asthma on their Physical Health

Impact of asthma on child	Total N=80 (100.0)	
	No.	%
- Asthma impacts:		
○ Limitation in usual physical activities	10	12.5
○ Sleep interruption due to nighttime asthma symptoms	13	16.2
○ Difficult to concentrate on schoolwork	17	21.3
○ Missing school days	21	26.2
○ Emotional hyper-sensitivity	11	13.8
○ Disrupt social interaction and interpersonal relationships	8	10.0

Table (6): This table reflects that all studied children their health is affected by asthma where, more than one quarter (26.2%) of children having messed school days. In addition, 12.5%, 13.8%, 16.2% and 21.3% of these children are complaints from, in relation to their disease, limitation in usual physical activities, emotional hyper-sensitivity, sleeping interruption during night and difficult to concentrate on schoolwork respectively. Moreover, 10% of children suffer from disrupt social interaction and interpersonal relationships.

PART [II] Mothers ' Knowledge related to Bronchial Asthma before and after Discharge Program Implementation

Table (7): Distribution of the Studied Mothers regarding the Source of their Knowledge about Asthma

Sources of Mothers' Information	No. (N=80)	% (100.0)
-Doctor	54	67.5
-Nurse	0	0.0
-Relatives	2	2.5
-Books & TV	10	12.5
-Other mothers in similar situation	13	16.2

Table (7): This table, as regards source of mothers' knowledge about asthma, shows that more than two thirds (67.5%) of them acquired their information from child's doctor; meanwhile the nurses have no (0%) role for giving information about asthma for those mothers.

Table (8): Mean Scores of the Studied Mothers' Knowledge Regarding to Bronchial Asthma during Pre/Post Discharge Guide Program Implementation

Knowledge about *Satisfactory (60% +) Unsatisfactory (<60%)*	**n = 80**	**100%**
	Pre Total Knowledge	**Post Total Knowledge**
	Satisfactory	**Satisfactory**
	$\bar{X}$ SD	$\bar{X}$ SD
-Definition of asthma	1.16 ± 0. 47	1.81 ± 0. 39
	t = 7.47	**p** < 0.001
-Causes of asthma	1.13 ± 0.34	1.92 ± 0.26
	t = 17.11	**p** < 0.001
-Symptoms of mild attack	1.26 ± 0.44	1.94 ± 0.24
	t = 12.80	**p** < 0.001
-Symptoms of moderate attack	1.13 ± 0.34	1.84 ± 0.37
	t = 13.58	**p** < 0.001
-Symptoms of severe attack	1.11 ± 0.32	1.90 ± 0.30
	t = 17.11	**p** < 0.001
-Asthma triggering factors	1.17 ± 0.38	1.92 ± 0.28
	t = 14. 89	**p** < 0.001
-Complications of asthma on long run	1.38 ± 0.49	1.97 ± 0.19
	t = 6.16	**p** < 0.001
-Asthma complications	1.01 ± 0.11	1.87 ± 0.34
	t = 21.15	**p** < 0.001
-Impact of asthma on child's life	1.08 ± 0.30	1.96 ± 0.19
	t = 23.51	**p** < 0.001

Table (8): Concerning the changes in mothers' mean knowledge about their children with asthma pre and post program implementation, this table points out that there is improvement in mothers' post-program mean scores knowledge as compared to pre-program mean scores. A statistical significance difference occurred at p- value of < 0.001.

Table (9): Percentage Distribution of Mothers' Knowledge Regarding their Children's Asthma Medication

Knowledge about Medication	n = 80				100%			
	Pre-program				Post-program			
	Satisfactory		Unsatisfactory		Satisfactory		Unsatisfactory	
	No	%	No	%	No	%	No	%
-Name and type of child's medication: • Know	9	11.2	71	88.8	77	96.2	3	3.8
-Regularity for giving medication: ▪ Regularly	5	6.3	75	93.7	69	86.2	11	13.8
Total Mean ± SD	**1.10 ± 0.30**				**1.82 ± 0.39**			
	Paired t test = 13.57						**p <0.001**	

A highly statistical significant difference (P ≤ 0.001)

Table (9): This table shows that, there is highly statistically significant difference between pre and post-program implementation in relation to mothers' knowledge regarding to asthma medication, where the mean score before program was 1.10 ± 0.30 compared to 1.82 ± 0.39 after program implementation ($p < 0.001$, $t = 13.75$). Where, the majority of mothers have satisfactory knowledge after program implementation regarding to name and type of their child's medication. Moreover, the majority of mothers (86.2%) give medication to their child regularly after program implementation not only during attack.

