THE RESULTS

The results of this study were presented in (25) tables they included the following:

Part (I): Characteristics of the study subjects, deals with description of demographic characteristics of the staff nurses such as (age, marital status, years of experience) Table (1) .

Part (II): Staff nurse's knowledge regarding their organizational feature of work environment, Table (2-16).

Part (III): Nursing care performance provided by staff nurses, Table (17-21).

Part (IV): Relationship between staff nurse's total knowledge, total performance scores by selected demographic characteristics Table (22-23).

Part (V): Correlation coefficient between total knowledge, total performance, and staff nurse's demographic characteristics Table (24).

Part (VI): Correlation coefficient between staff nurse's total knowledge and performance scores at different times of assessment Table (25).

Part I: Characteristics of the Study Subjects

Table (1): Demographic characteristics of staff nurse's in studied department at Benha University Hospital.

Items	Total participant N = 70	
	No	%
Age in years		
< 20	46	65.7
30-	14	20
> 40	10	14.3
X±SD 29.79± 6.37		
Marital status		
- married	55	78.6
-un married	15	21.4
Years of experience		
<10	42	60.0
10-	18	25.7
> 20	10	14.3
X±SD 10.25 ±7.04		

This table revealed that the mean age of staff nurse's was (29.79± 6.37) years old, about more than half of them were (65.7%) ranged their age between 20-30 years old, in relation to marital status. The majority of study sample (78.6%)of them were married, as regarding to years of experience the highest percent of participants were(60.0 %)of them ranged between 1-10 years of experience.

Part (I1):- Knowledge of the staff nurses regarding their organizational feature of work environment.

Table (2):- Comparison of total nurse's knowledge in studied department at Benha University Hospital at different times of assessment.

Knowledge about organizational features of work environment Dimensions	Before program (n=70)						Immediately After (n=70)						X^2	(p) value	After 3 months (n=70)						X^2	(p) value
	Unsatisfactory features		satisfactory features		Highly satisfactory features		Unsatisfactory features		satisfactory features		Highly satisfactory features				Unsatisfactory features		satisfactory features		Highly satisfactory features			
	No	%	No	%	No	%	No	%	No	%	No	%			No	%	No	%	No	%		
- Physical environment of the ward.	53	75.7	17	24.3	0	0.0	5	7.1	15	21.4	50	71.4	39.72	< 0.001	18	25.7	8	11.4	44	62.9	17.75	< 0.001
- Professional working relationship.	31	44.3	21	24.3	18	25.7	7	10	7	10	56	80	21.87	< 0.001	18	25.7	14	20.0	38	54.3	7.14	< 0.001
- Nurses' influence over aspect of the unit life.	58	82.9	12	30.0	0	0.0	18	25.7	11	15.7	41	58.6	25.00	< 0.001	13	18.6	9	12.9	48	68.6	29.35	< 0.001
- Ward leadership.	54	77.1	12	17.1	4	5.7	13	18.6	12	17.1	45	64.3	25.09	< 0.001	19	27.1	9	12.9	42	60.0	18.28	< 0.001
- Professional nursing practice.	41	58.6	17	17.1	12	17.1	15	21.4	8	11.4	47	67.1	16.52	< 0.001	18	25.7	22	31.4	30	42.9	8.79	< 0.001
- Job satisfaction.	57	81.4	8	42.3	5	7.1	23	32.9	6	8.6	41	58.6	19.26	< 0.001	21	30.0	15	21.4	34	48.6	20.90	< 0.001
Total.	50	71.4	14	11.4	6	8.6	11	15.7	12	17.1	47	67.1	24.93	< 0.001	16	22.9	11	15.7	43	61.4	17.52	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

It is seen from table (2) that, a highly significant improvement in staff nurse's knowledge scores, regarding physical environment of the ward, professional working relationship, nurse's influence over aspect of the unit life, ward leadership, professional nursing practice and job satisfaction in immediately after program test followed by three months after program test as compared to before program test .

