
RESULTS

The results obtained were analyzed and presented in the following parts:

- PART I.** **Distribution of the study group according to their personal characteristics (table 1)**

- PART II.** **Comparison between Benha University and Benha Teaching Hospitals regarding, pre program time management, delegation, time wasters and knowledge items (tables 2, 3)**

- PART III.** **Time wasters of time management by the head nurses (tables 4-7)**

- PART IV.** **Mean and standard deviations of scores of time management by the head nurses throughout the program phases (tables 8-15)**

- PART V.** **Interrelations among head nurses attitude and knowledge in time management (table, 16)**

Part I. Distribution of the Study Group According to their personal Characteristics.

Table (1) Distribution of the study group according to their personal characteristics (n=55)

Socio-demographic Characteristics	Benha University hospital (n=36)		Benha Teaching hospital (n=19)		Total	
	No	%	No	%	No	%
Department						
Medical	19	52.8	10	52.6	29	52.7
Surgical	17	47.2	9	47.4	26	47.3
Qualification						
Diploma	8	22.2	5	26.3	13	23.6
Diploma+ Specialty	9	25.0	3	15.8	12	21.8
Baccalaureate	19	52.8	11	57.9	30	54.5
Age						
25-	18	50.0	11	57.9	29	52.7
36-	10	27.8	6	31.6	16	29.1
46-55	8	22.2	2	10.5	10	18.2
Marital status						
Single	4	11.1	5	26.3	9	16.4
Married	32	88.9	14	73.7	46	83.6
Experience in nursing field						
< 10	18	50.0	11	57.9	29	52.7
≥ 10	18	50.0	8	42.1	26	47.3
Experiences as a head nurse:						
< 5	8	22.2	9	47.4	17	30.9
≥ 5	28	77.8	10	52.6	38	69.1

Table (1) shows the distribution of the study group according to their personal characteristics. As indicated in the table, about two thirds of them were working in Benha University Hospital; more than half of them (52.7%) were working at medical units. Meanwhile, the highest percentage of the study subjects (54.5%) are holders of baccalaureate degree of nursing. More than half of them (52.7%) their age ranged between 25-35 years. In relation to marital status the majority of the study subjects (83.6%) are married while only 16.4% are single. Concerning their experience, more than half of the study subjects (52.7%) are having experience less than 10 years in nursing field, and more than two thirds (69.1%) of the study subjects are having experience 5 years or above as head nurses.

Part II. Comparison between Benha University and Benha Teaching Hospitals Regarding to Pre Program Time Management, Delegation, Time Wasters and Knowledge Items

Table (2) Comparison between Benha University and Benha Teaching hospitals regarding to pre program time management, delegation, time wasters and knowledge items

Items	Benha University Hospital (n=36)	Benha Teaching Hospital (n=19)	t-test	P- value
	Mean \pm SD	Mean \pm SD		
Time management:				
Good	62.8 \pm 15.2	62.3 \pm 6.4	0.069	P>0.05
poor	44.2 \pm 6.01	44.6 \pm 4.7	0.225	P>0.05
Delegation :				
Good	59.9 \pm 4.5	60.6 \pm 5.2	0.154	P>0.05
poor	78.9 \pm 10.0	76.1 \pm 5.4	0.995	P>0.05
Time wasters:				
No time wasters	41.5 \pm 6.4	44.7 \pm 0.6	0.936	P>0.05
Time wasters	57.8 \pm 5.8	56.9 \pm 6.1	0.491	P>0.05
Knowledge				
Satisfactory	30.8 \pm 3.1	29.0 \pm 1.4	0.775	P>0.05
Unsatisfactory	23.0 \pm 1.4	22.8 \pm 0.8	0.530	P>0.05

Table (2) shows comparison between Benha University and Benha Teaching hospitals regarding to pre program time management, delegation, time wasters and knowledge items. Figures in the table point to insignificant differences between Benha University and Benha Teaching hospitals regarding to all items (P> 0.05).

