RESULTS

The results of the current study were presented in the following sequence.

Part I: sociodemographic characteristics of the studied subjects (mothers/children) and their home environmental condition (tables 1- 4).

Part II: Children present medical history and mother's knowledge about hepatitis A virus, and source of their knowledge (tables 5-8, figures 1-2).

Part III: The observed mothers' practice throughout the care given to their children with hepatitis A virus (table 9).

Part IV: -The relation between mothers' general characteristics and their level of knowledge and practice regarding management their children with hepatitis A virus (tables 10-11 and figures 3-6).

-The relation between mothers' total practice and their home enviroment (table 12).

Part V: - The correlation between mothers' total practice and their home environment (table 13).

- The correlation between mothers' total knowledge and total practice (table 14).

Part (I): sociodemographic Characteristics of the studied subjects (Mothers/Children), and their home environmental condition (tables 1-4).

Table (1): sociodemographic characteristics of the studied children with hepatitis A virus disease (n=100).

Characteristics	No. n=100	%
Age (years)		
3- <4 years	53	53.0
4-5 years	47	47.0
Sex		
Male	41	41.0
Female	59	59.0
Child rank in family		
1st	15	15.0
2nd	39	39.0
3rd	32	32.0
4th	14	14.0

Table (1): Illustrated general characteristics of the children with hepatitis A virus disease. According to the table, more than half of the children (53.0%) their age ranged from 3-<4 years, the female composed 59.0% of the studied sample while male constituted 41.0%, the results also revealed the highest prevalence of the disease presents among child ranked as the second birth order (39.0%).

Table (2): sociodemographic characteristics of the studied mothers of children with hepatitis A (n=100).

Characteristics	No. n=100	%
Mother Age/year		
20-	59	59.0
30-	31	31.0
40 +	10	10.0
Education		
Illiterate	36	36.0
Read and write	3	3.0
Primary	9	9.0
Preparatory	11	11.0
Secondary	23	23.0
University	18	18.0
Occupation		
Working	32	32.0
Not working	68	68.0
Marital status		
Married	75	75.0
Widow	22	22.0
Divorced	3	3.0
Family size		
4	23	23.0
> 4	40	40.0
≥ 6	37	37.0
Family income		
Adequate	17	17.0
Inadequate	83	83.0

Table (2): Shows that the sociodemographic characteristics of the studied mothers' of children with hepatitis A virus disease. The table revealed that less than three fifths (59.0%) of mothers their age ranged from 20 to less than 30 years old, slightly less than two fifth of them (39.0%) were illiterates or read and write, and more than two third of them (68.0%) were housewife, also three quarters (75.0%) of mothers were married.

As regard to family size and family income the table indicated more than three quarters (77.0%) of them belonged to large family (more than 4 members). On other hand 83.0% of them reported their family income was inadequate.

Table (3): Distribution of the studied sample regarding their home environmental condition (n=100).

Home environment	No.	%
House type		
Separated	34	34.0
Shared	66	66.0
Number of rooms		
One	1	1.0
Two	51	51.0
Three	46	46.0
More than three	2	2.0
Type of bathroom		
Separated	34	34.0
Shared	66	66.0
Ventilation		
Good	28	28.0
Moderate	32	32.0
Bad	40	40.0
Water source		
Tape water	76	76.0
General tap	0	0.0
Water pump	24	24.0
Type of Light		
Electricity	100	100.0
Fuel	0	0.0
Lighting level		
Enough	33	33.0
Moderate	53	53.0
Not enough	14	14.0
Sewage disposal		
Tank	82	82.0
Masraf	3	3.0
General sarf	15	15.0
Place of food preparation		
Inside home	92	92.0
Sometimes outside home	8	8.0
Source of food cooking		
Solar waboor	4	4.0
Gas waboor	11	11.0
Butagas	85	85.0
Garbage collection		
Outside home	88	88.0
In a site at home	12	12.0

Table (3): Portray the studied subjects' house environmental condition. According to the table, almost two thirds (66.0%) of the subjects lived in shared house and slightly more than half of them (51.0%) occupied two rooms with shared bathroom (66.0%).As regard

ventilation and availability of water in the house, the result revealed two fifths (40.0%) of the mothers' live in bad ventilated house, and more than three quarters of them (76.0%) reported present tap water inside house. Also the electricity were available in all house, and tank used as sewage disposal were mentioned by 82.0% of the studied subjects. Concerning food preparation and cooking, the results showed the preparation of food were carried out inside home (92.0%) and used butagas for cooking reported by 85.0% of the studied subjects, also 88.0% of them reported garbage collected outside home.

Table (4): Distribution of the studied sample regarding their kitchen condition (n=100).