Table (3): Mean score of staff nurse's knowledge regarding ward facilities of physical environment that influence on work at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Facilities for relatives.	1.49 ± 0.79	2.58 ± 0.62	6.69	< 0.001	2.25 ± 0.75	4.34	< 0.001
-Facilities for patients.	1.69 ± 0.73	2.41 ± 0.79	4.83	< 0.001	2.11 ± 0.84	2.53	< 0.001
-Facilities for staff.	1.34 ± 0.56	2.43 ± 0.84	7.91	< 0.001	2.30 ± 0.75	6.49	< 0.001
-Availability of equipment.	1.40 ± 0.73	2.48 ± 0.73	7.98	< 0.001	2.18 ± 0.82	4.46	< 0.001
-Quality of ward maintenance services.	1.36 ± 0.48	2.51 ± 0.67	8.61	< 0.001	2. 14 ± 0.89	4.91	< 0.001
Total	7.27± 2.73	12.42± 3.55	8.61	< 0.001	11.00± 3.94	4.91	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (3) indicated that there was highly statistically significant difference improvement in knowledge mean scores of staff nurse's regarding ward facilities of physical environment that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (4): Mean score of nurse's knowledge regarding staff organization of physical environment of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Our nurse/patient allocation system works well for the nursing skill mix we currently have on the ward	1.47 ± 0.58	2.63 ± 0.64	8.42	< 0.001	2.17 ± 0.86	4.19	< 0.001
- Our nurse/patient allocation system works well for the type of patients we have on this ward	1.90 ± 0.68	2.51 ± 0.75	3.79	< 0.001	2.18 ± 0.85	1.64	< 0.001
- The skill mix on this ward is about right	1.37 ± 0.77	2.51 ± 0.71	7.62	< 0.001	2.21 ± 0.83	5.28	< 0.001
- There are enough permanent nurses on this ward to give a good standard of care to all our patients	1. 50 ± 0.77	2.61 ± 0.59	6.92	< 0.001	2.23 ± 0.82	3.98	< 0.001
- The ward off duty roster works well	1. 11 ± 0.43	2.65 ± 0.53	14.69	< 0.001	2.10 ± 0.92	7.26	< 0.001
Total	7.36 ± 2.67	12.93± 3.13	14.69	< 0.001	10.90± 4.23	7.26	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (4) clarified that there was highly statistically significant difference improvement in knowledge mean scores of staff nurse's regarding staff organization of physical environment which means that the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (5): Mean score of nurse's knowledge regarding ward layout of physical environment of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Patients being able to attract the nurses' attention.	1.54 ± 0.60	2.63 ± 0.64	7.80	< 0.001	2.51 ± 0.6 9	6.56	< 0.001
-Good communication between nurses working on the ward.	1.73 ± 0.63	2.55 ± 0.75	5.44	< 0.001	2.51 ± 0.79	5.03	< 0.001
-Good usage of nurses' time.	1.51 ± 0.69	2.63 ± 0.59	7.48	< 0.001	2.57 ± 0.69	6.50	< 0.001
-Patient safety.	1.54 ± 0.79	2.65 ± 0.53	7.22	< 0.001	2.61 ± 0.64	6.41	< 0.001
-Observation of all patients.	1.73 ± 0.61	2.64 ± 0.61	8.67	< 0.001	2.55 ± 0.73	7.44	< 0.001
Total	7.70±3.08	13.11± 3.04	8.67	< 0.001	12.77± 3.46	7.44	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (5) The results indicated that there was highly statistically significant difference improvement in staff nurses knowledge mean scores , regarding ward layout of physical environment that means, the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (6): Mean score of nurse's knowledge regarding quality of ward services influence on of physical environment of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Availability of pottering services.	1.58 ± 0.84	2.44 ± 0.77	4.51	< 0.001	2.50 ± 0.81	4.69	< 0.001
- Quality of pharmacy services.	1.43 ± 0.71	2.31 ± 0.80	5.07	< 0.001	2.60 ± 0.67	7.14	< 0.001
- Quality of sterile supply services.	1.47 ± 0.82	2.37 ± 0.85	4.58	< 0.001	2.53 ± 0.77	5.60	< 0.001
- Quality of portering services.	1.45 ± 0.71	2.30 ± 0.87	4.58	< 0.001	2.14 ± 0.82	3.93	< 0.001
Total.	4.00± 0. 00	12.00± 0. 00	4.58	< 0.001	9.77± 2.93	3.93	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (6) shows that, there was a highly statistically significant difference improvement in staff nurses knowledge mean scores, regarding quality of ward services influence on work of physical environment that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test. test at p-values < 0.001.

Table (7): Mean score of nurse's knowledge regarding professional nursing practice influence on work at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Nurses actively support one another when trying out new ideas.	1.43 ± 0.75	2.61 ± 0.62	7.44	< 0.001	2.41 ± 0.73	5.77	< 0.001
- Nurses try out new approaches to care.	1.53 ± 0.75	2.53 ± 0.71	5.79	< 0.001	2.51 ± 0.73	5.58	< 0.001
- Decisions are made democratically by nurses on this ward.	1.43 ± 0.73	2.50 ± 0.79	5.95	< 0.001	2.40 ± 0.75	5.67	< 0.001
- Nurses are encouraged to reach their full potential.	1.40 ± 0.75	2.61 ± 0.62	7.71	< 0.001	2.23 ± 0.90	4.49	< 0.001
- Nurses actively seek out learning opportunities.	1.50 ± 0.71	2.63 ± 0.59	7.41	< 0.001	2.28 ± 0.85	4.32	< 0.001
- Nurses give one another feedback on their practice.	1.51 ± 0.79	2.51 ± 0.81	5.27	< 0.001	2.38 ± 0.80	4.65	< 0.001
- All individual patient needs are met.	1.44 ± 0.77	2.54 ± 0.84	5.79	< 0.001	2.30 ± 0.84	4.62	< 0.001
- Nurses keep up to date by reading professional journals.	1.37 ± 0.78	2.61 ± 0.68	7.33	< 0.001	2.37 ± 0.76	5.68	< 0.001
- Relatives participate in making decisions about care.	1.50± 0.71	2.68 ± 0.58	8.11	< 0.001	2.43 ± 0.73	5.44	< 0.001
- Nurses base their practice on research.	1.34 ± 0.68	2.54 ± 0.84	6.69	< 0.001	2.37 ± 0.78	6.18	< 0.001
- Patients participate in making decisions about their care.	1. 53± 0.79	2.61 ± 0.68	6.29	< 0.001	2.27 ± 0.86	3.86	< 0.001
Total	14.46±7.16	33.00± 0.00	6.29	< 0.001	25.97± 8.51	3.86	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (7) illustrated that, there was a highly statistically significant difference improvement in staff nurse's knowledge mean scores regarding professional nursing practice that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (8): Mean score of nurse's knowledge regarding hierarchical practice influence on work of ward at different times of assessment.