Table (10): Distribution and Mean Scores of the Studied Mothers' Knowledge regarding Asthma Triggering Factors

Asthma triggering factors	n = 80				100%			
	Pre-program				Post-program			
	Satisfactory		Unsatisfactory		Satisfactory		Unsatisfactory	
	No	%	No	%	No	%	No	%
-Indoor and outdoor allergens	9	11.2	71	88.8	72	90.0	8	10.0
-Respiratory infection	21	26.2	59	73.8	74	92.5	6	7.5
-Tobacco smoke	17	21.2	63	78.8	78	97.5	2	2.5
-Outdoor/Indoor air pollution	13	16.2	67	83.8	78	97.5	2	2.5
-Exercises	24	30.0	56	70.0	75	93.8	5	6.2
-Emotional condition	18	22.5	62	77.5	77	96.2	3	3.8
-Nutrition	32	40.0	48	60.0	80	100.0	0	0.0
Total Mean ± SD	**1.17 ± 0.38**				**1.92 ± 0.28**			
	Paired t test = 14.89				**P < 0.001**			

A highly statistical significant difference (P ≤ 0.001)

Table (10): This table illustrates that, there is highly statistically significant difference between pre and post-program implementation in relation to the studied mothers' knowledge regarding to asthma triggering factors, where the mean score before program was 1.17 ± 0.38 compared to 1.92 ± 0.28 after program implementation ($p < 0.001$, $t = 14.89$). Where, the majority of mothers have satisfactory knowledge after program implementation in relation to indoor and outdoor allergens, respiratory infection, exercises and emotional condition (90%, 92.5%, 93.8% and 96.2%) respectively. Meanwhile, 97.5% of mothers have satisfactory knowledge regarding tobacco smoke and outdoor/Indoor air pollution and all of them (80%) have satisfactory knowledge regarding nutrition.

Table (11): Comparison of Mothers' Total Knowledge related to their Child with Asthma in Pre/Post Discharge Guide Program Implementation

Item	Pre/post program knowledge (n = 80)				Paired t test (p-value)
	Pre-		Post-		
	$\bar{X}$	SD	$\bar{X}$	SD	
-Total knowledge:	30.68	5.01	44.11	6.97	- 15.67 < 0.001

A highly statistical significant difference (P ≤ 0.001)

Table (11): This table shows mothers' mean scores total knowledge about asthma of their children during pre- and post-program implementation. It indicates that there is a highly statistical significant (P< 0.001) improvement in their knowledge post implementation.

Table (12): Distribution of Children Regarding to their Asthma Attack Occurrence before and after Discharge Guide Program Implementation

Child's Attack Occurrence	Total N=80 (100.0)			
	Pre-program		Post-program	
	No.	%	No.	%
-Average occurrence of attack during a month:				
○ One time	24	30.0	53	66.2
○ Two times	50	62.5	28	35.0
○ Three times	5	6.2	1	1.3
○ Four times and more	1	1.3	0	0.0
-Average length of attack:				
○ From 15 to less than 30 minutes	22	27.5	51	63.8
○ From 30 to 45 minutes	45	56.2	19	23.7
○ More than 45 minutes	13	16.3	10	12.5
-The day time that attack occurs:				
○ At the morning	9	11.3	48	60.0
○ During the night	17	21.2	8	10.0
○ During day and night	54	67.5	24	30.0

Table (12): This table shows that there is improvement regarding child's attack occurrence after discharge program implementation, where about two thirds (66.2%) of children have one attack of asthma per-month, meanwhile the lowest percentage (1.3%) of them have three times of attack per month. Regarding to the average length and day time of attack occurrence, this table reveals that more than half of children their attack lasts from 15 to less than 30 minutes and occurs at the morning (63.8%, 60%) respectively.

PART [III] Mothers ' Practice related to Bronchial Asthma before and after Discharge Program Implementation

Table (13): Mean Scores of the Studied Mothers' Practice Regarding to Protection of their Child from Attack Occurrence Pre/Post Discharge Program Implementation

Practice of *Satisfactory (80% +) Unsatisfactory (<80%)*	n = 80		100%	
	Pre Total Practice		Post Total Practice	
	Satisfactory		Satisfactory	
	$\bar{X}$	SD	$\bar{X}$	SD
▪Giving prescribed drugs as doctor's order continuously	1.05 ± 0.21		1.67 ± 0.47	
	t = 11.48		**p** < 0.001	
▪Avoiding exposure of child to air drafts	1.42 ± 0.49		1.93 ± 0.27	
	t = 8.88		**p** < 0.001	
▪Reducing exposure to dust & other elements that triggers asthma attack	1.06 ± 0.24		1.84 ± 0.37	
	t = 16.49		**p** < 0.001	
▪Reducing an excessive muscle efforts	1.11 ± 0.32		1.73 ± 0.45	
	t = 11.17		**p** < 0.001	
▪Avoiding food &drinks which increase attack	1.07 ± 0.26		1.83 ± 0.37	
	t = 15.92		**p** < 0.001	
▪Encouraging physical and breathing exercises regularly	1.01 ± 0.11		2.00 ± 0.00	
	t = 79.00		**p** < 0.001	
▪ Regularity regarding child's health follow up	1.04 ± 0.19		1.93 ± 0.26	
	t = 24.96		**p** < 0.001	
▪ Regularity of follow up for child's condition reduce asthma attack	1.47 ± 0.50		2.00 ± 0.00	
	t = 9.34		**p** < 0.001	

Table (13): This table shows a general improvement in mothers' practices related to care of their children with asthma after program implementation as compared to per-program mean scores as there is a highly statistical significance (P < 0.001) difference between them.