Table (3) Comparison between medical and surgical department head nurses regarding to pre program time management, delegation, time wasters and knowledge items

Items	Medical department (n=29)	Surgical department (n=26)	t-test	P -value
	Mean ± SD	Mean ± SD		
Time management:				
Good	63.8±15.7	60.6±7.1	0.424	P >0.05
poor	44.4 ± 5.3	37.8±5.4	3.9	P<0.001**
Delegation :				
Good	59.6±9.5	61.2±4.8	0.357	P >0.05
poor	78.8±9.9	77.1±7.3	0.630	P >0.05
Time wasters:				
No time wasters	45.5±0.7	40.5±4.9	1.414	P >0.05
Time wasters	57.9±5.8	56.6±6.1	0.735	P >0.05
Knowledge				
Satisfactory	31.8±3.3	28.8±0.8	2.0	P >0.05
Unsatisfactory	22.6±1.0	23.2±1.3	1.69	P >0.05

Table (3) shows comparison between medical and surgical department head nurses regarding, pre program time management, delegation, time wasters and knowledge scales. The results point to highly statistical significant differences between medical and surgical departments' head nurses in the item of poor regarding time management.

Part III. Time Wasters of Time Management by the Head Nurses

Table (4): Pre program mean scores of structural time wasters affecting time management of head nurses in the two studied hospitals

Structural time wasters	Benha University Hospital (n = 36) X ± SD	Benha Teaching Hospital (n = 19) X ± SD	Tests of Significance	
			t-test	P-value
No priorities in work system	1.8± 0.3	1.8 ± 0.3	0.0	P >0.05
Management by crises	1.6± 0.2	1.6 ± 0.2	0.0	P >0.05
Confused responsibility and authority	1.6 ± 0.3	1.5 ± 0.2	1.31	P >0.05
Do not follow work rules	1.7 ± 0.2	1.4 ± 0.2	5.29	P<0.001**
Poor filing system	1.7 ±0.4	1.6 ± 0.2	1.02	P >0.05
No evaluation	1.4± 0.3	1.4 ± 0.3	6.0	P >0.05
Incompetent coworkers	1.2±0.3	1.4±0.2	2.61	P<0.05*
No promotion	1.4 ± 0.1	1.3 ± 0.2	2.48	P<0.05*
Unclear goals and objectives	1.4 ± 0.1	1.7 ± 0.2	7.45	P<0.001**
Un clear policies and procedures	1.6 ± 0.2	1.5 ± 0.3	1.48	P >0.05
Lack of clerical staff	1.4 ± 0.2	1.4 ± 0.3	0.0	P >0.05
Too many administrative meetings	1.8 ± 0.3	1.5 ± 0.2	3.92	P<0.001**
Visitor interruptions	1.5 ± 0.2	1.7± 0.3	2.95	P >0.05
Over supervision	1.5 ± 0.2	1.3 ± 0.1	4.08	P<0.001**
Lack of team work during delegation	1.6 ± 0.3	1.5 ± 0.2	1.31	P >0.05
Total	23.2± 3.4	20.7 ± 2.5	2.82	P<0.05*

Table (4) shows pre program mean scores of structural time wasters affecting time management of head nurses in the two studied hospitals. The results show that the least means and standard deviations found in Benha University Hospital was incompetent coworkers but in Benha Teaching Hospital in no promotion, and over supervision. Moreover, there are statistically significant differences between scores ($P < 0.05$, $p < 0.01$) in total structural factor scores.

Table (5): Mean scores of process time wasters affecting time management of head nurses in the two studied hospitals