Items / Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Nurses allow themselves to be at the beck and call of doctors.	1.41 ± 0.57	2.43 ± 0.79	6.35	< 0.001	2.17 ± 0.81	4.79	< 0.001
-Nurses live in fear of making mistakes.	1.50 ± 0.73	2.31 ± 0.87	4.33	< 0.001	2.10 ± 0.81	3.39	< 0.001
-Nurses stick to a strict ward routine.	1.58 ± 0.77	2.43 ± 0.75	4.64	< 0.001	2.27 ± 0.76	3.85	< 0.001
-Nurse managers get VIP treatment on this ward.	1.64 ± 0.83	2.33 ± 0.83	3.46	< 0.001	2.27 ± 0.70	3.61	< 0.001
Total	4.00± 0.00	9.50± 3.17	3.46	< 0.001	8.81± 2.99	3.62	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (8) clarified that, there was a highly statistically significant difference improvement in staff nurses knowledge mean scores regarding hierarchical practice that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001

Table (9): Mean score of nurse's knowledge regarding ward leadership influence on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Creates a good atmosphere on the ward.	1.67± 0.79	2.43 ± 0.65	4.49	< 0.001	2.51 ± 0.71	4.83	< 0.001
-Is always fair in dealings with staff.	1.68 ± 0.69	2.20 ± 0.91	2.81	< 0.001	2.48 ± 0.71	4.93	< 0.001
-Always gives praise when it is due.	1.75 ± 0.71	2.28 ± 0.85	2.96	< 0.001	2.48 ± 0.71	4.48	< 0.001
-Deals sensitively with inter-personal frictions.	1.67 ± 0.69	2.30 ± 0.84	3.56	< 0.001	2.57 ± 0.67	5.80	< 0.001
-Inspires commitment from staff.	1.54 ± 0.77	2.31 ± 0.86	4.03	< 0.001	2.50 ± 0.79	5.18	< 0.001
-Does not inspire confidence.	1.67 ± 0.73	2.31 ± 0.86	3.49	< 0.001	2.50 ± 0.81	4.70	< 0.001
-Is good at nipping problems in the bud.	1.57 ± 0.71	2.35 ± 0.83	4.34	< 0.001	2.53 ± 0.73	5.69	< 0.001
-Likes to see staff doing well in their careers.	1.70 ± 0.70	2.35 ± 0.83	5.31	< 0.001	2.48 ± 0.79	4.62	< 0.001
-Knows the strengths and weaknesses of ward staff.	1.71± 0.80	2.40 ± 0.78	3.68	< 0.001	2.51 ± 0.79	4.35	< 0.001
Total	9.00± 0.00	20.96± 7.23	3.68	< 0.001	2.51 ± 0.79	4.35	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (9) shows that, there was a highly statistically significant difference improvement in staff nurse's knowledge mean scores, regarding ward leadership that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (10): Mean score of nurse's knowledge regarding professional working relationships between nurses and medical staff on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-We have a good understanding with the doctors about our respective responsibilities.	1.31 ± 0.62	2.48 ± 0.73	7.49	< 0.001	2.61 ± 0.68	8.44	< 0.001
-I feel that patient treatment and care are not adequately discussed.	1.37 ± 0.64	2.57 ± 0.73	7.84	< 0.001	2.51 ± 0.77	6.89	< 0.001
-Nurses and medical staff share similar ideas about how to treat patients.	1.34 ± 0.63	2.34 ± 0.88	5.75	< 0.001	2.51 ± 0.71	7.49	< 0.001
-Doctors are willing to discuss nursing issues.	1.31 ± 0.62	2.65 ± 0.76	8.39	< 0.001	2.41 ± 0.77	6.92	< 0.001
-Medical staff co-operate with the way we organized nursing.	1.28 ± 0.66	2.43 ± 0.79	6.95	< 0.001	2.60 ± 0.73	8.10	< 0.001
-Medical staff would be willing to co-operate with new nursing practices.	1.40 ± 0.75	2.45 ± 0.75	6.04	< 0.001	2.63 ± 0.70	7.11	< 0.001
-The medical staff on this ward does not usually ask for nurses' opinions.	1.42 ± 0.73	2.31 ± 0.89	4.70	< 0.001	2.48 ± 0.77	5.96	< 0.001
-Medical staff anticipates when we will need their help.	1.40 ± 0.77	2.44 ± 0.75	5.94	< 0.001	2.48 ± 0.77	6.01	< 0.001
-Doctors are usually willing to take into account the convenience of the nursing staff when planning their.	1.43 ± 0.73	2.35 ± 0.83	5.12	< 0.001	2.57 ± 0.75	6.47	< 0.001
Total	12.28± 5.96	22.06± 6.76	5.12	< 0.001	22.83± 6.47	6.47	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (10) shows that, there was a highly statistically significant difference improvement in staff nurse's knowledge mean scores, regarding professional working relationships between nurses and medical staff, that means, the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (11): Mean score of nurse's knowledge regarding professional working relationships between nurses and other health care professionals on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Other health care professionals do not co-operate with the way we organize nursing	1.75 ± 0.89	2.43 ± 0.79	3.42	< 0.001	2.47 ± 0.73	3.78	< 0.001