Items	No.	%
Kitchen type		
Separate	32	32.0
Shared	52	52.0
Not present	16	16.0
Kitchen cleanliness		
Yes	11	11.0
No	89	89.0
Tap water supply		
Present	77	77.0
Not present	23	23.0
Storing water correctly		
Yes	9	9.0
No	91	91.0
Utensils for preparing food		
Enough	60	60.0
Not enough	40	40.0
Dish setting		
Present	89	89.0
Not present	11	11.0
Dish number/family		
Enough	52	52.0
Not enough	48	48.0
Cleaning liquid		
Present	52	52.0
Not present	46	46.0
Kitchen sink		
Present	76	76.0
Not present	24	24.0
Refrigerator		
Present	88	88.0
Not present	12	12.0
Insect control		
Yes	6	6.0
No	94	94.0

Table (4): Shows that more than half of the studied participants (52.0%) have shared kitchen, the majority of them (89.0%) had unclean kitchen, more than three quarters of them (77.0%) have tap water in kitchen, the majority of them are storing water by incorrect way, three

fifth of them (60.0%) have enough utensils for preparing food, the majority of them reported (89.0%) they have dish setting, more than half of them (52.0%) have enough dishes number/family, more than half of them (52.0%) had cleaning liquid in the kitchen, more than three quarters of them (76.0%) have sink in the kitchen, the majority of them (88.0%) had refrigerator, but great majority of them (94.0%) dose not had insect control measures in their kitchen.

Part (II): The children present medical history and their mother's knowledge about hepatitis A virus diseases and sources of their knowledge (tables 5-8 and figures 1-2)

Table (5): Distribution of children with hepatitis A virus regarding their present medical history (n=100).

Items	No.	%
Onset time		
1-3 days	65	65.0
4-7 days	35	35.0
Causes of infection		
Eat polluted food prepared inside home	2	2.0
Eat polluted food or liquid from outside home	76	76.0
Transmitted from infected person	22	22.0
Signs/symptoms appear on children		
Elevated temperature	11	11.0
Changing urine/ stool colour	19	19.0
Yellowish colour of skin/eyes	21	21.0
Abdominal pain	20	20.0
More than one answer	29	29.0

Table (5): Shows that slightly less than two thirds(65.0%) of the infected children with hepatitis a virus, the onset of disease were from 1-3 days, more than three quarters of them (76.0%) were infected from eat polluted food or liquid from outside the home. As regard the disease manifestations as reported by child's mothers were yellow colour of skin and eyes, abdominal pain, change urine or stool colour and elevated temperature (21.0%, 20.0%, 19.0% and 11.0% respectively).

Fig. (1): Distribution of infected children with hepatitis A according to causes of infection

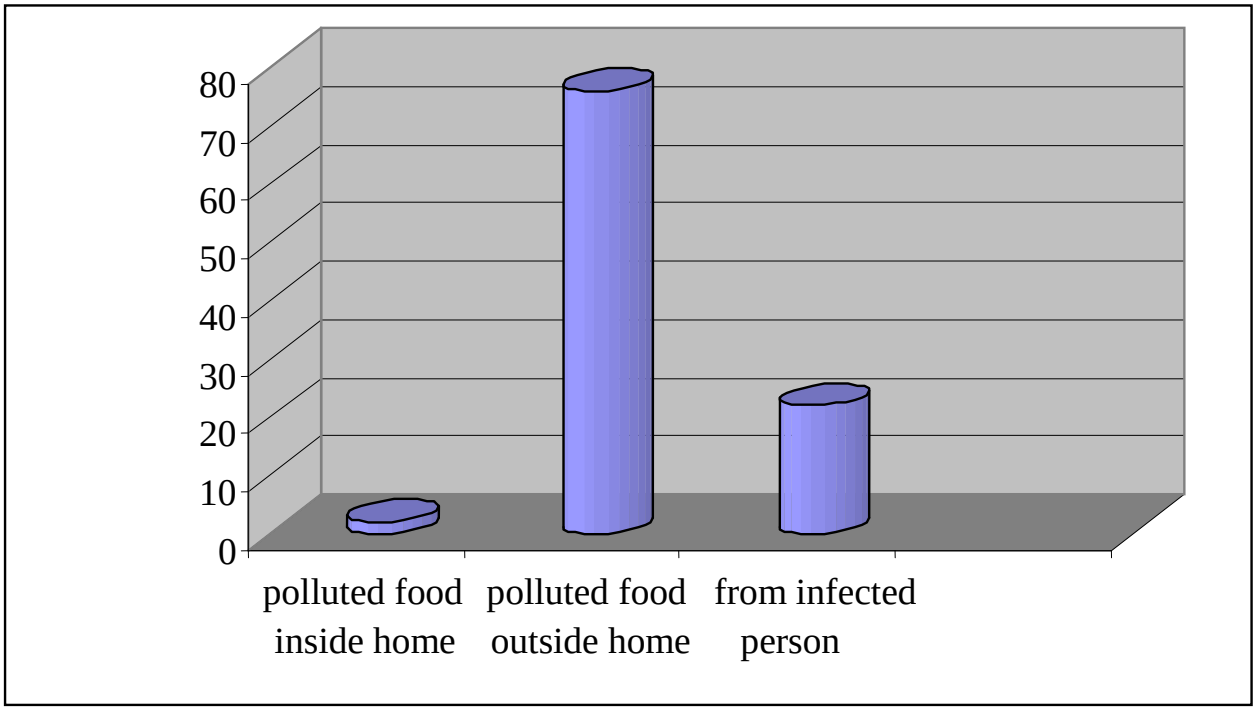

Fig. (1): Indicated the main causes of child infection was eat polluted food outside home (76.0%) followed by contact with infected persons reported by 22.0% of the mothers.