Process Time Wasters	Benha University Hospital (n = 36) X ± SD	Benha Teaching Hospital (n = 19) X ± SD	Tests of Significance	
			t-test	P-value
Planning				
Inability to set plan	1.8 ± 0.3	1.7 ± 0.3	1.18	P > 0.05
Inability to break things down into subparts	1.4 ± 0.2	1.6 ± 0.2	3.53	P < 0.001**
Failure to set goals and priorities	1.8 ± 0.2	1.6 ± 0.2	3.53	P < 0.001**
Handling papers more than once	1.8 ± 0.1	1.5 ± 0.3	5.49	P < 0.001**
Inability to use available services	1.5 ± 0.2	1.5 ± 0.2	00.0	P > 0.05
Doing routine work first	1.7 ± 0.3	1.6 ± 0.3	1.18	P > 0.05
Total	10.0 ± 1.3	9.5 ± 1.5	1.29	P < 0.05*
Organizing				
In organization for desk	1.4 ± 0.3	1.2 ± 0.3	2.25	P > 0.05
Too many interests	1.3 ± 0.1	1.3 ± 0.3	0.0	P > 0.05
Procrastination	1.7 ± 0.3	1.5 ± 0.4	2.09	P > 0.05
Trying to do many things at once	1.7 ± 0.3	1.4 ± 0.3	3.53	P < 0.001**
Total	6.1 ± 0.95	5.4 ± 1.3	2.28	P > 0.05
Directing				
Failure to delegate	1.6 ± 0.4	1.6 ± 0.2	0.0	P > 0.05
No training course in:				P > 0.05
a) Nursing administration	1.5 ± 0.2	1.4 ± 0.3	1.48	
b) Time management	1.6 ± 0.3	1.7 ± 0.3	1.18	P > 0.05
Delay decisions	1.3 ± 0.3	1.4 ± 0.3	1.18	P > 0.05
Doing all myself	1.3 ± 0.2	1.3 ± 0.5	0.00	P > 0.05
Lack of information	1.6 ± 0.1	1.4 ± 0.3	3.66	P < 0.001**
Total	8.91 ± 1.53	8.84 ± 1.11	0.18	P > 0.05
Controlling				
Excessive time on the telephone	1.7 ± 0.2	1.4 ± 0.2	5.29	P < 0.001**
Inability to say no to volunteer request	1.5 ± 0.3	1.6 ± 0.3	1.18	P > 0.05
Inability to control work times by myself	1.7 ± 0.3	1.5 ± 0.3	2.35	P < 0.05*
Paper work	1.7 ± 0.1	1.6 ± 0.3	1.83	P > 0.05
Inability to set work limits	1.5 ± 0.2	1.3 ± 0.1	4.08	P < 0.001**
Total	8.05 ± 1.11	7.36 ± 1.21	2.13	P < 0.05*

Table (5): shows mean scores of process time wasters affecting time management of head nurses in the two studied hospitals. It can be seen that, there are a statistically significant differences between the two studied hospitals, ($p < 0.05$) as related to total scores of planning and controlling factors, while as regards organizing and directing factor scores show no statistically significant differences were detected between both hospitals.

Table (6): Mean scores of outcome time wasters affecting time management of head nurses in the two studied hospitals

Outcome time wasters	Benha University Hospital (n = 36) X ± SD	Benha Teaching Hospital (n = 19) X ± SD	Tests of Significance	
			t-test	P-value
No indicators for work	1.6 ± 0.4	1.2 ± 0.5	3.2	P<0.001**
Lack of feed back	1.7 ± 0.5	1.4 ± 0.2	2.5	P<0.05*
Total	3.3± 0.9	2.6 ± 0.7	2.8	P<0.05*

Table (6) displays mean scores of outcome time wasters affecting time management of head nurses in the two studied hospitals. The results show statistically significant differences between scores of outcome factors in both studied hospitals ($P < 0.05$).

Table (7) Mean scores of time wasters affecting time management of head nurses in the two studied hospitals throughout the program phases

Variables	Benha University Hospital (n=36)			Benha Teaching Hospital (n=19)		
	Pre	Post	Follow up	Pre	Post	Follow up
Structure	23.2± 3.4	21.8± 3.1	22.5± 2.8	20.7 ± 2.5	22.8± 3.6	23.0± 3.5
Paired t- test		Paired 1 2.79	Paired 2 0.99		Paired 1 0.16	Paired 2 0.27
P-value		P1 <0.05	P2 >0.05		P1 >0.05	P2 >0.05
Process	33.6 ±4.9	26.5± 4.3	30.8± 5.2	31.1±5.1	26.5± 4.4	31.5± 5.4
Paired t- test		Paired 1 6.2	Paired 2 4.4		Paired 1 5.8	Paired 2 1.2
P-value		P1 <0.001	P2 <0.001		P1 <0.001	P2 >0.05
Outcome	3.3± 0.9	2.3±0.6	2.4±0.7	2.6 ± 0.7	2.4±0.6	2.4±0.6
Paired t- test		Paired 1 5.94	Paired 2 5.22		Paired 1 2.28	Paired 2 2.28
P-value		P1 <0.001	P2 <0.001		P1 <0.05	P2 <0.05

N.B.: Paired 1 between pre and post phases of the program

Paired 2 between pre and follow-up phases of the program

P1 between pre and post phases of the program

P2 between pre and follow-up phases of the program

Table (7) shows mean scores of time wasters affecting time management of head nurses in the two studied hospitals throughout the program phases. The results deduce highly statistically significant differences between pre & post and pre & follow-up phases of the program regarding to process and outcome factors between the two studied hospitals. Meanwhile, regarding to structure factors the results show statistically significant differences between pre & post phases of the program in Benha University Hospital only.