-Disagreements with other health care professionals often remain unresolved	1.67 ± 0.75	2.48 ± 0.75	4.64	< 0.001	2.34 ± 0.83	3.63	< 0.001
-Other health care professionals would not be willing to discuss their new practices with nurses	1.77 ± 0.78	2.41 ± 0.84	3.42	< 0.001	2.20 ± 0.89	2.20	< 0.001
-We have a good understanding with the other health care professionals about our respective responsibilities	1.77 ± 0.95	2.41 ± 0.79	3.16	< 0.001	2.25 ± 0.83	2.35	< 0.001
-Other health care professionals ignore the convenience of the nursing staff when planning their work	1.87 ± 0.83	2.37 ± 0.85	2.56	< 0.001	2.31 ± 0.79	2.35	< 0.001
-Treatment carried out by other health care professionals often gives me cause for concern	1.65 ± 0.86	2.33 ± 0.89	3.21	< 0.001	2.23 ± 0.83	2.86	< 0.001
-The other health care professionals on this ward think they are a cut above the nurses	2.01 ± 0.87	2.35 ± 0.87	1.78	< 0.001	2.33 ± 0.88	1.62	< 0.001
Total	10.50± 4.85	16.81± 5.69	1.78	< 0.001	16.14± 5.60	1.62	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (11) clarified that there was a highly statistically significant difference improvement in staff nurse's knowledge mean scores regarding professional working relationships between nurses and other health care professionals that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (12): Mean score of nurse's knowledge regarding professional working relationships amongst nurses on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Nurses on this ward show a lot of respect for each other.	1.71 ± 0.78	2.51 ± 0.75	4.52	< 0.001	2.48 ± 0.79	4.23	< 0.001
-Staff can be really bitchy towards each other.	1.42 ± 0.62	2.58 ± 0.65	7.69	< 0.001	2.43 ± 0.75	6.24	< 0.001
-Nurses are always willing to help each other get through their work on this ward.	1.68 ± 0.75	2.50 ± 0.75	4.67	< 0.001	2.34 ± 0.78	3.63	< 0.001
-There is a lot of unrest simmering under the surface.	1.51 ± 0.63	2.48 ± 0.71	6.21	< 0.001	2.24 ± 0.80	4.41	< 0.001
-Nursing staff on this ward work well together.	1.61 ± 0.70	2.61 ± 0.62	6.62	< 0.001	2.24 ± 0.79	3.61	< 0.001
-All the nurses on this ward pull their weight.	1.41 ± 0.62	2.50 ± 0.77	6.63	< 0.001	2.44 ± 0.75	6.42	< 0.001
-I feel nurses do not communicate with each other as well as they should.	1.57 ± 0.69	2.44 ± 0.81	5.05	< 0.001	2.47 ± 0.71	5.44	< 0.001
-Nurses here are cliquey.	1.60 ± 0.78	2.61 ± 0.64	6.16	< 0.001	2.43 ± 0.75	4.52	< 0.001
-We share similar ideas about priorities on this ward.	1.54 ± 0.67	2.53 ± 0.60	6.56	< 0.001	2.47 ± 0.79	5.52	< 0.001
Total	9.00± 0.00	22.79± 6.09	6.56	< 0.001	21.56± 6.66	5.52	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (12) shows that, there was there was a highly statistically significant difference improvement in staff nurse's knowledge mean scores regarding professional working relationships amongst, that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (13): Mean score of nurse's knowledge regarding influence timing of ward and patient events that affect on the work at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Other health care professionals' visits to your ward.	1.63 ± 0.76	2.40 ± 0.78	4.20	< 0.001	2.04 ± 0.82	2.28	< 0.001
-Other types of therapy that are carried out on your ward (e.g. physiotherapy.	1.74 ± 0.83	2.63 ± 0.78	4.94	< 0.001	2.04 ± 0.89	1.50	< 0.001
-Other procedures carried out on your ward (e.g. taking x-rays, lumbar punctures, etc.).	1.75 ± 0.89	2.37 ± 0.74	3.21	< 0.001	2.07 ± 0.85	1.54	< 0.001
-Ward maintenance (e.g. plumbing, and electrical repairs).	1.63 ± 0.72	2.51 ± 0.86	4.97	< 0.001	2.11 ± 0.86	2.65	< 0.001
-Deliveries of sterile equipment to the ward.	1.70 ± 0.96	2.43 ± 0.73	3.82	< 0.001	2.04 ± 0.90	1.63	< 0.001
-Patient investigations in other hospital departments.	1.57 ± 0.65	2.33 ± 0.81	4.46	< 0.001	2.08 ± 0.86	2.96	< 0.001
-Ward rounds.	1.67 ± 0.83	2.51 ± 0.69	4.76	< 0.001	2.17 ± 0.83	2.58	< 0.001