Table (6): Distribution of the studied mothers regarding their level of knowledge about hepatitis A virus (n=100).

Knowledge	Good		Average		Poor	
	No	%	No	%	No	%
Definition	29	29.0	-	-	71	71.0
Causative agent	23	23.0	-	-	77	77.0
Infectious or non	46	46.0	-	-	54	54.0
Signs and Symptoms	4	4.0	23	23.0	73	73.0
Mode of transmission	4	4.0	35	350	61	61.0
Incubation period	7	7.0	-	-	93	93.0
Laboratory diagnosis	42	42.0	-	-	58	58.0
Risk group	22	22.0	-	-	78	78.0
Complication	16	16.0	-	-	84	84.0
Predisposing factors	9	9.0	43	43.0	48	48.0

Table (6): Represented mother's level of knowledge about viral A disease. This table showed that nearly half of the mothers (46.0%) had good level of knowledge about the disease infected and can transmitted to other person, and 42.0% of them had good knowledge about laboratory diagnosis. On other hand the majority of them had poor level of knowledge about incubation period, risk group, complications, causative agent, signs and symptoms, definition of the disease, and predisposing factors (93.0%, 84.0%, 78.0%, 77.0%, 73.0%, 71.0% and 48.0% respectively).

Table (7): Distribution of the studied mothers according their knowledge about precautions when disease appear (n=100).

Knowledge	Good		Average		Poor	
	No	%	No	%	No	%
Home precautions when a child appears infected	11	11.0	33	33.0	56	56.0
Preventive measures	14	14.0	35	35.0	51	51.0
Immunization	10	10.0	-	-	90	90.0
Suitable diet for infected person	36	36.0	-	-	64	64.0
Mother preventive role	42	42.0	-	-	58	58.0

Table (7): Clarified the level of mother's knowledge related to protective measures when the disease occurs. The table Showed that more than two fifths (42.0%) of the mothers had good level of knowledge about their preventive role ,also more than one third of them (36.0%) had good knowledge about diet of child during disease. On other hand they had poor level of knowledge about immunization, precautions care at home, and preventive measures in general (90.0%, 56.0% and 51.0% respectively).

Table (8): Distribution of the studied group regarding their source of knowledge about hepatitis A virus (n=100).

Source of knowledge	No.	%
Neighbors/ relatives	42	42.0
Experience	33	33.0
Doctor/ nurse	12	12.0
Magazines	11	11.0
Television	2	2.0

Table (8): Illustrated the main sources of mother's knowledge about the disease were from neighbors/relatives and from experiences (42.0%, 33.0% respectively). While the remaining sources of knowledge as reported by the mothers were doctor/ nurse, magazine and television (12.0%, 11.0% and 2.0%) respectively).

Fig. (2): Distribution of the studied subjects regarding their source of knowledge about hepatitis A virus.