Part VI. Mean and Standard Deviations of Scores of Time Management by the Head Nurses throughout the Program Phases

Table (8) Mean scores of organizing aspect of time management by the head nurses in Benha University Hospital throughout the program phases

Organizing aspect	pre Mean \pm SD	Post Mean \pm SD	Follow-up Mean \pm SD	F-test	p- value
Organize my work area and office so that information can be found and shared easily	2.5 \pm 1.2	3.3 \pm 0.7	3.1 \pm 0.6	9.434	P<0.001**
Write agenda for each meeting.	1.6 \pm 0.8	3.0 \pm 0.7	2.9 \pm 0.7	19.800	P<0.001**
Control in time I spend in the telephone and set limits accordingly.	2.0 \pm 1.1	3.2 \pm 0.9	3.1 \pm 0.9	10.390	P<0.001**
Make it a Point to remember names and important associations that go with the people names.	1.8 \pm 0.8	2.8 \pm 0.9	3.0 \pm 1.2	9.595	P<0.001**
Take advantage of unplanned free time	1.7 \pm 1.0	3.0 \pm 1.3	3.1 \pm 1.2	8.608	P<0.001**
Keep filling system on up to date for all records, memos, evaluation for my use.	2.0 \pm 0.9	2.9 \pm 1.3	2.4 \pm 1.3	3.856	P<0.01*
Use system to inform me of projects or tasks due for particular work setting.	2.1 \pm 1.0	2.7 \pm 1.3	2.4 \pm 0.9	15.26	P<0.05*
Have the necessary resources to do my job (assistants, equipment, support etc.)	1.7 \pm 0.9	2.2 \pm 1.3	2.3 \pm 1.1	1.865	P<0.05*
Total	15.4 \pm 3.9	23.1 \pm 5.9	22.3 \pm 4.8	26.043	P<0.001**

Table (8) displays mean scores of organizing aspect of time management by the head nurses in Benha University Hospital throughout the program phases. It points to highly statistically significant improvement in head nurses attitude in time management related to all items of organizing at the post and follow-up phases (P<0.001).

Table (9) Mean scores of leading and staffing aspect of time management by the head nurses in Benha University Hospital throughout the program phases

Leading and Staffing aspect	Pre Mean \pm SD	Post Mean \pm SD	Follow-up Mean \pm SD	F-test	p- value
Keep records of employee performance to use in employee evaluations.	2.1 \pm 1.2	3.1 \pm 0.9	3.1 \pm 0.6	9.965	P<0.001**
Do counseling to assist employees who indicate difficulty in following standards or policy.	2.1 \pm 1.1	3.1 \pm 0.9	3.0 \pm 0.9	8.112	P<0.001**
Provide information to assist employees who indicate difficulty in following standards or policy.	2.1 \pm 0.8	3.2 \pm 0.9	2.8 \pm 0.8	6.558	P<0.001**
I effectively delegate appropriate tasks and responsibilities	1.9 \pm 1.1	2.9 \pm 1.2	2.8 \pm 1.2	4.945	P<0.001**
Inform employees of upcoming events and duties that affect them.	2.0 \pm 0.8	2.2 \pm 1.2	2.6 \pm 1.1	13.509	P<0.001**
Deal with workload effectively	1.9 \pm 0.8	2.1 \pm 1.3	2.7 \pm 1.1	14.526	P<0.001**
Deal with pressures of work demands and set reasonable limits and expectations.	1.6 \pm 0.8	2.1 \pm 1.2	2.1 \pm 1.1	1.729	P>0.05
Provide and meet self deadlines	1.9 \pm 0.8	2.2 \pm 1.3	2.6 \pm 1.2	11.642	P<0.001**
Limit distracting influences in the work environment as much as possible.	1.8 \pm 0.7	2.3 \pm 1.4	2.7 \pm 1.2	7.536	P<0.001**
Allow off time for personal enjoyment and relaxation	1.5 \pm 0.7	2.0 \pm 1.1	2.6 \pm 1.0	9.759	P<0.001**
Total	18.9 \pm 5.3	25.1 \pm 8.1	26.9 \pm 6.6	14.097	P<0.001**

Table (9) shows mean scores of leading and staffing aspect of time management by the head nurses in Benha University Hospital throughout the program phases. The results indicate that, there are highly statistically significant differences in all factors in pre, post and follow up phases of the program (p<0.001), except for the item of, deal with pressures of work demands and set reasonable limits and expectations. Where the results deduce that there is an insignificant difference in pre, post and follow up phases of the program in Benha University Hospital (p>0.05).