Total	11.66± 5.39	17.18± 5.09	4.76	< 0.001	14.57± 5.91	2.58	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (13) shows that there was a highly statistically significant difference improvement in staff nurses knowledge mean scores regarding influence timing of ward and patient events that affect on the work, that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (14): Mean score of nurse's knowledge regarding ward management influence on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Convening meetings with your ward nursing colleagues.	1.57 ± 0.75	2.54 ± 0.71	5.66	< 0.001	2.34 ± 0.76	4.88	< 0.001
-Making changes in ward management and administrative procedures.	1.48 ± 0.75	2.41 ± 0.87	4.83	< 0.001	2.25 ± 0.79	4.59	< 0.001
-Making changes in ward clinical nursing practice.	1.54 ± 0.73	2.44 ± 0.82	4.94	< 0.001	2.34 ± 0.76	5.18	< 0.001
-Changing routine shift times (e.g. to suit ward workload/nurses' personal commitments).	1.68 ± 0.75	2.53 ± 0.75	4.86	< 0.001	2.08 ± 0.83	2.29	< 0.001
-Changing the design of nursing documentation	1.65 ± 0.78	2.54 ± 0.71	5.14	< 0.001	2.34 ± 0.76	4.22	< 0.001
-Controlling the amount of paperwork nurses on the ward has to complete.	1.63± 0.78	2.61 ± 0.59	6.23	< 0.001	2.08 ± 0.83	2.58	< 0.001
-Controlling the quality of ward support services (e.g. domestics, petering, catering.	1.75 ± 0.75	2.48 ± 0.79	4.11	< 0.001	2.28 ± 0.47	3.04	< 0.001
-Deciding who is 'in charge' of the ward.	1.68 ± 0.77	2.55 ± 0.77	4.91	< 0.001	2.45 ± 0.77	4.31	< 0.001
-Ward visiting times.	1.71 ± 0.76	2.64 ± 0.59	6.08	< 0.001	2.30 ± 0.82	3.15	< 0.001
-Getting additional temporary nurses for the ward on a daily basis (i.e. bank, agency or borrowed!).	1.55 ± 0.79	2.28 ± 0.87	3.75	< 0.001	2.34 ± 0.83	4.11	< 0.001
Total	16.29± 7.35	25.06± 7.24	3.75	< 0.001	22.84± 6.74	4.11	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (14) shows that, there was a highly statistically significant difference improvement in staff nurses knowledge mean scores regarding ward management, that means ,the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (15): Mean score of nurses' knowledge regarding human and financial resources influence on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Deciding the skill mix for the ward establishment.	1.51 ± 0.84	2.30 ± 0.90	3.86	< 0.001	2.31 ± 0.82	4.11	< 0.001
-Setting the ward budget.	1.51 ± 0.77	2.24 ± 0.94	3.65	< 0.001	2.15 ± 0.88	3.38	< 0.001
-Identifying priorities for spending the ward budget.	1.64 ± 0.87	2.21 ± 0.96	2.66	< 0.001	2.18 ± 0.28	2.75	< 0.001
Total	3.00± 0.00	6.76± 2.78	2.66	< 0.001	6.66± 2.46	2.75	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (15) shows that there was a highly statistically significant difference improvement in staff nurses knowledge mean scores regarding human and financial resources ,that means, the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (16): Mean score of nurse's knowledge regarding job satisfaction influence on work of the ward at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-This job does not live up to my expectations.	1.61 ± 0.80	2.34 ± 0.86	3.69	< 0.001	2.30 ± 0.90	3.41	< 0.001
-Knowing what I do now, I would apply for this job again.	1.68 ± 0.82	2.25 ± 0.92	2.78	< 0.001	2.13 ± 0.89	2.20	< 0.001
-I often feel like resigning.	1.60 ± 0.84	2.17 ± 0.91	2.80	< 0.001	2.13 ± 0.86	2.68	< 0.001
-1 knows that 1 am doing a really worthwhile job.	1.58 ± 0.71	2.28 ± 0.92	3.72	< 0.001	2.38 ± 0.84	4.46	< 0.001
-I am satisfied with the relationship I have with my ward nursing colleagues.	1.65 ± 0.83	2.28 ± 0.83	3.18	< 0.001	2.27 ± 0.76	3.33	< 0.001
-I worry that this job is undermining my health.	1.63 ± 0.80	2.20 ± 0.94	2.80	< 0.001	2.21 ± 0.83	3.07	< 0.001
-On the whole, I am satisfied with my working relationships with doctors.	1.53 ± 0.81	2.31 ± 0.87	3.98	< 0.001	2.20 ± 0.86	3.46	< 0.001
Total	7.00± 0.00	15.86± 6.14	3.98	< 0.001	15.63± 5.75	3.46	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (16) shows that, there was a highly statistically significant difference improvement in staff nurses knowledge mean scores regarding job satisfaction, that means, the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Part III: - The Nursing care performance provided by studied nurse's.