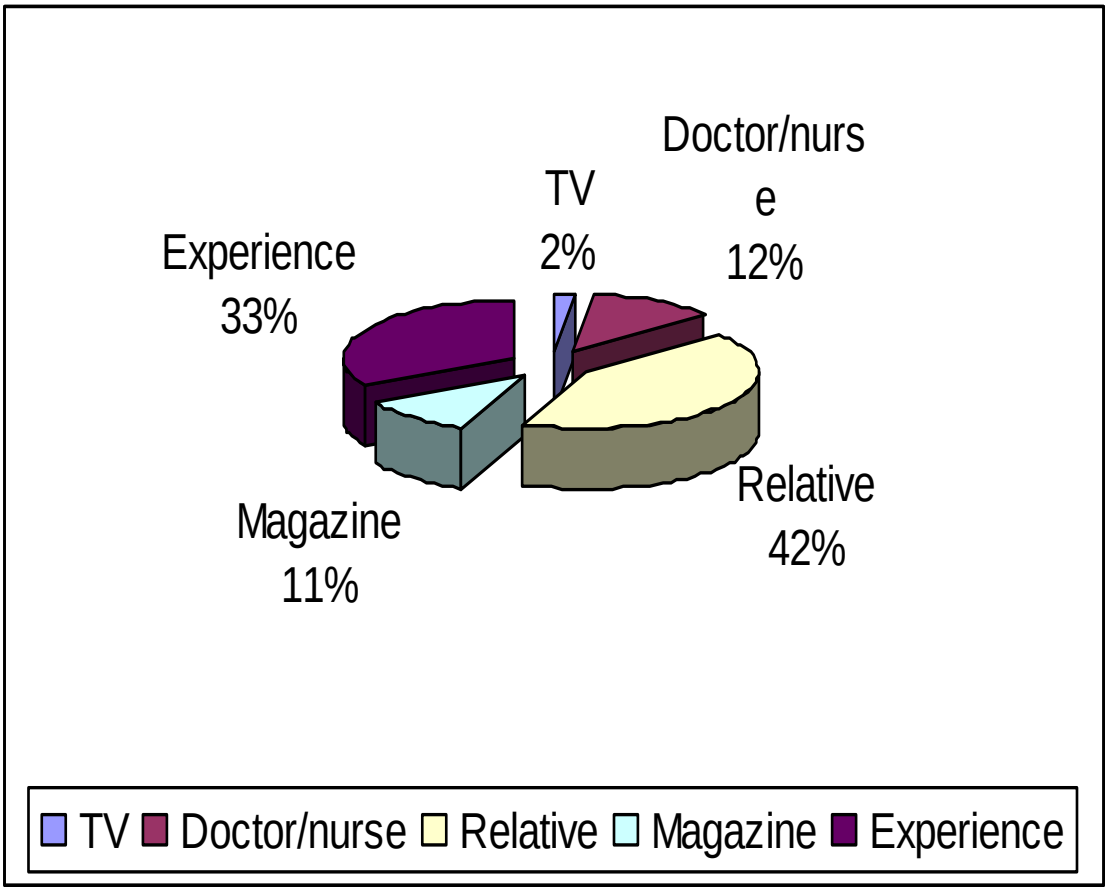

Fig. (2): Shows the main sources of knowledge about hepatitis A virus among the studied subjects were from relatives (42.0%) and experiences (33.0%), while the lowest source of knowledge was T.V (2.0%).

Part (III): The observed mother's practice throughout the care given to child with hepatitis A virus (table 9).

Table (9): Distribution of the studied sample mothers by their observed practice during care of children with hepatitis A virus (n =1 00).

Mother practice	Good		Average		Poor	
	No	%	No	%	No	%
Isolation of infected child	37	37.0	-	-	63	63.0
Personal hygiene	29	29.0	39	39.0	32	32.0
child equipment hygiene	17	17.0	22	22.0	61	61.0
Housing hygiene	22	22.0	25	25.0	53	53.0
Food hygiene	6	6.0	22	22.0	72	72.0
Suitable diet	13	13.0	22	22.0	65	65.0
General methods of precaution	18	18.0	34	34.0	48	48.0

Table (9): Shows that more than one third of mothers (37.0%) had good practice level about isolation of infected child, more than one quarter of them (29.0%) reported good level of practice about personal hygiene, slightly more than three fifths of them (61.0%) had poor level practice about child equipment hygiene, more than half of them (53.0%) observed a poor practice level about housing hygiene, less than three quarters of them (72.0%) had poor practice about food hygiene, less than two third of them (65.0%) had poor practice level about suitable diet, and less than one third of them (34.0%) had average practice level about general methods of precaution.

Part (IV): Relation between Mothers' sociodemographic Characteristics and their level of Knowledge and Practice of Children with Hepatitis A Virus (tables 10-11, figures 3-6). And between mothers' general level of practice and their home environment (table 12).

Table (10): Relation between characteristics of mothers' and their total knowledge (n=100). According to the first research question.

Sociodemographic Characteristics	Total Knowledge						Total		X^2	P-Value
	Poor (n=58)		Average (n=23)		Good (n=19)					
	No.	%	No.	%	No.	%	No.	%		
Age (years)										
20-	34	57.6	17	28.8	8	13.6	59	59.0	9.8	<0.05
30-	15	48.4	6	19.3	10	32.3	31	31.0		
40+	9	90.0	0	0.0	1	10.0	10	10.0		
Education										
Illiterate	36	100	0	0.0	0	0.0	36	36.0	110.3	<0.001
Read and write	3	100	0	0.0	0	0.0	3	3.0		
Primary	8	88.9	1	11.1	0	0.0	9	9.0		
Preparatory	9	81.8	2	18.2	0	0.0	11	11.0		
Secondary	1	4.3	18	78.3	4	17.4	23	23.0		
University	0	0.0	3	16.7	15	83.3	18	18.0		
Marital status										
Married	42	56.0	17	22.7	16	21.3	75	75.0	2.6	>0.05
Widow	15	68.2	5	22.7	2	9.1	22	22.0		
Divorced	1	33.3	1	33.3	1	33.3	3	3.0		
Family size										
4	11	47.8	7	30.4	5	21.8	23	23.0	2.5	>0.05
> 4	24	60.0	10	25.0	6	15.0	40	40.0		
≥ 6	23	62.2	6	16.2	8	21.6	37	37.0		
Occupation										
Working	7	21.9	11	34.4	14	43.7	32	32.0	28.4	<0.001
Not working	51	75.0	12	17.6	5	7.4	68	68.0		
Family's income										
Adequate	4	23.5	7	41.2	6	35.3	17	17.0	10	<0.001
Inadequate	54	65.1	16	19.3	13	15.6	83	83.0		