Table (10) Mean scores of planning and controlling aspect of time management by the head nurses in Benha University Hospital throughout the program phases

Planning and controlling aspect	Pre Mean±SD	Post Mean±SD	Follow-up Mean±SD	F-test	p- value
Use a written daily plan.	1.5±0.8	3.0±0.7	3.0±0.7	30.615	P<0.001**
Use a written monthly plan.	2.0±1.0	3.2±0.8	3.1±0.8	12.141	P<0.001**
Satisfied with way spend time	1.8±1.1	1.8±1.2	2.7±1.0	6.741	P<0.001**
Use of time reflects goals and priorities.	2.1±1.1	3.5±0.9	3.5±0.9	11.665	P<0.001**
Make two or three of primary tasks when I arrive for work.	2.1±1.1	3.2±1.0	3.1±0.9	6.976	P<0.001**
Do hardest tasks when I have the most energy each day.	1.6±0.7	2.0±1.3	2.2±1.1	3.278	P<0.05*
Plan for job tasks changes as much as possible.	1.4±0.6	1.8±1.0	2.3±0.9	7.271	P<0.001**
I am in good physical condition.	1.6±0.8	1.9±1.1	2.2±0.8	5.715	P<0.001**
Schedule adequate time for appointments.	1.6±0.9	1.9±1.1	2.2±0.8	6.462	P<0.001**
Total	15.6±4.9	22.4±5.7	24.3±4.5	29.0	P<0.001**

Table (10) shows mean scores of planning and controlling aspect of time management by the head nurses in Benha University Hospital throughout the program phases. The results indicate that, there are highly statistical significant differences in all factors except for do hardest tasks when I have the most energy each day, where it was only significant in pre, post and follow up phases of the program ($p<0.001$ & $p<0.05$).

Table (11) Mean scores of organizing aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases

Organizing aspect	Pre Mean \pm SD	Post Mean \pm SD	Follow-up Mean \pm SD	F-test	p- value
Organize my work area and office so that information can be found and shared easily	2.3 \pm 1.2	3.6 \pm 0.7	3.3 \pm 0.7	11.35	P<0.001**
Write agenda for each meeting.	1.4 \pm 0.6	3.2 \pm 0.7	3.2 \pm 0.8	40.2	P<0.001**
Control in time I spend in the telephone and set limits accordingly.	1.4 \pm 0.5	3.4 \pm 0.8	2.8 \pm 1.0	28.5	P<0.001**
Make it a Point to remember names and important associations that go with the people names.	1.9 \pm 1.2	2.8 \pm 1.1	2.5 \pm 1.2	3.64	P<0.05*
Take advantage of unplanned free time	2.0 \pm 0.7	2.9 \pm 1.4	2.6 \pm 1.3	2.6	p>0.05
Keep a filling system up to date for all records, memos, evaluation for my use.	1.5 \pm 0.9	2.8 \pm 1.4	2.6 \pm 1.3	5.7	P<0.001**
Use system to inform me of projects or tasks due for particular work setting.	1.5 \pm 0.9	2.1 \pm 0.9	2.0 \pm 0.9	2.54	p>0.05
Have the necessary resources to do my job (assistants, equipments, support, etc.)	1.8 \pm 0.8	1.9 \pm 1.2	1.7 \pm 1.0	0.492	p>0.05
Total	13.7 \pm 4.01	22.2 \pm 6.05	21.3 \pm 6.1	13.57	P<0.001**

Table (11) displays mean scores of organizing aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases. The results indicate that, there is highly statistically significant differences in five out of the nine factors in pre, post and follow up phases of the program ($p<0.001$), except in items of, "Take advantage of unplanned free time", "Use system to inform me of projects or tasks due for particular work setting", and "Have the necessary resources to do my job (assistants, equipment,, support, etc.) where results revealed insignificant differences in pre, post and follow up phases of the program in Benha University Hospital ($p>0.05$).