Table (17): - Comparison of total nurse's performance in studied department at Benha University Hospital at different times of assessment.

Nursing care performance Dimensions	Before program (n=70)						Immediately After (n=70)						X^2	(p) value	After 3 months						X^2	(p) value
	low		average		high		low		average		high				low		average		high			
	No	%	No	%	No	%	No	%	No	%	No	%			No	%	No	%	No	%		
Assessment	39	55.7	19	27.2	12	17.1	12	17.1	46	65.7	12	17.1	58.00	< 0.001	18	25.8	47	67.1	5	7.1	40.00	< 0.001
Planning	8	10.0	0	0.00	0	0.00	0	0.00	18	24.0	0	0.00	0.00	< 0.001	0	0.00	11	15.7	0	0.00	0.00	>0.05
Implementation	0	0.00	60	85.7	10	14.3	12	17.1	46	65.7	12	17.1	33.88	< 0.001	20	28.6	24	34.3	26	37.1	26.67	< 0.001
Evaluation	46	65.7	20	28.6	4	5.7	16	22.9	47	67.1	7	10	63.00	< 0.001	13	18.6	40	57.1	17	24.3	53.00	< 0.001
Total	60	85.7	7	10	3	4.3	10	14.3	46	65.7	14	20.0	32.06	< 0.001	20	28.6	27	38.6	23	32.9	26.67	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Table (17) displays that there was a highly statistically significant difference improvement in staff nurse's performance regarding assessment, implementation and evaluation of nursing care in immediately after program test followed by three months after program test as compared to before program test at p-values < 0.001.

Table (18): Mean score of assessment of nursing care performance provided by studied nurse's in studied department at Benha University Hospital at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Performs assessments independently.	0.47 ± 0.50	1.11 ± 0.67	11.15	< 0.001	0.29 ± 0.86	7.85	< 0.001
-Performs assessments in an ongoing and systematic manner.	0.44 ± 0.50	1.54 ± 0.73	14.90	< 0.001	0.98 ± 0.80	9.05	< 0.001
-Complete assessments for patient with patient or his family and other health care providers.	0.44 ± 0.50	1.43 ± 0.77	14.29	< 0.001	1.05 ± 0.76	10.48	< 0.001
-The nurse prioritizes data collection activities that based on the patient immediate condition, or anticipated needs of the patient.	0.38 ± 0.49	1.41 ± 0.86	11.92	< 0.001	1.23 ± 0.72	17.45	< 0.001
Total	1.74 ± 1.93	5.50 ± 2.85	15.25	< 0.001	4.21 ± 3.03	12.97	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (18) shows that there was a highly statistically significant difference improvement in staff nurse's performance mean scores regarding assessment that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (19): Mean score of planning of nursing care performance provided by studied nurse's in studied department at Benha University Hospitals at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Individualizes plan of care for patient on flow sheet.	0.00 ± 0.00	0.68 ± 0.46	12.27	< 0.001	0.00 ± 0.00	0.00	< 0.001
- Utilizing the plan to provide direction to other health team members.	0.00 ± 0.00	0.65 ± 0.48	11.50	< 0.001	0.77 ± 0.42	15.26	< 0.001
- Making the plan in conjunction with the patient, family, and other health care providers to determine the priorities of care on plan.	0.00 ± 0.00	0.71 ± 0.45	13.14	< 0.001	0.28 ± 0.45	5.25	< 0.001
Total	0.00 ± 0.00	2.06 ± 1.36	12.65	< 0.001	1.06 ± 0.68	13.03	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (19) clarified that, there was there was a highly statistically significant difference improvement in staff nurse's performance mean scores regarding planning of nursing care that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (20): Mean score of implementation of nursing care performance provided by studied nurse's in studied department at Benha University Hospitals at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
-Inform the patient or his family with hospital routine on admission (visiting hrs_time of meals, clothes)	0.27 ± 0.44	1.58 ± 0.62	10.68	< 0.001	1.44 ± 0.69	9.11	< 0.001
-Informs patient or his family how to call her	0.30 ± 0.46	161± 0.57	10.99	< 0.001	1.42 ± 0.79	7.77	< 0.001
- Listens to the patient or his family carefully	0.34 ± 0.48	1.45 ± 0.81	7.35	< 0.001	1.35 ± 0.72	7.47	< 0.001
-Provides clear answers to the patient's questions or his family to relieve the patient tension.	0.30 ± 0.46	1.51 ± 0.75	8.53	< 0.001	1.33 ± 0.69	7.99	< 0.001
-Wash her hand before any procedure	0.34 ± 0.48	1.57 ± 0.67	9.19	< 0.001	1.27 ± 0.72	6.93	< 0.001
-Respect the patient privacy	0.41 ± 0.49	1.44 ± 0.82	6.81	< 0.001	1.40 ± 0.78	6.56	< 0.001
-Physician orders: review every (1 hr).	0.32 ± 0.47	1.60 ± 0.62	9.89	< 0.001	1.07 ± 0.70	5.65	< 0.001
-Prepare equipment according to procedures	0.28 ± 0.45	1.41 ± 0.87	7.16	< 0.001	1.03 ± 0.78	5.23	< 0.001
-Administer prescribed medications according to hospital policies. - right patient - right medication - right route - right time - right does	0.31 ± 0.46	1.58 ± 0.65	9.76	< 0.001	1.10 ± 0.82	5.31	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (20): continue