Table (10): Indicated statistical significant difference between mothers' general characteristics age, education, occupation and income and their level of knowledge about hepatitis A virus ($p<0.001$).On other hand the good level of mothers' knowledge were present among mothers their age ranged from 30 to less than 40 years, graduated from university, worked and had adequate income. (32.3%, 83.3%, 43.7 and 35.3% respectively). While family size and marital status show no significant difference.

Fig. (3): Relationship between mothers' sociodemographic characteristics (age) and total knowledge.

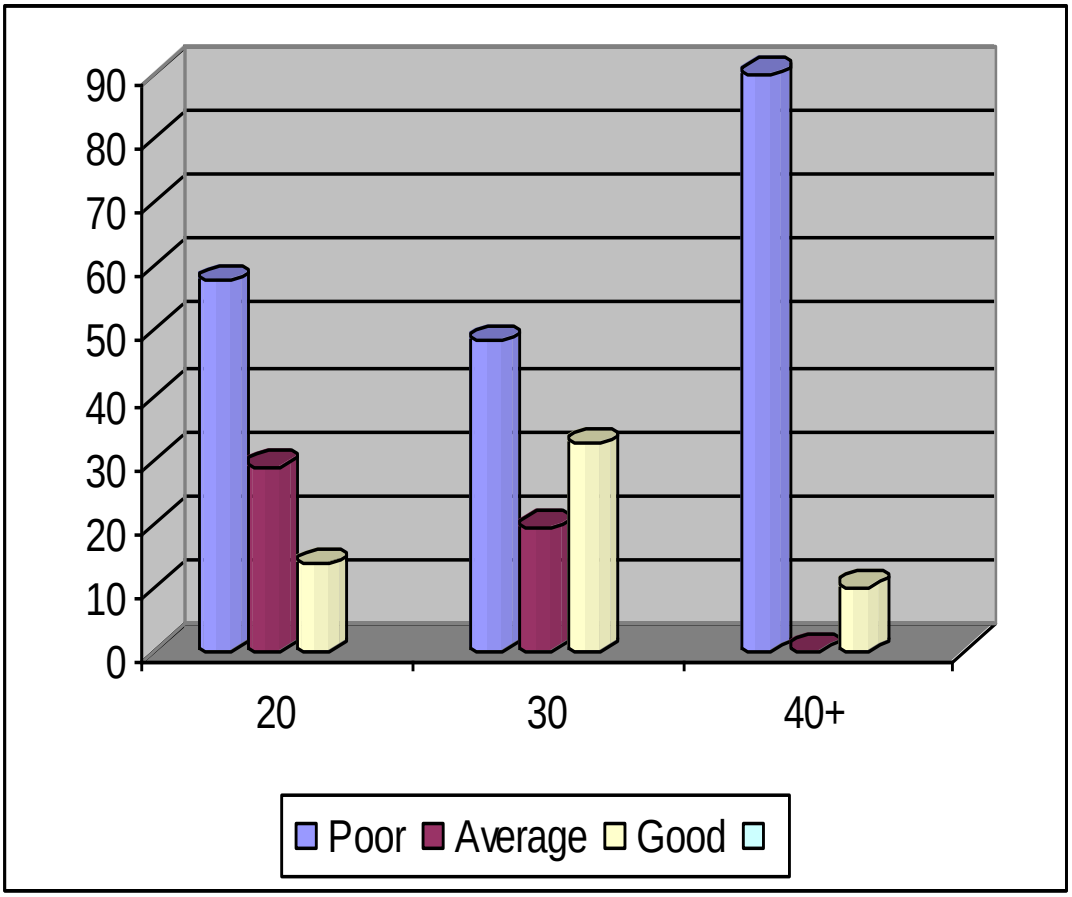

Figure (3): Indicated the highest good level of knowledge among the studied mothers were present among those in the age group from 30 to less 40 years old (32.3%).

Fig. (4): Relationship between mothers' sociodemographic characteristics (education) and total knowledge.