Table (12) Mean scores of leading and staffing aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases

Leading and Staffing aspect	Pre Mean \pm SD	Post Mean \pm SD	Follow-up Mean \pm SD	F-test	p- value
Keep records of employee performance to use in employee evaluations.	2.2 \pm 0.7	3.5 \pm 0.7	3.2 \pm 1.0	13.19	P<0.001**
Do counseling to assist employees who indicate difficulty in following standards or policy.	2.1 \pm 0.7	3.5 \pm 0.7	3.4 \pm 0.8	22.19	P<0.001**
Provide information to assist employees who indicate difficulty in following standards or policy.	1.4 \pm 0.6	3.5 \pm 0.8	3.3 \pm 0.8	47.17	P<0.001**
I effectively delegate appropriate tasks and responsibilities	1.6 \pm 1.0	2.3 \pm 1.1	2.2 \pm 1.1	2.25	p>0.05
Inform employees of upcoming events and duties that affect them.	1.4 \pm 0.7	1.8 \pm 1.0	1.8 \pm 1.1	1.057	p>0.05
Deal with workload effectively	1.8 \pm 0.7	1.9 \pm 1.2	1.8 \pm 1.2	0.341	p>0.05
Deal with pressures of work demands and set reasonable limits and expectations.	2.2 \pm 1.2	1.7 \pm 1.2	1.6 \pm 1.1	1.220	p>0.05
Provide and meet self deadlines	1.7 \pm 0.9	1.8 \pm 1.1	1.5 \pm 1.0	1.234	p>0.05
Limit distracting influences in the work environment as much as possible.	2.1 \pm 1.3	1.8 \pm 1.2	1.6 \pm 0.9	1.074	p>0.05
Allow off time for personal enjoyment and relaxation	1.3 \pm 0.7	1.6 \pm 1.0	2.1 \pm 0.9	2.944	p>0.05
Total	17.7 \pm 7.8	23.9 \pm 8.2	22.2 \pm 7.2	4.405	P<0.05*

Table (12) presents mean scores of leading and staffing aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases. The results show that only three out of nine items have shown highly statistically significant improvement both at the pre, post and follow-up phases (P<0.001). These were the items of "Keep records of employee performance to use in employee evaluations", "Do counseling to assist employees who indicate difficulty in following standards or policy", and "Provide information to assist employees who indicate difficulty in following standards or policy". Meanwhile, the remainders items demonstrate no statistically significant improvement both at the post and follow-up phases (p>0.05).

Table (13) Mean scores of planning and controlling aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases

Planning and Controlling aspect	Pre Mean \pmSD	Post Mean \pmSD	Follow-up Mean \pmSD	F-test	p- value
Use a written daily plan.	2.6 \pm 1.3	3.1 \pm 0.8	3.1 \pm 1.0	1.429	p>0.05
Use a written monthly plan.	2.5 \pm 1.3	3.4 \pm 0.8	3.1 \pm 1.0	3.358	P<0.05*
Satisfied with way spend time.	1.6 \pm 0.84	1.7 \pm 1.03	1.9 \pm 0.8	0.919	p>0.05
Use of time reflects goals and priorities.	2.3 \pm 0.7	3.8 \pm 0.7	3.5 \pm 1.1	15.714	P<0.001**
Make two or three of primary tasks when I arrive for work.	2.1 \pm 0.8	3.4 \pm 1.0	3.0 \pm 1.2	6.921	P<0.001**
Do hardest tasks when I have the most energy each day.	2.0 \pm 0.7	1.7 \pm 1.0	1.6 \pm 0.8	1.589	p>0.05
Plan for job tasks changes as much as possible.	1.9 \pm 0.7	1.7 \pm 0.8	1.9 \pm 0.8	0.178	p>0.05
I am in good physical condition.	1.9 \pm 1.0	1.7 \pm 0.9	2.1 \pm 0.9	0.557	p>0.05
Schedule adequate time for appointments.	1.7 \pm 0.9	1.7 \pm 0.9	2.1 \pm 0.8	0.971	p>0.05
Total	17.1 \pm 4.9	20.8 \pm 4.8	20.2 \pm 4.5	3.255	p>0.05

Table (13) demonstrates mean scores of planning and controlling aspect of time management by the head nurses in Benha Teaching Hospital throughout the program phases. The results show that only three items have shown statistically significant improvement both at the post and follow-up phases (P<0.001& P<0.05). These were the items of "Use a written monthly plan", "Use of time reflects goals and priorities" and "Make two or three of primary tasks when I arrive for work". Meanwhile, the remainders items demonstrate no statistically significant improvement both at the post and follow-up phases (p>0.05).