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Adheres to infection control policy such as (nurses wash her hands before any procedure, , use disposable gloves when contact with patient	0.55 ± 0.50	0.38 ± 0.49	3.78	< 0.001	1.40 ± 0.79	8.07	< 0.001
- Inform the patient or his family with precautions related to his illness (diet., Activity	0.75 ± 0.43	1.55 ± 0.67	16.61	< 0.001	1.05± 0.79	4.58	< 0.001
- Maintains under sheets clean, dry and smooth.	0.65 ± 0.48	1.43 ± 0.81	15.26	< 0.001	1.10 ± 0.82	7.41	< 0.001
- Implements\ medical plan, including review of labs	1.00 ± 0.00	1.54 ± 0.67	6.73	< 0.001	1.20 ± 0.62	2.67	< 0.001
- Collaborates with other health care provider to implement the plan.	0.88 ± 0.32	1.34 ± 0.79	5.86	< 0.001	1.08 ± 0.67	3.01	< 0.001
- maintain a healthy atmosphere (quiet environment and free from any noise	0.61 ± 0.49	1.43 ± 0.77	17.39	< 0.001	1.13 ± 0.72	-8.55	< 0.001
- Uses side rails if needed	0.50 ± 0.50	1.53 ± 0.71	16.10	< 0.001	0.93 ± 0.78	7.19	< 0.001
-Turns patients position if needed	0.43 ± 0.49	1.58 ± 0.65	17.43	< 0.001	1.04 ± 0.79	10.48	< 0.001
- Gives exercises if needed	0.25 ± 0.44	1.38 ± 0.74	14.36	< 0.001	1.07 ± 0.73	13.89	< 0.001
- Perform daily hygienic needs for cleanliness and acceptable appearance.	0.43± 0.49	1.48 ± 0.71	15.74	< 0.001	1.10 ± 0.78	11.87	< 0.001
- keep patient in safe environment that free from any hazard	0.37 ± 0.48	1.58 ± 0.67	16.62	< 0.001	1.20 ± 0.71	18.26	< 0.001
- Give special care to pressure or irritated area (massage_ back rub with ointment).	0.27 ± 0.44	1.61 ± 0.64	17.71	< 0.001	0.87 ± 0.74	10.17	< 0.001
TOTAL	12.00 ± 0.00	30.66 ± 13.99	11.15	< 0.001	24.26 ± 14.65	7.00	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (20) clarified that, there was there was a highly statistically significant difference improvement in staff nurse's performance mean scores regarding implementation of nursing care, that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Table (21): Mean score of evaluation of nursing care performance provided by studied nurse's in studied department at Benha University Hospitals at different times of assessment.

Items \ Times of assessment	Before program (n=70)	Immediately after (n=70)			After 3 month (n=70)		
	Mean ±SD	Mean ±SD	Paired (t_1)	(p) value	Mean ±SD	Paired (t_2)	(p) value
- Evaluate observations and changes from baseline	0.27 ± 0.44	1.55 ± 0.69	16.23	< 0.001	1.28 ± 0.83	11.92	< 0.001
- Evaluate continuation of plan of care on flow sheet	0.14 ± 0.35	1.43 ± 0.81	13.74	< 0.001	1.40 ± 0.77	14.29	< 0.001
- Evaluate patient responses to procedures. treatments, therapies.	0.20 ± 0.40	1.55 ± 0.60	19.22	< 0.001	1.34 ± 0.85	12.17	< 0.001
- Evaluate The effectiveness of interventions in relation to outcomes	0.00 ± 0.00	1.61 ± 0.66	20.28	< 0.001	1.44 ± 0.71	16.88	< 0.001
TOTAL	0.61 ± 1.11	6.16 ± 2.66	18.95	< 0.001	5.47 ± 3.09	14.71	< 0.001

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Paired (t_1) Before program and immediately after
Paired (t_2) Before program and after 3 months

Table (21) indicates that there was a highly statistically significant difference improvement in staff nurses performance mean scores regarding evaluation of nursing care that means the highest scores of the staff nurses were immediately after program implementation test, followed by their scores three months after program implementation test, while the lowest scores were reported before program implementation test at p-values < 0.001.

Part (IV) Relationship between staff nurse's total knowledge, total performance score by selected demographic characteristics.

Table (22): Staff nurses' total knowledge scores by selected demographic characteristics at different times of assessment