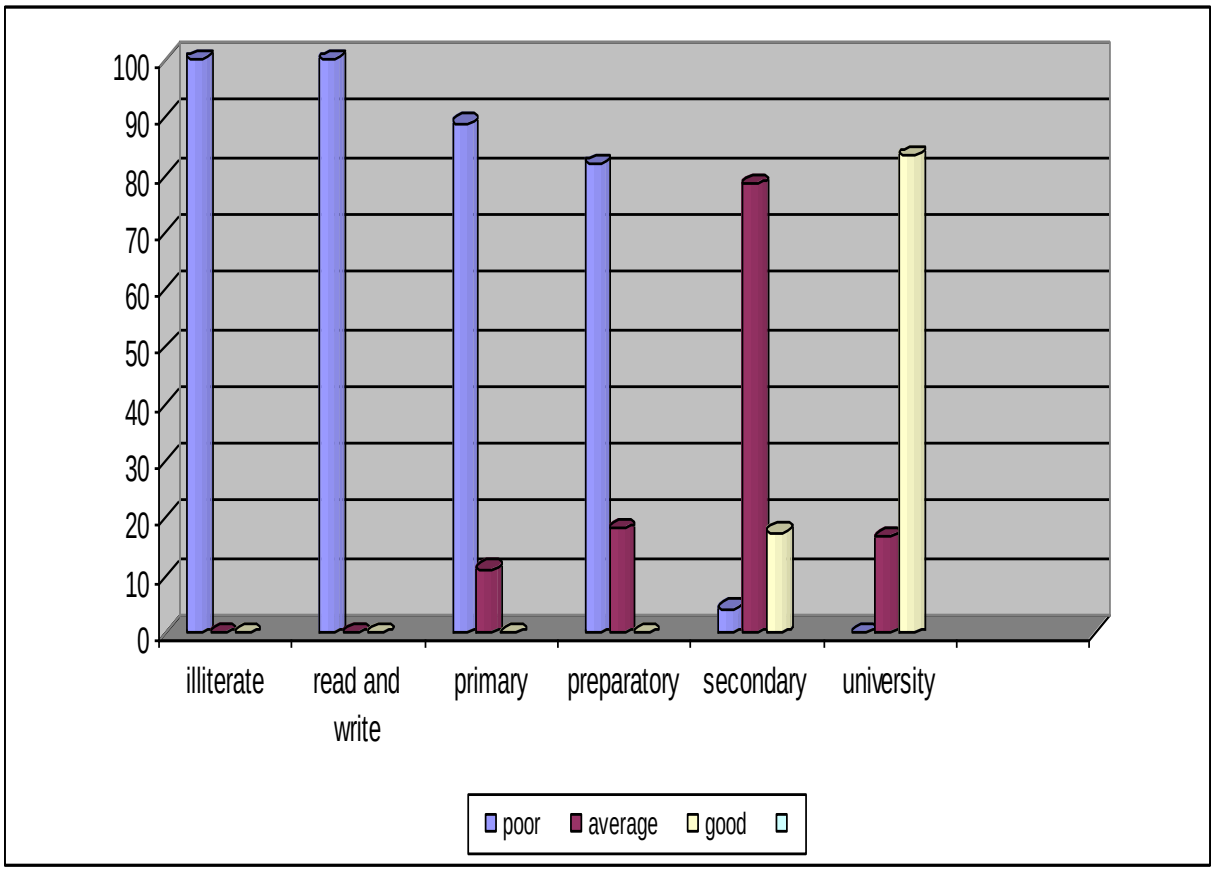

Figure (4): Presents the relation between mothers' level of education and their level of knowledge about viral A. The figure showed that mothers who graduated from university had higher good level of knowledge (83.3%).While all illiterate or read & write had poor level of knowledge.

Fig. (5): Relationship between mothers' sociodemographic characteristics (occupation) and total knowledge.