Table (14): Mean Scores of the Studied Mothers' Practice Regarding to their Children during Attack Occurrence Pre/Post Discharge Program Implementation

Practice of *Satisfactory (80% +) Unsatisfactory (<80%)*	n = 80	100%
	Pre Total Practice	Post Total Practice
	Satisfactory	Satisfactory
	$\bar{X}$ SD	$\bar{X}$ SD
▪Giving drugs of attack immediately	1.74 ± 0.44	1.93 ± 0.27
	t = 4.27	**p** < 0.001
-Putting the child in upright position during attack	1.11 ± 0.31	1.96 ± 0.19
	t = 21.15	**p** < 0.001
-Taking child immediately to doctor or hospital for attack	1.26 ± 0.44	1.93 ± 0.26
	t = 12.45	**p** < 0.001
-Encouraging child to take some fluids during asthma attack	1.03 ± 0.19	2.00 ± 0.00
	t = 45.03	**p** < 0.001
-Providing complete relaxation and bed rest	1.51 ± 0.50	1.90 ± 0.37
	t = 55.50	**p** < 0.001
-Giving drug again for the child when attack continue	1.47 ± .050	1.28 ± 0.45
	t = 4.27	**p** < 0.001
-Helping child to do breathing exercises	1.02 ± 0.16	2.00 ± 0.00
	t = 34.61	**p** < 0.001
- Mouth care for the child during attack	1.01 ± 0.11	2.00 ± 0.00
	t = 79.00	**p** < 0.001
-Keeping child to take special meals for reducing attack	1.33 ± 0.47	1.85 ± 0.36
	t = 9.11	**p** < 0.001

Table (14): This table illustrates mothers' mean practices related to their children with asthma throughout the program phases. It is points to obvious improvements in all tested areas at the post – program phase. However, there is highly statistical significant difference (P < 0.001) between mothers' practices pre and post-discharge guide program implementation.

Table (15): Comparison of Mothers' Total Practice Related to Care of their Children with Asthma in Pre/Post Discharge Guide Program Implementation

Item	Study phases (n = 80)				Paired t test (p-value)
	Pre-		Post-		
	$\bar{X}$	SD	$\bar{X}$	SD	
-**Total practice**	20.92	3.66	31.51	2.25	- 22.07 < 0.001

Table (15): This table illustrates mothers' mean scores total practice related to care of their children with asthma before and after the program implementation. It indicates that there is a highly statistical significant difference (P < 0.001) where the mean practice score was 20.92 before the program compared to $\bar{x}$= 31.51 after program implementation.

PART [IV] Correlation between Mothers' Knowledge and Practice in relation to their Characteristics Pre/Post Discharge Guide Program Implementation

Table (16): Correlation Coefficient between Total Mothers' Knowledge and Practice Scores regarding their Children with Asthma and their Characteristics pre/post Discharge Program Implementation

Variables	Knowledge				Practice			
	pre-		post-		pre-		post-	
	r	p	r	p	r	p	r	p
* Age	0.32	< 0.01	- 0.09	> 0.05	0.42	< 0.01	- 0.34	< 0.01
* Level of education	- 0.14	> 0.05	- 0.39	< 0.01	- 0.01	> 0.05	- 0.18	> 0.05
* Working status	0.16	>0.05	-0.11	>0.05	- 0.01	>0.05	- 0.17	>0.05

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

Table (16): This table displays the correlations between mothers' knowledge and practice and their characteristics throughout program phases. It shows statistically significant positive correlation between knowledge scores and mother's level of education at the post-program phase (P <0.05). Meanwhile, there is no statistically significant (P >0.05) correlation regarding their age and working status during post-program implementation.

However, correlations between mothers' practice and their characteristics throughout program phases shows that there is statistically significant positive correlation between practice scores and mother's age at pre/post-program phases (P <0.01). Meanwhile, there is negative statistically significant (P >0.05) correlation regarding their level of education and their working status during pre/post-program phases.

Table (17): Correlation Coefficient between Total Mothers' Knowledge and Practice Scores during pre/post Discharge Program Implementation

Variables	Practice pre-program		post-program	
	r	p	r	p
*** Total knowledge pre-program**	0.596	< 0.01	-	-
*** Total knowledge post-program**	-	-	0.741	< 0.01

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

Table (17): This table reveals the correlations between mothers' knowledge and practice throughout program phases. It shows statistically significant positive correlation between total knowledge scores and their practice at pre/post- program implementation (p <0.01).