Knowledge score	Total knowledge scores at Before program						Total knowledge scores at immediately after						Total knowledge scores at After 3 month					
Variable	Unsatisfactory features		satisfactory		Highly satisfactory features		Unsatisfactory features		satisfactory		Highly satisfactory features		Unsatisfactory features		satisfactory		Highly satisfactory features	
Age	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
< 20	39	55.7	7	10.0	0	0.0	2	2.9	8	11.4	36	51.4	3	4.3	17	24.3	26	37.1
30-	8	11.4	6	8.6	0	0.0	1	1.4	10	14.3	3	4.3	2	2.9	8	11.4	4	
> 40	7	10	2	2.9	1	1.4	6	8.6	3	4.3	2	2.9	1	1.4	7	10.0	1	1.4
X^2	X2 = 71.56				P < 0.001		X2 = 103.28				P< 0.001		X2 = 91.73				P < 0.001	
Marital status																		
- married	40	57.1	10	14.3	5	7.1	3	4.3	41	58.6	11	15.7	10	14.3	40	57.1	5	7.1
- un married	3	4.3	8	11.4	4	5.7	1	1.4	8	11.4	6	8.6	1	1.4	11	15.7	3	4.3
X^2	X2 = 50.91				P < 0.001		X2 = 54.16				P < 0.001		X2 =64.43				P < 0.001	
Years of experience																		
< 10	42	60.0	0	0.0	0	0.0	0	0.0	0	0.0	42	60.0	0	0.0	0	0.0	42	60.0
10-	8	11.4	10	14.3	0	0.0	1	1.4	12	17.1	5	7.1	6	8.6	11	15.7	1	1.4
> 20	0	0.0	4	5.7	6	8.6	10	14.3	0	0.0	0	0.0	10	14.3	0	0.0	0	0.0
X^2	X2 =71.56				P< 0.001		X2 = 105.27				P < 0.001		X2= 93.74				P < 0.001	

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Table (22) shows that there was a highly significant relationship between staff nurse's total knowledge scores and their age, marital status, and years of experience at the different time of assessment at p-values < 0.001.

Table (23): Staff nurse's total performance scores by selected demographic characteristics at different times of assessment.

performance score	Total performance scores at Pretest						Total performance scores at Immediate post test						Total performance scores at Follow-up test					
Variable	**low**		**average**		**high**		**low**		**average**		**high**		**low**		**average**		**high**	
Age	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
< 20	42	60.0	4	5.7	0	0.0	7	10.0	49	70.0	0	0.0	15	21.4	31	44.3	0	0.0
30-	10	14.3	4	5.7	0	0.0	5	7.1	9	12.9	0	0.0	5	7.1	9	12.9	0	0.0
> 40	4	5.7	6	8.6	0	0.0	2	2.9	8	11.4	0	0.0	3	4.3	7	10.0	0	0.0
X^2	X2 = 70.00			P < 0.001			X2 = 88.59			P < 0.001			X2 = 56.57			P < 0.001		
Marital status																		
- married	47	67.1	8	11.4	0	0.0	14	20.0	41	58.6	0	0.0	17	24.3	38	54.3	0	0.0
- un married	5	7.1	10	14.3	0	0.0	3	4.3	12	17.1	0	0.0	7	10.0	8	11.4	0	0.0
X^2	X2 = 42.77			P < 0.001			X2 = 64.66			P < 0.001			X2 =47.73			P < 0.001		
Years of experience																		
< 10	38	54.3	4	5.7	0	0.0	8	11.4	34	48.6	0	0.0	13	18.6	29	41.4	0	0.0
10-	14	20.0	4	5.7	0	0.0	6	8.6	12	17.1	0	0.0	6	8.6	12	17.1	0	0.0
> 20	4	5.7	6	8.6	0	0.0	2	2.9	8	11.4	0	0.0	2	2.9	8	11.4	0	0.0
X^2	X2 =71.56			P< 0.001			X2 = 88.59			P < 0.001			X2= 56.57			P < 0.001		

(A statistical significant difference P ≤ 0.05 - A highly statistical significant difference P ≤ 0. 001)

Table (23) shows that there was a highly significant relationship between staff nurse's total performance scores and their age, marital status, and years of experience at the different time of assessment at p-values < 0.001.

Part (VI): Correlation coefficient between demographic characteristics, total knowledge scores and total performance scores of the studied nurses in studied department.

Table (24) Correlation coefficient between demographic characteristics, total knowledge scores and total performance scores, of the studied nurses in studied department.

Variable		Age		Marital states	
		r	p	r	p
knowledge	Before	-0.857	< 0.001	0.844	< 0.001
	Immediate after	-0.925	< 0.001	0.868	< 0.001
	After 3 months	-0.931	< 0.001	0.869	< 0.001
Practice	Before	0.814	< 0.001	0.782	< 0.001
	Immediate after	-0.908	< 0.001	0.902	< 0.001
	After 3 months	-0.813	< 0.001	0.706	< 0.001

Correlation is significant at (P ≤ 0.05) Correlation is highly significant at (P ≤ 0.0

Table (24) shows that there was a positive statistically significant correlation between total knowledge scores and marital states, total performance scores and marital states, at different times of assessment. On the other hand, there was a negative statistically significant correlation between total knowledge scores and age, total performance scores and age at different times of assessment at p-values < 0.001.

Table (25) Correlation coefficient between total knowledge and total practice scores at different times of assessment.

Variable		knowledge					
		Before		Immediate after		After 3 months	
		r	p	r	p	r	p
Practice	Before	0.788	< 0.001				
	Immediate after			0.958	< 0.001		
	After 3 months					0.850	< 0.001

Correlation is significant at (P ≤ 0.05) **Correlation is highly significant at (P ≤ 0.01)**

Table (25) revealed that, there was a positive statistically significant correlation between total knowledge and performance scores at different times of assessment at p-values < 0.001.