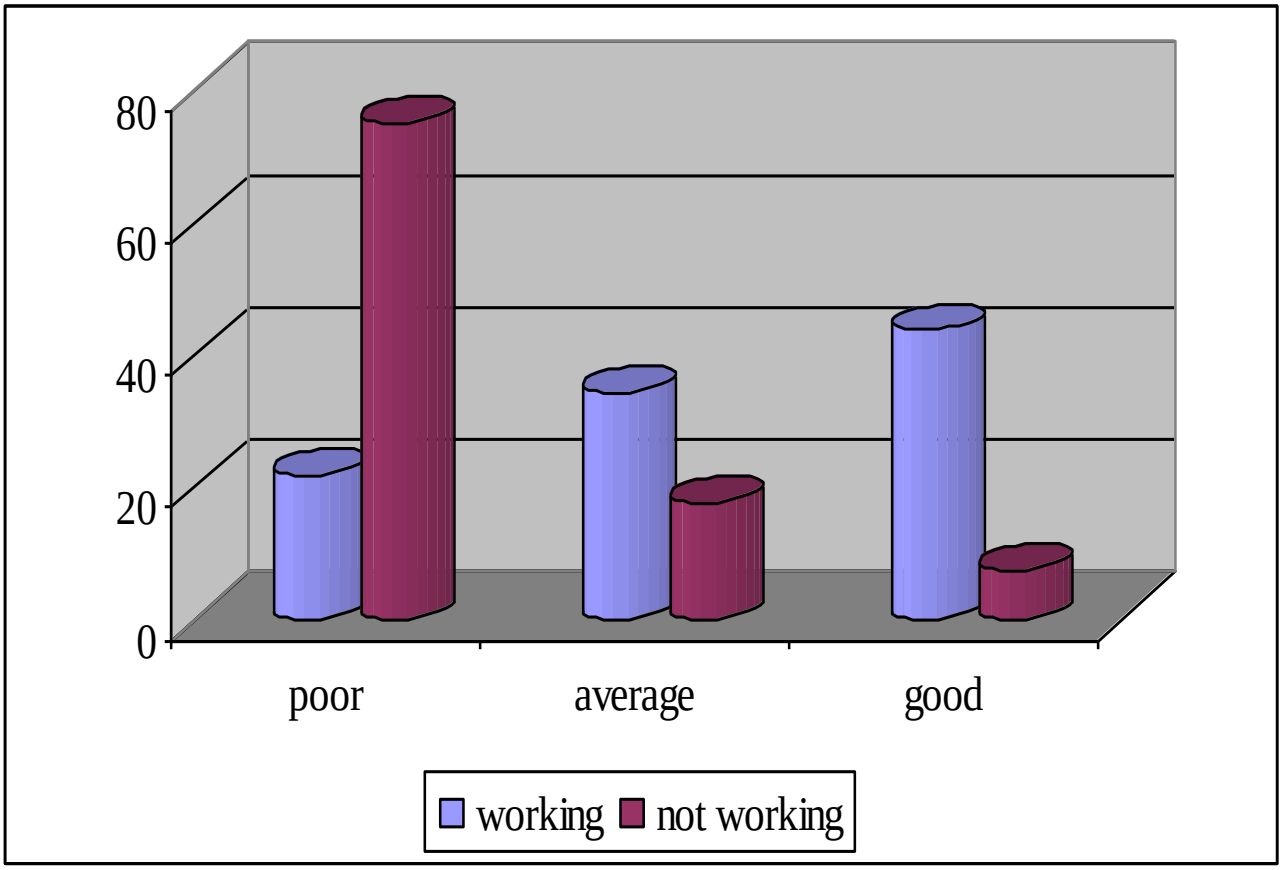

Figure (5): Illustrated worked mothers had good level of knowledge than none worked. The higher percentage of good and average level of knowledge were present among those worked mothers (43.7% and 34.4%).While the poor level present among non worked mothers (75.0%).

Fig. (6): Relationship between mothers sociodemographic characteristics (family income) and total knowledge.