Table (14) Mean scores of Time management, Wasters, Delegation, and knowledge throughout program phases among Benha University Hospital head nurses

Scale	Pre (n=36)	Post (n=36)	Follow-up (n=36)	F-test	p- value
	Mean \pm SD	Mean \pm SD	Mean \pm SD		
Time management:					
Good	62.8 \pm 15.2	72.4 \pm 14.04	72.7 \pm 9.0	2.581	P >0.05
poor	44.2 \pm 6.0	49.4 \pm 2.4	51.6 \pm 0.9	11.398	P<0.001**
Delegation:					
Good	59.9 \pm 4.5	39.9 \pm 8.41	39.4 \pm 8.4	21.230	P<0.001**
poor	78.9 \pm 10.0	74.0 \pm 5.9	77.5 \pm 5.7	1.364	P >0.05
Time wasters:					
No time wasters	41.5 \pm 6.4	44.0 \pm 1.1	44.4 \pm 1.0	4.311	P<0.05*
Time wasters	57.8 \pm 5.8	49.0 \pm 3.0	50.3 \pm 3.1	13.210	P<0.001**
Knowledge:					
Satisfactory	30.8 \pm 3.1	35.5 \pm 3.1	35.2 \pm 3.6	7.437	P<0.001**
Unsatisfactory	23.0 \pm 1.4	39.7 \pm 1.9	39.6 \pm 1.5	570.6	P<0.001**

Table (14) reveals to mean scores of time management, wasters, delegation, and knowledge throughout program phases among Benha University Hospital head nurses. The results show that there are statistically significant differences between all of items related to pre , post, and follow up phases of the program regarding to attitude toward time management, delegation ,time wasters, and knowledge (p<0.001). Meanwhile, the scale of good/average regarding to attitude toward time management and the scale of need training/poor regarding to attitude toward delegation revealed in significant differences (p>0.05) .

Table (15) Mean scores of Time management, Wasters, Delegation, and knowledge throughout program phases among Benha Teaching Hospital head nurses

Scale	Pre (n=19)	Post (n=19)	Follow-up (n=19)	F-test	p- value
	Mean \pm SD	Mean \pm SD	Mean \pm SD		
Time management:					
Good	62.3 \pm 6.4	70.3 \pm 12.2	66.8 \pm 12.0	0.756	P<0.05*
poor	44.6 \pm 4.7	46.7 \pm 4.2	46.6 \pm 3.9	0.781	P<0.05*
Delegation:					
Good	60.6 \pm 5.2	40.4 \pm 11.8	42.2 \pm 12.3	6.17	P<0.05*
poor	76.1 \pm 5.4	75.3 \pm 7.8	75.2 \pm 3.7	0.060	P<0.05*
Time wasters:					
No time wasters	44.7 \pm 0.6	37.6 \pm 2.3	40.2 \pm 1.4	19.0	P<0.001**
Time wasters	56.9 \pm 6.1	49.8 \pm 1.5	50.5 \pm 1.6	6.96	P<0.001**
Knowledge:					
Satisfactory	29.0 \pm 1.4	36.7 \pm 3.6	36.8 \pm 4.2	3.81	P<0.05*
Unsatisfactory	22.8 \pm 0.8	25.7 \pm 0.6	25.7 \pm 0.8	37.84	P<0.001**

Table (15) reveals the mean scores of time management, wasters, delegation, and knowledge scale throughout program phases among Benha Teaching Hospital head nurses. The results show that there are statistically significant differences between all of items related to pre and post, pre and follow up phases of the program regarding to attitude toward time management, delegation ,time wasters, and knowledge (p<0.001& P<0.05).

Part V. Interrelations among Head Nurses Attitude and Knowledge in Time Management:

Table (16) Partial correlation matrix of head nurses knowledge, and attitude related to time management adjusted for the effect of the program

Item	Knowledge	
	r-test	P- value
Attitude	0.554	P<0.001**

Partial correlation coefficients, adjusted for the effect of the program, were computed between head nurses knowledge and attitude scores related to time management. As shown in table 16 there is a positive highly statistically significant correlation between knowledge and attitude, ($p < 0.001$), which means that when knowledge increases the attitude also increases.