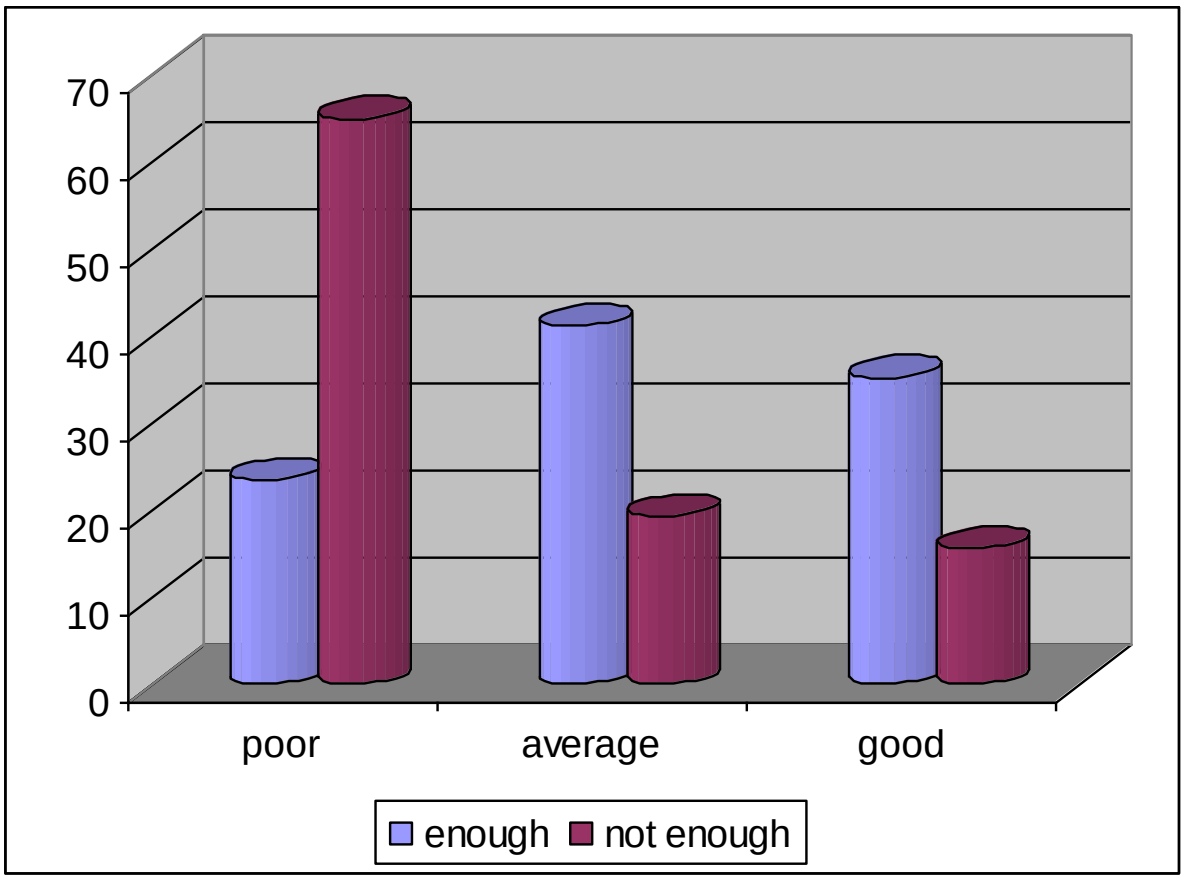

Figure (6): Shows the income affect the mothers' level of knowledge, the poor level of knowledge were present among mothers who had inadequate income (65.1%).

Table (11): Relationship between sociodemographic characteristics of mothers and their total practice (n=100).

Sociodemographic Characteristics	Total Practice						Total		X^2	P-Value
	Poor (n=63)		Average (n=10)		Good (n=27)					
	No.	%	No.	%	No.	%	no	%		
Age/year										
20-	37	62.8	8	13.5	14	23.7	59	59.0		
30-	18	58.1	1	3.2	4	38.7	31	31.0	3.04	>0.05
40+	8	80.0	1	10.0	1	10.0	10	10.0		
Education										
Illiterate	36	100	0	0.0	0	0.0	36	36.0		
Read and write	3	100	0	0.0	0	0.0	3	3.0		
Primary	7	77.8	2	22.2	0	0.0	9	9.0	106.1	<0.001
Preparatory	8	72.8	2	18.2	1	9.0	11	11.0		
Secondary	4	17.4	9	39.1	10	43.5	23	23.0		
University	0	0.0	1	5.6	17	94.4	18	18.0		
Marital status										
Married	50	66.7	6	8.0	19	25.3	75	75.0		
Widow	11	50.0	3	13.6	8	36.4	22	22.0	4.6	>0.05
Divorced	2	66.7	1	33.3	0	0.0	3	3.0		
Family size										
4	11	47.8	0	0.0	12	52.2	23	23.0		
> 4	24	60.0	7	17.5	9	22.5	40	40.0	13.8	<0.05
≥ 6	28	75.7	3	8.1	6	16.2	37	37.0		
Occupation										
Working	15	46.9	3	9.4	14	43.7	32	32.0	6.9	<0.05
Not working	48	70.6	7	10.3	13	19.1	68	68.0		
Income										
Adequate	8	47.1	0	0.0	9	52.9	17	17.0	7.9	<0.05
Inadequate	55	66.3	10	12.0	18	21.7	83	83.0		

Table (11): Shows that good level of practice among mothers graduated from university (94.4%), had small family size (52.2%), worked (43.7%) and had adequate family income (52.9%). The findings were statistically significance (p<0.001).

Table (12): Relationship between total practice of mothers and their home environment (n=100). According to the second research question .

Home Environment	Total Practice						Total		X^2	P- Value
	Poor (63)		Average (10)		Good (27)		No	%		
	No.	%	No.	%	No.	%				
Good	0	0.0	2	20.0	19	70.4	21	21.0	61.3	< 0.001**
Average	25	39.7	3	30.0	8	29.6	36	36.0		
Poor	38	60.3	5	50.0	0	0.0	43	43.0		

Table (12): Shows that a highly statistically significant relationship was detected between the total mothers' practice regarding their infected children by HAV illness and home environment score, where it demonstrate that more than two third of good total mothers' practice score (70.4%) have good home environment score, while less than two thirds (60.3%) of poor total practice score have poor home environment score. This table responds to the second research question.

Part (V): - Correlation between total mothers' practice and their home environment (table 13).

- Correlation between total mothers' knowledge and total mothers' practice (table 14).

Table (13): Correlation between total practice scores of mothers and their home enviroment (n=100).

Items	Home Environment (r)	P-Value
Total practice	0.50	<0.001**

Table (13): Shows a highly statistically significant correlation was detected between the total practice and home environment scores (+ve correlation, $p < 0.001$).

Table (14): Correlation between total knowledge and practice scores of the studied sample (n=100). According to the third research question.

Items	Mean± S.D	Correlation (r)	P-value
Total knowledge	10.31±5.31	0.75	<0.001**
Total practice	5.89±3.73		

Table (14): Indicated a highly statistically difference between the total knowledge and total practice among the studied mothers ($p<0.001$)

* Significance

** Highly significance